EVALUATION OF THE MINNESOTA ACCOUNTABLE HEALTH MODEL

FINAL REPORT

Prepared for:

Minnesota Department of Human Services
Minnesota Department of Health

Prepared by:

State Health Access Data Assistance Center (SHADAC)
Division of Health Policy and Management
University of Minnesota, School of Public Health

September 2017

ACKNOWLEDGEMENTS

This report was written by the following staff at the State Health Access Data Assistance Center (SHADAC): Donna Spencer, PhD; Christina Worrall, MPP; Emily Zylla, MPH; Carrie Au-Yeung, MPH; Kelli Johnson, PhD; Lacey Hartman, MPP; Kristin Dybdal, MPA; Chad Parslow, MPP; Lynn Blewett, PhD; Amanda Napoles, MPH; Joseph Morris, MPH; Aaron Swaney, MPH; and Christina Carberry, MPH/MPP. Peter Huckfeldt, PhD, Heidi O'Connor, and Jiani Yu also contributed to the report – specifically, in the analysis and reporting of data from the Minnesota All Payer Claims Database (MN APCD) and the Minnesota Statewide Quality Reporting and Measurement System (SQRMS). SHADAC, housed at the University of Minnesota, School of Public Health, was under contract with the Minnesota Department of Human Services (DHS) to conduct the state evaluation of Minnesota's State Innovation Model (SIM) initiative, the Minnesota Accountable Health Model (the Model). This report is the final of two reports containing results of SHADAC's evaluation.

SHADAC would like to acknowledge the many contributions made to the evaluation by staff at DHS and the Minnesota Department of Health (MDH), the state agencies charged with implementation of the Model. Special thanks go to Krista O'Connor, Inter-Agency Project Lead; Monica Hammer, Staff Lead for Evaluation; and members of the Leadership Team for their thoughtful comments on report drafts. We also would like to thank the over 350 individuals from across the state who shared their time and insights related to their participation in Model programs and activities. Finally, the authors would like to acknowledge Lindsey Lanigan, Pearl Nielsen, and Ann Bobst, of SHADAC, for their assistance with report layout, preparation, editing, and exhibit production.

This evaluation is part of a $45 million State Innovation Model (SIM) cooperative agreement, awarded to the Minnesota Department of Human Services in 2013 by The Center for Medicare and Medicaid Innovation. Administered by the Minnesota Departments of Health and Human Services, the funding was used to implement the Minnesota Accountable Health Model framework. Evaluation results are not endorsed by the federal government and do not reflect the views of the federal government. The federal evaluation may yield different results from the state's internal evaluation. While the federal evaluation may be informed in part by data provided by the state, the federal evaluation is independent of the state evaluation.

TABLE OF CONTENTS

This evaluation is part of a $45 million State Innovation Model (SIM) cooperative agreement, awarded to the Minnesota Department of Human Services in 2013 by The Center for Medicare and Medicaid Innovation. Administered by the Minnesota Departments of Health and Human Services, the funding was used to implement the Minnesota Accountable Health Model framework. Evaluation results are not endorsed by the federal government and do not reflect the views of the federal government. The federal evaluation may yield different results from the state's internal evaluation. While the federal evaluation may be informed in part by data provided by the state, the federal evaluation is independent of the state evaluation.

This evaluation is part of a $45 million State Innovation Model (SIM) cooperative agreement, awarded to the Minnesota Department of Human Services in 2013 by The Center for Medicare and Medicaid Innovation. Administered by the Minnesota Departments of Health and Human Services, the funding was used to implement the Minnesota Accountable Health Model framework. Evaluation results are not endorsed by the federal government and do not reflect the views of the federal government. The federal evaluation may yield different results from the state's internal evaluation. While the federal evaluation may be informed in part by data provided by the state, the federal evaluation is independent of the state evaluation.

1. INTRODUCTION

Sponsored by the Centers for Medicare and Medicaid Services (CMS) and administered by CMS's Center for Medicare and Medicaid Innovation (CMMI), the State Innovation Models (SIM) initiative is a federal program to further multi-payer health care payment and delivery system reform models. Since 2013, SIM has provided funding and support to 38 states/territories to transform their public and private health care payment and service delivery systems with the aims of lowering health system costs, maintaining or improving health care quality, and improving population health. Minnesota was one of the first states to receive a SIM award and, with the award, implemented and tested the Minnesota Accountable Health Model (the Model). The state's initial time frame for conducting this work was between October 2013 and December 2016; a no-cost extension granted by CMMI extended Minnesota's initiative through December 2017. The Minnesota Department of Human Services (DHS) and the Minnesota Department of Health (MDH) implemented the state's Model.

This report presents the results of the state-level evaluation of Minnesota's SIM initiative. The State Health Access Data Assistance Center (SHADAC) conducted the evaluation between January 2015 and September 2017 under a contract with DHS and in collaboration with both DHS and MDH. This document represents SHADAC's final evaluation report to the state. In 2016, SHADAC also submitted its First Annual Evaluation Report, based on the first year of Model implementation.[1] This final report draws on the first evaluation report as well as provides final results for the last two years of Minnesota's initiative.

Minnesota's State Innovation Model: The Minnesota Accountable Health Model

Background

The Affordable Care Act of 2010 (ACA) established CMMI within CMS as a vehicle to test payment and service delivery models through pilot programs designed to lower costs for Medicare, Medicaid, and the Children's Health Insurance Program (CHIP) while maintaining or improving the quality of care for beneficiaries. CMMI has been focused on the following three priorities: 1) testing new payment and service delivery models; 2) evaluating results and advancing best practices; and 3) engaging a broad range of stakeholders to develop additional models for testing.[2]

A major program of CMMI has been the SIM initiative, which provides funding to states to accelerate the design and testing of state-specific innovative and multi-payer health care delivery and payment systems. The goal of the program is to improve the quality of care and lower the costs of care for public programs including Medicare, Medicaid, and CHIP. CMS has relied on states/territories to administer the program, to facilitate multi-payer involvement and eventual transformation of the delivery system, and to improve the health of state populations.

In 2013, CMMI awarded its first round of SIM cooperative agreements (totaling nearly $300 million) to 25 states, of which 19 were funded to design a state health care innovation plan and six were funded to test a plan. Of the initial six test states, Minnesota was awarded the largest funding amount at just over $45.0 million for the multi-year project. In December 2014, CMMI announced a second round of SIM funding recipients, with cooperative agreements awarded to 11 new test states, 17 design states, and three design

[1] SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.
[2] "About the CMS Innovation Center," *Centers for Medicare and Medicaid Services*, July 15, 2017, https://innovation.cms.gov/About/index.html.

territories. In addition, the District of Columbia received a design award. In total, the SIM program has funded 38 states/territories, representing 61% of the US population, for a total of almost $1 billion.[3]

Minnesota's Accountable Health Model

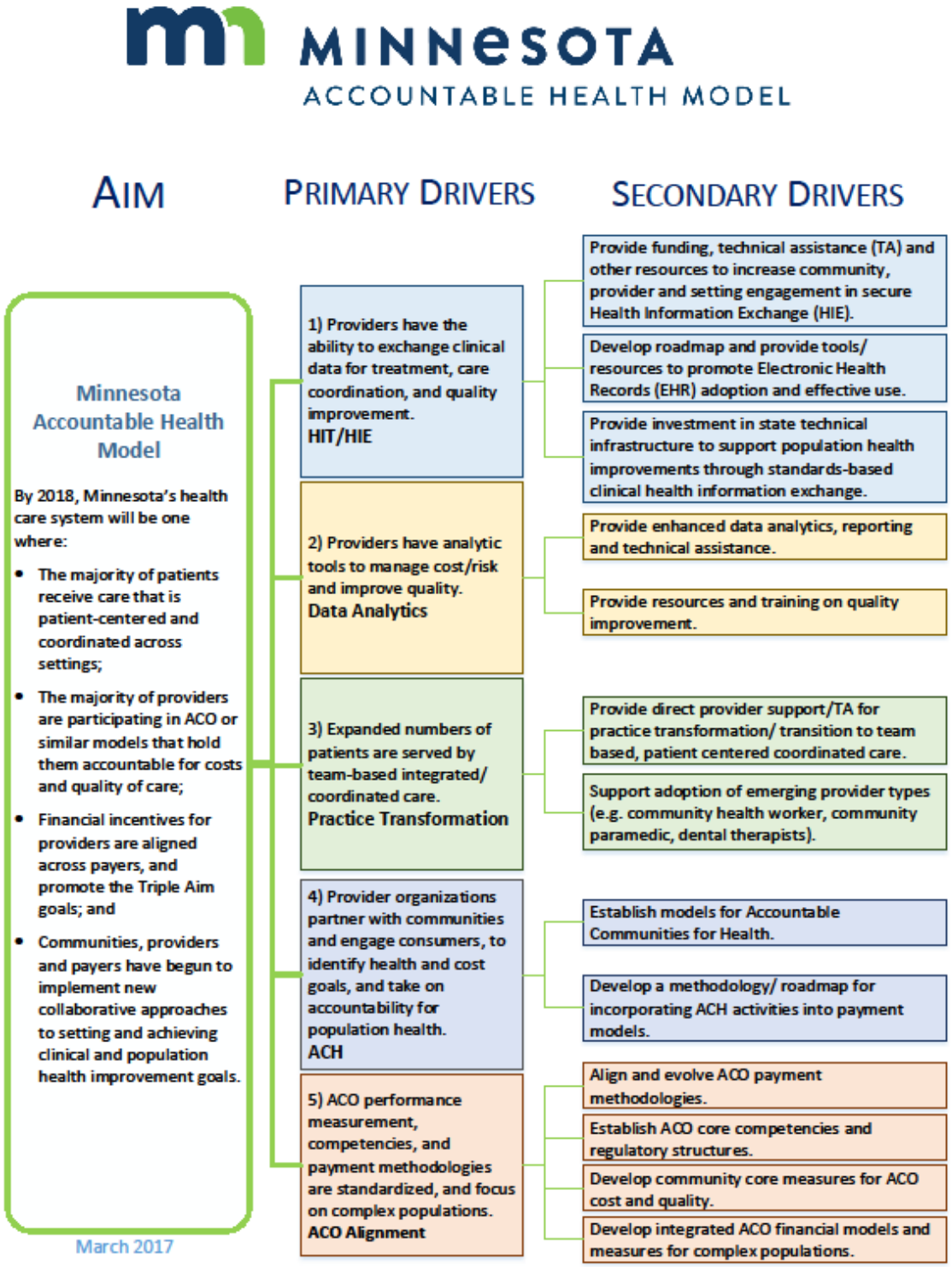
In Minnesota, the SIM cooperative agreement was used to advance the Minnesota Accountable Health Model. The Model, an array of programs and activities designed and implemented by the state, and was built upon the state's previously established Medicaid Accountable Care Organization (ACO) demonstration projects, the Integrated Health Partnership (IHP) Program, and other payment and delivery reform efforts including Health Care Homes (HCH), the e-Health Initiative, Community Care Teams (CCTs), the Statewide Health Improvement Program (SHIP), Community Transformation Grants, and standardized quality measurement and reporting across payers. Under SIM, Minnesota worked to support the Triple Aim – improve patient experience, improve population health, and reduce health care costs – by expanding the percentage of Minnesotans receiving care under shared savings/shared risk payment models and developing patient-centered integrated community service delivery models and coordinated care models. At the outset of the initiative, Minnesota's aims were that, by 2017, the state's health care system will be one where:

- The majority of patients receive care that is patient-centered and coordinated across settings;
- The majority of providers are participating in ACO or similar models that hold them accountable for costs and quality of care;
- Financial incentives for providers are aligned across payers and promote the Triple Aim goals; and
- Communities, providers, and payers have begun to implement new collaborative approaches to setting and achieving clinical and population health improvement goals.

These four aims were supported by five primary drivers, under which most activities were organized in Minnesota. These drivers are 1) the expansion of e-health; 2) improved data analytics across the state's Medicaid ACOs (i.e., Integrated Health Partnerships or IHPs); 3) practice transformation to achieve interdisciplinary, integrated care; 4) implementation of Accountable Communities for Health (ACHs); and 5) alignment of ACO components across payers related to performance measurement, competencies, and payment methods. Exhibit 1.1 below summarizes Minnesota's aims and the primary drivers to achieve Model aims. Depicted as secondary drivers within this exhibit, the key mechanisms the state used to execute its primary drivers were grants and contracts, technical assistance, and other resources for state agencies as well as providers and other organizations in the state. (We describe Model investments in more detail in Chapter 2.)

[3] "State Innovation Models Initiative: General Information," *Centers for Medicare and Medicaid Services*, July 15, 2017, https://innovation.cms.gov/initiatives/state-innovations/.

Exhibit 1.1. Minnesota's Driver Diagram



Source: "Resources," *State of Minnesota*, July 15, 2015, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_FILE&RevisionSelectionMethod=LatestReleased&Rendition=Primary&allowInterrupt=1&noSaveAs=1&dDocName=dhs16_182962.

Evaluation of the State Innovation Model Initiative

CMMI has required and supported two levels of evaluation of the SIM initiative: 1) a federal multi-state evaluation, and 2) individual state evaluations. CMMI issued a contract with RTI International to conduct the federal evaluation of the SIM initiative. The federal evaluation is being conducted for CMS and its

federal partners so they may assess the success and sustainability of the models being tested and identify cross-state themes and findings that may have broader implications for all states, including states that have not been awarded SIM funding. The CMS evaluation of Round 1 states started in 2013 and is scheduled to end in 2018. The state evaluations, directed by individual states, were initially intended by CMMI to be a more formative evaluation for each respective state and its in-state stakeholders, allowing for internal review and continuous improvement of state activities along the way.[4] State evaluations vary in their focus and scope. DHS executed a contract with SHADAC in July 2014 to design and conduct the Minnesota state evaluation as well as assist in the state's collaboration and participation in the federal evaluation. SHADAC and the state finalized the evaluation plan in 2015, and the evaluation was conducted between 2015 and 2017.

Scope of Minnesota's State Evaluation

In collaboration with DHS and MDH, SHADAC identified five goals for the state's evaluation. These goals, along with the key evaluation questions, are as follows.

Goal 1. Document the activities carried out under the Minnesota Accountable Health Model.
What activities were completed under the Minnesota Accountable Health Model? Which activities were anticipated but not completed? Why?

Goal 2. Document the variation in design, approaches, and innovation in Minnesota Accountable Health Model activities and programs.
What forms or models emerged out of the activities and programs under the Model? How are they similar? How do they differ?

Goal 3. Identify opportunities for continuous improvement in Minnesota Accountable Health Model activities and programs.
What were barriers/facilitators to implementation/completion of activities and programs under the Model? What support was needed? What gaps existed under these activities and programs? Were there unintended results or consequences? How did the state use evaluation results for continuous improvement?

Goal 4. Examine how the Minnesota Accountable Health Model has contributed to advancing the state's goals.
What were key outcomes of the activities and programs under the Model? Which approaches were associated with more success? How do the key outcomes relate to the Model goals?

Goal 5. Identify lessons learned for sustaining the Minnesota Accountable Health Model beyond the SIM award.
What are key policy and operational implications from the SIM test?

The evaluation design addressed these questions for each of the five primary drivers comprising Minnesota's Model as well as aimed to synthesize findings and lessons learned across the SIM initiative in Minnesota. The evaluation design focused on the activities carried out under each of the drivers of the Minnesota Accountable Health Model as well as a collection of five "cross-driver" evaluation activities aimed at addressing topics that span the driver framework. These included: 1) a tracking of providers and organizations engaged in the Minnesota Accountable Health Model; 2) an analysis and assessment of statewide data resources for monitoring ACO models, namely the Medicaid IHP program; 3) an assessment

[4] "SIM Test State Self-Evaluation: Guidelines and Resources. Webinar for Test States," *Center for Medicare and Medicaid Innovation*, June 2014.

of the Continuum of Accountability Assessment Tool (discussed more below); 4) a review of community engagement and partnerships under the Model; and 5) a study of care coordination costs among clinics certified as HCHs in the state.

Evaluation Methods

The design of the Minnesota evaluation focused on markers of implementation, process, and outcomes across the drivers and sought to collect information to inform sustainability of the model beyond the cooperative agreement. The evaluation design called on both existing and new data sources and incorporated both quantitative and qualitative methods.

Key evaluation data sources included:

- A database developed by SHADAC of organizations participating in the Model, including organizations that were awarded grants or contracts by the state or that otherwise participated in these awards;
- Initial and final semi-structured qualitative interviews with state grantees and contractors and their collaborators (initial interviews = 220 individuals; final interviews = 193 individuals);[5]
- Initial and final semi-structured qualitative interviews with state leadership and staff (initial interviews = 23 individuals; final interviews = 19 individuals);
- The SIM Minnesota Organization Survey, a web-based survey administered to 110 grantees/contractors and other participating organizations to assess organizations' capacity to engage in accountable care and change in capacity during the SIM initiative in Minnesota;
- The ACH Provider Survey, a web-based survey administered to 183 health care and other care/service providers to assess their perspectives on the care coordination approaches implemented by the ACHs and the impact the approaches had on the care or services they provide and on their workload and workflow;
- The Health Information Exchange (HIE) User Survey, a web-based survey administered to 32 provider participants in select e-Health Collaboratives to assess their perspectives on the implemented HIE method and to assess the impacts HIE had on provider workload and workflow, privacy and security concerns, and on the care or services they provide;
- The Minnesota All Payer Claims Database (MN APCD) and data from the Minnesota Statewide Quality Reporting and Measurement System (SQRMS) to assess the impact of the IHP program on health care costs, utilization, and quality; and
- Ongoing systematic document review of state, grant, and contract materials.

More information about evaluation methods pertaining to the three surveys administered by SHADAC, including weighting of the SIM Minnesota Organization Survey and the ACH Provider Survey, is provided in Appendix A. More information about MN APCD and SQRMS methods is provided in Appendix B.

Evaluation Limitations and Challenges

As is typical for research and evaluation studies in general, the state evaluation of the Minnesota Accountable Health Model was not immune to limitations and challenges. These include:

[5] SHADAC interviewed approximately 55% of all grantee or contractor organizations participating in SIM and approximately 31% of all collaborating organizations participating in SIM.

- **Timing:** The design of the state evaluation was not finalized until after the design of many Model programs and activities (and in some cases the implementation thereof, e.g., after the release of some grant requests for proposals). Therefore, key evaluation questions and priorities were not identified in advance of finalizing program requirements. Another limitation related to timing is that some Model activities (including activities the state implemented under its no-cost extension) do not conclude until after the preparation and submission of this final evaluation report. We concluded final interviews with grantees in the spring of 2017 and with state staff in the summer of 2017, and we reviewed available documentation through September 15, 2017. Therefore, this report does not capture all activities and results for these programs. Finally, as was reported in SHADAC's First Annual Evaluation Report, many state and grantee participants spoke to the need for a longer time window for reform implementation and outcome monitoring, highlighting the challenges of both implementing programs (e.g., hiring) and measuring long-term goals (such as improved population health) within grant periods ranging from 6 months to 3 years.
- **Breadth of evaluation:** The SIM initiative in Minnesota was a broad initiative, attempting to address a number of core capacities in the state across multiple sectors. The design of the state evaluation was equally broad, emphasizing the documentation, monitoring, and assessment of most core activities over concentrated, in-depth evaluations focused on a few programs under the Model. SHADAC's initiative-level evaluation approach was intended to complement and not duplicate related program evaluations, e.g., program evaluation of the state's HCH model.
- **Data gaps and limitations:** There were gaps in data available for the evaluation. For example, the state's ACH Grant Program purposefully did not require administration of a common patient/client assessment tool or the collection of common quality and cost measures across all 15 ACHs so as not to restrict the range of ACH applicants. Standardized data were therefore not available for ACHs. Additionally, information about the commercial market during the SIM initiative was limited. During the first year of SIM implementation, the state conducted a Baseline Assessment of ACO Payment and Performance Methodologies to gauge the prevalence and characteristics of ACO models in the state. During the SIM initiative, state staff discussed the possibility of conducting a follow-up assessment to gather updated information, but at the time of the preparation of this report, it had not been conducted. There are also limitations to available data sources. For example, the MN APCD data, which are a rich dataset for IHP analyses, do not include an indicator of IHP participation for providers/clinics, nor do they include a flag for patient IHP attribution. SHADAC used alternative information sources to address this limitation. Additionally, based on the timing of our work within the MN APCD data, data only through 2014 were available for the evaluation.
- **Some stakeholder perspectives are missing:** A main finding in SHADAC's First Annual Evaluation Report was that a key component and early accomplishment of the SIM initiative in Minnesota was the engagement of and the strengthening of relationships among a diverse set of stakeholders. This finding perseveres throughout the chapters in this final report, as well. Nonetheless, some Minnesota Accountable Health Model stakeholders have not been as actively or directly engaged in the SIM initiative and therefore the state evaluation. These groups include a subset of purchasers, some provider associations, some state and county government offices, and consumers. Many of the state's SIM initiatives were not intended to directly impact individuals. Others may not have been directly involved in the initiative because they were not part of the stakeholder groups that the state explicitly engaged or because they elected not to be involved in the initiative.

- **Stack:** Organizations were not prohibited from applying to and receiving awards from multiple SIM grants and contracts in Minnesota (the state referred to this as program "stacking"). In fact, a number of organizations participated in more than one driver or program (see Chapter 2). In some cases, an organization's work on one grant/contract was highly coordinated with their work on another grant/contract. For some evaluation data collection efforts (e.g., qualitative interviews), it was feasible to inquire about organizations' participation in multiple SIM programs and the significance of independent programs. In other areas of data collection, it was not possible to isolate the role or outcomes of specific programs. For example, in the SIM Minnesota Organization Survey, SHADAC asked about organizations' capacity before and after SIM participation more generally.
- **Selection bias:** SIM may have attracted organizations throughout the state already moving in the direction of Minnesota Accountable Health Model aims, which makes them potentially different from non-SIM participants even pre-SIM awards. Baseline findings from the state's Continuum of Accountability Matrix Assessment Tool suggest that most SIM awardees and collaborating organizations were on the implementation continuum for most categories assessed. (All organizations applying to participate in SIM programs were asked by the state to report their capacity to participate in the Minnesota Accountable Health Model prior to SIM implementation. See Appendix C for a summary of the pre-SIM award Minnesota Accountable Health Model Continuum of Accountability Assessment Tool results.) SIM Minnesota Organization Survey findings suggest that several SIM participants came to SIM already implementing, for example, select care coordination activities, reporting no change in these activities over the course of the initiative. This limits our ability to generalize evaluation findings to other providers and organizations in the state.
- **Other reform efforts underway:** As stated earlier, the Minnesota Accountable Health Model was built on several existing state health care payment and delivery programs, including the state's IHP and HCH programs. Furthermore, payment and delivery innovations have been and are occurring in the private sector, but there is a lack of public information about these proprietary endeavors. Fully isolating the implementation and impact of new efforts (in this case, SIM activities and programs in Minnesota) in the context of these contemporaneous reforms and the broader health care landscape is difficult for any evaluation of this type. In an effort to be attentive to this limitation, SHADAC worded questions in the developed survey instruments and semi-structured interview guides to encourage respondents to consider the specific role of SIM funding as much as possible. Furthermore, SHADAC selected both a primary and secondary comparison group for the MN APCD and SQRMS analyses to serve as the counterfactual and to allow for sensitivity analyses and examined both Medicaid and commercial outcomes in this analysis.

Focus of the Final Evaluation Report

The balance of this report is organized into eight chapters. Chapter 2 presents a summary of Minnesota's SIM investments across drivers, including investments both internal to state government as well as external investments. Chapter 3 summarizes key outcomes of the SIM initiative in Minnesota. Chapters 4 through 8 present driver-specific outcomes and sustainability findings beginning with e-health (Driver 1), followed by IHP data analytics (Driver 2), team-based, integrated/coordinated care (Driver 3), the ACHs (Driver 4), and ACO alignment (Driver 5). The report closes with a chapter that summarizes the continuation of the Minnesota Accountable Health Model beyond SIM funding and outlines future considerations for the state. Appendices providing supporting or more detailed information are included at the end of the report.

2. SIM INVESTMENTS IN MINNESOTA, 2013-2017

Prior to the State Innovation Models (SIM) initiative, the State of Minnesota had implemented a number of delivery system and payment reforms including the Minnesota Department of Human Services' (DHS) Integrated Health Partnerships (IHP) or Medicaid Accountable Care Organization (ACO) program and the Minnesota Department of Health's (MDH) Health Care Home (HCH) advanced primary care model, e-Health Initiative, and a Community Care Team (CCT) pilot. Under the SIM initiative, the state, defined as DHS and MDH leadership and staff, built the Minnesota Accountable Health Model upon this foundation of existing efforts and pursued the opportunity to address known "cracks" in the foundation including gaps in providers' data analytic capacity; challenges with timely and secure electronic exchange of health information across providers; silos among traditional medical providers, public health, and other providers; and health disparities, among others.[6] To address these cracks and achieve Model aims stated in Chapter 1, Minnesota set out to:

- advance providers' ability to exchange clinical data for treatment, care coordination, and quality improvement (Primary Driver 1);
- increase providers' access to analytic tools to manage cost/risk and improve care quality (Primary Driver 2);
- expand the number of patients served by team-based integrated/coordinated care (Primary Driver 3);
- increase provider/community/consumer partnerships to identify health and costs goals and take on accountability for population health (Primary Driver 4); and
- standardize ACO performance measurement, competencies, and payment methodologies particularly for complex patients (Primary Driver 5).

Minnesota's investments across these drivers can be organized into three main components. First was a joint-agency governance and management structure including both DHS and MDH that facilitated cross-agency collaboration to operationalize and implement the Minnesota Accountable Health Model. Second was the engagement of a broad group of stakeholders leveraged to guide the initiative, achieve community engagement and partnership goals, and disseminate information about the initiative. Stakeholders included "SIM priority setting" providers, behavioral health providers, social service agencies, local public health agencies, and long-term care/post-acute services providers. The third area of investment was the administration and oversight of competitive grants and contracts to organizations and collaboratives across the state to achieve the goals of each of the five drivers (totaling over 150 awards and more than $26 million). The state made direct investments to organizations and collaboratives as well as "support" investments to vendors/consultants and state agencies charged with facilitating the transformation of provider practices, organizations and collaboratives to deliver accountable care.

Exhibit 2.1 identifies key components and activities under each of the main investments. At a high level, Minnesota used SIM funding to support:

- engagement of stakeholders/resources within communities and across sectors;
- clinic-based and community-based care coordination;
- exchange of health information to improve care coordination and quality;
- use of data for decision making by providers;
- population health initiatives; and
- provider preparation for participation in payment and care delivery reform.

[6] "The Minnesota Accountable Health Model SIM Minnesota: CMMI Site Visit," *Minnesota Department of Health and Minnesota Department of Human Services*, presentation, May 21, 2015.

Exhibit 2.1. Summary of Key SIM Investments in Minnesota

Core Components/Programs	Key Activities
Investment: State Governance and Management Structure	
- Joint Agency Executive Committee - Joint Agency Leadership Team - Joint Agency Core Workgroups	- Led and managed initiative - Collaborated with CMMI - Engaged with advisory task forces - Administered Model programs and activities
Investment: Stakeholder Engagement	
- Community Advisory Task Force - Multi-Payer Alignment Task Force - Storytelling Engagement Projects - Regional Meetings - Equity in Action Summit - Community Engagement Narrative Project - State Communications: State website, email lists, monthly newsletter, other electronic updates	- Advised state leadership on initiative - Shared narratives about health, health care, barriers to care, community engagement and partnerships, care coordination, and health equity - Disseminated information about SIM initiative
Investment: Grants and Contracts to Providers and Organizations throughout the State	
Driver 1: HIE/HIT - e-Health Collaborative Grants (direct*) - HIE and Data Analytics Grants (direct**) - Privacy, Security, and Consent Grants (support*) - e-Health Roadmap Award Contract (support*)	- Established partnerships between medical and priority setting providers (behavioral health, long-term and post-acute care, local public health, and social services), which prepared for and implemented HIE method - Provided education and technical assistance to health care professionals on privacy, security, and consent management practices - Provided recommendations and actions to providers to support/accelerate e-health in priority settings
Driver 2: IHP Data Analytics - IHP Provider Data Analytics Grant Program (direct) - Data Analytics Vendor Contract (support) - Food Security Grant (direct)**	- Enhanced state's data reporting to IHPs - Advanced IHP providers' use of data for decision making - Assisted the state in IHP program data analytics and documentation - Supported the participation of a community partner in the IHP program
Driver 3: Practice Transformation - Practice Transformation (Rounds 1-3), Emerging Professions Grant Programs (direct) - Practice Transformation Grant Program Round 4 (direct)** - Learning Communities, Emerging Professions Toolkits, Practice Facilitation, and Learning Days planner (support) - Oral Health Access Award (direct)** - E-Learning Training Modules (support)** - Learning Community Award (Primary Care and Public Health) (support)**	- Hired staff in emerging professions and integrate them into existing care teams - Developed tools and resources to aid employers in the integration of emerging professions - Integrated primary care and priority setting providers as well as dental services - Provided coaching and TA to providers in building capacity in patient-centered care teams - Compiled learning teams of providers to share practice transformation experiences - Funded e-learning training modules to support Minnesota's delivery system and payment reforms
Driver 4: ACHs - Accountable Community for Health (ACH) Grant Program (direct) - ACH Grant Program Round 2 (direct)** - ACH Learning Community (support)	- Formed community collaboratives to design and implement community-based care coordination approaches and population health plans for target populations in communities - Provided TA to community collaboratives in the areas of community engagement, care coordination, data analytics, etc.

Core Components/Programs	Key Activities
Driver 5: IHP Expansion and ACO Alignment - IHP program expansion - ACO Baseline Assessment administration and dissemination - IHP Alerting Service** - MN All Payer Claims Database (MN APCD) assessment**	- Increased the number and type of provider systems participating in the IHP program - Increased DHS infrastructure to support an expanded IHP program - Assessed the extent to which accountable care organization (ACO) arrangements exist within the state - Assessed self-insured employers and MN APCD participation

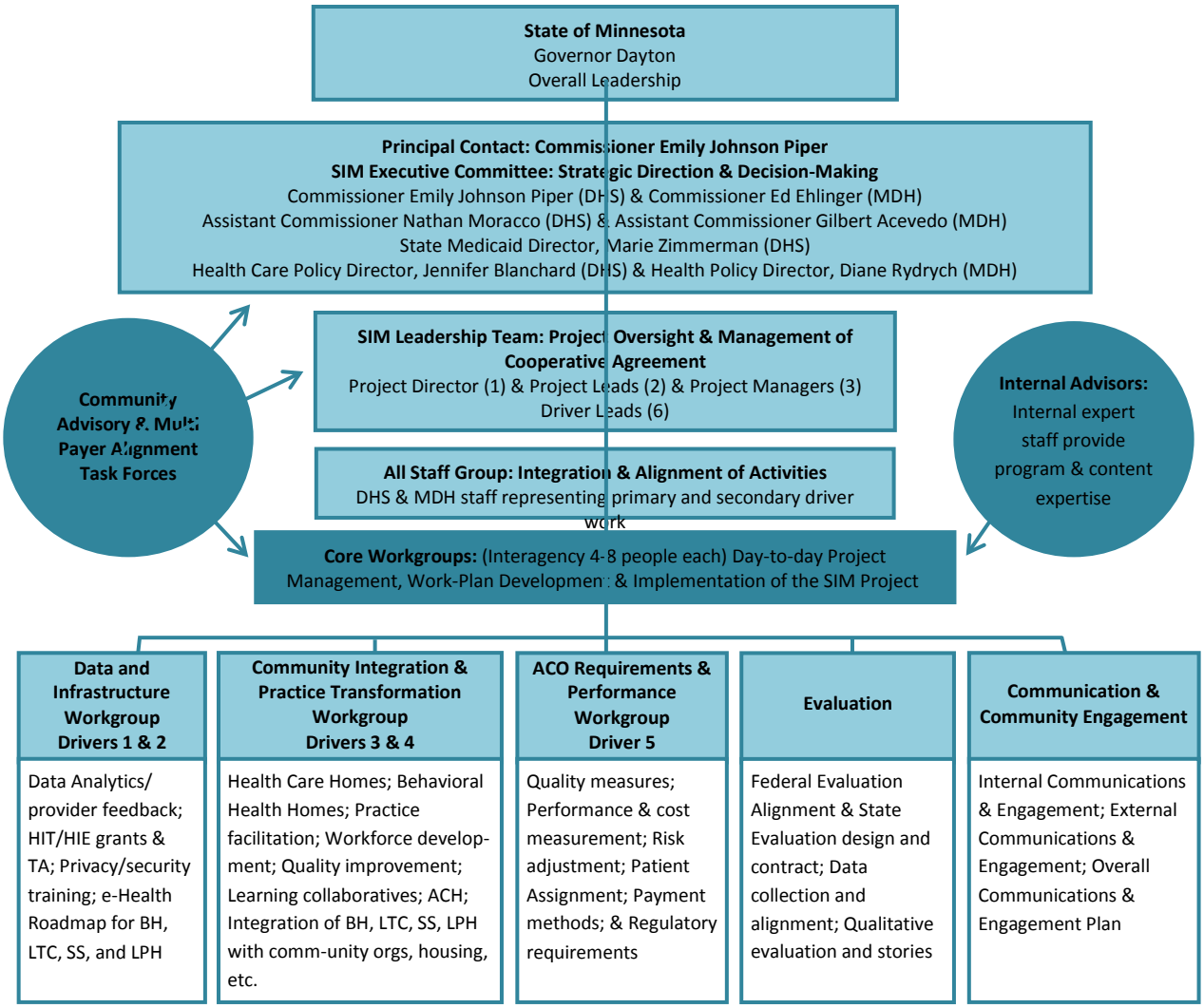
Sources: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017; SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.
Notes: Database is based on state documentation, grant applications and agreements, organization websites, and consultation with the state and some grantees.
*Direct refers to direct investments to organizations and collaboratives and support refers to vendors/consultants and state agencies charged with supporting the transformation of organizations and collaboratives to deliver accountable care.
**Refers to programs implemented under the state's no-cost extension. These programs were not included in this state evaluation.

The State Health Access Data Assistance Center (SHADAC) provided an overview of the state governance and structure of the Model, the state's efforts to engage stakeholders, Model grant programs and contracts, and participating organizations in its April 2016 First Annual Evaluation Report. The purpose of this chapter is to provide a final summary of Minnesota's SIM investments in terms of governance, stakeholder engagement, and the distribution of funding throughout the state. In doing so, we provide updated information on the contracts and grants issued under each driver and the number and type of organizations participating. The primary data source for the characteristics of organizations participating in SIM in Minnesota is SHADAC's evaluation database of organizations participating in the Model. Other data sources that informed this chapter include SIM Minnesota newsletter and web analytics, state SIM summary documents, and interviews with state leadership and staff.

State Governance and Structure

Key to the governance of SIM in Minnesota was the joint state agency leadership and administration. As shown in the organization chart in Exhibit 2.2, while DHS was the fiscal agent for SIM in Minnesota, leaders, managers, and staff from both DHS and MDH were members of the SIM Executive Committee, Leadership Team, and Core Workgroups. The SIM Leadership Team remained the most active body, meeting weekly (biweekly as of May 2017) to oversee, manage, and monitor initiative programs and activities. A DHS Inter-Agency Project Lead facilitated Leadership Team meetings of DHS and MDH health policy directors who also served on the Executive Committee, SIM driver leads (who also served as SIM Workgroup leads) and SIM project staff responsible for evaluation, communications, and community engagement. This project lead role was a significant one, involving the management of a multi-million dollar cooperative agreement with the federal government, management of a dual agency governance structure, administration and oversight of over a hundred grants and contracts, and engagement of external task forces. Over the multiple-year initiative, the Leadership Team frequently consulted other members of the Executive Committee for strategic direction.

Exhibit 2.2. Minnesota's SIM Governance Structure



Source: "Minnesota Accountable Health Model Operational Plan (updates)," *State of Minnesota*, October 2015.

Engagement of Stakeholders

Minnesota employed a variety of strategies to engage stakeholders to participate in the Minnesota Accountable Health Model. MDH's community engagement and partnership staff person for SIM identified Model goals for community engagement and partnership consisting of:

- building awareness and support for integration of care;
- creating accessible ways for communities to be involved in SIM; and
- connecting resources to support community capacity to effectively participate in partnerships over time.

As stated in our last report and confirmed through SHADAC's subcontract with Rainbow Research, Inc. (Rainbow), primary stakeholders included the state's four priority setting provider organizations (behavioral health, l , local public health, and social services) as well as traditional medical providers, payers, state agencies, and community networks.[7] SHADAC contracted with Rainbow Research, a Minneapolis-based non-profit evaluation and research firm, to document and assess specific state-initiated stakeholder engagement efforts under SIM.

[7] SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.

Through interviews with the MDH and DHS staff and a few external stakeholders, Rainbow identified five community engagement and partnership strategies led by the state:

- **Sharing information about the Minnesota Accountable Health Model** within state agencies and with external organizations through venues such as Learning Days, regional meetings, webinars, workshops, a DHS staff person supporting SIM communications and website, and success stories;
- **Supporting relationships within and across state agencies and between state agencies and external organizations (e.g., priority setting providers) and individuals** through SIM joint-agency governance structure, a DHS staff person supporting SIM community engagement and partnership activities, SIM task forces, SIM collaboratives, and other grants and contracts;
- **Building staff capacity** within state agencies through training and consultation;
- **Focusing program development** within state agencies to connect SIM driver specific programs to priority setting providers and community members and to inform RFP development and review;
- **Promoting health equity policy** within state agencies through clarification of language and definitions related to health equity and promotion of health equity in agency policies.

Strategies reached state agency staff, medical and non-medical providers, as well as community organizations. Rainbow found that, generally, state-initiated community engagement and partnership efforts did not reach individuals, advocates, and families directly; instead, individuals were reached through some of the state's grantees and partners employing multi-pronged approaches to engagement discussed later in this report (e.g., under the ACH Grant Program).

We provide a high-level description below of three mechanisms through which the state implemented its community engagement and partnerships strategies: 1) two advisory task forces to the state, the Community Advisory Task Force and the Multi-Payer Alignment Task Force; 2) an MDH staff person supporting community engagement and partnership activities that span Model drivers, including documentation of those activities; and 3) SIM communications activities overseen by a DHS project manager.

External Task Forces

In 2013, the state formed two task forces, the Community Advisory Task Force (CATF) and the Multi-Payer Alignment Task Force (MPATF), for advice and feedback on SIM implementation and evaluation in Minnesota. These tasks forces continued to meet until April of 2017. Both task forces included prominent players and stakeholders in the health care delivery and payment system in the state. The CATF represented a variety of care settings including medical providers (e.g., health systems and hospitals), priority setting providers (e.g., behavioral health, education, and public health), and a consumer, and was responsible for advancing community and patient engagement across the continuum of care. The MPATF was comprised primarily of health plans and some provider advocacy groups and supported alignment across payers as well as the development of ACOs.[8] After an initial two-year term, some members were reappointed, some decided not to pursue an additional term, and new members joined. Task force attrition consisted primarily of non-medical providers and a major employer. New membership consisted of county representatives and a school district. As of the end of the second term (April 2017), there were 14 CATF

[8] SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017. Database is based on state documentation, grant applications and agreements, select progress reports, organization websites, and consultation with the state.

members and 15 MPATF members.[9, 10] All but two of the 27 individual task force members represented an organization directly involved in a SIM program or activity.[11]

Between 2013 and 2017, the task forces met formally for a total of 21 times each, including nine joint meetings. With input from task force chairs who represented a major health plan and health care non-profit organization in the state, and task force facilitator, the Center for Health Care Strategies (CHCS, an independent nonprofit health policy resource center), state staff developed meeting agendas. In the early stages of SIM implementation, agendas consisted of discussions about how to operationalize SIM drivers, SIM program design, including the launch of the Accountable Communities for Health (ACH) Grant Program, and the development of the Minnesota Accountable Health Model Continuum of Accountability Assessment Tool. More recent agendas included discussions about SIM program progress, dissemination of SIM products, including the e-Health Roadmap to advance the Model, and status of the state and federal evaluations. (Agendas and minutes from task force meetings are posted on the SIM Minnesota website.[12]) As one stakeholder told Rainbow Research, "[The Community Advisory Taskforce] opened pathways to new discussions and partnerships.... We have expanded/strengthened our partnership with Minnesota Department of Health…. We have engaged with other grantees on e-health calls that provide interactions for continuous learning and updates on what others are doing."

In addition to public task force meetings, members served on task force subgroups, namely the ACH Advisory Subgroup of the Community Advisory Task Force and the Data Analytics Subgroup (Phases 1 and 2; see more below), and responded to periodic "homework assignments" solicited by the state or CHCS. Homework topics focused on, for example, the state's response to CMMI's Request for Information on SIM Concepts, the state's Driver 5 efforts to field a follow up survey of Accountable Care Organizations (ACOs) in the state, sustaining efforts beyond the SIM award, and the state-led evaluation.

The charge of the ACH Subgroup was to advise on the criteria and implementation of ACHs. This group of 16 health professionals met three times in early 2014 and produced suggestions for ACH leadership, governance, and care coordination that were foundational to the ACH Request for Proposal process and implementation post-award.

The Data Analytics Subgroup work was divided into two phases. Phase One consisted of three meetings (November 2014, December 2014, and February 2015) of 14 representatives, who were tasked with identifying areas where data analytics reports could be better aligned. Another stakeholder interviewed by our community engagement and partnership subcontractor Rainbow Research reported: "The ability to share and learn from others in an open forum [MPATF] has also been beneficial. I have seen progress as the task force attempts to develop and provide input into common performance measures, advancing discussions on standardization in reporting and payer analytics, and various financial areas of discussion."

[9] "Community Advisory Task Force," *Minnesota Accountable Health Model*, accessed May 17, 2017, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=sim_task_forces_community#.
[10] "Multi-Payer Alignment Task Force," *Minnesota Accountable Health Model*, accessed May 17, 2017, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=sim_task_forces_multi_payer#.
[11] Two individuals were on both the Community Advisory and Multi-Payer Alignment Task Forces. Over the course of the initiative, 33 organizations from across the state participated on SIM task forces.
[12] "Task Forces," *Minnesota Accountable Health Model*, accessed May 17, 2017, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=SIM_Task_Forces

Phase One members identified five priority areas:

- Contact information and identified primary care provider
- Health status and risk level
- Total cost of care
- Health status grouped by demographics
- Patterns of care within and outside of ACO providers.

Phase Two of the Data Analytics Subgroup consisted of 15 members, six of whom also participated in Phase One. They met to identify six priority data analytics elements related to social determinants of health:

- Mental health and substance use (current diagnosis or unmet need)
- Race, ethnicity, and language
- Access to reliable transportation
- Social services already being received
- Housing status or situation
- Food insecurity.

The subgroup further reported on existing sources of these data, application of these data elements for population health improvement, and precedent use of these data for Community Health Needs Assessments in the Data Analytics Subgroup Phase Two Report.[13]

Community Engagement Activities Spanning Model Drivers

In addition to SIM program specific investments in community engagement and partnership, an MDH staff person oversaw state investments (totaling almost $200,000) across Model programs to facilitate achievement of SIM community engagement and partnership goals. These included the following:

- **Storytelling engagement projects (Rounds 1 and 2)**: Two rounds of storytelling engagement grants were awarded in 2015 and 2016 to metropolitan area community-based organizations and media agencies. Grantees and their partners conducted interviews with community members to develop visual and written narratives about patient experiences with health and health care and barriers faced by patients with limited English speaking communities. The state hosted two brown bag sessions to disseminate Round 2 findings to interested community members, organizations, and state staff, including providing recommendations for providers and community members to better meet the needs of these communities.
- **Regional meetings**: Five meetings were held in the fall of 2016, two awards to hosts in the seven-county metro area and three awards to hosts in Greater Minnesota. All regional meetings were public forums to bring together SIM grantees, health professionals, and community organizations or members for trainings or dialogue related to community engagement and partnership in health and health care. One meeting was hosted by an ACH and shared stores of collaboration and care coordination including emerging professions. Another meeting, hosted by a media agency and a church, included a storytelling training and discussion about what creates health in our communities.
- **Equity in Action Summit**: Held on November 17, 2016 in St. Paul, this SIM-sponsored summit brought together 158 community members, health and human service providers, administrators, and policy

[13] "Data Analytics Subgroup Phase Two Report," *Minnesota Accountable Health Model*, August 31, 2016, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=dhs16_190086#.

makers, among others from across the state, for a day of reflection and discussion about leveraging cross-sector community partnerships and promoting health equity in all policy. Participants signed an "equity in action" pledge, committing to taking responsibility for creating communities of inclusion. In addition, attendees were charged with generating 100 ideas to eliminate root causes of inequity and health system barriers.

- **Community engagement narrative project**: MDH planned to fund two community engagement narrative projects in the Spring of 2017 related to community members and service agencies around food access in underserved areas and how community members understand its relation to health outcomes as well as barriers to providing access to culturally appropriate mental health services to a population with limited English proficiency in a rural setting.

The MDH community engagement and partnership staff person supported other cross-driver community engagement activities initiated by the state, such as SIM grantee Learning Days and webinars, state staff trainings on topics such as authentic community engagement and equity, outreach to priority setting providers and community members about SIM efforts (e.g., Driver 1 e-Health Roadmap stakeholder engagement) and invitations to community members to inform state RFP development and proposal review.

Communications

Throughout the SIM initiative, Minnesota primarily promoted Model work through its website, an email listserv, a monthly newsletter, and regular electronic updates to task force members and leadership. SHADAC analyzed website and monthly newsletter reach over time.

According to Google Analytics provided to SHADAC by the state, the SIM Home Page received approximately 6,000 unique page views in 2016. DHS sent monthly update bulletins to approximately 800 recipients each month in 2016 and received data reports from a communications vendor to assess the reach of bulletins. Unique open rate for monthly updates was steady at 26.8% on average, indicating that slightly over one-fourth of all recipients opened these bulletins (this rate is consistent with the industry average). (See Appendix D for additional data on SIM monthly bulletin reach.)

Another method the state used to communicate about efforts under SIM was the collection and sharing of success stories. During the course of the initiative, the state published 12 success stories on the state's website.[14] These stories predominantly represent the ACH and Emerging Professions Grant Programs, as well as one story that draws from SHADAC's case study of "stacking" SIM grants.[15]

Grant and Contract Investments under Model Drivers

Exhibit 2.3 summarizes the state's grant and contract investments by driver. The state made direct investments to organizations under each of these drivers as well as "support" investments to vendors charged with supporting the transformation of the state, organizations and collaboratives to deliver patient-centered, coordinated care. Fewer but larger direct investments were made in Drivers 1, 2, and 4, awarding organizations the opportunity to work together to achieve e-health, data analytics, and population health goals. The state made many, smaller direct investments under Driver 3, facilitating individual providers' transformation to advanced primary care, team-based care, behavioral health

[14] "Success Stories," *Minnesota Accountable Health Model*, accessed May 24, 2017, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=SIM_success.
[15] SHADAC, "SIM 'Stack' in Minnesota – A Case Study of Otter Tail County Public Health," *University of Minnesota, School of Public Health*, December 15, 2016, http://www.dhs.state.mn.us/main/.

integration, and/or targeted quality improvement. The state aided these and other organizations in their transformation through support investments in practice facilitators, tool kit development as well as activities such as learning communities and learning days. Driver 5 investments focused on capacity building and infrastructure development to expand and diversify DHS' Integrated Health Partnership (IHP) program as well as an assessment of accountable care organizations (ACOs) in the state. The support investments identified under cross-driver initiatives in Exhibit 2.3 include state-led regional community meetings, storytelling engagements, and this state evaluation of SIM in Minnesota.

Exhibit 2.3. Minnesota SIM Organization/Provider Investments (Direct and Support) by Driver

Driver	Number of Direct Awards	Direct Investment (USD)	Number of Support Awards	Support Investment (USD)	Total
Driver 1: HIT/HIE	22	$5,930,715	3	$1,095,863	$7,026,578
Driver 2: IHP Data Analytics	12	$4,313,472	1	$1,750,000	$6,063,472
Driver 3: Practice Transformation	71	$1,506,927	10	$1,551,509	$3,058,436
Driver 4: ACHs	21	$5,990,844	2	$198,405	$6,189,249
Driver 5: ACO Alignment	Not Available (NA)	$NA	1	$NA	$NA
Select Cross-Driver Initiatives	-	-	10	$3,785,113	$3,785,113
Total	**126**	**$17,741,958**	**27**	**$8,380,890**	**$26,122,848**

Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, organization websites, and consultation with the state and some grantees. Due to limited data at the writing of this report, recent SIM investments, namely the IHP Alerting Service, e-Learning Module, and Community Engagement Narrative project are not included in this table.

A key role of the state under SIM was to award, distribute, and oversee grants to organizations and communities across the state and support a flexible reform approach, such that communities were empowered to design unique reform models tailored to local needs and capacities. Under this approach, which supported the state's ongoing commitment to stakeholder and community engagement, a wide variety of organizations participated in the Minnesota Accountable Health Model as recipients of SIM funding (fiscal agents) or collaborators in SIM-funded efforts. Ninety-eight (98) organizations were direct recipients of SIM funding, usually serving as the lead organization for a particular grant or contract. Almost 400 (397) organizations collaborated or partnered on one or more SIM grant and/or contract.

Exhibit 2.4 details the number of unique organizations that participated either as a lead/fiscal agent or as a collaborator/partner or vendor for the primary Minnesota Accountable Health Model programs. In line with the collaborative nature of the e-Health Collaboratives and ACH programs, these efforts reached hundreds of unique organizations, 158 and 237 organizations respectively. (The 15 ACH awards involved 222 partners and vendors, an increase of 8% since SHADAC's First Annual Evaluation Report. The 13 e-Health Collaborative awards involved 145 partners and vendors, a slight decrease since our previous evaluation report.)

Exhibit 2.4. Participating Organizations by Select Minnesota Accountable Health Model Program

Program Type	Total Number of Organizations (fiscal agent, partner, vendor)
Driver 1 - E-Health Collaboratives (Rounds 1–2)	158
Driver 1 - E-Health Roadmap	51
Driver 1 - Health Information Exchange and Data Analytics	57
Driver 2/5 - Integrated Health Partnerships (Rounds 1–5)	21 (9,299 participating providers)
Driver 2 - Integrated Health Partnerships: Data Analytics	12 (7,909 participating providers)
Driver 2 - Food Security	7
Driver 3 - Practice Transformation (Rounds 1–4)	61
Driver 3 - Practice Facilitation	27
Driver 3 - Emerging Professions (Rounds 1–3)	64
Driver 3 - Oral Health	1
Driver 3 - Learning Communities (Rounds 1–3)	34
Driver 3 - Learning Days	1
Driver 4 -Accountable Communities for Health (Rounds 1–2)	237

Sources: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017. DHS IHP provider rosters.
Notes: Database is based on state documentation, grant applications and agreements, organization websites, and consultation with the state and some grantees. Organizations may have participated in multiple rounds of funding within a particular program or in more than one program. Organizations involved in the IHP Alerting Service, e-Learning Module, and Community Engagement Narrative projects are not included in this table.

As evident in the maps shown in Exhibits 2.5a and 2.5b, Model investments reached all parts of the state and were noteworthy in size. Maps were created according to the location and total award amounts received by fiscal agents. (Fiscal agents were usually the lead organization for a particular grant or contract, but it is important to restate that grant and contract awards involved many other organizations as well.) Since 2014, the state made 152 awards to 98 fiscal agents. Approximately half of all awards under SIM were less than $50,000, and 13% of awards were greater than $500,000. Many fiscal agents received more than one award (the state referred to this as program "stacking"), and the size of their dot in Exhibit 2.5a reflects their total awards across all programs for awards in Minnesota. (There were 24 new fiscal agents in the last 16 months of SIM implementation.) Exhibit 2.5b presents a closer look at the seven-county metro area, where the state made 52% of its awards (89 awards to 50 fiscal agents) to entities located in Anoka, Dakota, Hennepin, and Ramsey counties.

Exhibit 2.5a. Map of Minnesota Accountable Health Model Fiscal Agent Awards

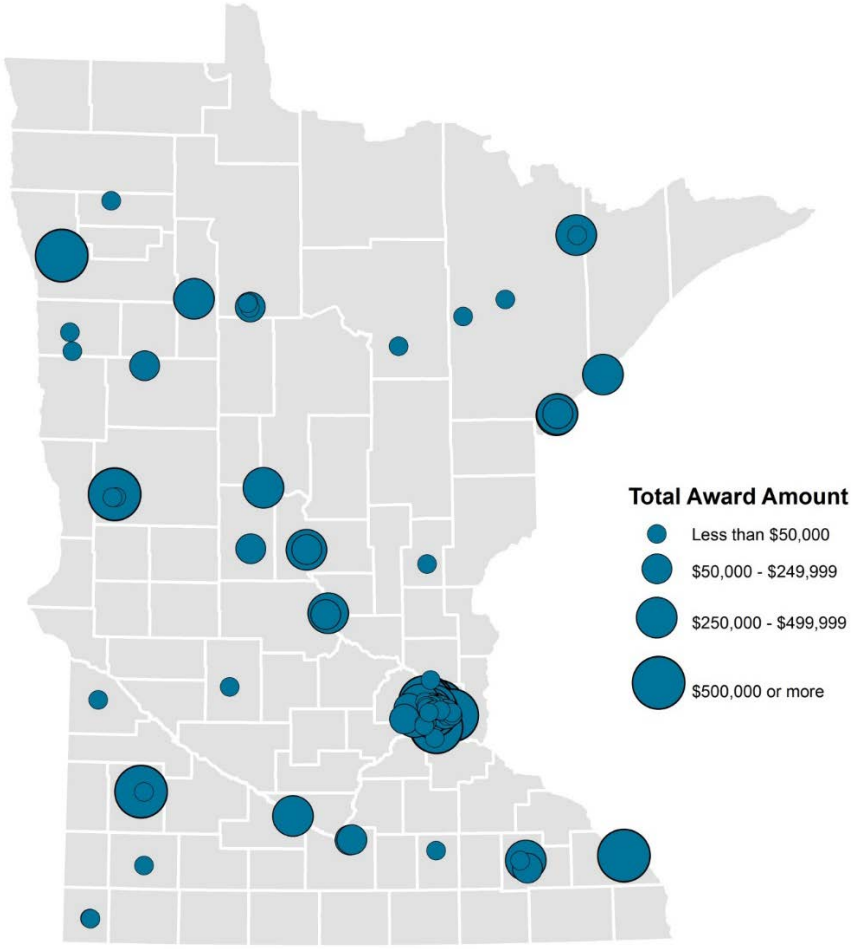
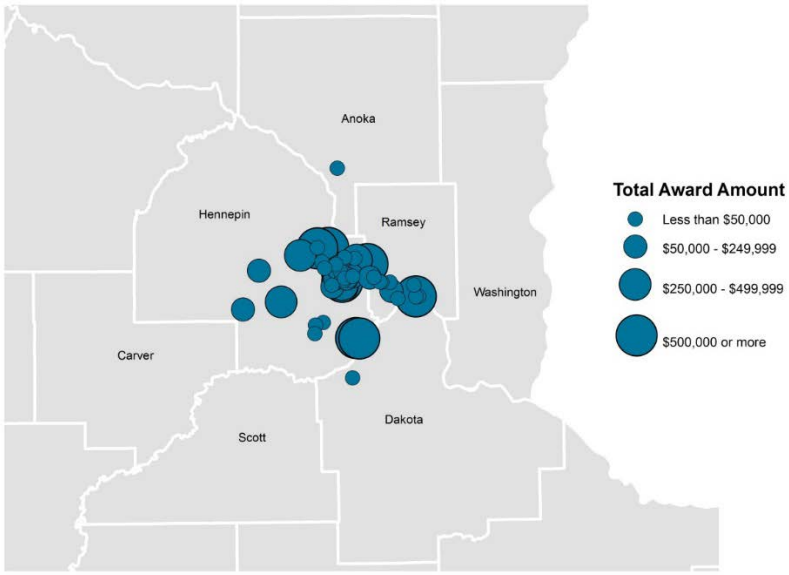


Exhibit 2.5b. Map of Model Fiscal Agent Awards: Metro Counties



Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, select progress reports and grantee interviews, organization websites, and consultation with the state. Two fiscal agents are not plotted on the map due to their out of state location. Organizations involved in the IHP Alerting Service, e-Learning Module, and Community Engagement Narrative project are not plotted.

Across all of the 495 organizations that participated in Minnesota's SIM initiative as fiscal agents, partner organizations, or vendors, over 40% are located in rural counties across the state. The state achieved its goal of engaging priority setting providers. Among all participating organizations, 27% are traditional medical providers, 41% are priority setting providers [behavioral health (12%), social services (15%), local public health (5%), long-term/post-acute supports and services(5%)], and 32% are other types of organizations.[16]

The state not only "spread" its investments across organizations in both rural and urban regions across the state but also "stacked" its investments, meaning it intentionally supported some organizations to participate in more than one unique driver or program. A total of 150 organizations were involved in more than one SIM program (up from 104 in the first year of the initiative). Exhibit 2.6 provides the distribution of these organizations by their organization type. Behavioral health organizations made up a third of all organizations participating in three or more SIM programs. Health care clinics or clinic network made up over 20% of the organizations participating in two or more SIM programs. See Appendix E for additional information on SIM investments and participating organizations.)

Exhibit 2.6. Organization Participation in Multiple SIM Programs by Organization Type

Organization Type	Organizations Participating in 1 Program	Organizations Participating in 2 Programs	Organizations Participating in 3+ Programs
Hospitals and/or Network of Hospitals	13	4	2
Clinics and/or Network of Clinics	34	22	9
Health Care Systems	33	10	5
Health Plan	4	1	3
Behavioral Health Providers	31	11	18
Social Service Organizations	58	9	8
Local Public Health	15	7	3
Long-Term, Post-Acute, and/or Home Care Services	16	8	2
Human and Other Public Health & Social Services	16	6	0
Education	36	6	1
Other*	89	11	4
Total Organizations	**345**	**95**	**55**

Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, select progress reports and grantee interviews, organization websites, and consultation with the state. Counts of organizations involved in IHP Alerting Service, e-Learning Module, and Community Engagement Narrative projects are not included. *Other" includes associations, vendors, food service organizations, emergency medical services, pharmacies, legal entities, and advocacy organizations.

[16] Examples of organizations designated with an organization type of "other" include associations, vendors, food service organizations, emergency medical services, pharmacies, legal entities, and advocacy organizations.

3. KEY OUTCOMES ACROSS SIM INVESTMENTS

Minnesota implemented the Minnesota Accountable Health Model (Model) with the aims of 1) achieving a health care system that provides patient-centered, coordinated care; 2) holding providers accountable for costs and quality of care; 3) aligning financial incentives to promote the Triple Aim; and 4) implementing collaborative approaches to set and achieve health improvement goals. These four aims were supported by five primary drivers, under which most activities were organized in Minnesota. The goals of these drivers were:

- **expansion of e-health:** Providers have the ability to exchange clinical data for treatment, care coordination, and quality improvement;
- **improved data analytics among the state's Integrated Health Partnerships (IHPs):** Providers have analytic tools to manage cost/risk and improve quality;
- **practice transformation to achieve interdisciplinary, integrated care:** Expanded numbers of patients served by team-based, integrated/coordinated care;
- **implementation of Accountable Communities for Health (ACHs):** Provider organizations partner with communities and engage with consumers to identify health and cost goals and take on accountability for population health; and
- **alignment of ACO components across payers:** ACO performance measurement, competencies, payment methodologies are standardized and focus on complex populations.

In Chapters 4-8 of this report, we present detailed driver-specific findings for all five of Minnesota's drivers. In this chapter, we highlight select outcomes under each of the state's drivers as well as summarize key outcomes across the initiative related to Model aims and goals.

Driver-Specific Outcomes

Exhibit 3.1 identifies select accomplishments and outcomes under each of Minnesota's five drivers based on a variety of evaluation data sources including qualitative interviews and surveys of grantees and contractors involved in the work, and input from state and task force members, as well. It is important to reiterate that the results presented below and in the remaining chapters are based on a subset of programs and activities conducted under each of the drivers. For example, SHADAC was not able to incorporate into the evaluation new programs implemented more recently under the state's no-cost extension (see Exhibit 2.1). Additionally, the outcomes presented in this report are based on final interviews conducted in the spring/summer of 2017 and document review through September 15, 2017. Therefore, because some grants and contracts do not come to a close until December of 2017, some program outcomes may not be captured here.

Exhibit 3.1. Select Accomplishments and Outcomes of Model Program and Activities included in the Evaluation

Goals, Accomplishments, and Outcomes by Driver
Driver 1. Health Information Technology (HIT)/Health Information Exchange (HIE) Goal: Providers have the ability to exchange clinical data for treatment, care coordination, and quality improvement
e-Health Collaborative Grants • Seven of the nine implementation collaboratives (78%) connected to a state-certified HIE service provider. Of those, four reported successfully exchanging new health information among partners as a result of SIM funding, and three achieved the testing phase of exchange. • Full implementation of Direct Secure Messaging (DSM) alone did not achieve many of the collaboratives' desired use cases. Several collaboratives revised their work to focus on exchanging Admit-Discharge-Transfer (ADT) alerts and to establish data warehouses that would allow for data analytics. • Seventy-four percent (74%) of e-health implementers who responded to the SIM Minnesota Organization Survey perceived that, over the course of the SIM, their organizations made advancements in the availability, use, and exchange of e-health information. In fact, 62% of e-health implementer respondents reported exchanging information with at least one more organization or stakeholder type now than before SIM. • The majority of e-health implementers reported in interviews increased knowledge of e-health technology and capabilities and increased awareness of privacy and security issues. • Evaluation data are limited on workflow efficiencies and cost savings that result from HIE methods. • Collaborative participants who responded to the Organizational Survey endorsed several key benefits to working in collaboratives including acquiring new useful knowledge about services programs or people (51%), developing valuable relationships (51%), and developing new skills (32%). • The SIM e-Health Collaborative "test" advanced implementation of the state's strategy to achieve statewide interoperability, placing greater emphasis on providers connecting directly with HIOs. HIO infrastructure was strengthened in the state and was supported by SIM investments. ***e-Health Roadmap*** • SIM participants developed compelling use cases into a single roadmap applicable across medical, behavioral health, social services, public health, and long-term/post-acute services and support settings. • Stakeholders from across the care continuum were effectively engaged in various capacities. ***Privacy, Security, and Consent Grant*** • A Foundations in Privacy Toolkit, designed to address challenges providers face exchanging health information under Minnesota and federal laws, was published online.
Driver 2. IHP Data Analytics Goal: Providers have analytic tools to manage cost/risk and improve quality
IHP Data Analytics Grants • DHS continued and enhanced its provision of consistent data and technical assistance (TA) to IHPs; IHPs consider DHS a leader in data analytics in the state. • Data analytics facilitated IHP learning and planning for populations they serve. • The majority of IHPs used SIM funds to integrate state IHP data into a new or existing data warehouse for enhanced analytics and/or to conduct enhanced analytics for care coordination. • Qualitative evaluation data suggest efficiencies were gained among many IHPs through automation and newly accessible information has been leveraged to expand care coordination activities. Interview findings also suggest that learning and skills acquired under this grant are applicable to other delivery system and payment reform efforts or other patient populations.

Goals, Accomplishments, and Outcomes by Driver

Driver 3. Practice Transformation Goal: Expanded numbers of patients served by team-based, integrated/coordinated care

Emerging Professions, Practice Transformation (Round 1-3),and Practice Facilitation Grants

- Overall, the number of certified HCHs in the state modestly increased. In the first quarter of 2015, a total of 351 clinics were certified HCHs. In June of 2017, that number had increased to 376 clinics (including 20 clinics in border states). As of August 2017, there were 26 certified BHHs. Sixty-nine percent (69%) of BHHs were recipients of SIM grants.
- Almost 7,000 people were reportedly served by SIM awardees testing the use of emerging professions in their provider organizations.
- A collaborating team from the Institute for Clinical Systems Improvement (ICSI) and Stratis Health as well as the National Council for Behavioral Health assisted SIM awardee organizations in the establishment of process goals, and almost all of the 23 participants achieved their desired goals (e.g., reduced ED visits, increased referral form completion, implemented new assessment for diabetes patients, became BHH-certified, built or used patient registries, accelerated or improved behavioral health and primary care integration).
- Among the 38 organizations participating in Driver 3 that responded to the Organization Survey, 85% (weighted) reported their organization's care coordination abilities at the time of the survey were better than prior to SIM.
- Qualitative data suggests enhanced care coordination among grantee organizations in terms of improved communication among providers, revised staffing to allow providers to work at top of license, more patient referrals to other services, more concerns addressed in a visit, and improved transitions of care.
- Qualitative data suggest grantees expanded existing patient registries and data collection/analytic capacity.

Driver 4. Accountable Communities for Health Goal: Provider organizations partner with communities and engage consumers to identify health and cost goals and take on accountability for population health

ACH Grants

- Seventy-eight percent (78%) of ACH participating organizations responding to the Organization Survey reported increases in relationship formality with at least one stakeholder type, especially priority setting provider organizations. Fifty-six (56) Organization Survey respondents identified the following benefits of working in ACHs: the development of valuable relationships; gaining new useful knowledge about services, programs, or people; and the development of new skills. These findings were reiterated by the 183 respondents to the ACH Provider Survey when asked specifically about ACH care/service coordination.
- Seventy-eight percent (78%) of ACH Provider Survey respondents stated that care/service quality was somewhat or much improved as a result of ACH care coordination services. Quality indicators mentioned most often by ACHs interviewees included: care becoming more patient-centered, improved patient/client experiences and satisfaction, and improved management of care transitions and chronic conditions.
- At least eight ACHs interviewed noted that provider satisfaction increased as a result of ACH care coordination efforts, and 84% of ACH Provider Survey respondents indicated that they would like to continue to participate in or use the ACH care coordination services.
- Seventy-three percent (73%) of ACH Provider Survey respondents indicated that ACH care coordination services had a positive impact on provider workload, and a similar percentage (74%) reported that ACH care/service coordination had a positive impact on provider workflow.
- A subset of ACHs collected data on service utilization and health care costs. Five of the six ACHs that assessed ED visits saw decreases in ED utilization, and three of the four ACHs that monitored inpatient hospitalizations saw decreases in inpatient stays over time. There was limited tracking of costs and limited evidence of ACH impact on health care costs, although two ACHs did show a reduction in health care costs among their care coordinated populations. One of the two ACHs found a 55% reduction in total ED costs between 2015 and 2016 among patients enrolled in ACH care coordination, for a savings of $29,304. The other ACH examined total pharmacy claims among the ACH target population before and after the ACH intervention and found a 9% drop in claims between the last four months of 2014 and the same time period in 2015, representing a $439,674 cost reduction.

Goals, Accomplishments, and Outcomes by Driver
Driver 5. Accountable Care Organization (ACO) Alignment Goal: ACO performance measurement, competencies, payment methodologies are standardized, and focus on complex populations

IHP Program

- Since 2013, IHPs expanded in number from six to 21 organizations in 2017, from 97,000 to 461,000 MHCP beneficiaries in 2017 (exceeding 2016 and 2017 goals), and from 2,800 to 9,300 in individual providers in 2016.
- MDH estimated state cost savings and shared savings for IHPs for the first four years of the program. According to preliminary state actuarial analysis, IHPs have achieved a total cost savings of $212.8 million between 2013 and 2016. Roughly $70.5 million of the total cost savings reported has been or was expected to be returned in the form of shared savings settlements to IHPs who met cost and quality targets.
- SHADAC analysis of trends using MN APCD and SQRMS data show reductions in emergency department (ED) and hospital utilization for both children and adult Minnesota Health Care Program (MHCP) enrollees for Round 1 IHPs during the first two years of program participation (2013-2014) relative to 2012. We also observed for Round 1 IHPs overall reductions in inpatient costs for both children and adults enrolled in MHCP. Most of these changes were also visible for Round 1 IHP commercial enrollees, but only adult MHCP enrollees had an overall reduction in total costs. We found some evidence that MHCP and commercial health care costs increased for Round 2 IHPs during their first year in the IHP program (2014). On average, we find no significant change in Round 1 IHP quality performance for both MHCP and commercial patient populations during the study period.
- Expansion and diversity of participating IHP providers informed enhancement in model design (referred to as IHP 2.0), which included prospective care coordination payments, the exchange of electronic clinical event notifications between IHPs and providers, and incentives that strengthen partnerships between IHPs and community support/ social service organizations.

ACO Status and Alignment

- The 2015 ACO Baseline Assessment found that ACO participation in the state's commercial market was relatively high, with 41% of fully insured covered lives attributed to ACO models. The percentage of revenue at risk in ACO or similar arrangements was low, with two-thirds of provider respondents indicating that 10% or less of their organization's revenue was at risk.
- The 2017 SIM Organization Survey found that 31% of organizations participating in SIM programs and activities reported an increase in their level of implementation of alternative payment models (defined as percent of organization revenue "at risk") before and after being involved in SIM. These survey data show that the increase among SIM participants was primarily in Medicaid.
- Conditions did not exist in the market such that significant, tangible progress could be made under SIM in developing aligned quality measures, core competencies, or payment methodologies for ACO arrangements in the state.
- Stakeholders identified several barriers in this work including the small base of public programs, the competitive nature of health plans, a lack of tangible goals for alignment under SIM, and lack of ACO regulation under state statue.
- Nonetheless, interviewees identified several areas of progress under SIM including increasing knowledge of the ACO market, engaging stakeholders around the topic, and building relationships that may help facilitate productive discussions about ACO alignment in the future.
- This progress informed the ongoing development of the IHP program, where the state has leverage as a purchaser of health care services.

Sources: SHADAC interviews with SIM grantees, contractors, collaborators, and state staff, 2015-2017. Self-reported grantee progress and annual reports to the state, 2015-2017. Gray Plant Mooty, "Foundations in Privacy Toolkit," *Minnesota Department of Health*, accessed July 2017 http://www.gpmlaw.com/Practices/Health-Law/Foundations-in-Privacy-Toolkit. SHADAC, "Minnesota Accountable Health Model - SIM Minnesota Organization Survey," University of Minnesota, School of Public Health, June 2017. SHADAC, "Accountable Communities for Health (ACH) Provider Survey," University of Minnesota, School of Public Health, June 2017. SHADAC analysis of Minnesota All Payer Claims Database (MN APCD) data for calendars years, 2012-2014. SHADAC analysis of Minnesota Statewide Quality Reporting and Measurement (SQRMS) data for calendars years, 2011-2014. See Appendix B for more information about the MN APCD data and SQRMS methods.

Summary of Key Initiative Outcomes

Looking across driver findings, we identify eight cross-cutting or otherwise key outcomes from the Minnesota Accountable Health Model:

- Expanded capacity among providers to deliver coordinated care across settings,
- New pockets of electronic health information exchange (HIE) and increased demand for data analytics,
- Expanded provider participation in alternative payment model (APM) arrangements under Medicaid,
- Some evidence of reductions in health care utilization and costs among Round 1 IHPs,
- Some evidence of Triple Aim achievements among ACHs,
- Little momentum in multi-payer ACO alignment,
- New or strengthened relationships across providers, organizations, and the state, and
- Broadened conversation about health within the state.

Expanded Capacity to Deliver Coordinated Care across Settings

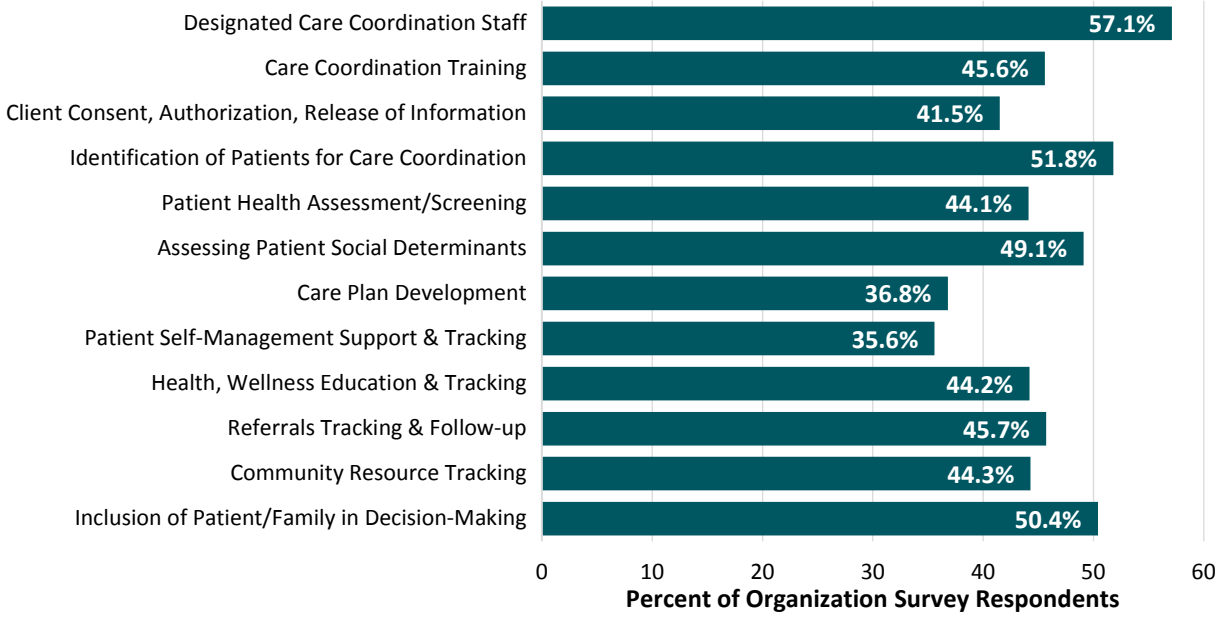
A core aspect of the Minnesota Accountable Health Model was to support providers and other organizations in the delivery of coordinated care or services in order to foster collaborative approaches to achieving population health and to improve care and service quality. While ACHs (Driver 4) were required to develop and implement a collaborative care coordination approach, a number of grantees under Driver 1 (e-Health Collaboratives), Driver 2 (IHP Data Analytics grantees), as well as Driver 3 participants, including Practice Transformation grantees preparing for HCH certification/recertification and behavioral health home (BHH) certification and Practice Facilitation participants, also used grant funding to develop or advance care coordination approaches and infrastructure. Eighty-seven percent (87%) of the SIM participants who responded to the SIM Organization Survey rated care coordination as either "very important" or "absolutely essential" to achieving the Triple Aim.

SHADAC interviews with providers and organizations participating in these programs provide evidence of expanded capacity to deliver coordinated care or services across medical providers, priority setting providers, and community organizations. Interviewees from the e-Health Collaboratives and ACH Grant Program articulated that an artifact of new and deepened partnerships with other providers and organizations (discussed more below) was increased knowledge – about existing resources, other areas of expertise (e.g., health care, behavioral health, housing, corrections), how other providers or organizations operate, a broader system of care, and how various providers and organizations may fit together to address the health and social needs of individuals. These interviews emphasized how this knowledge was crucial for progressing toward Minnesota's aim of patient-centered, team-based, and coordinated care. Some ACH interviewees reported that this information has helped providers relate to patients/clients, assess an individual's situation and strategically develop a plan of care and action, tap the right resources and link to them, and not duplicate efforts. One ACH participant stated, "[This knowledge] has increased our capacity simply because…we are networked into more resources." A side effect of this capacity was "provider relief," an improved sense of effectiveness among providers because they were aware of more resources for patients and did not feel pressured to address needs for which they did not have solutions. Per one grantee: "…We got momentum around care coordination beyond the medical realm." As one state leader conveyed, "SIM help[ed] communit[ies] take responsibility for health."

During discussions with SHADAC, SIM participants also described enhanced care coordination capacity in terms of screening of certain mental health and chronic conditions, revised staffing models and workflows, new institutional bodies such as continuous quality improvement and health information technology (HIT) committees, improved discharge planning and post-hospitalization care for patients, and increased referrals to non-medical providers. Grantees also reported increased access to and use of data for care coordination client identification and assessment or population health management. IHPs, which receive data from the state for utilization by attributed patients outside individual provider systems, cited the importance of having statewide information about emergency department utilization and hospitalizations for their patients in order to target interventions.

Weighted results from the SIM Minnesota Organization Survey support the qualitative findings in part. Survey respondents were asked to rate their organizations along a number of care coordination processes before and after SIM funding, and respondents were also asked to indicate whether they perceived their organizations' care coordination capabilities overall had changed because of SIM participation. Overall, 73% of respondents believed their organizations' care coordination capabilities were somewhat or much better because of SIM. Exhibit 3.2 shows the percentage of respondents who indicated progress since SIM on select care coordination capabilities.[17] A range of 35.6% to 57.1% of respondents reported progress across the capabilities. Areas in which more organizations reported progress included assessing patient social determinants, inclusion of patient/family in decision making, identification of patients for care coordination, and use of designated care coordinated staff, for which almost 50% or more of respondents indicated their organizations had improved. Organizations were less likely to report progress in patient self-management support and tracking and care plan development. Overall, 79% of respondents reported progress with at least one care coordination capability (data not shown in exhibit). These care coordination survey findings did not vary for organizations in rural compared to urban areas.

Exhibit 3.2. Organizations Reporting Progress in Select Care Coordination Capabilities during SIM



Source: SHADAC, "Minnesota Accountable Health Model - SIM Minnesota Organization Survey," *University of Minnesota, School of Public Health*, June 2017.

[17] Twelve of the 24 capabilities included in the survey are shown. SHADAC's selection of the capabilities to present was informed by its research on core components of care coordination in Minnesota, exploratory factor analysis, and review of missing survey data.

The SIM Minnesota Organization Survey findings suggest that one explanation for a lack of reported progress in some areas is that participating organizations came into the initiative with at least some existing capacity to deliver coordinated care or services. Exhibit 3.3 below presents the percent of organizations that reported a particular care coordination capability at the beginning of SIM and reported no change in that capability over time. As is shown, between 37% and 61% of these organizations reported no change in the capabilities listed. Most of these organizations reported joining the SIM work already implementing these capabilities either on an ad hoc or systematic manner.

Exhibit 3.3. Organizations with Care Coordination Capability before SIM and Reporting No Change during SIM

Capability/Activity	No Change
Designated Care Coordination Staff	37.4%
Care Coordination Training	48.6%
Client Consent, Authorization, Release of Information	48.5%
Identification of Patients for Care Coordination	44.2%
Patient Health Assessment/Screening	52.2%
Assessment of Patient Social Determinants	43.9%
Care Plan Development	61.2%
Patient Self-Management Support & Tracking	56.8%
Health, Wellness Education & Tracking	48.9%
Referrals Tracking & Follow-up	49.1%
Community Resource Tracking	52.2%
Inclusion of Patient/Family in Decision-Making	46.4%

Source: SHADAC, "Minnesota Accountable Health Model - SIM Minnesota Organization Survey," University of Minnesota, School of Public Health, June 2017.

Another section of the SIM Minnesota Organization Survey asked about organizations' analytical and reporting capacity to improve care treatment and care/service coordination and to address quality improvement and population health. The survey probed on several different types of data including administrative, claims (Medicare, Medicaid and Commercial), clinical, socioeconomic, survey, and qualitative data. Forty-five percent (45%) of the responding organizations reported an increase in data access or collection over the course of their SIM participation. Progress was made across all data source types, including Medicaid claims data, administrative data, clinical data, and socio economic data.

Survey respondents were also asked about the ways in which and the extent to which their organizations use data for client/patient focused tracking, cost and finance tracking, program monitoring, and quality improvement and evaluation. The majority of survey respondents (83%) reported no change in how they use data during the SIM initiative. Among survey respondents who did report a positive change (meaning their organizations progressed from no use to either planning or implementation of a specific way to use data), slightly more organizations made progress in the category of client/patient-focused tracking. One grantee explained its care coordination capacity building in this way. "Two key factors specific to IHP that were significant include expansion of data available to IHPs to advance that body of work and continued relationship development with area providers participating in the IHP network. The IHP care coordination work was actually very helpful in informing our implementation of the ACH diabetes prevention work, and understanding the best ways to utilize data to most efficiently target resources for a given population." One IHP respondent reported that there is more work to do: "The ability to review data and share - that enabled us to develop systems and processes for better care coordination. We have learned that even with the data, it takes a long time to shift the culture of health systems away from fee for service to looking ahead at care opportunities."

New Pockets of Electronic HIE; Increased Demand for Data Analytics

Minnesota has long been a leader in e-health, and consistently ranks as one of the states with the highest rates of hospital and ambulatory clinic EHR adoption in the country (100% and 97%, respectively).[18] As it carried out its work related to meaningful use, the state recognized that there was a continued need to support the achievement of interoperability, both across traditional health care organizations and across a broader set of providers and settings that had not been recipients of meaningful use incentive payments such as social service providers, local public health, home health settings, etc. Interoperability goals have been more difficult to achieve, although significant progress has been made recently. In 2017, 75% of hospitals and 75% of clinics with EHR systems reported electronically exchanging health information with an unaffiliated partner.[19] MDH's e-Health Profile report cautioned, however, that other than electronic prescribing, most of the HIE happening in Minnesota was primarily between hospitals and clinics in the same system or with affiliated partners.[20]

Minnesota's Driver 1 investments under SIM built on the significant e-health work that had already occurred in state over the past decade. One of the key goals under SIM was to support the secure exchange of medical or health-related information among medical and priority setting providers through implementation and expansion of e-health capabilities under the e-Health Collaboratives Grant Program. At the time of SHADAC's final interviews, most collaboratives were either still in a testing phase or sending and receiving health information with a subset of partner organizations. Among the nine collaboratives working toward HIE implementation, seven had implemented the required HIE infrastructure, by connecting to a state-certified provider. Five of those collaboratives worked during the grant period to connect through a Health Data Intermediary (HDI), with most pursuing DSM.[21] Two collaboratives focused on the exchange of Admit-Discharge-Transfer (ADT) alerts, or other care summary transactions [e.g., Continuity of Care Documents (CCDs)] through an HIO. However, at the time of our interviews, only one collaborative reported that all of their partner organizations had successfully connected to the HIE and were exchanging information.

Because all of the e-Health Collaborative implementation grantees were still in the process of (or had yet to begin) on-boarding partners to their HIE at the time of interviews, many participants commented that it was too early to observe outcomes related to the implementation of HIE such as changes in care quality, workflow, and cost. A major constraint for these grantees had pertained to the state's requirement for providers to connect with a state-certified HIE Service Provider –a Health Information Organization (HIO) or Health Data Intermediary (HDI)—because the single state-certified HIO left the market in the midst of these grants, and no HIOs were available for nearly a six-month period. In addition to the gap in HIO availability, other implementation issues included finding a partner that will use the information being sent; overcoming technical glitches with HIE interfaces; realizing that the information being exchanged was not necessarily more useful; and full implementation of HIE alone did not achieve many of the collaboratives' desired use cases, e.g., improve coordination of care. However, grantees did report interim results they had experienced from participating in the e-Health Collaborative Grant Program, and a survey of current HIE users in four e-Health Collaboratives (implementation grantees) identified experiences with DSM.

---

[18] "Minnesota e-Health Profile," *Minnesota Department of Health, Office of Health Information Technology*, November 2015, http://www.health.state.mn.us/ehealth/assessment/.

[19] "Reporting Targets to CMMI," *Minnesota Department of Human Services*, April 2017 and June 2017.

[20] "Minnesota e-Health Profile," *Minnesota Department of Health, Office of Health Information Technology*, November 2015, http://www.health.state.mn.us/ehealth/assessment/.

[21] Direct is a standards-based way to send encrypted health information directly to known, trusted recipients over the internet.

These interim outcomes among grantees included:

- increased knowledge of e-health technology and capabilities;
- increased awareness of privacy and security issues;
- advancements in care coordination model development;
- increased desire to and improved understanding of how to harness e-health tools for analytics;
- increased timeliness of information (regarding DSM); and
- strengthened relationships between collaborative partners.

The state applied early learnings from e-Health Collaboratives, and as part of its no-cost extension, it combined additional funding for HIE and data analytics activities in one, new SIM grant program that began in early 2017 (HIE and Data Analytics award). State staff explained: "Although Driver 1 investments were intended to be the initial infrastructure under SIM, we realized what grantees actually needed in order to determine which data elements they should exchange via HIE was a much better understanding of the population they were working with, be that an ACO or IHP population, or even their community population." Five of the e-Health Collaboratives received additional SIM funding to further efforts in HIE and data analytics simultaneously. IHP Data Analytics Grant Program awardees also expressed an increased demand for data analytics; grantees reported a "spillover" of data analytics investments for patient populations and value-based contracts outside of the IHP program.

Broader impacts of the state's efforts to support the secure exchange of medical or health-related information included increased statewide HIE vendor capacity (from one HIO to zero and then to 4 HIOs over the course of SIM, for example) and further implementation of a strategy to achieve statewide interoperability that requires connecting directly with an HIO or indirectly to an HIO through an HDI.

Expanded Provider Participation in APM Arrangements under Medicaid

One goal under Driver 5 of the Minnesota Accountable Health Model was the expansion of the Medicaid IHP program, which aligns financial incentives to promote the Triple Aim and provider accountability. As reported in Chapter 8, since its inception in 2013, the number of health care delivery systems participating in the IHP program has grown year after year. As of June 2017, the program has expanded from six to 21 IHP organizations and from covering nearly 97,000 to over 461,000 Minnesota Health Care Program (MHCP) beneficiaries. Clinicians participating as rostered providers in IHPs has also increased steadily, with the number of individual clinicians with attributed patients growing from approximately 2,800 in 2013 to 9,300 in 2016. Formal participation in the IHP program by non-medical priority setting providers such as local public health, behavioral health, long term supports and services, and social service providers has not advanced significantly, however. As reported in our First Annual Evaluation Report, IHPs reported mostly informal relationships with non-medical providers, and only a few IHPs responding to the SIM Minnesota Organization Survey in 2017 noted formal relationships with shared accountability for quality or costs with non-medical, priority setting providers, with the exception of behavioral health (substance abuse and mental health) providers where 47% of IHP respondents reported a formal collaboration with shared accountability for quality or costs at the time of survey administration.

Although the IHP program existed prior to the SIM initiative, its expansion from six IHPs (in Round 1, which predated SIM) and its growth to 461,000 attributed lives were partially due to SIM investments. When asked what the most important SIM activities and investments were in facilitating IHP growth, the state leaders we interviewed focused their responses on how SIM funding allowed DHS to hire additional data analytics, quality, and contracts staff and actuarial resources that were instrumental to working with new

and increasingly diverse organizations that were interested in participating in the IHP program. One state leader gave the example of a provider system that did not receive SIM funding but was still able to use the momentum that SIM brought as leverage within their organization and are now an IHP.

As mentioned earlier, the state conducted an ACO Baseline Assessment to guage the extent to which ACO models exist within the state. This study, conducted in 2015, found that approximately 50% of clinics, hospitals, and physicians participate in an ACO either directly or via their organization and that approximately 40% of fully-insured lives were attributed to ACO models. Another significant finding was the relatively low percentage of revenue many providers had at risk in ACO arrangements in the broader health care market (two-thirds of assessment respondents reported 10% or less of revenue).[22] The collection of assessment data has not been repeated, so it is not possible to assess changes over time. However, the expansion of provider participation in APMs under Medicaid was further reinforced by results of the SIM Minnesota Organization Survey, in which organizations that received SIM awards and their collaborating organizations were asked to designate with which payers (i.e., Medicare, MHCP or Medicaid, commercial fully insured, commercial self-insured, or other) their organizations were participating in APMs, both at the time of survey administration in 2017 and before involvement in SIM. As shown in Exhibit 3.4, the percentage of SIM organizations participating in a Medicaid APM was higher following SIM participation.

Exhibit 3.4. SIM Organizations Participating in APMs Before and After SIM, by Payer

	Medicaid	Medicare	Commercial Fully-Insured	Commercial Self-Insured	Other	None
Before SIM	48%	27%	26%	19%	10%	31%
After SIM	65%	32%	28%	19%	7%	26%

Source: SHADAC, "Minnesota Accountable Health Model - SIM Minnesota Organization Survey," *University of Minnesota, School of Public Health*, June 2017.
Notes: Organizations could choose multiple payers. Organizations responding to the "before SIM" question totaled 78. Organizations responding to the "after SIM" question, which refers to the time of survey administration, totaled 80. Percentages are based on analysis of weighted results.

Some Evidence of Reductions in Health Care Utilization and Costs among Round 1 IHPs

As part of the state evaluation, SHADAC conducted analyses of the Minnesota All Payer Claims Database (MN APCD) and the Minnesota Statewide Quality Reporting and Measurement System (SQRMS) to examine health care outcomes for MHCP enrollees and commercial patients of providers and clinics participating in Minnesota's IHP program. The purpose of these analyses was to examine whether and how health care utilization and costs and quality have changed under MHCP during early IHP participation and whether similar or different trends are visible for IHPs' commercial patients. We used MN APCD data for 2012-2014 and SQRMS data for 2011-2014 to examine trends in outcomes for Round 1 IHPs (which took effect in 2013) and Round 2 IHPs (which started in 2014).

Our analyses show reductions in ED and hospital utilization for both children and adult MHCP enrollees for Round 1 IHPs during the first two years of IHP program participation. The overall reduction in ED use relative to 2012 was approximately 3.0 percentage points for both children and adults, and hospitalizations were reduced by 0.7 and 1.7 percentage points for MHCP children and adults, respectively. We also observe for Round 1 IHPs reductions in inpatient costs for both children and adults enrolled in MHCP during the same time frame (-$2 for non-acute inpatient for children and -$202 for acute inpatient for adults). We observe similar trends among Round 1 IHP commercial health plan enrollees, although it is only for adult

[22] "Factsheet: ACO Baseline Assessment," *Minnesota Department of Human Services*, accessed July 2017, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_FILE&RevisionSelectionMethod=LatestReleased&Rendition=Primary&allowInterrupt=1&noSaveAs=1&dDocName=dhs16_197637.

MHCP enrollees that we see an overall reduction in total costs (-$176). We find some evidence that MHCP and commercial health care costs increased for Round 2 IHPs during their first year in the IHP program. On average, we find no significant change in Round 1 IHP quality performance for both MHCP and commercial patient populations during the study period.

The Minnesota Department of Human Services (DHS) IHP program staff reported that a major focus among early IHPs was on reducing ED visits, and our results show some evidence of success in this area. DHS IHP program staff were not surprised by our lack of evidence of change in quality, particularly for year one of program participation, for which the state's assessment of IHP performance and shared savings calculation only requires IHP reporting of quality measures (i.e., with no effect on shared savings calculations) and in year two of participation, when an IHP's quality performance impacts a relatively small proportion (25%) of its shared savings calculation. It is possible that later years of program participation would show different results in quality (e.g., during year three, 50% of the shared savings calculation is based on an IHP's quality performance*)*.

Per our First Annual Evaluation Report and Chapter 5 of this report, IHP providers have reported changing practice patterns after participation in the IHP program, and some have reported "spillover" effects of IHP participation (including use of data analytics) on other patients seen by the same providers. Our analyses do not enable us to identify the reasons for similar utilization, cost, and quality trends for Round 1 MHCP and commercial enrollees during the first two years of program participation, but our findings do not rule out the potential for spillover of IHP-related practice changes to non-IHP patients, given these common results.

It is important to note that additional analyses by SHADAC are forthcoming in a separate manuscript. These analyses will build on the results presented in this report through incorporation of a control group. There may be secular trends that are unrelated to the IHP program that are responsible for our observed reductions in ED use, hospitalizations, and inpatient costs among both MHCP and commercial health plan enrollees. Our forthcoming analyses will help to control for other policies or trends occurring contemporaneously with IHP implementation that would be misattributed to IHPs in estimated year-to-year changes.

Some Evidence of Triple Aim Achievements among ACHs

Many of Minnesota's investments under SIM were aimed at advancing providers' capacity and infrastructure in the areas of community collaboration, data analytics and exchange, care coordination, and health payment transformation. While the motivation behind these investments included improvements in health care quality and costs, many of these programs were not expected to have effects on patient experiences, health outcomes, and health care costs during the immediate SIM initiative time window.

One notable exception to this expectation was the ACH Grant Program, through which 15 communities implemented or advanced community-based care coordination approaches that directly touched the lives of patients and community members. As reported in greater detail in Chapter 7 of this report, findings from qualitative interviews with organizations participating in these collaboratives, from ACHs' own evaluations, and from a survey of individual providers participating in or knowledgeable about the ACH care coordination approaches implemented by the ACHs indicated some evidence of Triple Aim achievements.

High quality health care is care that is effective, efficient, equitable, patient-centered, safe, and timely.[23] ACH grantees and providers reported advancements in better coordinated and patient-centered care. For example, one theme we heard from our ACH interviewees was that ACH community-based coordination led to improvements in care quality, including the extent to which care and services were provided in a patient-centered manner. Only 3.7% of respondents to the ACH Provider Survey reported no or a negative impact of ACH care coordination services on their ability to provide quality/care services, and 52.2% reported a significant positive impact. Most survey respondents reported improved knowledge of patient/client medical and other needs (61.1%), improved appropriateness of care/services provided (78.3%), improved quality of care/services received by patients/clients (78.3%), improved provider/patient relationships (59.8%), and improved patient/client engagement in their care (78.8%).

Interviews with ACH partners also pointed to improvements in patient satisfaction, particularly with regard to assistance with health care system navigation and advocacy and in terms of feeling connected with the system. ACH Provider Survey data supported ACH interviewee perceptions of enhanced patient satisfaction, with 78.5% of survey respondents reporting that patient/client satisfaction was either somewhat or much improved due to ACH care coordination.

During interviews, most ACHs (13 of 15) reported that they did not collect clinical data that would allow them to demonstrate changes in patient/client health outcomes, and only a few measured health outcomes through patient self-assessment of health status and quality of life. However, overall, ACH interviewees and survey respondents reported a general sense that ACH activities had had a positive impact on patient/client health and social determinants of health. For example, most providers participating in the ACH Provider Survey reported that the care coordination services implemented under their ACH had helped to improve management of chronic disease for patients/clients (72.4%) as well as patient/client health outcomes (80.2%). A subset of ACHs reported collected data on service utilization and health care costs as part of their own monitoring and evaluation efforts. By the second year of the grant, five of six ACHs monitoring emergency department (ED) utilization saw decreases over time (with one awaiting results). Four of these ACHs conducted care coordination from the starting point of a medical facility, and two ACHs initiated care coordination from within a community organization or employing a combination of medical and community-based starting points.

The majority of ACHs did not measure cost impacts from their work. Generally, ACHs did not have access to the claims data necessary for a cost analysis. Also, some ACHs estimated that their interventions/cohorts were too small to allow for a feasible financial analysis and/or that a connection could not have been clearly made between ACH interventions and patient claims, even if the claims had been accessible. In all, four ACHs conducted or were conducting cost analyses to determine the impact of ACH services on the cost of care. At the time this report was prepared, the results of two of these were not yet available, but the other two showed a reduction in health care costs. One examined total ED costs year-over-year for patients continuously enrolled in care coordination and found a 55% reduction in total ED costs, for a savings of $29,304. Another ACH examined total pharmacy claims before and after the ACH intervention and found a 9.1% drop in claims, representing a $439,674 reduction in costs.

[23] "The Six Domains of Health Care Quality," *AHRQ: Agency for Healthcare Research and Quality*, last modified March 2016, https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/sixdomains.html

Little Momentum in Multi-Payer ACO Alignment

One of the four aims of the Minnesota Accountable Health Model was that financial incentives for providers are aligned across payers and promote the Triple Aim goals. To achieve this aim, the state established as one of its primary drivers the standardization of ACO performance measurement, core competencies, and payment methodologies. The state originally envisioned this work to include advancing alternative payment methodologies, establishing core competencies and regulatory structures for ACOs, developing core measures for ACO cost and quality, and developing integrated ACO financial models and measures for complex patients. During the SIM initiative, the state's key accomplishments in this area included: 1) the design and administration of the ACO Baseline Assessment, key informant interviews and an Internet survey commissioned with SIM funds to assess the extent to which accountable care models exist in the state, and 2) the formation of the Data Analytics Subgroup, under the two task forces advising the SIM initiative, to develop recommendations to promote the consistent sharing of data analytics reports between payers and providers engaged in ACO models.

During the SIM initiative, two examples illustrate what progress toward alignment looks like. First, the work of the subgroup was institutionalized, in part, by the Administrative Uniformity Committee (AUC), a voluntary group working to improve health care administrative processes in the state. As an outgrowth of the SIM subgroup, the AUC voted to establish an ACO Data Analytics Technical Advisory Group (TAG), which subsequently recommended a standard format for certain data analytics furnished by health plans to providers participating in accountable health models. The TAG's recommendation was approved by the AUC, and in May of 2017, one health plan, Blue Cross Blue Shield of Minnesota (BCBS-MN), updated their attributed member file for all of its value programs to align with the TAG recommendation. The second development pertains to Minnesota's State Employee Group Insurance Program (SEGIP), whose framework for quality measures were reportedly determined with IHP measures in mind.

On the whole, however, during interviews with SHADAC, state executive leaders and program staff conveyed that they believed little progress towards multi-payer ACO alignment had been made during the SIM initiative. As one stakeholder stated, "SIM did not change the level of alliance." As SHADAC noted in the First Annual Evaluation Report, state efforts in this area started on a slower timeline than originally planned in part because important questions persisted about the extent and nature of ACO arrangements in the state. Multi-payer alignment efforts continued to lack momentum throughout the SIM initiative. As one Leadership Team member stated, members of the Multi-Payer Alignment Task Force were "not in a position strategically to come to the table and play," and this contributed to an "inability to have meaningful conversations with the payer group." Another state leader described the absence of progress as a "missed opportunit[y]…to push harder on." In response to questions posed by SHADAC to the Multi-Payer Advisory Task Force, task force members reinforced this sentiment, indicating that there had been a lack of concrete movement in the alignment of different value-based payment initiatives and quality measurement systems across payers.

The dynamics that exist in the broader market may not be conducive for the state to play an effective role as convener or multi-payer ACO alignment at this time. These dynamics were summarized by members of the two task forces when responding to a series of questions on multi-payer state-based strategies to transition providers to alternative payment models (APMs) posed by CMMI as part of their RFI on State Innovation Model Concepts. In particular, the group remarked that, "Public programs in Minnesota are not a large enough base to drive payer alignment without the involvement of commercial payers, who have distinct reimbursement and quality improvement programs. The competitive nature of health plans and

health systems makes it difficult for payer alignment, and including self-insured groups [in APMs], which represent a significant portion of the commercial population [in Minnesota], is also challenging…."[24]

State staff echoed some of these points in discussing the reasons behind a lack of momentum for ACO alignment activities during the SIM initiative. Specifically, they suggested that the uptake of value-based purchasing among commercial payers in the state may be happening slowly, especially with regards to the percent of revenue at risk in provider contracts; that there was mixed evidence emerging across the country as to the financial performance and quality results associated with ACOs[25]; that there had been a lack of tangible goals for multi-payer alignment in the state under SIM given that ACOs are not currently defined or regulated under state statute; and that there was a perceived lack of leadership supporting ACO alignment outside of the public sector.

Multi-Payer Alignment Task Force members who responded to SHADAC questions about ACO alignment had perspectives on the key barriers to alignment in the Minnesota context. They cited fragmented initiatives as the primary barrier to ACO alignment. ACOs, IHPs, HCHs), and other programs were seen in many cases as conflicting, overlapping value-based models. Members felt strongly that the number of different programs using different approaches to accomplish the same goals undermines alignment for providers. Additionally, the lack of broad initiatives and relatively small market share of value-based purchasing were cited as a barrier. Members emphasized a need for large-scale programs in order to achieve meaningful system-level change. The lack of a single statewide HIE system was another consistently cited barrier to managing care. In their responses, members encouraged stakeholders to work through data privacy concerns to achieve greater data sharing capability across the state.

Still, state executive leaders and program staff maintained that a key outcome of Minnesota's efforts in this area was an increased awareness and knowledge of the broader market, which was facilitated in part by SIM investment in the state's inaugural ACO Baseline Assessment as well as through the state's experience expanding and developing the IHP program. Multi-Payer Advisory Task Force members also identified the results of the ACO Baseline Assessment as an important accomplishment under SIM.

Another area of progress reported by some Multi-Payer Advisory Task Force respondents was collaboration, both across task force members and between state agencies. Getting a range of stakeholders "around the table" for open conversations about alignment, measurement, and key barriers were cited as critical work under SIM. Task force member perceptions were mixed, however, on the question of whether participation in the task force resulted in new conversations, relationships, or partnerships related to alignment at their organizations. Some noted that there had been no impact or that conversations had started, but lost momentum over time. Others noted that their participation had resulted in opportunities to explore improved care coordination across their system and expanding technical assistance resources to providers to help them move toward value-based payments. One member noted that participation in the task force did not change their organization's approach to value-based payment—because they have been engaged in this work for many years—but that the conversations were validating and would help to facilitate conversations with potential new partners in the future.

[24] Minnesota Accountable Health Model, CMMI RFI Survey Questions and Synthesis of Responses from Members of the Community Advisory Task Force and Multi-Payer Alignment Task Force, October 2016.

[25] For example, see Muhlestein, David, Robert Saunders, and Mark McClellan, "Medicare Accountable Care Organization Results for 2015: The Journey to Better Quality and Lower Costs Continues," *HealthAffairs Blog*, September 9, 2016, http://healthaffairs.org/blog/2016/09/09/medicare-accountable-care-organization-results-for-2015-the-journey-to-better-quality-and-lower-costs-continues/.

In summary, while no significant, tangible progress was or could be made under SIM in developing new quality measures, core competencies, and aligned payment methodologies for ACO arrangements in the state, some progress was made in increasing knowledge of the market, engaging stakeholders around the topic, and building relationships that may help to facilitate productive discussions about ACO alignment in the future. Increased knowledge of the market also informed the ongoing development of the IHP program, where the state has leverage as a purchaser of health care services.

New or Strengthened Relationships across Providers, Organizations, and the State

The engagement of and the strengthening of relationships among a diverse set of providers and organizations across the state as well as within state government was an area of progress during the first year of the SIM initiative. According to state leadership and staff as well as numerous grantees and their partners, this foundational investment in relationship and partnership development continued to be a key accomplishment of the initiative. As discussed above, the state was intentional about seeking more, strengthened, and diverse relationships under SIM. DHS and MDH identified four priority settings under the SIM work and made deliberate efforts to recruit participants from these settings in SIM programs and activities. These efforts included the formation of the Multi-Payer Alignment Task Force and the Community Advisory Task Force, sharing information about the Model through regional meetings, building staff capacity within state agencies through community engagement and equity trainings and consultation, and strategic design of program components and requirements. For example, the two drivers with the most significant investment of SIM dollars (the e-Health Collaborative and ACH Grant Programs) involved forming community and organization collaboratives to achieve SIM care coordination goals.

The state's intentionality about relationship development under SIM led to success in expanding who is "at the table" (e.g., different state agencies, both larger and smaller medical providers, both medical and priority setting providers), and several state staff members and grantees considered this to be an area of innovation under SIM. One state executive reported on SIM's impact on bringing in the non-clinical perspective, which he referred to as community: "The community piece is the most important. When a provider decides to convene a health care discussion, it's [typically] providers, plans and hospitals. This [SIM] is one of the only times I am aware of where the community is there." SIM Minnesota Organization Survey respondents participating in SIM e-Health and ACH collaboratives remarked: "We developed relationships with community partners we did not have before - such as the school" and "we had a strong foundation of collaboration in place prior to SIM [but] SIM allowed us to strengthen and expand that foundation."

New collaborations formed, collaborations became more formal, and collaborations became more diverse under the Minnesota Accountable Health Model. Two-thirds (67%) of organizations responding to the SIM Organization Survey reported "some increase" and 20% of respondents reported a "large increase" in the number of collaborations due to SIM. Similarly, 74% of respondent organizations reported that at least one relationship with a listed stakeholder type became more formal, over the course of SIM.[26] Stakeholder types included: the state, SIM priority setting providers, medical providers, payers, community organizations, and clients. Of the organizations that progressed in relationship formality, most of the reported relationships were with priority setting providers, followed by community organizations, and the state (i.e., DHS and MDH).

[26] The SIM Organization Survey asked respondents to rate formality of relationships at two points in time: before participating in SIM; and at the time of the survey, which was either during or after SIM participation. The number of organizations with responses at both points in time, excluding Not Applicable responses, was 110. Percentages are based on analysis of weighted data. Increased formality is defined as organizations reporting their relationship with a stakeholder type as farther along the scale at the time of the survey compared to before SIM. The survey scale is as follows: no relationship exists; aware of one another; informal collaboration; one formal collaboration; and formal collaboration with shared accountability for quality and cost.

Interestingly, while most of the provider organizations responding to the SIM Minnesota Organization Survey attributed advances in collaborations to SIM, medical provider organizations were slightly more likely than priority setting organizations to associate large changes in the number and formality of collaborations with SIM. For example, 22% of medical providers reported "large" increases in the number of collaborations with other organizations because of SIM compared to 12% of priority setting providers. The majority of both types of organizations, however, did attribute "some" increases in the number of collaborations with organizations due to SIM. Also, 74% of medical providers and 68% of priority setting providers reported their organization's collaborations with organizations as "somewhat" or "much" more formal due to SIM. As one priority setting provider noted: "We would not have been able to come together in this formal of a manner without the SIM grant. Money brought us to the table to create a program that is an extremely valuable service to our residents and community."

When asked about the importance of relationship building with organizations as a means to improving client or patient experience, reducing costs of health care, and improving population health, the overwhelming majority (92%) of SIM Minnesota Organization Survey respondents placed either high importance or reported relationship building as "absolutely essential" to achieving the Triple Aim. Interviewees from the e-Health Collaboratives and ACH Grant Programs articulated that an artifact of new and deepened partnerships with other providers and organizations is increased knowledge about other resources, which helps providers, for example, develop a plan of care and action, link to the right resources, and not duplicate efforts. Organization survey respondents who participated in SIM e-Health Collaboratives and ACHs reported that developing valuable relationships and acquiring new, useful knowledge about programs or people in the community were the greatest benefits of collaboration. While collaboration was considered a major area of progress, it was not always easy. The greatest drawback of organization participation in a SIM collaborative was the time and human resources that were diverted away from other priorities or obligations. As one priority setting provider responded: "Partnership with SIM has introduced us to new partnerships, which have been beneficial - but partnership with SIM has also hindered existing partnerships. Overall, the relationship has been positive."

According to ACH interviewees, being anchored in a rural setting presented unique challenges due to limited financial and organizational resources, the wide geographic spread of rural populations, and significant health and social determinants disparities in rural areas. However, these same hurdles facilitated meaningful and mutually beneficial collaboration among partner agencies, insofar as potential partners were easy to identify (and often already known to one another) and generally eager to leverage the limited resources that were available among a small pool of agencies. This need for interdependence fostered not just meaningful collaboration but also collaboration that spanned care settings. Rural ACHs included more priority setting partners than did urban ACHs. As one rural health care provider responded, "We didn't have resources to do it by ourselves and needed the cooperation and information from others to achieve results, "and as another member of an ACH care coordination team described, "Our success is directly tied to the success of our partnerships in the community."

Not only did SIM facilitate the relationships among providers and organizations in communities across the state of Minnesota, but the initiative also influenced the relationships between these organizations and the state. The state engaged a broad range of stakeholders through the two SIM task forces and funding grantees, partners, and contractors, which were major administrative undertakings. Both the state and SIM participating organizations gained a better understanding of one another through these interactions. According to one state executive, "…the biggest influence SIM has had is bringing in the number and

diversity of providers…; grants….give them flexibility to explore, to engage with other provider types. Having those providers there and having them weigh in, it has affected the direction we have gone in. Without them, with only the usual suspects, we would not be where we are." One SIM Minnesota Organization Survey respondent remarked: "We were able to identify key players at DHS and MDH regarding the structure of collaborations, financial accountability, and outcome objectives. Another acknowledged that the communication between the state and project partners was difficult at times, "…probably resulting in less efficiency and effectiveness in achieving program outcomes."

The Model's direct reach to individual consumers was through, primarily, the ACHs, which implemented community-based care coordination services for individuals and, in some cases, also engaged community members or patients in their leadership structures and/or their ACH design and priority setting. State-led community engagement activities also "…fit into a broader MDH strategy to engage communities/focus on equity." SIM sponsored an Equity Summit and supported organizations that are advocating for specific groups of consumers to tell their stories and build a narrative around community partnerships for health.

Finally, the SIM initiative involved a partnership between two state agencies. DHS was the fiscal agent of the SIM award, and DHS and MDH jointly led and administered the implementation of Minnesota Accountable Health Model programs and activities. The state appointed, hired, or lent staff to fill positions on each of the state committees and structures to ensure that there was representation from both agencies. While working collaboratively was not new to the state's human services and public health agencies, the partnership under SIM was reported as unique due to its size, duration, and federal oversight. Two agencies with vastly different cultures and services that were accustomed to competing for state dollars collaborated for over almost five years, including the SIM proposal efforts. SIM "…took money out of the equation," according to a discussion with state staff. The joint-agency leadership and administration of SIM, while complex and administratively challenging, resulted in a "new group of people who are working collaboratively" and increased knowledge of and respect for staff working in different agencies and in different departments within agencies. Staff communicated value in learning how agencies approach their work and in joint decision making that leverages the expertise from multiple departments and agencies.

Broadened Conversation about Health within the State

When asked about their perceptions of SIM impacts, several Executive Committee and Leadership Team members highlighted, both in the first year of the evaluation and in our final interviews, the advancement of the "conversation of what creates health" in the state. The SIM initiative was viewed as a catalyst of a broader conversation or "shift in culture" about health and health reform in the state and "aligned with the state's broader [health] equity agenda." State leaders spoke not just about the expansion of who is "at the table" but also movement toward a "common belief" among different state agencies and different types of organizations and providers that health is more than medical care and in the importance of individual, social, community, economic, and other health determinants. According to one Executive Committee member, "People not used to talking about health care reform and delivery are coming together to talk….The conversation has gone from 'I am not responsible for that' to 'I am talking about that.'" Or, verbalized another way by a different respondent, "instead of asking 'should we do this?'…we're saying 'how do we get there?'" While Executive Committee and Leadership Team members believe that the conversation had already begun to change prior to SIM and would have changed without SIM funding, their sentiment is that it would have happened more slowly. As one state leader stated, "We're so busy working in the current system, in the structure we have now. We continue to allow people to dig in and stay in their

own ditches….SIM has been effective at making people get out of their ditch and see the big perspective. These kinds of things offer the opportunity, provide enough oxygen to get out of the ditch."

Representatives of health care systems/clinics and organizations participating in the Emerging Professions, Practice Transformation, and ACH Grant Programs reinforced this finding, with several commenting that SIM investments helped to heighten their awareness and understanding of the experiences and health and social needs of their community members and patients and to cultivate a "whole-person" approach to addressing individuals' needs. This learning was facilitated in part by the exposure and knowledge that comes from engaging and partnering with other providers and community organizations that serve community members. An increase in awareness also came from a number of other steps taken by Model participants including developing and implementing new tools for assessing individual needs (e.g., Practice Transformation grantees, ACHs), engaging community members and patients in collaborative care models (e.g., ACHs), incorporating community care coordination staff into care models (e.g., Emerging Profession grantees, ACHs), improvements in electronic health record (EHR) capacity and output (e.g., Practice Transformation grantees), and receiving and analyzing data reflecting patient-level clinical profiles and health care and prescription use patterns within and outside of their own systems (e.g., IHPs).

Forty-nine percent (49%) of SIM Minnesota Organization Survey respondents reported progress in conducting social determinant assessments of patients/clients. The majority of individual providers responding to the ACH Provider Survey reported that the community-based care coordination services implemented as part of their ACH grant helped to improve the completeness of patient/client information they have for care planning and their knowledge of patient/client medical, behavioral health, social service and public health needs. Likewise, 48% of individuals responding to the HIE User Survey responded in a similar manner (i.e., the HIE method implemented improved the completeness of patient/client information for care planning) as part of their e-Health collaborative grant.

4. E-HEALTH

Introduction

The Minnesota Accountable Health Model (the Model) made significant investments in areas of e-health,[27] Driver 1 of the Model, all intended to increase providers' ability to securely exchange data for treatment, care coordination, quality improvement, and population health pursuant to state and federal law. To this end, Minnesota's State Innovation Model (SIM) funding supported three main areas of e-health investment, all overseen by the Minnesota Department of Health (MDH):

- **E-Health Roadmap to Advance the Minnesota Accountable Health Model**. The state supported Stratis Health with a grant of approximately $597,000 to develop recommendations and actions to support and accelerate the adoption and use of e-health in four priority settings: behavioral health, long-term and post-acute care, local public health, and social services. A steering team of 19 individuals, four workgroups with over 50 subject matter experts from the priority provider settings, more than 40 reviewers, and a community of interest of over 900 people, worked over 18 months to collect over 70 use cases that illustrated how an individual moves through the various health care and health systems. The final e-Health Roadmap,[28] published in August of 2016, included 10 recommendations for the priority settings to support the adoption and use of e-health, as well as over 40 actions with resources and considerations that support the recommendations, aimed at key partners such as providers, professional organizations, and state government. SIM participants (n=106) who responded to the SIM Minnesota Organization Survey reported a high level of familiarity with the recommendations of the e-Health Roadmap, with 57% reporting that they were familiar with the recommendations of the e-Health Roadmap.[29] Additionally, 28% of Minnesota SIM organizations reported that they had implemented recommendations in the e-Health Roadmap.
- **Privacy, Security and Consent Management for Electronic Health Information Exchange**. The state supported grants of approximately $500,000 to Gray Plant Mooty and Hielix, Inc. to develop resources designed to: ensure that health care professionals have access to education and technical assistance on privacy, security, and consent management (PSCM) practices; identify opportunities for improvement in current patient consent processes for the release of protected health information required for health information exchange (HIE); and to provide technical assistance and education to ensure health care professionals across various settings have the access to the knowledge and tools required to use, disclose, and share health information in a safe and secure manner that is consistent with both state and federal law. Gray Plant Mooty, a local law firm, completed analysis of 11 use cases and all applicable federal and state laws that culminated in the 2017 publication of a *Foundations in Privacy Toolkit*,[30] which included template policies and procedures, template agreements, flow charts, and checklists designed to address challenges providers face exchanging health information under Minnesota and federal laws.

[27] The Minnesota e-Health Initiative defines e-health as follows*:* The adoption and effective use of electronic health record (EHR) systems and other health information technology (HIT), including health information exchange, to improve health care quality, increase patient safety, reduce health care costs, and enable individuals and communities to make the best possible health decisions.
[28] "The Minnesota E-Health Roadmap for Behavioral Health, Local Public Health, Long-Term and Post-Acute Care, and Social Services," *Minnesota Department of Health*, August 2016, http://www.health.state.mn.us/e-health/roadmap/index.html.
[29] The sample size refers to the number of survey respondents, but percentages are based on analysis of weighted data. See Appendix A for additional detail on weighting.
[30] Gray Plant Mooty, "Foundations in Privacy Toolkit," *Minnesota Department of Health*, accessed July 2017 http://www.gpmlaw.com/Practices/Health-Law/Foundations-in-Privacy-Toolkit.

Work began in the spring of 2017 to disseminate toolkit information to providers through education forums, training sessions, and webinars.

Hielix conducted an environmental scan to understand the privacy and security landscape in Minnesota. This scan included literature review, interviews with Gray Plant Mooty, key health care stakeholders, and Stratis Health. This work helped identify available education and technical assistance materials and resources that could be used or easily adapted and served as a foundation for Hielix's educational materials which included:

1. An *Introductory Guide to Privacy, Security and Consent* which presents an overview of the Health Insurance Portability and Accountability Act (HIPAA) and the Minnesota Health Records Act (MHRA) landscape in Minnesota.
2. A *Policy Development Guide* that offers a step-by- step process for developing policies and procedures that meet HIPAA and MHRA standards of privacy and security.
3. *Privacy Risk Assessment Tool* intended to help providers determine compliance with the basics of the HIPAA Privacy Rule.

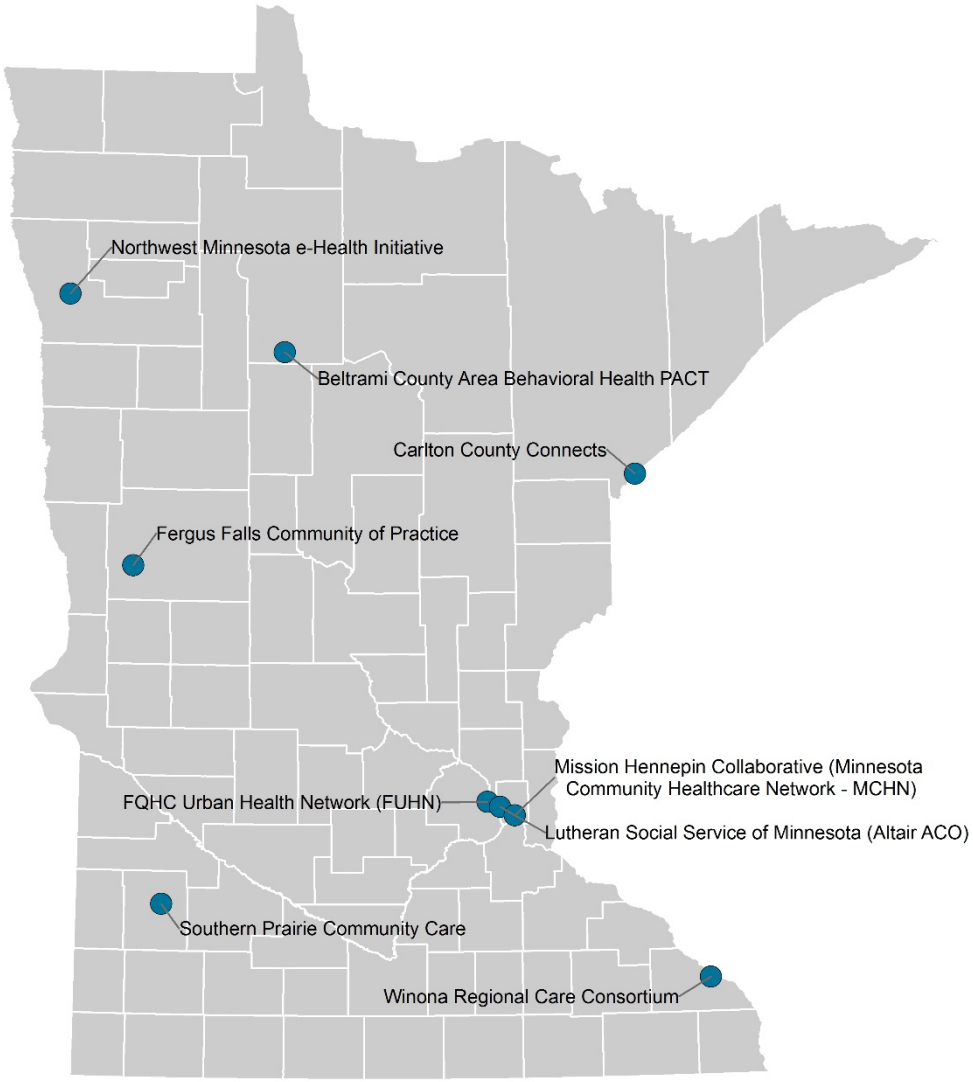
- **E-Health (Community Collaborative) Grant Program**. The state issued approximately $5.9 million in direct grants (referred to in this report as the e-Health Collaboratives) to support the secure exchange of medical or health-related information between organizations through implementation and expansion of e-health capabilities. Eligible awardees were community collaboratives that included at least two or more organizations with experience participating in an accountable care organization (ACO) or similar value-based payment model (i.e., payment arrangements involving shared risk, shared savings, or total cost of care). There were three types of funding under this grant program:[31]
    - **Development grants (Round 1).** Development grants were focused on creating a detailed development plan for the implementation of e-health that will advance the collaborative along the Minnesota Accountable Health Model. Six development grantees completed their 12 month grant period in 2015.
    - **Implementation grants (Rounds 1 & 2).** Nine implementation grantees focused on effective use of EHR systems and other health information technology including HIE. Implementation grants were initially 18 months long, although most grantees received extensions and will end their work in September 2017.
    - **HIE and Data Analytic Grant Program (Round 3).** Applicants for this grant program had to be organizations participating in an Integrated Health Partnership (IHP) demonstration or currently-funded through the e-Health (Community Collaborative) Grant Program. The goal was to implement and expand HIE and data analytics capabilities. HIE funded activities were required to focus on exchanging Admit-Discharge-Transfer alerts (ADTs) and/or care summaries (e.g., Continuity of Care Document [CCDs]) through connection to a state-certified Health Information Organization (HIO), either directly or through a state-certified Health Data Intermediary (HDI). Six applicants received Round 3 HIE and Data Analytic grant funding.

[31] For additional background information on the Round 1 and Round 2 e-Health Collaborative grants see Chapter 3 of SHADAC's First Annual Evaluation Report. SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.

The focus of this chapter is on the work of the nine Round 1 and 2 e-Health Collaborative implementation grants, however relevant insights related to the e-Health Roadmap and PSCM work will be noted throughout this chapter. Because the work under the Round 3 HIE and Data Analytics grants was just beginning at the time of interviews, activities and outcomes resulting from that work are not included. Additional detailed information about HIE and Data Analytics grantees is provided in Appendix F.

The following map (Exhibit 4.1) identifies the nine e-Health Collaboratives (which represent 134 participating organizations, including vendors) that received implementation awards, totaling just under $4.9 million, located according to the address of the applicant organization. These collaboratives and their partners span 28 counties across both urban and rural areas of the state, with a strong representation from the four SIM priority settings (16% of e-Health Collaborative participants are behavioral health providers, 17% are social services organizations, 8% are long-term post-acute and/or home care services providers, 7% were local public health agencies, and 4% were human and other public health and social services organizations).

Exhibit 4.1. Map of E-Health Community Collaboratives (Implementation Grantees)



Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Note: Database is based on state documentation, grant applications and agreements, organization websites, and consultation with the state and some grantees.

At the time of application to the grant program, each collaborative specified a target population that it planned to serve through the project. The composition of those target populations varied, reflecting the types of partners participating in the collaboratives. Exhibit 4.2 summarizes the target populations for each of the nine e-Health Collaborative implementation grants.

Exhibit 4.2. Target Populations of e-Health Collaborative Implementation Grantees

E-Health Collaborative	Target Population
Beltrami County Behavioral Health PACT	Beltrami County residents with behavioral health issues that require care coordination/referrals between various systems.
Carlton County Connects	Citizens of Carlton County and surrounding areas that access providers in Carlton County.
Fergus Falls Community of Practice	Citizens of Otter Tail County, with a focus on those experiencing care transitions across the care continuum [e.g., postpartum discharges, ED visits with chronic/behavioral health co-morbidities, individuals receiving care coordination through a health care home (HCH)].
FQHC Urban Health Network (FUHN)	Medicaid enrollees attributed to FUHN through its IHP demonstration project.
Lutheran Social Service of Minnesota (Altair ACO)	People with disabilities who receive integrated on-site medical care, behavioral health services, and social services who are served by the collaborative community disability partners.
Mission Hennepin (Minnesota Community Healthcare Network) (MCHN)	People who enrolled in Hennepin Health, HCMC's IHP, or HCMC's broader patient population with serious behavioral health and social complexities, including low-income, diverse, vulnerable people in Hennepin County with co-occurring medical, behavioral health, and social complexity.
Northwest Minnesota e-Health Initiative	People receiving community or home-based long-term services and supports, many of whom have chronic conditions.
Southern Prairie Community Care (SPCC)	High risk SPCC IHP participants (Medicaid enrollees).
Winona Regional Care Consortium	Rural residents with high historical use of medical care/other support resources; focus on mental health and primary care users who are served by at least two of the members in the organization

Source: e-Health Community Collaborative grantee proposals, 2014 and 2015.

The following sections summarize the key activities undertaken by the e-Health Collaboratives and lessons learned, outcomes, and sustainability status of e-health HIE work under SIM. These findings were ascertained through SHADAC's review of grant program materials and grantee reports to the state; interviews with state staff, participants from all nine of the e-Health Collaboratives, and HIE service providers; and data from the SIM Minnesota Organization Survey and the HIE User Survey.[32]

Most of the interviews with e-health participants (n=72) were face-to-face discussions that took place between November of 2016 and May of 2017. SHADAC targeted representatives from all of the collaborative partner organizations that were recipients of the grant award for these discussions. Topics of discussion included: grant activities, barriers and facilitators to implementation, outcomes and impacts observed to-date, and sustainability insights. It should be noted that, because most of the grantees received a no-cost extension to continue their work through September of 2017, the findings presented here summarize the status of HIE implementation and lessons learned at the time of interviews, not what the collaboratives were ultimately able to achieve at the end of the SIM funding period.

[32] See Appendix A for additional information on the SIM Organization Survey and HIE User Survey methods and response rates.

Key Activities

While each of the e-health grantees had different partners and project goals, many carried out similar work. The following is a summary of the common grant activities implemented, including the status of new HIE as a result of SIM. We identify lessons learned as a result of implementing HIE through the SIM e-Health Collaboratives at the end of this section.

Health Information Exchange Infrastructure Implemented

Grantees were afforded flexibility to pursue various options to enable HIE that would support their desired use case, with the one common requirement that they connect to a State-Certified HIE Service Provider, state-certified HDI or HIO.[33] Seven of the nine collaboratives ultimately connected to a state-certified HIE service provider. Five of those collaboratives worked during the grant period to connect through a HDI, with most pursuing Direct Secure Messaging (DSM).[34] Two collaboratives focused on the exchange of ADT alerts, or other care summary transactions [e.g., Continuity of Care Documents (CCDs)] through a HIO. The remaining two collaboratives had not yet selected a State-Certified HIE service provider at the time of interviews. Exhibit 4.3 provides a summary of the HIE infrastructure implemented by each of the nine e-Health Collaboratives at the time of writing this report.

Exhibit 4.3. Summary of HIE Infrastructure Implemented through e-Health Implementation Grants

E-Health Collaborative	HIE Protocol Implemented through SIM	Use Case(s) Being Supported by HIE
Beltrami County Behavioral Health PACT	Connected to HDI for DSM	- Hospital discharge information to mental health providers after mental health crisis emergencies and hospitalizations - Unified community-wide crisis diagnostic assessments to providers - Mobile crisis referral
Carlton County Connects	Some members connected through HDI, others connected directly, for DSM	- Referrals between the hospital and community providers
Fergus Falls Community of Practice	Connected to HDI for DSM	- Various goals based on partner organization needs, which include: transitions of care (e.g., long-term care); postpartum referrals for public health home visits
FQHC Urban Health Network (FUHN)	No selection made at time of interview	- To be determined
Lutheran Social Service of Minnesota (Altair ACO)	Connected to HDI for Query and Connect	- Care team notifications at time of both adverse and positive client "events" (e.g., job loss/gain, ED visits)
Mission Hennepin (Minnesota Community Healthcare Network) (MCHN)	No selection made at time of interview (Previously had connected to HDI for DSM, but that activity was suspended)	- To be determined
Northwest Minnesota e-Health Initiative	Connected to HIO, focus on exchanging ADT alerts	- Care coordination for those with developmental mental health, chemical dependent, and some of the dual diagnosed clients as well as the elderly

[33] For additional information on the Minnesota HIE Landscape and Regulations, see Chapter 3 of the SHADAC's First Annual Evaluation Report. SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.

[34] Direct is a standards-based way to send encrypted health information directly to known, trusted recipients over the internet.

E-Health Collaborative	HIE Protocol Implemented through SIM	Use Case(s) Being Supported by HIE
Southern Prairie Community Care (SPCC)	HIO* for Query and Connect	- Care coordination for Medicaid enrollees with complex cases
Winona Regional Care Consortium	Connected to HDI via Care Coordination Web Portal	- Exchange of non-standard data elements to support care coordination for high cost clients

Sources: Grantee self-reported quarterly progress reports to state and grantee interviews, 2014 – 2017.
Note: *As a result of its SIM grant activities, Southern Prairie Community Care became a state-certified HIO.

Limited New Pockets of Electronic Exchange Occurring within Collaboratives

The amount of new exchange of health information occurring among collaborative partners as a result of SIM investments varies across the nine e-Health Collaboratives, and many collaboratives were still in the process of on-boarding partners (Exhibit 4.4). Most of the e-Health Collaboratives were planning to use the one state-certified HIO that was available when projects began in October 2014. However, in June 2015 this HIO left the market and the collaboratives were forced to revisit their evaluation and selection process to choose another state-certified HIE service provider. New HIOs certified included Allina Health in May 2015 (not accepting new customers); Koble MN in November 2015; and Southern Prairie Community Care in January 2016. In addition, Southern Prairie Community Care also changed its technical vendor when its previous vendor unexpectedly closed. These events resulted in a nearly six month period without any available HIOs. This delay, in addition to grantee hesitancy to commit to new, untested, options in the market were the primary causes for delays in many projects and a major reason why HIO connections are just now being completed.

Collaboratives that did connect to a state-certified HIE service provider often prioritized which partners would connect first based on the readiness of their existing EHR systems. In some cases, partner organizations were able to successfully connect to the HIE and were sending and receiving information. In other cases, partner organizations were able to connect to the HIE but were still in a testing period (e.g., waiting for log-on, information, credentialing individual users, waiting to receive training); therefore, they have not yet begun to share actual patient or client information. Only one collaborative reported that all of their partner organizations had successfully connected to the HIE and were exchanging health information.

Exhibit 4.4. Status of New Exchange and e-Health Activities Planned for 2017

E-Health Collaborative (# of proposed e-partners)	Status of New Information Exchange as a Result of SIM Funding	Provider Types Sharing	Other Key e-Health Activities Planned for 2017
Beltrami County Behavioral Health PACT (11 partners)	Partners **sending or receiving via HDI:** 11	Mental health providers, Health system/hospital	- Continuing proficient use of DSM among partners - Evaluating HIO options, especially a collaborative care tool
Carlton County Connects (10 partners)	- Partners **testing** via HDI: 4 - Partners **sending** via HDI: 3* - Partners **receiving** via HDI: 2*	Public Health, Human Services, Hospitals, Clinics, Nursing Home	- Evaluating HIO options - Received HIE & Data Analytics Grant: work will be focused on examining work flows and ADT use cases
Fergus Falls Community of Practice (9 partners)	- Partners **testing** via HDI: 2 - Partners **sending** via HDI: 2* - Partners **receiving** via HDI: 2*	Public Health, Hospital	- Implementing DSM in additional collaborative partners when EHRs are ready - Testing Experience and Functional Tools (TEFT) grant to develop Personal Health Record (PHR) - Testing exchange of ADT messages between Otter Tail Public Health and Lake Region Health Care
FQHC Urban Health Network (FUHN) (10 partners)	N/A*	N/A	- Continuing to evaluate HIE options that could accomplish both HIE and data warehousing - Received federal grant from Bureau of Primary Health Care that supports using e-health tools for care coordination
Lutheran Social Service of Minnesota (Altair ACO) (10 partners)	- Partners **testing** via HDI: 3 - Partners **sending** via HDI: 0* - Partners **receiving** via HDI: 0*	N/A	- Continuing rollout and testing to Altair members - Expanding use of DSM among partners - Received HIE & Data Analytics Grant: work will be focused on adding alert events and analyzing population health data.
Mission Hennepin (Minnesota Community Healthcare Network MCHN) (5 partners)	N/A* (Partners tested exchange via HDI during the grant period, but that is currently on hold)	N/A	- Continuing to evaluate HIE options - Received HIE & Data Analytics Grant: work will be focused on using clinical and DHS claims data to drive care coordination and population health improvement
Northwest Minnesota e-Health Initiative (10 partners)	- Partners **testing** via HIO: 3 - Partners **sending** via HIO: 0 - Partners **receiving** via HIO: 0	Mental Health	- Received HIE & Data Analytics Grant: work will focus on expanding HIO participation among partners, replicating the developed care coordination process in the expanded counties, and securing a data analytics package
Southern Prairie Community Care (SPCC) (23 partners)	- Partners **testing** via HIO: 8 - Partners **sending** via HIO: 10 - Partners **receiving** via HIO:10	Hospitals, Clinics, Public Health, Mental Health	- Received HIE & Data Analytics Grant: work will focus on connecting the Northern Minnesota Network to two forms of SPCLink HIE (DSMs and Query via the Connect Portal). May also leverage ADT Alerts and the Patient Portal - Increase HIE with out of network providers
Winona Regional Care Consortium (6 partners)	- Partners **testing** via HDI: 6 - Partners **sending** via HDI: 0 - Partners **receiving** via HDI: 0	Hospitals, Clinics, Public Health, Home Health, Mental Health, Drug Court	- Internally reviewing and assessing value of HIE to each member organization

Sources: Grantee self-reported quarterly progress reports to the state and grantee interviews.
Note: *Partners may be exchanging via DSM, but implementation predated e-Health Collaborative grant and/or was not through a state-certified HIE service provider.

Although at the time of interviews most implementation grantees were still onboarding partners to their HIE, 74% of e-Health Collaborative implementation grantees who responded to the SIM Minnesota Organization Survey (n=46) reported that over the course of the SIM grant period, they felt that their organizations made advancements in regards to their availability, use, and exchange of e-health information.[35] (See Exhibit 4.5 for additional e-health findings from the SIM Minnesota Organization Survey.)

Exhibit 4.5. E-Health Collaborative Advancements: Findings from the SIM Organization Survey

- Sixty-two percent (62%) of e-Health Collaborative implementers reported exchanging information with at least one *more* organization or stakeholder types now than before SIM (29 organizations responded due to exclusion of not applicable responses at either time period)
- Forty-two percent (42%) e-health implementer organizations were now exchanging with at least one priority setting organization type with which they had not previously
- A subset of e-health implementers with EHRs (n=44) reported making progress with several EHR functionalities (progress is defined as either a new function or an existing function used more frequently):
    - Supporting Transitions of Care (31% of respondents)
    - ADT Notifications (27% of respondents)
    - Shared Care Management Plans/Care Coordination Tools (24% of respondents)
    - Public Health Reporting (30% of respondents)

Source: SHADAC, "Minnesota Accountable Health Model - SIM Minnesota Organization Survey," *University of Minnesota, School of Public Health*, June 2017.

Other Grant Activities

All of the e-Health Collaboratives undertook additional activities to support their work implementing and testing their chosen HIE infrastructure. The following is a summary of the common grant activities completed by the implementation grantees since the spring of 2015, as indicated in grantee reports to the state and through interviews with each of the nine collaboratives.[36]

Addressing Privacy and Consent Issues

Collaboratives continued spending significant time working through Minnesota's unique privacy and consent issues in the last year of the SIM grants.[37] At least one collaborative elected to leverage existing protocols used for mailing and faxing patient-identifiable data for purposes of exchanging data via Direct Secure Messaging (DSM). The overwhelming majority, however, determined that current standard processes do not apply to electronic HIE. These e-Health Collaboratives convened their member organizations to identify new processes for obtaining consent for electronic HIE and worked to communicate these processes to their clients. Many of these looked to other e-health efforts for model policies but determined that privacy and security procedures were very organization-specific and that they would have to develop their own policies.

[35] The sample size refers to the number of survey respondents, but percentages are based on analysis of weighted data. See Appendix A for additional detail on weighting.

[36] Additional detailed information on the implementation activities carried out by implementation grantees between the fall of 2014 and the spring of 2015 can be found in Chapter 3: SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.

[37] Additional information on MN's privacy and consent issues can be found in Chapter 3: SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.

One e-Health Collaborative of behavioral health providers learned through SIM experiences that they could not rely on their HIE service provider to work out the consent processes for them: "Consent is a topic it seems like we discuss every week. A vendor may come back and say, yeah, we have the ability to have consent in our system. But maybe [the vendor] only worked in states where you're opted in automatically. Minnesota is little bit different. So in those cases, they'll say yeah, we can do consent, but they don't understand the Minnesota consent model and how it's very different from other states." This collaborative worked closely with their vendor to design and institute a very granular, collaborative-specific consent process, which goes beyond just simply opt in or opt out. One important concern was to ensure their mental health providers were comfortable with consent processes for sharing of mental health notes.

Engagement Strategies

E-Health Collaboratives employed varying approaches to engaging providers as they moved towards implementation of their HIE solution. Some did intentional outreach to broad groups of providers early on in the implementation process to gain an understanding of how they could best serve and support their work through HIE. More common, however, were collaboratives that decided to design and test implementation of an HIE solution in order to work out any technological kinks before introducing the product to providers.

Two collaboratives reported engaging their local health care community, beyond their collaborative partner organizations, particularly around issues of privacy and security. For example, one e-Health Collaborative hosted a public workshop around the topic of consent to clarify misinformation about who can share data and how. A second collaborative leveraged its participating providers to convey information about privacy and security, and the need for HIE, directly to clients and family members.

Care Coordination Model Development

E-Health Collaboratives cited improved care coordination of complex clients as one of their main motivations for implementing HIE, and many continued to devote significant time to developing their community care coordination model. At least one collaborative established a committee dedicated to examining use cases and identifying data that would support the management of high cost and utilization clients among members. This committee was also examining workflows and considering how data will be used once available.

Another collaborative stated that their entire project had been focused not just on implementing HIE technology but on developing a collaborative model for care coordination among their partner organizations. These partners focused on training their care coordinators and medical directors to be able to provide care coordination in a new way and to prepare them to use multiple tools (including, but not limited to, HIE technology) to facilitate that work. It was this collaborative model, not the HIE itself, that the e-Health Collaborative participants say will bring value to their respective organizations.

Owing to technical delays, many collaboratives reported that care coordination activities have not been fully implemented. However, they were still optimistic that HIE would enable care coordination in the future.

Lessons Learned

As collaboratives reflected on the activities implemented during the course of their grant period they identified several lessons learned.

To Implement HIE, You Need a Dance Partner

The usefulness of HIE was often judged by whether an organization could successfully identify a recipient who wanted, and could use, the information that was being sent. As one participant explained, "If you're going to do this…you need to first find a dance partner. Because if you don't have a dance partner or someone on the other side, there's no reason to exchange information. Unless someone else wants to really work on that and sees the value of it, it's not going to happen."

Several interviewees noted that the while the initial driver for implementing HIE was to meet Meaningful Use requirements for their organization, it was the SIM collaborative process that made the investment worthwhile. One grantee explained that prior to SIM, "we could set up [DSM] and check the box…but we didn't know who to send it to."

The benefit of pursuing HIE through the SIM collaborative structure for some groups was that it allowed participating organizations to know exactly who else in their community had Direct addresses and would be ready to exchange. As one grantee noted, "The SIM grant helped because we could get the addresses and see where everyone else is at!"

Expect and Account for Technical Glitches in Implementation Timelines

Some collaboratives encountered numerous technical glitches with the HIE interfaces that have slowed the roll-out and wide-spread use. For example, partners in one e-Health Collaborative do not have access to an "auto-fill" of Direct addresses when they initiate a secure message, thus making the process of entering a Direct address for each new message cumbersome and prone to error. Many of these same partners also received ongoing requests to "revalidate" their accounts, during which time their accounts were inaccessible. Additionally, one partner in another collaborative shared that its EHR vendor limits the number of allowable characters in a Direct address field. At this point in time, this partner cannot send information securely to an organization that exceeds the vendor character limit. (SHADAC analyzed HIE challenges reported by hospital-affiliated providers in the 2015/2016 OHIT survey data, and this challenge was among the most common. Just over half of SIM participating providers and just under half of non-SIM participating providers reported "difficult to locate the address of the provider to send the information" as an HIE challenge.[38])

Collaboratives experiencing technical challenges employed a few different workarounds or solutions. Some organizations indicated they would delay organization-wide HIE roll out until glitches could be addressed. As one interviewee commented, "We're keeping it [DSM] separate until it's something that is usable and user friendly. We don't want them [individual providers] to have any more to complain about than they have to!" Other organizations expended grant resources on technical assistance and consultants available "at the elbow" in order to address quickly the inevitable technical implementation issues. These consultants have been critical to navigating the at times convoluted world of HIE, a world in which many of these partners were unfamiliar prior to participating in SIM.

Several grantees also discovered through the implementation process that EHR systems they had previously purchased did not actually facilitate HIE, for example lacking capabilities for sending, receiving, and querying information. Some grant partners ended up changing EHR vendors during the grant period, thus slowing down project timelines.

[38] "2015 AHA Annual Survey – Information Technology Supplement," *Health Forum, L.L.C.*, 2015, distributed by the *Minnesota Department of Health, Office of Health Information Technology*.

Desire for Customization; Information Shared via HIE was Not Necessarily More Useful

Perceptions of the usefulness of information being exchanged via HIE varied by collaborative. It was commonly reported that providers receive much more information than they are interested in, or have the time to review, when they receive information via HIE. For example, one grantee reported that their EHR configuration would not allow them to send a History & Physical (H&P) form via DSM without attaching a Continuity of Care Document (CCD), even though the organization on the receiving end did not want the CCD, they only wanted the H&P. In some cases, that CCD could be 100 pages long.

In other cases, collaboratives faced a different problem – rather than too much information, the CCD did not have the right kind of information. Participants exchanging between a hospital and public health department found that the CCD was not able to capture all of the information that they previously had received from a hand-written postpartum referral. One grantee explained, "The functionality that really works for us is the Direct Message, [which] serves as the notification to us and begins to give us some of the information that we can start to populate the record with. It serves as a trigger for us to go in and use the [hospital's EHR] portal we set up to look for the rest of the information we need."

There was wide consensus that the best way to make information shared via HIE more usable was to make the data, as well as the interface tool itself, customizable for specific users. For example, one e-Health Collaborative has worked to narrow down the information being exchanged and tease out the high-value data fields. They worked closely with a HIE service provider to create customized style sheets that can take a 100 page CCD and apply rules depending on the recipient to route certain information to certain people.

Three e-Health Collaboratives indicated that they plan to continue to work on identifying data elements that they would like to exchange, outside of the standard CCD, during their remaining SIM grant time and through other grant programs. For example, through their work with the electronic Long-Term Services & Supports (eLTSS) Initiative, the Fergus Falls Community of Practice has narrowed down a list of 426 data elements to 145 that they feel would be of value on a transition of care document and has looked at creating a community database that would contain those data elements that are of value to exchange among community partners.

Exchange via DSM was Necessary, but Not Sufficient

Successfully implementing DSM was an important foundational step for many of the e-Health Collaboratives. Several collaboratives that were able to successfully obtain and initiate a DIRECT email address for their partners reported that this achievement helped build momentum for the project and kept partners engaged. However, full implementation of DSM alone did not achieve many of the collaboratives' desired use cases.

Many collaboratives felt that DSM was the best first step forward they could take given the maturation of the HIE market. One grantee explained, "It has taken us four years to learn how it really works, and what we thought we could do we still can't do. Our original dream was the query based process, but it is still not a viable option for us so you're dependent on where the system is to implement and integrate anything." Another grantee echoed that sentiment: "DSM is important. It's a tiny cog in that larger system piece that will have to keep evolving."

One collaborative got to the testing stage with DSM but ultimately decided that sharing information among its members was actually not a high priority (because patients were not moving between partner organizations as much as initially expected). However, a member of that collaborative commented, "My hindsight is that we would have been well served to start with the Direct Secure Messaging and get the processes across the collaborative established for that. But we were insistent that no, we don't want to go there, we want to get the ability to query. [We should have] started smaller with a more focused launch, and finding the short-term wins. Because it just got to be feeling like a lot of work and a lot of money and we weren't seeing the impact on our work."

Need Robust Procurement Process for HIE Vendors

Similar to what we heard in our 2016 interviews, numerous collaboratives raised concerns about the difficulty they had vetting and selecting vendors – both their HIE service providers and outside consultants to serve as advisors or project managers. Because the Minnesota HIE market was changing rapidly during the grant period it was difficult for collaboratives to identify certified HIE service providers who were capable of actually delivering what they promised. Many of the grantees reported committing significant time to conducting reference checks to ensure a HIE solution was doing what it was advertised to do for actual users. One grantee explained, "As we started talking to HIE vendors, some of them said, oh yeah, we can do that. Usually the sales people. And then when you get to the technical folks, they're like no actually we can't do that."

One grantee who ended up having to change HIE service providers mid-grant noted the benefit of instituting deliverable-based contracting with technology vendors: "We wanted to get to a deliverable based contract where they could not bill us until the structure was in place and tested and we knew it would work…. We revised the [HIE vendor] contract midstream, and that saved our bacon, literally. It saved the money from the e-health grant so we had it available to do [another] contract when they weren't performing."

Similar concerns held true for vetting consultants. One grantee cautioned, "I think you have to be very, very careful about the consultants that you're bringing in. We have now a really healthy skepticism around consultants that are coming in to advise on technology solutions. And one of the things that we found is that from a high level, they understand the theories. They understand theoretically what some of these technology solutions and analytic solutions are supposed to provide. But they don't necessarily have the in the weeds experience with implementing it to understand what does that mean in [our] community."

Outcomes of Health Information Exchange

Because all of the grantees were still in the process of (or had yet to begin) on-boarding partners to their HIE at the time of interviews, many participants commented that it was too early to observe long-term outcomes related to the implementation of HIE. However, grantees did report short-term outcomes they had experienced as a result of participating in the e-Health Collaborative Grant Program. A survey of current HIE Users in four e-Health Community Collaboratives (implementation grantees) identified several results that collaboratives who implemented and are using DSM are experiencing (see Exhibit 4.6).[39] In this section, we report collaborative-level outcomes, followed by state-level outcomes.

[39] See Appendix A for additional information on the HIE User Survey Methods.

Exhibit 4.6. Results of DSM: Findings from the SIM HIE User Survey

Of the 21 HIE users surveyed, 16 respondents were implementing DSM, most of whom were implementing for one year or less:

- **50%** of respondents (eight out of 16) indicated that DSM had a positive impact on their **workload;**
- **56%** of respondents (nine out of 16) indicated that DSM had a positive impact on their **workflow;**
- **69%** of respondents (11 out of 16) indicated that DSM had a positive impact on the **privacy and security of their patients'/clients' data;**
- **63**% of respondents (10 out of 16) indicated that DSM had a positive impact on the **quality of care and/or services provided.**
- **63%** of respondents (10 out of 16) were satisfied with DSM.

Source: SHADAC, "Health Information Exchange (HIE) User Survey" *University of Minnesota, School of Public Health*, July, 2017.

Increased Knowledge of e-Health Technology and Capabilities

The most common outcome cited was an increased understanding of e-health technology capabilities among collaborative partners, which most participating organizations felt would not have occurred without the SIM funding. In several cases, grant participants were exposed to e-health technology for the first time during the course of the SIM grant. For example, one e-health participant described how prior to receiving a SIM grant, none of their partners "spoke the language of e-health." Through the process of vetting vendors and identifying HIE solutions, numerous partner organizations reported that they became more familiar with the available technological solutions.

Another e-Health Collaborative noted that despite implementation challenges, collaborative members learned a lot about their own internal capacity for HIE, as well as increased their knowledge regarding how e-health impacted other elements of accountable care, during the SIM grant. One participant commented that its experience completing the state's Continuum of Accountability Assessment Tool multiple times helped them gauge how much they had learned. The grantee noted, "And the more we learn, of course in some areas we've rated ourselves lower than we did initially. Initially we thought, oh well sure, we do that… Oh, wait, maybe we don't. So that's been useful for us as an agency because it has brought some additional focus or just helped us learn and perceive things a little differently."

Increased Awareness of Privacy and Security Issues

Increased awareness of the privacy and security issues surrounding health information was another commonly cited outcome of the SIM e-health grants. Many grantees commented that the SIM e-health grants had raised organizational awareness of the importance of leveraging technology to protect patient information. One participant noted that for her organization, "It has raised our awareness of data privacy and it's raised our awareness of okay, let's think about this before we fax it." Another grantee commented that because of their participation in the SIM grant, "[…] everything is getting much more secure and locked down and need to know."

Advancement in Care Coordination Model Development

Regardless of stage of implementation, many organizations viewed their e-Health Collaborative grant work to date as foundational to identifying the needed work flows, internal working groups, and other organizational resources necessary to facilitate care coordination across settings. For example, one

e-Health Collaborative instituted community practice sessions as part of their e-health grant to examine workflow processes around closed loop referrals, which resulted in identifying use cases for e-health technology that they expect to implement in the third round of the SIM e-health grant work, through the HIE and Data Analytics Grant Program.

Even organizations who had not yet fully implemented HIE, however, reported making significant progress in preparing their organizations to use HIE to support care coordination activities when it became available. For example, one collaborative developed new institutional bodies to support the development of care coordination infrastructure that would eventually utilize HIE. A continuous quality improvement (CQI) committee is currently working on implementing common methods to strengthen capacity for those individuals who do care coordination and identify what tools they need (including HIE tools). A health information technology (HIT) committee is developing common reporting and analytics capabilities across the collaborative's partner organizations. This collaborative viewed the e-health grant work as the key facilitator to bringing the separate organizations together to address joint infrastructure building for care coordination and care innovation. One participant explained, "Through the SIM grant our collaborative has found that care coordination is a skill that people aren't used to doing with a population health focus, so our group has been trying to strengthen capacity for those who do care coordination and identify what tools they need. Connecting to a HIE is one tool to support care coordination goals, but we are also looking at data analytics, communicating with patients through motivational interviewing, and working on change within organizations. When a good e-health solution becomes available, at least the care coordinators will realize it is another tool they can integrate into workflow that will facilitate care."

Another participant explained that the e-health grant provided an opportunity that would not have otherwise been available to discuss a care coordination model at the community level. "A huge success from this grant is that the care coordinators from all these different sectors are really now understanding what the others do. And that's a huge difference, they're looking at their clients differently. Not just from their own silo or their own perspective of what they need to do to serve that client, but all of the other pieces or care coordinators that touch that client, they're starting to think about the integration of all those pieces to serve that client well. Now the care coordinators are looking at how they can work together to serve this client."

Desire to Harness e-Health Tools for Analytics

Several participants also commented that as their knowledge of e-health technology and the HIE landscape matured, coupled with an increased awareness of their organizations' capacity, they came to a better understanding of how they wanted to harness the tools of e-health in their work. As one participant explained, "The achievement for the SIM grant is, when we got that grant back in 2014, we really had limited knowledge on what we were anticipating, what we were looking for, what we were doing. Our thinking has progressively moved forward in the way of isolating really what we need and what will benefit us the most – and that is data analytics." Another participant similarly voiced, "It would have been easy for us just to check a box and go work with [one of the HIOs or HDIs]. Easy is not the right term, but we, the CEOs, asked some really hard questions of [ourselves], what's the value [of HIE]? What are we going to do in our buildings with our clients that is going to be different or advantageous based upon this work? And that's led us to wanting HIE in order to achieve data analytics and population health management."

Expected Workflow Efficiencies Not Realized

Grantees who successfully implemented HIE noted that while they have not yet realized workflow efficiencies, they still expect them over time. Several collaboratives that implemented DSM all commented that it took more time and was more cumbersome than their standard faxing methods. As one interviewee commented, "Early on the thought was, holy cow, Direct messaging is the Holy Grail. We're going to replace faxing and it's going to be great. What we realized, however, is that the workflow implications ground that to a halt." One grantee noted that what used to take 15 seconds to send a fax through its Electronic Health Record (EHR) system, now took five minutes to accomplish using DSM.

Another grantee expressed concern that electronic messages were not being received or could not be processed by organizations, so this grantee continued to send referrals by fax and phone, in addition to the electronic messages. This grantee planned to continue this duplication of efforts for the foreseeable future.

While many grantees had not observed time savings as a result of DSM to date, they were still optimistic that their investments, including efforts spent implementing workflow modifications, would produce increased job satisfaction in the long-run. As one interviewee commented, "I don't know, has it really saved a lot of time for our staff? I don't know if it has. But at least nobody has to write the same thing down on a form they've already documented in the EHR, so there's a small amount of probably immeasurable job satisfaction increase win there. There's been a little bit of a small win with that…some positive momentum." According to results from the SIM HIE User Survey; 56% of respondents (nine out of the 16 DSM users) indicated that DMS had a positive impact on workflow (see Exhibit 4.6 above).

Providers Report that Timeliness of Information Improves Continuity of Care

Participants that have implemented HIE noted that the largest impact HIE has had on the quality of care they provide has been the increased timeliness of information available. That timeliness of information positively impacted their ability to seamlessly coordinate care for patients/clients. Members of the one e-Health Collaborative reported, for example, that DSM has improved their availability to quickly share crisis diagnostic assessments with other providers in the county, which they hope will ultimately result in reduced hospitalizations. One participant explained, "I can see that it makes a huge difference as far as how fast the therapists get the information that they need in order to complete their paperwork and the discharge summaries and diagnostic assessments that are so important to them in order to be able to do continuity of care. They need that information in order to get their part going. So I can see that happening when it's working right."

Administrative Cost Savings Expected, Other Cost Savings Still Unknown

Several interviewees commented on the potential they saw for HIE to reduce faxing, printing, courier, and mailing costs for their organizations. For example, one hospital partner noted that prior to the SIM grant, its emergency room would pay for a taxi to pick up a flash drive and drive it to the next location where a patient was being transferred. Reducing expenditures on paper and postage appeared to be especially important considerations for small, independent providers looking to implement HIE.

A number of collaboratives noted that they were especially interested in the return-on-investment of their HIE work, but that it was too early to look at those cost impacts. Several collaboratives did indicate that they plan to track various cost measures once their HIE was fully implemented. For example, one collaborative was collecting baseline cost data on clients, and then tracking the total cost profile after the HIE is implemented to see if there is any impact.

Relationships Strengthened Through e-Health Collaboratives

A majority of interviewees felt that the collaborative structure the grant program required to pursue HIE implementation had positive impacts on what they were trying to accomplish, despite challenges that arose. The partnerships that were developed and/or strengthened through the collaboratives were important for members who valued the building, learning, and trading of ideas. In addition to increased knowledge of e-health issues, grantees also reported an improved understanding of their collaborative partners role in the community, and what data they had access to as a result of the e-health grants. One interviewee explained, "It has really been an opportunity to say, oh by the way, do you understand that public health can't pull community measure data for every health care partner and get population health data? Because some people think I can do that. It's easy to assume that our partners can access or can't access [specific data]. And so just talking through those, I think it's been an opportunity for growth and learning."

Collaboratives also saw a benefit in speaking as one voice with vendors and the state, especially for priority settings. One grantee explained, "I think forming the collaborative created sort of a big enough in so we got some attention. The behavioral health field doesn't rise to the surface very much. It's not lucrative like surgery and that kind of stuff is. So coming together like that, we were able to gain some attention because we represent about 20,000 folks who typically are costing systems a lot of money. So the collaborative approach helped us in that way. Our organization benefits from the collaboration and the resources it brings in a way that we wouldn't be able to afford individually."

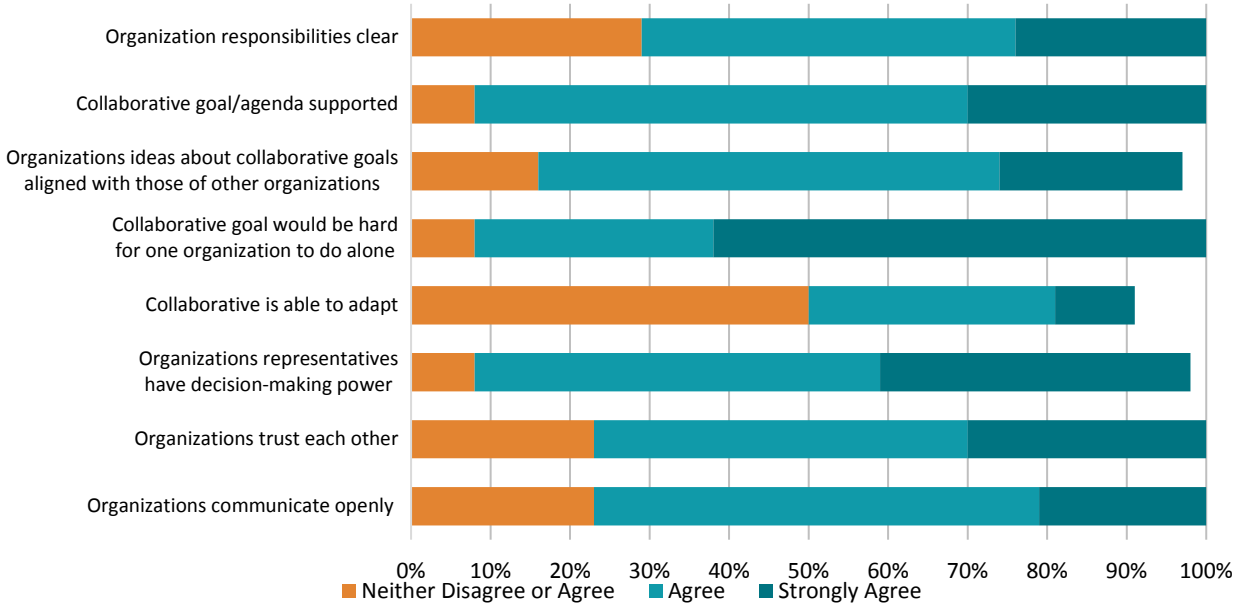
Partnering on acquiring new e-health technology did involve risks, however, especially when they were asking partners to commit to a technology that had not been proven yet. As one participant commented, "I applaud everybody for taking the risk of coming together. It's still a risk because we stand together. We know that this is not a perfect strategy, and we still bring it to other agencies and say, warts and all, we think this is the right direction to go in. And that's a risk relationship wise sometimes when you go to other agencies and you say this isn't perfect yet, but we really see that there's something here that we need to pay attention to."

Another grantee commented on the challenges organizations face while trying to work within a collaborative to implement something new, while continuing to provide ongoing services to clients. She noted, "It's not as though there aren't challenges with a collaboration. I think a continuing challenge is understanding the level of resource that's needed to move this level of change along. It's easy for me, who has rose colored glasses, to say [to other members of the collaborative], well sure, [my staff] can do that. Of course, add that to [their] workload. I'd say we have probably underestimated the resources needed. Because here, it's not like education where school gets out at the end of May or the first part of June, then you've got July and August to get ready for when those kids come back in September. I'm sorry, kids are here all the time, services are provided all the time. So any retooling we're doing, we're still riding the bicycle. All that has to happen while you're still delivering the services. So it's challenging."

Overall, e-Health Collaborative participants who responded to the SIM Minnesota Organization Survey (n=28) endorsed several key benefits to working in collaborative organizations including: acquired new useful knowledge about services programs or people (51%); developed valuable relationships (51%); developed new skills (32%); addressed an issue it had not been able to address (28%). The most common drawback of e-Health Collaborative participation reported by SIM Organization Survey respondents was the time and human resources diverted way from other priorities (35%).

E-Health participants also felt strongly that their e-Health Collaboratives functioned well throughout the grant period (Exhibit 4.7). Participating organizations especially felt that their collaboration goal or agenda was supported by the partner organizations, and that the collaboration goal would have been hard for one organization to achieve alone.

Exhibit 4.7. E-Health Participants' Perspectives on Collaborative Functioning



Source: SHADAC, "Minnesota Accountable Health Model - SIM Minnesota Organization Survey," *University of Minnesota, School of Public Health*, June 2017.
Note: SHADAC received no "Strongly Disagree" responses to reported questions, and very few responses were "Disagree." Consequently these categories are not shown. Percentages are based on analysis of weighted data.

Increased Statewide HIE Vendor Capacity

SIM e-health grantees were required to connect to either a state-certified HIO or HDI service provider in order to stand-up any electronic exchange of data. In many instances, there were no or very few state-certified options available at the start of the grant period. When the Round 1 SIM e-Health Collaboratives were applying for funding in the spring of 2014, Minnesota had one state-certified HIO, and in the spring of 2015, the state was temporarily left with no state-certified HIO option. These circumstances led a number of e-Health Collaboratives to pressure dominant national vendors to seek certification, and in one case, for an e-Health Collaborative to become certified itself as a HIO. As of the writing of this report, the number of state-certified HIE options has tripled. Currently there are three organizations certified as HIOs (including one e-Health Collaborative) and 17 organizations certified as HDIs.

With the financial support from the SIM grants, e-Health Collaboratives were successful in building regional and statewide capacity for HIE through the negotiations undertaken with HIE and EHR vendors.
For example, one e-Health Collaborative had selected a preferred HIE vendor prior to the SIM grant which was federally-certified, but not a state-certified, HIE service provider. Because of SIM grant requirements, and the fact that collaborative partners did not want to abandon a technology they had already invested in, the collaborative encouraged that vendor to seek state certification. After months of exchanges with the HIE vendor representatives, the collaborative learned that the vendor had in fact submitted an application with the Department of Health for certification and would successfully become a state-certified HDI. One grant participant commented, "Minnesota being one of the leaders in this whole area, or one of the first states, we had the opportunity then to be pushing some of these vendors that are part of the technology. That's part of just the maturation of a newer technology."

Another e-Health Collaborative worked closely with an EHR vendor that is commonly used by mental health providers to embed a state-certified HDI's Direct Secure Messaging capability into their product. This was key to minimizing workflow burdens associated with using HIE. This collaborative noted that they were the first organization to request embedded DSM from this particular EHR vendor, paving the way for others to have access to this service in the future. As one interviewee said, "…[I]t's difficult to be the first one that goes through the glass door, you end up bloody. And that's what we've done. I mean I think I am so impressed with this group for the level of frustration that some of them that are doing this at the elbow stuff, that they've continued on and that we do have proof of exchange happening."

Evolved Strategy to Achieve Statewide Interoperability

As a result of the e-Health Collaboratives' experience through the SIM grant, and the maturing HIO market, the state's approach to achieve statewide interoperability has progressed to place greater emphasis on connecting directly with a HIO. When the SIM grant began there was only one HIO in the state, so allowing collaboratives to connect to HDIs was the only viable option. However, there are four certified HIOs at the time of this report, and there is an increasing demand for the kind of services an HIO provides, such as a more robust repository of information that can be used for population health management. In the third round of e-health funding, through the HIE and Data Analytic Grants, grantees were required to connect to an HIO (either directly or through an HDI) as opposed to giving them the option to connect only to a HDI. This focus on providing data analytic capabilities fits with what the state was hearing from grantees – HIE is a means to the end but not the end all, be all, itself.

The state expects that a more fully implemented HIO infrastructure with broader provider organization participation will lead to greater statewide interoperability of HIE. HIOs are required under state statute to connect to each other. In practice, however, that has not happened yet. Although the law specifies that all clinical Meaningful Use transactions should be exchanged between HIOs, the state realized that HIOs needed some direction on which transactions to prioritize. The work under the e-health grants have helped the state prioritize the exchange of ADTs and summary of care transactions among the HIOs. That work will continue through the ongoing Minnesota Health Information Network, a network of Minnesota state-certified HIE service providers (HIOs and HDIs) that collaborate on infrastructure design and implementation. The Minnesota e-Health Initiative's *2017 Report to the Legislature* also included the recommendation that the state should establish a plan across all of Minnesota's government agencies to connect to state-certified HIOs for secure data exchange.[40]

Decision and Capacity to Sustain

Grantee Sustainability Decisions

Three of the seven e-Health Collaboratives that chose an HIE service provider indicated at the time of interviews that they plan to continue to use the HIE that was implemented under SIM after their grant funding ends. It was often unclear from discussions with grantees exactly what metrics or data they would use to inform their final decisions about sustainability. Most grantees indicated that they would assess the overall "value" of the HIE, especially taking into consideration feedback from frontline staff and providers who were using HIE in their daily work flows.

[40] Minnesota e-Health Initiative, "Report to the Minnesota Legislature," *Minnesota Department of Health*, https://www.leg.state.mn.us/docs/2017/mandated/170611.pdf.

The majority of HIE users who completed the HIE User Survey indicated that they want to continue to use HIE (81%, 17 out of 21 respondents) and are seeking ways to expand HIE (52%, 11 out of 21 respondents). HIE User Survey respondents, however, did not indicate an association between their HIE and their perceptions of increases in organizational efficiencies, financial benefits, or in their organization's ability to participate in value-based or alternative payment models.

The two grantees who had not made a HIE selection at the time of interviews indicated that the work done under the SIM e-health grant to build capacity for care coordination and data analytics would continue, even if they were ultimately unable to connect to a state-certified HIE. Exhibit 4.8 provides an overview of the e-Health Collaboratives' plans to continue HIE and what will be sustained.

Exhibit 4.8. E-Health Collaboratives' Sustainability Plans

E-Health Collaborative	Plan to Sustain	What's Being Sustained
Beltrami County Behavioral Health PACT	Yes	- DSM - Exploring interest in jointly funding a grant writer
Carlton County Connects	TBD	- Community consensus exists to continue to use DSM (but it may not be the same HDI provider as used during the SIM grant) - Still exploring whether to continue jointly pursuing ADT exchange among partners
Fergus Falls Community of Practice	TBD	- Still evaluating whether continue to use DSM - Have secured a federal grant to work on evaluating a Personal Health Record provided through a HDI service provider as a possible community health record solution
FQHC Urban Health Network (FUHN)	No	- No HIE service provider decision made - Capacity built for care coordination; ready to incorporate HIE if vendor becomes available. - Have secured federal grant to support staffing work to build data warehouse system
Lutheran Social Service of Minnesota (Altair ACO)	Yes	- HIE connection for partner organizations - Access to the Lifeplan[41] for partner organizations - Looking to scale collaboration discussion and incorporate access to Lifeplan through the HIE for county social service partners; seeking Acuity Based Waiver Exceptions as a means of financial support
Mission Hennepin (Minnesota Community Healthcare Network MCHN)	No	- No HIE service provider decision made - Focused on building data analytic capabilities/data warehouse
Northwest Minnesota e-Health Initiative	TBD	- Some partners still exploring signing participation agreements with HIO
Southern Prairie Community Care (SPCC)	Yes	- Funding set aside to support current HIO network for three years - Developing a business plan for statewide expansion of partners - Transition from grants to contracts with local payer to support continued e-health work
Winona Regional Care Consortium	TBD	TBD

Source: SHADAC interviews with e-Health Collaborative participants, 2016–2017.

[41] For additional information on the Lifeplan, see Chapter 7.

Factors Enabling Sustainability

Although most grantees were still assessing sustainability options for their HIE activities at the time of interviews, several common themes were identified as collaboratives considered what would continue, what would change, and why. We describe factors that were viewed as enabling sustainability of HIE below.

Well-Defined Use Case

Interviewees cited the articulation of, and agreement to prioritize, a clear use case as a factor that would help enable sustainability of HIE investments. Collaboratives reported the value of having all of the stakeholders around the table having a clear understanding about exactly how they would use the information that would come through the HIE. This understanding helped ensure that once the technology was implemented it would actually be used. As one participant reflected, "I think a lot of [other e-Health Collaboratives] didn't even know what they were going to do with it [HIE]. 'We want Direct Secure Messaging.' Okay, great, you can get DSM, but what are you going to do with it? Because if you spend all the money and invest in the technology and the infrastructure and you don't really have a practical application for it, nobody is going to use it anyway."

Several HIE service providers also commented that, from their perspective, it was important that collaboratives focus initially on the use cases that are most meaningful to them, not deploy a "one size fits all" technology solution. One HIE service provider noted, "We found with our customers, those types that focus in on those use cases that are more meaningful and already needed, then the rest of the use cases will then grow organically. And organically is what we see has been sustained. Those things that were just driven for the incentives or for the purpose of a proof of concept without a meaningful need behind it, those are the things that we don't see as sustaining."

Incorporation of HIE into Existing Workflows

The ability to fit HIE into existing workflow structures was an important design and sustainability consideration for many of the collaboratives, and those collaboratives that were able to do so were more likely to report plans to sustain their current HIE work. Much of the feedback grant project managers reported hearing was, "If this makes my work anymore difficult, I won't do it." Several participants highlighted the desire to access the HIE with as few "clicks" as possible. Additional logons, passwords, and user IDs were deterrents, especially to using a HIE that was outside of an existing EHR system. One e-Health Collaborative ended up having to start completely over with their HIE interface because their users felt their first version was too hard to use, took too much training, and was not efficient. The project manager explained, "They said we love what you've done, but I'm not going to use it. Bottom line. So we went back and built a more user friendly interface."

Onboarding Additional Users

Several of the grantees indicated that the sustainability of their HIEs would depend on their ability to onboard additional partners, beyond those included in the original collaboratives. Some collaboratives have already begun to identify additional partners whose participation would help populate the HIE with "clinically rich" information, thus making the HIE more useful. In many cases, this meant the local hospitals and/or large integrated health system(s), but it also included other community partners such as county drug court and county social services. Beyond providing additional high value data, these partners were viewed as a potential source of financial support for the HIE as well.

HIE service providers echoed this sentiment during discussions of sustainability options for collaboratives, especially the importance of having a strategy to on-board acute care settings like hospitals. One HIE service

provider explained, “We know from a long-term sustainability standpoint we've got to make sure we engage the local hospitals and health systems so there can actually be sustained value there.… The hospital is really the one that ultimately wins in accountable care groups. They are the ones that have the risk contracts and if they can coordinate care better then they'll ultimately receive better payouts themselves. So the hospital becomes one of the main beneficiaries of having an HIE and accountable care.”

As mentioned previously, grantees and HIE service providers reported finding it difficult, however, to convince hospitals and/or large integrated health systems to join their HIE. The exact reasons for those difficulties were unclear, but participants suggested that the reluctance of some organizations to participate may be due to cost (often these organizations receive multiple requests to join multiple HIEs all at a cost), the fact that many hospitals and health systems that utilize Epic can already exchange with other Epic users via their own capabilities within their EHR system, or possibly due to a lack of economic incentives[42] or “information blocking” when an entity “knowingly and unreasonably interferes with the exchange or use of electronic health information.”[43]

Factors Inhibiting Sustainability

Collaboratives also identified several factors that they suspected would inhibit the sustainability of their HIE activities.

Cost

The costs of ongoing HIE activities continued to be a sustainability concern, as they were in the first implementation year. Grantees were concerned about the future costs associated with the multiple regional HIEs that were being created through the e-health grants. One participated explained, “Every time we foster a system that requires multiple connections, we're building cost into that system, too. There's a cost to connect HIO to HIO, HIO to HDI, provider to multiple HIOs or HDIs.”

Additionally, small and rural providers were especially concerned that even if they decide to sustain, or even expand their work, they won’t be equipped to handle the costs of technological glitches that will undoubtedly arise. One participant commented, “I think our HIE service provider gave us a package deal that will probably be affordable to most. I think we'll be able to move forward and have the DSM. What I'm concerned about are the unforeseen landmines technology wise. We aren't equipped to broker those and come up with solutions.”

Another grantee commented on the impact development projects like these have on small, resource poor communities: “As individual providers, we're really very ill equipped to fund governmental change on our backs. A lot of these implementation problems should have been ironed out at the state-level without having to burden providers in small poor communities surrounded by Indian reservations and in poverty. I mean I sound sarcastic, but I'm really, I'm passionate about this. Because we're trying to help people here and we're sitting in meetings trying to implement a large scale health care design change.”

[42] Tsai, Thomas C., and Ashish K. Jha, "Hospital Consolidation, Competition, and Quality: Is Bigger Necessarily Better?" *JAMA* 312, no. 1 (2014): 29–30.
[43] Office of the National Coordinator for Health Information Technology (ONC), *2015 Report to Congress on Health Information Blocking*, https://www.healthit.gov/sites/default/files/reports/info_blocking_040915.pdf.

State staff acknowledged the cost concerns that they were hearing from grantees and the heavy lift it would take to get to the point where a HIE would have data contributed by everyone. The state is hopeful that its increasing emphasis on supporting shared services among HIOs will help address the sustainability issues. "I think there's lots of opportunities to shift current expenses like administrative burdens of consent management, patient matching and quality reporting and public health reporting, and to funnel that all through an HIO. In the end game, I think you wind up with a much more efficient system, so it becomes sustainable."

Difficulty Demonstrating Return on Investment

Collaboratives indicated they are having difficulty demonstrating a return on investment (ROI) for their HIE work, which they felt was important for organizational leadership to have in order to make sustainability decisions. It has been challenging for grantees to identify and quantify all of the financial impacts, especially the long-term impacts, of their investments within the grant period. One grantee explained, "A lot of the ROI is really intangible. There are so many variables out there, we can't just look at the dollars we are spending on DSM. It's [also the impact on] the whole clinical flow process."

Difficulty Connecting to Existing EHR-enabled Exchange Networks

Half of Minnesota's hospitals and clinics use the EHR platform Epic, including nine of the state's major health systems (plus three additional systems headquartered in neighboring states with operations in Minnesota.)[44] Rather than exchanging information via a HIO or HDI, Epic users are able to exchange information among themselves via an EHR-enabled exchange network (Epic Care Everywhere). This makes it relatively easy to exchange information within and among Epic health systems; however, it continues to be difficult for non-Epic providers to exchange information with Epic EHR users.

The SIM e-Health Collaboratives located in the Twin Cities metro area who wanted to be able to exchange with health systems who use Epic EHR platforms were ultimately not successful in doing so. One collaborative explained, "We've been dragging our feet, dragging our feet, dragging our feet, hoping that the market would change at some point in time where if we put all the work into the activity, that we would get the return on the investment of our activity. And we still don't see that return on investment possibility."

Another participant clarified that they saw value in HIE as a concept, but not in spending grant funds to pay for a connection that would not provide the data their collaborative partners needed (i.e., SIM grant funds could only be used to connect to state-certified HIE providers, and there was no connection to local hospitals that use Epic): "We know what's worth investing. There just isn't a place to invest. And I think we need to be clear that if there was a vehicle here that was truly interoperable in this market, we would have signed 18 months ago like that. It just doesn't exist. That's the obstacle."

One grant participant also pointed out that even though its organization used Epic, if it wanted to become an affiliate of a health system that uses a different platform of Epic, it would not automatically be able to do so. She explained, "A lot of the hospital systems have very old Epic systems, they are legacy systems and they haven't been updated yet. At least two of the hospital systems have to completely gut their whole system, and so they're not even taking on new affiliates. Their incentive is to upgrade their own system first, not bring on new affiliates."

[44] Minnesota e-Health Initiative, "Report to the Minnesota Legislature," *Minnesota Department of Health*, https://www.leg.state.mn.us/docs/2017/mandated/170611.pdf.

Collaboratives seeking to exchange with Epic health systems in rural areas appeared to make slightly more progress than those in the metro area (where Epic market share is more dominant). Two rural collaboratives indicated that they were having productive and ongoing discussions about exchanging with local health systems that use Epic, but that it continued to be a slow process. One participant explained, "We're somewhat penned in by what they [the local Epic health system] are deciding to do as far as information exchange. We're the little dogs at the table. The big dogs make a lot of decisions."

State staff recognized that issue as well, and are concerned with small providers' ability to maintain their independence if they can't share information with large health systems. One state staff commented, "I think the big issue is the influence of Epic, and the struggle that the smaller providers have to retain their independence in this environment. And it's clearly in many cases becoming a competitive disadvantage to not be part of the Epic community. I've been told by non-Epic providers that it's kind of used against them. These other systems are telling their patients, look, we've got all your information, it's very convenient, you don't need to go to that other one. So that's a concern. I think it's really important that we have an economy in the state where the health providers can stay independent."

Ongoing Time Commitments

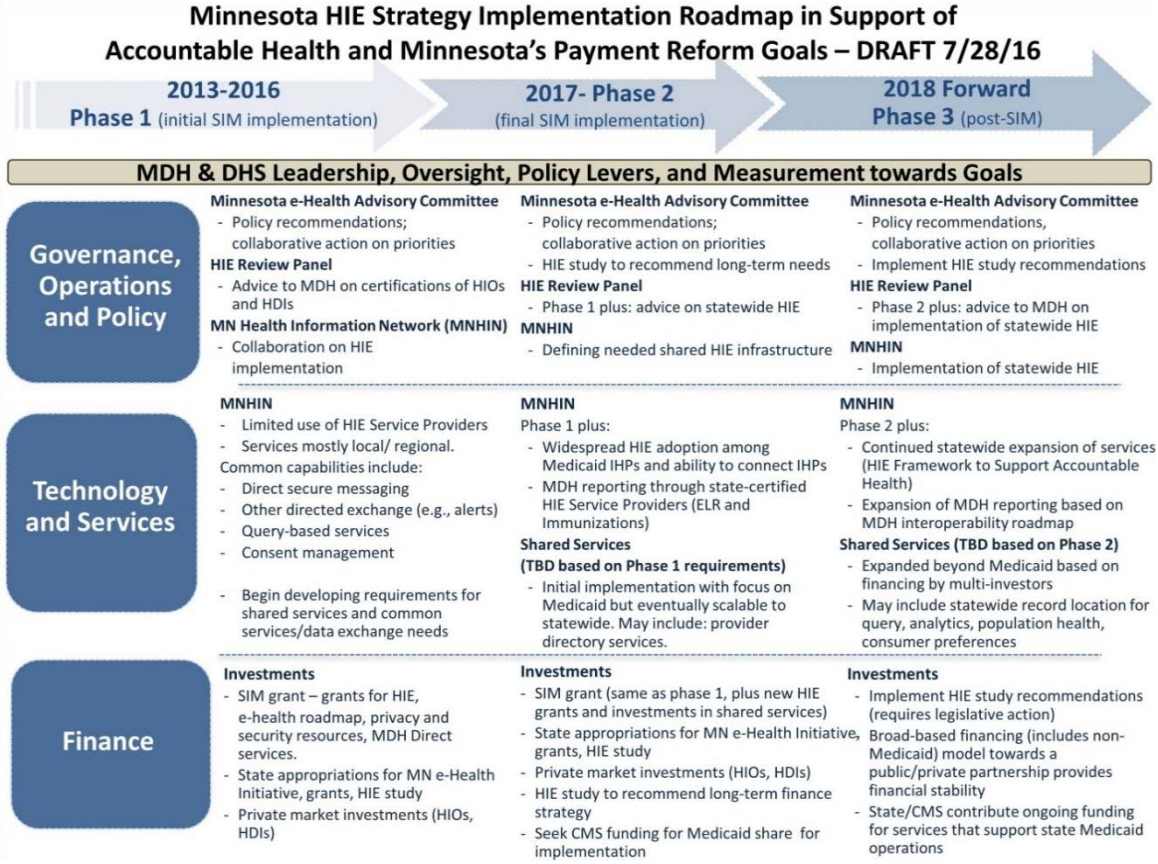
Almost every e-Health Collaborative indicated they underestimated how much of a time commitment the HIE work involved. Often, the concerns about the ongoing time commitment required of organizational leaders, IT staff, project managers, and clinical providers was mentioned before financial considerations when it came to sustainability discussions. The ongoing question collaboratives were asking themselves is, would their staff find value in using the HIE, especially after all the design, onboarding, and ongoing technical issues? One participant noted, "The finances to sustain our structure are not the issue, those will be pretty low cost compared to any other option I've seen. In my mind, the question is going to be do the members see the time investment of their staff in this process as a valuable use of their time." Another grantee commented, "I think you should know the people around the table have put a lot of time, blood, sweat, and tears into it, and we want a good result to come of this. But because it is so broad and working with different organizations, that's a barrier right there because of people's time commitment. Everybody has other full-time jobs."

What the State Will Sustain

The state's SIM sustainability framework, shared with the Community Advisory Task Force in the fall of 2016, included HIE as one of three major focus areas for continued work post-SIM. The framework contained recommendations to guide the state's overall work in HIE in areas of governance, operations and policy, technology and operations, and finance. [45] Several of the specific recommendations included in the state's overall HIE Strategy Implementation Roadmap (Exhibit 4.9) are based on lessons learned from the investments made under Driver 1 of the SIM grant.

[45] "Minnesota Accountable Health Model Community Advisory Task Force Meeting," *Minnesota Department of Health*, September 14, 2016, slides available at http://www.dhs.state.mn.us/main/groups/sim/documents/pub/dhs-290252.pdf.

Exhibit 4.9. Minnesota HIE Strategy Implementation Roadmap



Source: Minnesota Accountable Health Model Community Advisory Task Force Meeting, September 14, 2016.

Minnesota Health Information Exchange Study

One important piece of HIE sustainability planning for the state, as noted in the HIE Implementation Roadmap above, will be the forthcoming Minnesota Health Information Exchange (HIE) Study. In 2016, the Minnesota Legislature passed legislation charging that MDH conduct study to assess Minnesota's legal, financial, and regulatory framework for HIE. This included examining the requirements of the Minnesota Health Records Act, and making recommendations for modifications that would strengthen the ability of Minnesota health care providers to securely exchange data in compliance with patient preferences and in a way that is efficient and financially sustainable.[46] Specifically, the study will address the following:

- The goals and principles for HIE
- Improvements needed on Minnesota's HIE approach
- Laws that impact HIE, including HIE oversight, Minnesota's mandate for interoperable electronic health records, and privacy/consent requirements
- Role of government and others in advancing HIE
- Core HIE services needed in Minnesota
- Costs associated with and financing mechanisms for HIE
- Rules of the road for HIE service providers and exchange partners
- Governance and legal framework for HIE
- Provider's needs, readiness, and commitment to participate in HIE.

[46] Laws of Minnesota 2016, Chapter 189, Article 20, section 5.

The Minnesota Department of Health (MDH) began collecting data from stakeholders and holding community listening sessions in the spring of 2017. The final report is due to the legislature in February of 2018, and it will ultimately be the guiding sustainability document for the state's HIE work going forward.

In the meantime, the state has repurposed several existing e-health appropriations to support the ongoing HIE work below:

- **Priority Transactions: Admit-Discharge-Transfer Alerts & Care Summary Documents**. The state will support additional grants for communities to work on Admit-Discharge-Transfer (ADT) and care summary exchange implementation. State staff indicated that the findings from the HIE Study will guide exactly what these RFPs will look like; however, they expect that that the RFPs will continue to encourage connection to a state-certified HIO.
- **Privacy & Security.** The state will continue the privacy and security work begun under SIM, including updating the online *Foundations in Privacy Toolkit*, adding additional resources, and continuing to disseminate the findings. Additional findings and recommendations from the forthcoming study of the Minnesota Health Records Act may also impact this work in the future.
- **Additional HIE Research: Return on Investment.** A common challenge raised by e-Health Collaboratives was the difficulty demonstrating return on investment (ROI) for investments in HIE. The state is considering utilizing existing state funding to support research grants for the provider community focused on evaluating the ROI for implementing HIE.
- **Public/Private Support for Shared Infrastructure.** State staff noted that MDH is exploring governance and financing options for creating shared infrastructure services for all HIOs and HDIs, such as Direct address directory services, consent management, or electronic record locater systems.[47] The state has consistently heard from stakeholders a desire to see governance for this type of shared infrastructure overseen by a public/private partnership. State staff felt that, by extension, financing for any shared services also should be a public/private combination.

The state identified several areas of opportunity for future work on this topic, including engaging more payers, especially on the commercial and self-insured side. As the state explained, "We're looking to get payers involved, and not just in contributing to HIE, but to push for value based care." State staff have already begun the process of reaching out to these groups through the HIE study, but also anticipate an increased role for their executive leadership and/or possibly the Governor's Office in continuing those conversations.

[47] Additional information on e-Health Collaboratives' desires regarding shared services infrastructure can be Chapter 3 of SHADAC's First Annual Evaluation Report. SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.

5. INTEGRATED HEALTH PARTNERSHIPS DATA ANALYTICS

Introduction

Though implemented prior to the Minnesota Accountable Health Model, the Minnesota Department of Human Services' (DHS) Medicaid Accountable Care Organization (ACO) demonstration—called the Integrated Health Partnerships (IHP) program[48]—has been a testing ground for the investments in Driver 2. The goal of Driver 2 activities and investments is to provide IHPs with better data analytic tools to systematically manage risk, lower health care costs, and improve the quality of care. Key investments under the SIM Initiative included:

- **Enhanced state reporting to IHPs.** DHS provides participating IHPs with standard data reporting packages derived from Medicaid claims data to help IHPs better understand resource use and identify areas for targeted interventions. These include a provider alert report listing attributed members with either an emergency department (ED) visit or hospitalization; a care management report that includes a range of risk scores, chronic condition flags, and utilization indicators; detailed utilization files for the past 12 months updated on a rolling basis; and quarterly information on each IHP's performance against total cost of care (TCOC) targets by provider and service category. Prior to SIM, the process for providing these reports was manual and labor intensive. During 2014 and 2015, DHS (with new staff) and its contractor (SAS Institute) made enhancements to standard IHP reports and developed and launched a common portal (the "DHS Partner Portal") for ease of access in the first quarter of 2015. User training was provided via webinar to all IHPs, and data user group meetings with IHP analytic staff are held on an ongoing basis to discuss reports and data available through the portal. DHS developed or modified several reports in response to IHP requests for more or different information, and continues to incorporate feedback from IHPs into its ongoing data and reporting infrastructure for the program.
- **Technical assistance to IHPs.** State staff have provided a broad range of technical assistance to IHPs. The state reported to the Center for Medicare and Medicaid Innovation (CMMI) a total of 115 technical assistance contacts to IHPs in 2016, with 68 in 2017 to date.[49] Examples include: assistance interpreting state reports and data available through the state portal; working with IHPs and their vendors to integrate state claims data into existing data warehouses; and addressing IHP questions about attribution and total cost of care calculations. In addition to technical assistance provided by the state, 3M Company (hereafter referred to as 3M) began an 18-month contract with the state to carry out technical assistance activities beginning in June of 2015, which included technical assistance to both DHS (see below) and the IHPs. As part of this contract, 3M analyzed IHP claims data and generated reports for each IHP highlighting opportunities to lower costs and improve quality, based on performance against other IHPs on measures of total costs and rates of potentially preventable events (e.g., hospitalizations, readmissions, and ED visits).
- **Technical assistance to the state.** As part of its contract, 3M also provided consultative services to DHS on a range of issues related to the IHP program. Key activities included: providing consultation on internal reports used by DHS to monitor changes in eligible populations, costs, and risk across the IHPs; advising on content for explanatory documentation to accompany reports provided to IHPs through the portal (e.g., definitions, inclusion and exclusion criteria); and analyzing claims data to inform future iterations of the IHP program to incorporate complex populations.

[48] Minnesota's IHP demonstration, implemented in 2013, was originally called the Health Care Delivery Systems (HCDS) demonstration.
[49] "Reporting Targets to CMMI." *Minnesota Department of Human Services.* 2016 and first two quarters of 2017.

- **Data analytic grants to IHPs.** DHS released an RFP for the IHP Data Analytics Grant (DAG) Program in April of 2015. Existing IHPs and new entrants as of 2015 were eligible to apply for and receive grant funding to support their own efforts in data analytics to participate effectively in accountable care payment arrangements.[50] The grants were originally funded for a period of 18 months, but all grantees received no-cost extensions through August of 2017, resulting in a total grant period of two years. Eleven of sixteen IHPs applied and all received grants. The state awarded just over $4 million across grantees, with typical award amounts of $300,000 to $500,000 per grantee.
- **Food security grant.** DHS created an opportunity to support the participation of community partners, specifically food security service providers, in the IHP program. In August of 2016, Second Harvest Heartland, a well-known Twin Cities-based food bank, received a $250,000 grant to integrate food security services into the health care delivery of providers in areas of low food security. The program leveraged existing IHPs to develop a food security services screening and referral system at CentraCare Family Health Center and Hennepin County Medical Center (HCMC) for Minnesota Health Care Program beneficiaries. Second Harvest was now implementing a cardiovascular disease-based intervention program at CentraCare and a diabetes-based intervention program at HCMC, utilizing infrastructure developed under the first phase of the grant. Second Harvest has contracted with the Berman Center for Outcomes and Clinical Research to conduct randomized controlled trials to evaluate the intervention programs and will continue its grant work through the end of 2017.

This chapter focuses on the activities IHPs engaged in under the Data Analytic Grant Program. We present insights related to enhanced reporting and technical assistance to IHPs more broadly as relevant.

As shown in Exhibit 5.1, the eleven IHPs receiving data analytic grants represent a mix of newer and previously existing IHPs and both virtual and integrated models (IHP contracts allow "integrated" delivery systems to take on upside and downside financial risk, while non-integrated IHPs participate as "virtual" partners with upside risk only). Exhibit 5.2 maps grantees' locations across the state.[51]

Exhibit 5.1. Data Analytic Grants by IHP

IHP	Geographic Area	Virtual or Integrated	Data Analytic Grant Amount
ROUND 1: Participating since January 2013			
Children's Hospitals and Clinics of MN	Minneapolis/St. Paul	Integrated	$500,000
Essentia Health	Northeast and Northwest MN	Integrated	$313,472
Federally Qualified Health Center Urban Health Network (FUHN)	Minneapolis/St. Paul	Virtual	$500,000
North Memorial Health Care	Minneapolis/St. Paul	Integrated	$500,000
ROUND 2: Participating since 2014			
Hennepin Healthcare System	Minneapolis/St. Paul	Integrated	$500,000
Southern Prairie Community Care	Southwest MN	Virtual	$500,000
ROUND 3: Participating since 2015			
Courage Kenny Rehabilitation Institute/Allina Health*	Minneapolis/St. Paul	Virtual	$350,000
Lakewood Health Systems	Staples/North Central MN	Integrated	$200,000

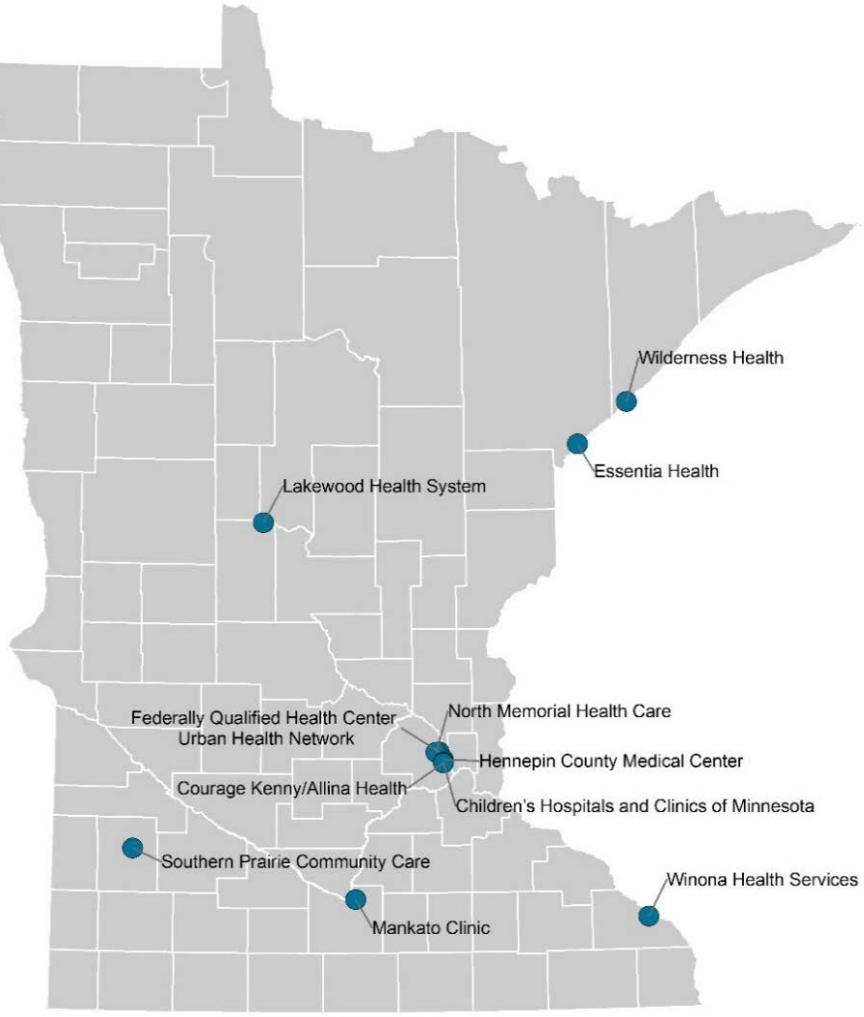
[50] "Data Analytics IHP Provider Grants," *Minnesota Accountable Health Model*, accessed July 17, 2017, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=sim_da_ihp#.

[51] See SHADAC's First Annual Evaluation Report for a detailed overview of each IHP's clinical integration strategies.

IHP	Geographic Area	Virtual or Integrated	Data Analytic Grant Amount
Mankato Clinic	Mankato/South Central MN	Virtual	$100,000
Wilderness Health	Northeastern MN	Virtual	$200,000
Winona Health	Winona/Southeast MN	Integrated	$400,000

Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, select progress reports, organization websites, and consultation with the state. *Courage Kenney's data analytic grant was expanded to include both Northwest Metro Alliance and Allina Health, which have been participating in the IHP program since 2013 and 2016, respectively.

Exhibit 5.2. Map of Data Analytic Grantees



Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, May 2017.
Note: Database is based on state documentation, grant applications and agreements, select progress reports, organization websites, and consultation with the state.

As the state's contractor for Minnesota's SIM evaluation, SHADAC conducted interviews in the winter of 2016 and spring of 2017 with a mix of clinical, analytic, and leadership staff (47 individuals participated in 11 interviews) with the 11 IHPs that received data analytic grants. In addition, SHADAC spoke with IHP program staff at DHS associated with Driver 2. We reviewed grantee progress reports to supplement findings from the interviews as well as report data from the SIM Minnesota Organization Survey. It is important to note that all of the grantees received no-cost extensions (NCEs) through August of 2017 to complete their work. As a result, findings presented here do not reflect all activities conducted by grantees.

The following sections summarize the key activities undertaken by the data analytic grantees, outline facilitators and barriers to implementation of those activities, identify early outcomes, and discuss sustainability considerations for the grantees and for Driver 2 work more broadly.

Key Activities

The high level goal of the data analytic grants was to provide IHPs with funds to implement or expand data analytic projects, infrastructure, or tools to improve patient experience, population health, and reduce health care costs. "Data analytics" refers generally to an IHP's ability to utilize clinical, administrative, and financial information systematically to improve care.[52] While each of the grantees had somewhat different project goals and baseline capacity, many carried out similar work. A key similarity across the projects was a focus on data or reporting needs that were not being addressed through the standardized reporting and data flows that IHPs received from DHS; for example, several grantees focused on augmenting claims-based information from the state with data from their electronic medical records. Exhibit 5.3 below summarizes the core activities across grantees. Each high-level activity is discussed in more detail below.

Exhibit 5.3 Key Data Analytic Grant Activities by IHP

Activities	Children's	Essentia	FUHN	North Memorial	HCMC	Southern Prairie	Courage Kenney/ Allina	Lakewood	Mankato Clinic	Wilderness Health	Winona Health
Integrate state IHP data into new or existing data warehouse for enhanced analysis	X	X	X	X				X	X	X	X
Conduct enhanced analytics for care coordination	X	X	X	X		X	X			X	X
Hire additional analyst(s) for managing IHP reports, analytics, etc.		X		X			X			X	X
Develop new measures of risk	X				X	X					
Implement Admit-Discharge-Transfer (ADT) and other provider alerts						X		X		X	

Sources: Grantee contracts, self-reported quarterly progress reports to state, and grantee interviews, 2017.

Integrating State IHP Data into a New or Existing Data Warehouse

Eight of the 11 IHPs worked on integrating state IHP data into a new or existing data warehouse. Grantees consistently noted that the quality of reports and data they receive from DHS is exceptional, but that the information is more powerful for care coordination when paired with claims from other payers and/or with clinical data. For example, while claims provide valuable information about utilization, the lag of these data makes it difficult to leverage them for point of care interventions. However, pairing claims with more real time clinical outcomes (such as blood pressure readings, lab work, etc.) provides rich information for care coordination. IHPs took different approaches to integrating these data. For example, Essentia focused on pulling in select fields from the aggregated reports that the state provides to IHPs (e.g., number of ED visits from the care management report) into their population health management tools, while others sought to fully integrate all of the claims data they receive from DHS into existing data warehouses. Mankato Clinic focused their data analytic work on building a database environment to accommodate claims data that they receive from *all* payers, including Medicaid, Medicare, and commercial payers.

[52] "Data Analytics IHP Provider Grants," *Minnesota Accountable Health Model*, accessed July 17, 2017, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=sim_da_ihp#

Conducting Enhanced Analytics to Support Care Coordination

Eight of the 11 IHPs allocated some of their data analytic grant resources toward developing enhanced analytics to support care coordination for their attributed IHP population. This work included developing approaches to target individuals for care coordination based on a variety of factors: existing risk scores, total costs, prescription drug spending, ED utilization, hospitalizations, and individuals who fail to show up for appointments and/or do not have a primary care provider. Grantees also developed or expanded the use of registries to identify and intervene with people with certain chronic diseases, such as diabetes, asthma, and depression. IHPs worked with a range of vendors and population health management tools to implement these enhanced analytics, including Epic Healthy Planet, Optum One, and eClinicalWorks.

Hiring New Analytic Staff

Five of the 11 IHPs used data analytic grant funds to hire new analytic staff. The specific job duties of these new hires varied but typically included taking responsibility for managing and disseminating IHP data and reports from the state to relevant staff (e.g., care coordinators, quality managers, providers), working independently or with vendors to integrate state data into an existing warehouse, and programming and other support to develop new data infrastructure to support care coordination activities.

Developing New Indicators of Risk

Three of the 11 IHPs leveraged their data analytic grants to develop new or enhanced approaches to predicting risk in their populations. For example, Children's worked with 3M to evaluate the impact of using Clinical Risk Groups (CRGs) alone and in combination with Adjusted Clinical Groups (ACGs) to more accurately predict risk for their pediatric population. The high level goal of this work was to develop an approach to risk stratification that would enhance Children's ability to intervene earlier with individuals to avoid future high-cost utilization. HCMC worked to develop and integrate an unstable housing indicator into their electronic medical record, as a proxy for identifying people who may benefit from more intense interventions, such as referrals to social services and longer primary care visits. Southern Prairie hired an outside contractor to develop a new risk algorithm that will be incorporated into the reports that they share with their members.

Admit-Discharge-Transfer and Other Provider Alerts

Three of the IHPs used funds to implement Admit-Transfer-Discharge (ADT) alerts for their member clinics and hospitals. Both Southern Prairie and Wilderness focused on developing ADT feeds for Emergency Department visits into their medical records databases. Wilderness planned to use the information to identify individuals in need of primary care interventions. At the time of our interviews, Lakewood had begun programming its ADT algorithm.

Facilitators of and Barriers to Implementation

There was variation across IHPs in the amount of progress made toward key goals and deliverables at the time of our interviews with grantees. All had achieved one or more primary objectives, such as hiring new staff, integrating state data into new or existing data warehouses, and implementing new analytic tools. On the other hand, three identified one or more of their core grant objectives as "at-risk or significantly delayed." Staff training on new reports and data flows was the most commonly reported "at-risk" activity across the grantees. Two IHPs were no longer planning to implement one or more of their proposed activities due to time and cost constraints.

Grantees cited a number of facilitators of and barriers to the implementation of their data analytic work, which are discussed below. These findings serve as important insights regarding supports needed among these ACOs.

Facilitators

Flexibility of and Support from DHS

Grantees consistently cited flexibility and technical support from DHS as key facilitators of the implementation and success of their data analytic work. One IHP noted, "Them being flexible with the deadlines has been helpful because we have run into so many problems over the course of the grant. It's a new frontier and you almost have to be flexible when it's a new frontier." IHPs explained that DHS staff were extremely understanding about delays and challenges that emerged throughout their grants. One early IHP noted how appreciative they were for the role the state played in helping them get connected to the right individuals at their vendor to get their questions answered. Grantees also noted that DHS staff were extremely responsive and helpful in overcoming technical challenges, such as data matching and helping staff and vendors understand how to accommodate the structure of state claims into existing data warehouse environments. They were also appreciative of the fact that the state did not fall back on generalized answers to detailed questions. One grantee stated clearly that the assistance they have received from the state was far superior to guidance from other payers: "We have not gotten a hint of anything like this from CMS. And whenever we've dealt with a private payer, they're very secretive. It's been really open, honest communication with the state." Another explained that hearing from existing IHPs about the high quality data and technical assistance from DHS was a key factor in their decision to join the program, "One of the reasons why we started with the IHP for our first [alternative payment] model is because we talked to other [IHPs] that had started before us; they said that the state has been really good and flexible."

Ability to Network and Share Information with Other IHPs

Grantees also noted the importance of being able to network and share information with other IHPs about common challenges and best practices. One grantee summarized it as, "you see how other people have approached some of the challenges and it helps you say, well, I'm not going down that path. Or, that's a really interesting way they approached it, let's consider that." IHP staff cited the Data User Groups and IHP Learning Days as helpful forums for these types of exchanges, but also highlighted areas where IHPs came together more informally to address challenges, particularly with common vendors. One IHP explained, "We all have different people at this vendor, so let's see what some of our biggest challenges are and ask them to work on that. We're all using the same data files, so can we put some common stuff together. So we're hoping for strength in numbers." Another IHP cited a plan to pull together more frequent, informal calls across IHPs that would have "a loose agenda just because we have this need to touch base with the other IHPs more often."

Barriers

Vendor Challenges

There was variation across grantees in the extent to which they leveraged vendors and how well this worked. Several IHPs faced challenges with their vendors that resulted in significant delays. For example, multiple IHPs cited upfront delays in finalizing their contracts with selected vendors. One virtual IHP had to switch analytic vendors mid-course because their original partner left the market. They noted, however, that they were much happier with the new vendor and optimistic about their ability to deliver the new analytic tools they needed to enhance care coordination across their members. Another IHP faced challenges with vendor data quality and overall project management, and eventually hired an external project manager to

help oversee the vendor's work. Communication and project management were cited as important challenges with other vendors as well. One IHP explained that they had to spend considerable "up front" time identifying the correct contacts at their vendor, as "they'd identify some people for the call and then we would find out we didn't have the right people. Then maybe we'd have the right person for one question, but you'd get to the second or third and 'ah, we can't answer that,' but they wouldn't be able to pull those people in."

Challenges with Data Matching

Grantees that were seeking to link IHP claims or aggregated information from DHS reports to their existing data warehouses faced issues with data matching. Some of these challenges were unique to the Medicaid population; staff at one Round 1 IHP noted, "But with Medicaid, they come in with aliases or they come in and give the wrong birthdates. So that took us a long time, this whole matching process." Staff at another IHP noted that the field used to uniquely identify members in the data from DHS—recipient ID—is not stored consistently in the patient record (they use a different unique identifier). The majority of grantees had been able to complete the linkages by the time of our interviews but noted that the upfront time involved in this step delayed their overall timelines.

Challenges Associated with Structure of Data Provided by DHS

Grantees also noted challenges related to the structure of the IHP claims data provided by DHS. For some it was their first time working with the claims data, and the format presented new challenges for internal staff and vendors. One early round IHP explained that, although they were working with a very sophisticated vendor, loading the state claims data was more time consuming than anticipated, and validating the work required back and forth with the state (in addition to the communication between internal analysts and their vendor). Staff noted, "The way the state wanted to share the claims data was different than what we were used to. I think there were just a lot of technical issues around becoming facile with understanding and manipulating the data in a consistent way." Multiple IHPs noted challenges with duplicate claims, which one IHP explained was due to not having "a unique identifier of the visit. So that causes some issues for our data warehouse vendor, because the IHP claim is actually a rollup, but the warehouse is showing it as independent entries." Another IHP explained that they "made assumptions on the data based on experience with other payers. And one of those assumptions proved to be incorrect so we ended up discovering that we were having duplicate claim issues within our data warehouse...we didn't understand why new claim IDs were being generated for the same visits." They also noted that the state was very responsive in helping them work through these issues but, "it would have been nice to have that upfront…we just kind of stumbled across that, so it did cause some delays on our end in setting up that infrastructure."

Churn in Medicaid Population

Another challenge cited by multiple IHPs was the extent to which the high rate of churn in the IHP population impeded their ability to observe the value of data-driven care coordination efforts and to monitor the impacts. Multiple IHPs explained that because of volatility within the population, care coordinators may expend considerable effort with high risk patients only to have them fall out of their attribution and then return again in a few months. One IHP in greater Minnesota noted that churn is a challenge within their population and complicates evaluation and monitoring, but they ultimately don't worry about it in terms of targeting care coordination efforts because "they still need help.… But in a workflow sense we don't care about what their payer is."

Early Outcomes

Because the grants were still being implemented at the time of our data collection, grantees were not able to share any concrete cost or quality impacts. However, several early outcomes emerged from our discussions, which we describe below.

Efficiencies Gained through Automation and Consolidation

A key outcome across the data analytic grantees was automating processes, such as identifying individuals for care coordination and distributing DHS reports to appropriate staff that had previously required manual work. Staff at one IHP noted that the work to automate reporting was a significant time saver: "That's been great -- having that infrastructure versus manually creating those [care coordination] reports and working those reports all the time, we tried to do that in the past and it's labor intensive, so there's never really an end in sight." Staff at another IHP echoed this sentiment, noting that all of their processes to pull in state data and reports were fully automated now, "There's nothing manual about these updates anymore, even getting the files from the state is an automatic process, it just pulls into our FTP site directly." Another IHP that had not made quite as much progress toward automation at the time of our interview noted that they were anxiously awaiting completion of their analytic work to automate reporting. They hoped that this would help them keep up with increased demand for information from their members (e.g., about high risk patients) and that their quality analyst, who currently disseminates this information through a manual process, could be freed up for other work. An IHP that worked with several smaller clinics explained that the analytic tools they were implementing under the grant would consolidate information that their members previously had to obtain from multiple reports and data sources. A Round 3 IHP explained that the long-term goal was to replace "piecemeal" reports from individual payers with consistent, all payer data flows to inform care coordination.

New or Expanded Care Coordination Activities

Multiple grantees were leveraging information generated from their data analytic work to reshape workflows and intervene differently with patients. This is in keeping with findings from the SIM Minnesota Organization Survey, which indicated that most IHPs had improved their care coordination abilities over the SIM initiative. Nine of the 10 data analytic grantees that responded said that their care coordination abilities were "much better" (27%) or "somewhat better" (64%) due to SIM.[53] In addition, 73% of data analytics grantees noted using data in more ways than their organizations used data before SIM. One data analytics grantee had extended its existing care coordination program to IHP members. This IHP also leveraged its data analytic work to identify individuals who were filling large numbers of medications and discuss medication management with them at upcoming home visits (which are part of their existing community care coordination program). Staff explained, "That was a really nice way to take the data, look at it, and then channel it back all the way to the home visit." Another IHP data analytics grantee developed new workflows for its care management team based on reports from an Epic population management tool for ACOs it recently implemented. Other grantee examples of data analytics or new data uses improving care coordination systems and processes included an extended follow-up primary care visit program for frequent users of the ED to provide education about more appropriate options for accessing necessary care, as well as an in-reach pilot program for people with mental health diagnoses presenting in EDs.

[53] Counts indicate the number of organizations responding to the SIM Minnesota Organization Survey. Percentages are based on analysis of weighted survey data.

Spillover to Other Populations, Value-Based Contracts, and Broader Organization Strategy

Another important outcome cited by multiple grantees was the extent to which the infrastructure, interventions, and lessons learned under the data analytics grants "spilled over" to impact work for additional populations and other value-based contracts. For example, staff reported that investments in data infrastructure and reporting at one IHP have facilitated "thinking strategically across their clinics and other value-based purchasing arrangements" to target interventions at areas where they identify variation in spend and utilization. Staff at another IHP explained that the grant allowed them to "jumpstart" their work with a new population health analytics platform and "take that into other areas of the organizations for other purposes." They went on to say that the tools and workflows can be expanded to "take thousands of patients and be able to manage them in a list and be able to work those patients in real time right here right now and be able to touch so many more of the patients." Others noted that the data analytic work spurred conversations throughout the organization about critical issues, such as leveraging data on social determinants of health to improve care. One IHP noted in a progress report to the state that "the work is having a positive impact on the organization and starting to bring out the social attribute data into the frontline staff tools and workflows. The absence of this initiative may well have delayed the utilization of the data." Another grantee explained the data analytics grant elevated the discussion within its health care system about the need for process improvements to better manage individuals with chronic conditions.

Enhanced Analytic Expertise

In addition to new tools and data infrastructure, another important outcome of the grants was enhanced analytic capacity among internal staff. In some cases, grantees used funds to hire additional analysts, but more often the expertise was built among existing staff, either through working on projects in house or collaborating with outside vendors. Two of the IHPs that worked closely with consultants explained that they had internal staff meet frequently with the consultants to ensure internal staff gained the necessary expertise to manage the work going forward. Staff from one of these IHPs noted, "I think they always use the analogy teach us how to fish, right? So we can hopefully fish ourselves and continue to meet pop health's [the department that manages IHP contracts and other value based arrangements at this organization] needs and expand to other ACO populations that they may want." Another IHP explained that one of the most valuable aspects of the grant was having the time to build internal expertise to "mine" the data for strategic opportunities to improve care. A different IHP explained that their challenges with vendors highlighted the importance of building internal expertise, and so they were taking steps under the grant to facilitate that, "That was a learning for us…just knowing that we needed to get some attention internally. We need to put our own internal resources on it; you can't just rely on a vendor for that."

Information about Utilization Outside Individual Provider Systems to Inform Care Coordination

Another important outcome of the data analytic grants was integrating information from the state claims data to understand utilization of IHP-attributed individuals outside individual provider systems. Half (55%) of the grantees that responded to the Organization Survey gained access to Medicaid claims data, for example, since SIM. During our interviews, grantees consistently cited the importance of having statewide information about emergency department utilization and hospitalizations for their patients in order to target interventions. The claims also provide a broader picture of patient care for specialty services and mental health care. One of the smaller IHPs explained, "The other advantage of claims data will be claims from the county and other places that we wouldn't necessarily receive that information. Psychiatrists or

mental health counselors outside [their system] … don't necessarily communicate with us routinely, but we'd be able to see that complete 360 view of who the patients are seeing, who is caring for them, because of claims." Another stated, "This is first time they have big picture of what's going on."

Decision and Capacity to Sustain

There were consistent themes across IHP data analytic grantees related to sustainability. IHPs were confident that their investments in data infrastructure would be sustained, in large part due to the extent to which the grant dollars had been used to automate processes. Several grantees were less certain about their ability to sustain the more labor intensive analysis and dissemination of data. We discuss both of these findings in more detail below.

Enhanced Data Infrastructure Will be Sustained

Grantees consistently noted that the enhanced data infrastructure resulting from work under the data analytic grants would be sustained. Staff at one IHP explained, "What we've built is all here to stay. And our entire facility relies on some of these tools." Staff at another IHP said that sustainability of the data infrastructure was a guiding principle from the beginning of their work: "We had no eye for this not being carried forward. We felt our obligation was to design and implement tools that we felt would be important to us in the future." They also noted that they were committed to modifying the data infrastructure and tools as needed over time: "We'll need to enhance some of the work we've already done as our population looks different." One IHP noted that once their organization decided to make an investment in enhanced data infrastructure, they were not going to back away: "It's like you start to have the goods in your hands, you don't want to give them up now."

Ongoing Capacity to Interpret and Distribute Data in Meaningful Ways Was Less Certain

There was less certainty across IHPs about the ability to maintain the ongoing investment in analytic work to identify strategic opportunities to improve care. There were also concerns about having the capacity to continue to distribute the information in meaningful ways to providers. One IHP noted, "I think where I get a little concerned is on the interpretation side of it and the support around that. The tools are only as good as the people helping us understand the data that's getting spit out from them." Another noted that while they had made some progress in training staff to use new analytic tools, it was "likely not enough to be able to get the right data out." For one of the IHPs that used grant money to hire a new analyst, it was not clear at the time of the interview whether the position would continue to be funded after the grant period ends. One grantee expressed concern about losing that institutional knowledge and technical expertise: "So we've automated these processes and they're documented and they bring data in, but it's more that in-depth, day to day immersion within that subject matter that I think is from my perspective the greatest risk."

Factors Inhibiting and Enabling Sustainability

Grantees shared their insights on factors enabling and inhibiting sustainability. We describe these in more detail below. In addition, state program staff discussed their perspectives on Driver 2 sustainability more broadly.

Factors Enabling Sustainability

Payer Agnostic Projects

One facilitator of sustainability that emerged across our discussions was the importance of targeting data analytic projects across patients regardless of payer. IHPs were emphatic that developing "one-off" reports

or interventions that could only be applied to their IHP attributed population was counterproductive. Grantees explained that efforts that can be integrated into workflows for all patients are more likely to be sustained because they have broader impacts on the organization, both financially and from a quality improvement perspective. One IHP characterized it this way: "…we don't want to have one workflow for Medicaid patients and a different workflow for commercial…, and so we have to be selective about what we pick." Another explained that, "Those care pathways [for pain management and depression] are universal. They're not exclusive to payer." Staff at another IHP stated simply, "I appreciate being able to operate payer agnostic because I think that's a more patient-centered approach."

Generating Demand for the Data among Leadership and Other Key Stakeholders

Another factor that multiple IHPs highlighted as an important facilitator of sustainability was generating demand for the data and reporting among leadership and other key stakeholders. One IHP explained, "The more that we integrate the work that we are doing right now, to get it into the hands of the providers and the key stakeholders and medical directors and chiefs and they start to use and become comfortable in their practice, then there's that demand that's created, and they're accustomed to it and it won't go away." Another grantee explained that making it clear to individual physicians how the data and associated care management activities were a value add that would not take away from patient care was also key for sustaining momentum: "We don't want to turn these physicians into data analysts. I mean they have another job. So we want to pique their interest without slowing them down." Others highlighted the importance of engaging with physician leaders or "influencers" in making the case for sustaining analytics to improve care.

Leveraging Existing Work

A key contributor to the ability to sustain the work supported by the data analytic grants was having leveraged work that was already underway before the grants began. Multiple IHPs noted that they were able to leverage the grant dollars to accelerate existing work streams and/or expand the breadth of their projects to incorporate additional goals. One IHP noted, "To be honest, it was just great timing. And I think without the funds, we would probably have started the work and we would not be very far along with it with our own internal budget." Another grantee stated, "It just worked out well that we were already going down that path to begin with. From a sustainability standpoint, we were already headed that way.
We were committed to doing the warehouse and then we happened to find a grant that supported the initiative. It's a slam dunk for us." Another IHP explained that the grant helped close the "missing link" of integrating claims across payers into their data warehouse with their clinical data: "…The warehouse was the one thing we had that can bring all that together. Because a lot of them [payers] individually have decent data that comes with them, but we never had anywhere to…aggregate all that…So it lined up really well from a timing and other initiatives that we had going on."

The importance of leveraging existing work was also a key theme from our interviews with DHS staff involved in Driver 2. Staff explained that grantees were using the dollars to advance existing work streams, and that was essential for increasing capacity to make meaningful use of the data that DHS is providing IHPs: "But kind of similar to us, it was probably work that they were wanting to do anyway. It was underway and this was a way to really help support that. Instead of having to use just their shared savings, for example, to support that work, especially since a lot of it did have to do with, now that you've got this wealth of data from DHS, what are you going to do with it. They've got it, now this can help them integrate that more."

Factors Inhibiting Sustainability

Proving Return on Investment

The primary inhibitor to sustaining continued investment in the work begun under the data analytic grants is proving return on investment (ROI). Multiple IHPs noted that it will take time before the cost and quality improvements become visible, but that being able to quantify the benefits is essential for shifting organizational culture to be more data driven and focused on population health: "What will tip the scale for us is if we can show ROI. If we can show an ROI from this, then it will become part of the culture because people will really believe in it because there's dollar signs attached to it." Grantees also highlighted the fact that in a health care environment focused on profits and narrow margins, it can be difficult to sustain this work: "…population health analysis is…a cost and it's expensive…I would really like to be able to keep our analyst here, and we've got to figure out a way to do that. But…we're in health care and everybody is constrained right now." Related, another IHP described the challenges of making up-front investments when the ROI or "pay off" is unknown: "One of the things that I think we struggle with is that upfront investment in something you're not guaranteed. That's very difficult for a health system to take on right now when they're just trying to make budget. So that's the rub that I think the IHPs are probably feeling in the field…we have to invest, we have to take the leap without any guarantee on the backend."

Smaller health care systems reported challenges particularly with regard to making new hires to support new care coordination workflows: "We can't get reimbursed for them [care coordinators], so we're hiring staff that can't generate any revenue. So financially it just doesn't work out. Whereas a larger urban system, they can charge those visits, they can get reimbursed for them. So it's a lot easier to bring in four RN case managers that are going to have full schedules just getting people in for those assessments and preventive visits than referring them to other physicians as they need. So there's some of those models that we look at and are like, that would be great, but….there's no ROI." Larger, integrated systems also reported challenges related to ROI because many of the data analytic and related care coordination interventions are targeted at reducing utilization in those facilities. One IHP explained, "But so what we're doing then, putting it through some financial analysis and modeling to see, okay, if we do this, what is the return going to be for the organization in terms of total cost of care and then also is there an actual financial benefit or a margin on the revenue for ED visits? So there's that space that we're kind of playing in -- because what we're trying to do with all of these interventions is decrease utilization rate and spend. So if there's another part of the organization that is living in a fee for service world, there's little bit of a tension point there."

State Perspectives on Sustainability and Next Steps

Our sustainability discussions with state IHP program staff focused more broadly on the work of Driver 2, not only the IHP data analytics work. State staff identified the provision of consistent data and technical assistance to IHPs as core accomplishments under SIM. They noted that, while they likely would have worked on improving data sharing and analytics for IHPs regardless of SIM funding, Driver 2 investments allowed them to accelerate and expand this work considerably and meet the needs of new program entrants by making additional resources available to support a larger number of IHPs: "There was going to be an arc to IHP no matter what. The SIM dollars did really allow us to accelerate and I think be more effective in that growth than we might have been able to be otherwise. "

State staff also expressed firm commitments to sustaining enhanced reporting and technical assistance to IHPs related to data analytics. The technical assistance work was rolled out with an eye toward the future of the program and improving the infrastructure and tools available to *all* IHPs: "I don't know of too many examples where we got a request and weren't responsive. And never where it was just to the IHP. Even

though it was always a specific IHP that asks for it, then it comes to, okay, how do we make this useful to everybody?" They also articulated a commitment to continue the iterative, flexible, and forward thinking approach to supporting IHPs in using data and analytics to improve care: "The flexibility and the willingness to acknowledge and accept that hey, maybe we don't have all of the solutions. But not just sitting there waiting for the IHP to say why don't you do this actually? So being proactive but responsive at the same time." This flexibility, along with the strong data and reporting infrastructure that was accelerated under SIM, will support the expansion of the IHP program to new and different providers under the 2.0 version of the program (explained in Chapter 8).

State staff also identified specific investments at the state-level related to data and analytics that will continue after SIM. For example, the state is planning to continue to fund the two new DHS analyst positions that were created under SIM to provide enhanced reporting and technical assistance to IHPs.
The IHP portal will also continue, as will the IHP Learning Days and Data User Groups.

In addition to sustaining ongoing work related to Driver 2, DHS has made additional investments in specific IHPs to support data infrastructure and analytics. For example, two IHPs, Southern Prairie and Lakewood, were among six organizations to receive Health Information Exchange (HIE) and Data Analytic Grants in early 2017. (See Appendix F for more information on these awards.) In May of 2017, DHS released an RFP for a contractor to implement a Medicaid encounter alert service. This work will complement existing e-health connections by connecting providers who are not already able to send or receive automated notifications. State staff identified the "pivot" toward a statewide Medicaid alert system as an important next step and lesson learned under SIM: "It's something that is of value across all [IHPs]. And rather than have people flail [with implementing ADTs] for a couple of years, it's kind of coming to that point now where DHS has got to step in and get a contractor that can help fill the gap for the providers."

When asked about how data and analytic work contributes to broader goals of accelerating accountable care arrangements in the state, staff explained, "Investment in access to information across the spectrum for a population that the providers were going to be held accountable for is fundamental to their appetite for being able to take on these value-based purchasing arrangements." Data analytics grantees responding to the SIM Minnesota Organization Survey confirmed this sentiment as 100% of them rated "health information reporting and analytics" as "very important" or "absolutely essential" as a means to improving client or patient experience, reducing costs, and improving population health. While there was consensus about the importance of data and analytics to move the needle on accountable care, staff also cautioned that, "data analytics, data capacity, data sharing are all unbelievably important, necessary, but not sufficient components of value-based purchasing and payment models."

6. PRACTICE TRANSFORMATION - TEAM-BASED, INTEGRATED/COORDINATED CARE

Introduction

The practice transformation work funded under Driver 3 aimed to change care delivery approaches to ensure that more patients receive care that is person-centered, prevention-oriented, coordinated across settings, and delivered by care teams that include representatives from medical, behavioral health, and social services. In addition to supporting investments in infrastructure and quality improvement activities, many of these grants covered the costs of preparation for certification or recertification as Health Care Homes (HCHs) or Behavioral Health Homes (BHHs).

The state issued approximately $1.5 million in direct grants (through the Emerging Professions and Practice Transformation Grant Programs, as well as an Oral Health Access Grant) to frontline service providers and social service agencies. These funds were used for salary coverage, consultant fees, training, or other expenses related to clinical systems redesign, developing new workflows, implementing quality improvement processes and providing support for integrating providers from emerging professions, including community paramedics, dental therapists, and community health workers.

Another $1.5 million was directed to funding technical assistance and support resources to strengthen practice transformation efforts more broadly through Emerging Professions Toolkits, Practice Facilitation grants, and Learning Communities funding. Three Emerging Professions Toolkits were developed, one each for community health workers, community paramedics, and dental therapists/advance dental therapists. The Practice Facilitation grantees provided coaching and technical assistance to 23 participating organizations. In addition, the state has expanded its HCH Learning Day events, and it has established a learning collaborative, facilitated the exchange of information across the collaborative, and provided technical assistance.

The principal strategies for fostering practice transformation under SIM in Minnesota include the grant programs and funding initiatives briefly described below.

- **Emerging Professions Integration Grants** provided direct funding to providers to hire emerging professions and integrate them into existing care teams. The grants, awarded in 2014 and 2015, focused on three types of emerging health care providers – community health workers (CHWs), community paramedics (CPs), and dental therapists/advanced dental therapists (DT/ADTs). The goal was to integrate these emerging professions practitioners into a team environment and change overall team capacity as well as patient outcomes. A total of 14 one-year awards of approximately $30,000 each were issued over three funding rounds, supporting the hiring of six CHWs, four CPs, and four DT/ADTs. Overall, the Emerging Professions Integration Grant Program made 14 grants totaling $418,061.
- **Emerging Professions Toolkits** were created by three contractors to develop and compile tools and resources to aid in the integration of the three emerging professions into the workforce. The toolkits are intended to inform potential employers how to hire emerging profession practitioners, how to successfully integrate them into care coordination models, and what potential benefits arise from hiring an emerging professional - benefits to the organization, care delivery team, and patients and clients served by the emerging profession practitioner. The three contracts totaled $297,480.

- **Practice Transformation Grants** provided direct funding to primary care providers, behavioral health providers, and other providers integrating primary care, behavioral health, and social services organizations. This program included four rounds of grants. Round 1 funded 10 grants of approximately $20,000 each in February of 2015; Round 2 funded 12 grants of approximately $23,500 each in September of 2015; Round 3 funded 24 grants of approximately $10,000 each in January of 2016; and Round 4 funded 10 grants of approximately $27,000 each in November of 2016. Overall, the Practice Transformation Grant Program awarded 56 grants to 38 unique organizations totaling $988,866.
- **Practice Facilitation Grants** to two organizations—the National Council for Behavioral Health (NCBH) and a partnership between the Institute for Clinical Systems Improvement and Stratis Health (ICSI-Stratis)—provided one-on-one coaching and technical assistance services to 23 participating organizations. Practice facilitation activities included executive coaching and leadership training, organizational assessments, training on quality improvement, and other methods of building capacity to serve more people through patient-centered care teams. The two practice facilitation grants totaled $966,601.
- **E-Learning Training Vendor.** The Minnesota Department of Human Services (DHS) awarded one contract to LearningLens, Inc. in Minneapolis to be the e-Learning Training vendor. This initiative tasked LearningLens with developing 45 e-Learning training modules to support Minnesota's IHP, HCH, and BHH programs. The completed modules will serve as educational resources on program policies, procedures, and practices.[54]
- **Learning Communities Grants** were issued to develop learning teams who have common goals or interests in implementing transformation in a focused, structured environment and to share knowledge of promising practices. Grantees recruited the participants in these learning teams and engaged them to share experiences focused on specific transformation topics with their peers. Topics included integration of behavioral health services for war-traumatized refugee populations, integration of pediatric primary care with behavioral health, integration of CHWs and CPs into Minnesota's health care delivery system, and capacity building and quality improvement in rural practices. The state awarded four general Learning Communities grants, three of which ended at the time of SHADAC's First Annual Evaluation Report, and one of which was awarded in 2017 - the Primary Care Public Health Partnership Learning Community, totaling $199,830.[55]
- **Oral Health Access Grant** was a nine month, $100,000 pilot project awarded to CHI St. Gabriel's Health Family Medical Center in January of 2017 aimed at improving oral health access and preventive care for health center patients. Family Medical Center is partnering with Apple Tree Dental to provide onsite dental services.[56]

This chapter summarizes the key activities, areas of innovation, outcomes, and sustainability findings from three Driver 3 programs: Emerging Professions, Practice Transformation (Rounds 1 – 3), and Practice Facilitation. SHADAC researchers conducted systematic document review of grantee proposals, quarterly progress reports to the state, communications with state staff, data from the Continuum of Accountability

[54] "SIM Minnesota Monthly Update - March 2017," *Minnesota Accountable Health Model*, https://content.govdelivery.com/accounts/MNDHS/bulletins/1911ba5.
[55] One SIM learning community solicitation from the state, with a refugee focus, was never funded due to lack of bidders.
[56] "CHI St. Gabriel's Health and Apple Tree Dental collaborate to improve oral health access," *Morrison County Record*, March 19, 2017, http://mcrecord.com/2017/03/19/chi-st-gabriels-health-and-apple-tree-dental-collaborate-to-improve-oral-health-access/.

Assessment Tool, data from the SIM Minnesota Organization Survey, and other program related information provided by grantees to inform this chapter. In addition, SHADAC conducted in-person and/or telephone interviews with select grantee personnel, as well as state staff. We begin this chapter with a discussion of key activities, outcomes, and sustainability factors related to the Emerging Professions Integration Grant Program, followed descriptions of key activities and outcomes associated with the Practice Transformation and the Practice Facilitation Grant Programs, separately. We close this chapter with practice transformation/facilitation sustainability insights.

Emerging Professions Integration Grant Program

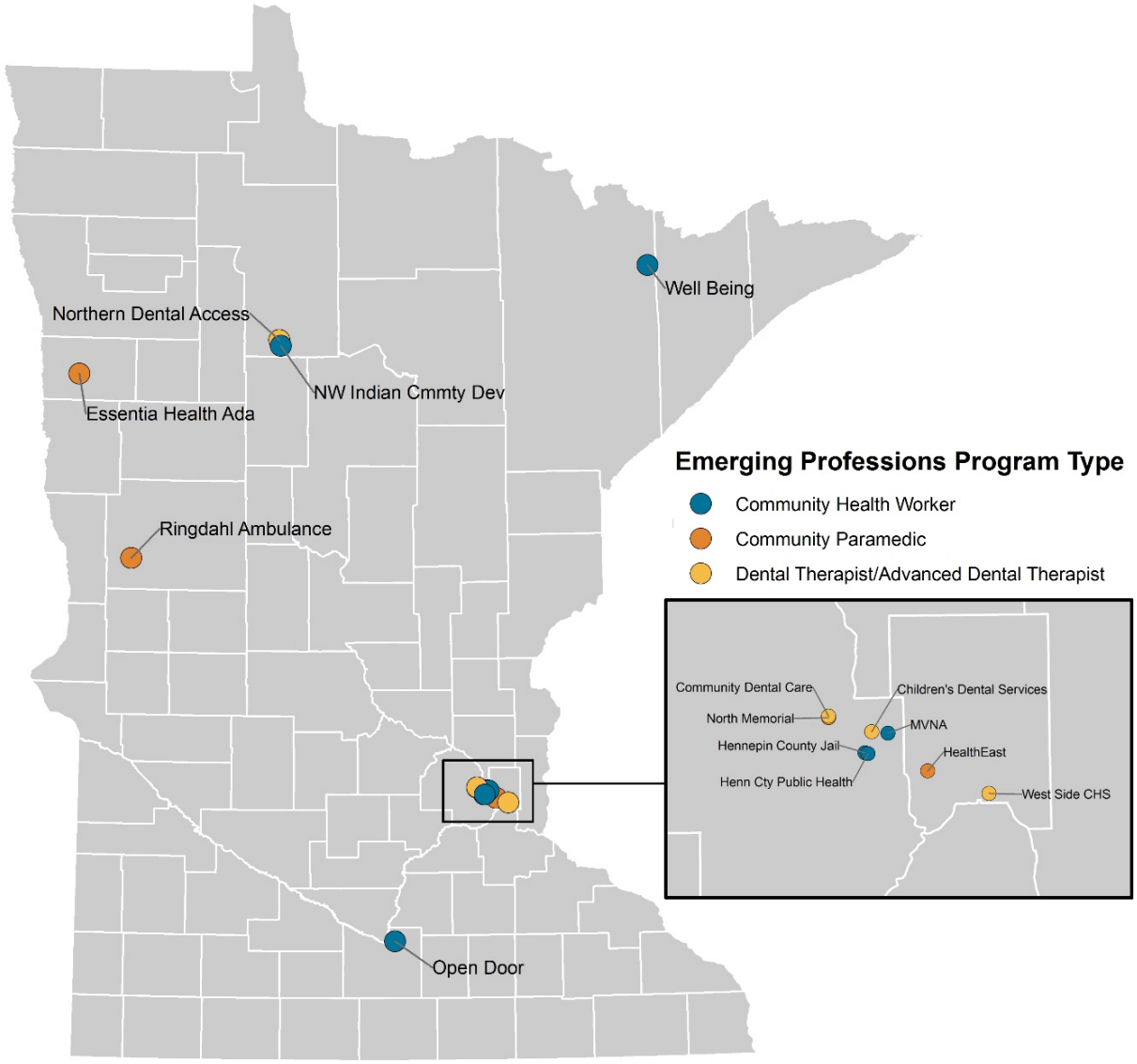
The Emerging Professions Integration Grant Program was a component of the Minnesota Accountable Health Model's practice transformation activities with the goal of increasing the number of people served by patient-centered, team-based, coordinated/integrated care. The purpose of the program was to provide start-up funds, in the form of salary and fringe, to employers to assist them in hiring emerging professions practitioners and integrating them into the workforce.

The three emerging provider types were: community health workers (CHW), community paramedics (CP), and dental therapists (DT)/advanced dental therapists (ADT). This approach assumed that hiring mid-level practitioners in emerging professions would increase capacity to provide patient-centered care while enabling licensed providers (e.g., nurses, dentists, clinical social workers) to focus their time on more complex, higher-cost cases. SIM built on Minnesota's leading role in adopting and promoting dental therapists and community paramedics as members of the provider community.

Exhibit 6.1. displays the location and focus of the Emerging Professions grantees. The state awarded six grants of approximately $30,000 each to 14 grantees, all of which ended by 2016. Six grants enabled the grantees to hire CHWs; three of these grants were in the Metro Area and three in Greater Minnesota. Four grants were made to support integration of CPs: two grants to metro-area health care delivery systems and two grants to rural providers.

The program awarded four DT/ADT grants to three metro area grantees and one grantee in Greater Minnesota. Exhibit 6.2 summarizes the Emerging Professions Integration grants by profession.

Exhibit 6.1. Map of Emerging Professions Integration Grants



Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, organization websites, and consultation with the state and some grantees.

Exhibit 6.2. Emerging Professions Integration Grant Program

Profession	#	Total $	Metro	Greater Minnesota
Community Health Worker (CHW)	6	$178,061	3 grants	3 grants
Community Paramedic (CP)	4	$120,000	2 grants	2 grants
Dental Therapist/ Advanced Dental Therapist (DT/ADT)	4	$120,000	3 grants	1 grant
Total	**14**	**$418,061**	**8 grants**	**6 grants**

Sources: State documentation, grant applications and agreements, select self-reported grantee progress reports, grantee interviews, and organization websites, 2014–2015.

Key Activities

The Emerging Professions Integration program grantee organizations implemented a range of activities described below. The examples provided here and in the next section on outcomes are drawn from program documentation, including quarterly progress reports and final reports submitted to the state, as well as from interviews with state and program staff and state-generated publications such as SIM MN Success Stories.

Emerging Professions Integration – Community Health Worker Grants

A CHW is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the worker to serve as a liaison between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. CHWs also build individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support, and advocacy.[57]

The purpose of CHW grants was to provide start-up funds, in the form of salary and fringe, to employers to assist them in hiring CHWs and learning how and the extent to which they are integrated into the care team. The grants provided resources with the aim of developing new models using CHWs, improving quality of care, and more efficiently reaching underserved communities. These grantees work with a variety of populations including refugees, adults with chronic medical conditions, individuals living with mental illness, recently incarcerated individuals, uninsured patients, and Medicaid enrollees.

Key activities of CHWs hired by these grantees included:

- improving care coordination, by encouraging attendance at medical appointments and medication compliance, helping clients make appointments upon receiving referrals, and arranging transportation to follow-up visits (for example, the Hennepin County Jail used grant funds to cover part of the salary of a CHW who was doing discharge planning for people leaving jail);
- helping patients/clients navigate the health care system by sharing information, answering questions, explaining unfamiliar terms, and assisting patients/clients in making the necessary arrangement to vail themselves of available medical services (for example, the CHW at the Hennepin County Public Health Clinic worked with refugees primarily from East Africa to help them understand what a referral is, as well as to help them to make and keep follow-up appointments after their refugee health screenings);
- assisting patients/clients in maintaining compliance with prescribed medication by providing information about pharmacies within walking distance or helping figure out transportation, and facilitating conversations at the pharmacy to ensure that questions were asked by the patient and answered by the pharmacy;
- offering skills development and individual capacity building opportunities to patients, clients, and family members (for example, Mankato's Open Door Health Center reported that the CHW hired to work with their mobile clinic provided guidance to people enrolling in or renewing benefits, i.e., accompanying them to the local government center to apply for Supplemental Nutrition Assistance Program (SNAP) benefits);
- providing support to other members of the health care team (for example, MVNA reported that the CHW was integrated into the home health care team (Medical Social Worker, Registered Nurse, and

[57] "Community Health Workers," *American Public Health Association*, accessed July 24, 2017, http://www.apha.org/apha-communities/member-sections/community-health-workers.

CHW) and helped clients with tasks such as arranging transportation to post-discharge medical visits, thus allowing the other team members to devote more time working at the top of their licensure); and

- offering culturally appropriate education on health and healthy lifestyles (e.g., oral health, nutrition, weight control, exercise) for individuals with chronic conditions.

Emerging Professions Integration – Community Paramedic Grants

A CP is an advanced paramedic who works to increase access to primary and preventive care and decrease use of emergency departments. CPs may play a key role in providing follow–up services after a hospital discharge to prevent hospital readmission. [58]

CPs obtain additional training through a standardized curriculum in the areas of primary care, public health, disease management, prevention and wellness, and mental health. They provide primary care services in community-based settings under the supervision of an ambulance service Medical Director. Since emergency department (ED) visits are costly, a primary role of a CP is to provide timely and quality health care to a target population and prevent unnecessary ED visits.

The Emerging Professions Integration grants provided the resources to hire a CP. The grantees targeted their community paramedic services to individuals with chronic health conditions, frequent ED use, and diagnoses of mental illness or chemical dependency. For example, North Memorial Health Care (NMHC) targeted high-risk, asthma patients on Medical Assistance for its CP program and identified patients based on claims data from the Essentia Health Integrated Health Partnership (IHP).

CPs can provide health assessments, chronic disease monitoring and education, medication management, immunizations and vaccinations, laboratory specimen collection, hospital discharge follow–up care and minor medical procedures. CPs work under the direction of an Ambulance Medical Director. One grantee interviewed described the CP role as "a combination of social worker, nurse, paramedic, and educator. It's case management with medical skills. Bridging the discharge planning. Going into a home and making sure the barriers to care are addressed."

Key activities of CPs hired by the grantees included:

- Post-discharge follow-up visits to decrease non-emergency calls, visits to the ED, and hospital readmissions. For example, Essentia-Ada CPs visited patients after discharge from the hospital, assessed their surgical sites and did dressing changes, monitored their medication to ensure appropriate use, and provided education, toward a goal of reducing ED use and hospital readmission.
- In-home consultation and care to help individuals maintain their health and independence and take better care of themselves. For example, a social worker from Ottertail County Human Services, Community Alternatives for Disabled Individuals (CADI) referred a woman to the Ringdahl EMS CP because she was struggling with mobility issues after a diabetic amputation. Understanding that her lack of mobility made it hard for her to get food and manage her blood sugars, the CP first got food for her and then arranged for home delivered meals. The community paramedic visited the patient weekly over a nine-week period to monitor her progress and provide support as needed.[59]

[58] "Community Paramedics (CP): Definition," *Minnesota Department of Health (MDH)*, accessed July 24, 2017, http://www.health.state.mn.us/divs/orhpc/workforce/emerging/cp/index.html#defin.
[59] SIM Minnesota Success Stories, "Emerging Professions: Community Paramedics Understand that Sometimes the Best Care is a Home Cooked Meal," *Minnesota Department of Health*, September 2015, accessed July 24, 2017, http://www.dhs.state.mn.us/main/groups/sim/documents/pub/dhs16_198240.pdf.

- Follow-up care to patients being discharged from hospital stays who do not qualify for other home-care benefits. For example, the HealthEast CPs focused on patients after discharge from in-patient stays for mental health and/or chemical dependency patients. The CPs worked to help the patients get re-integrated into their lives by helping them re-connect with other services like Metro Mobility, making sure they have their prescriptions filled, and helping to coordinate with their case workers and other supports.

Emerging Professions Integration – Dental Therapist/Advanced Dental Therapist Grants

A DT is a mid-level practitioner licensed by the Board of Dentistry who practices as part of an oral health care team and provides evaluative, preventive, restorative, and minor surgical dental care practicing under the direction of a dentist. An ADT has advanced training and is certified by the Board of Dentistry to provide additional dental services such as oral evaluation and assessment, treatment plan formulation, and nonsurgical extraction of certain diseased teeth. An ADT also practices under the supervision of a dentist, but the dentist does not need to see the patient prior to the delivery of care nor be on site during a procedure.[60]

Minnesota was the first state to authorize the licensing of DTs and the certification of ADTs, both of whom play key roles in increasing access to dental care and preventing emergency room visits for dental related problems. The objectives of the DT/ADT grants involved increasing access to dental care among low-income Minnesotans who are uninsured or have public coverage through Minnesota Health Care Programs (MHCP). Less expensive mid-level DT/ADTs provide dental care to Medicaid recipients, allowing dentists to focus on patients needing more complicated, higher-cost procedures.

Key activities of the DTs/ADTs hired by grantees included:

- Providing preventive and routine restorative dental services (e.g., filling cavities and placing temporary crowns) to low-income children/families uninsured or covered by Medical Assistance;
- Providing oral health education to dental patients;
- Working under collaborative management agreements with dentists; and
- Working to increase awareness of the DT's/ADT's role inside and outside the dental practice.

The goals of funding these DT/ADT grants included:

- Increasing access to dental services across the state, thus improving the oral health of low-income children and pregnant women;
- Enhancing oral health literacy and reducing the rate of new dental disease in low-income children and pregnant women; and
- Effectively establishing the use of an ADT as a national model for a cost-effective method of providing site-based, portable dental care.

Outcomes

Many of the outcomes from the Minnesota Accountable Health Model's investment in the Emerging Professions Integration Grant Program are not high-level population health outcomes. Instead, they are more appropriately characterized as process or intermediate outcomes.

[60] "Dental Therapist (DT): Supervision," *Minnesota Department of Health*, accessed July 24, 2017, http://www.health.state.mn.us/divs/orhpc/workforce/emerging/dt/index.html#supervision.

Increased Access to Care

Exhibit 6.3 shows the number of patient encounters over the grant period and the number of patient encounters each profession has contributed. A CHW working in a public health clinic helped refugee families navigate the health care delivery system and take the necessary steps to make, and keep, referral appointments with specialists. Prior to the CHW, the refugee health clinic reported that it did not have the capacity to follow-up with many patients. However, within months, the CHW was conducting follow-up visits with nearly half of the clinic's patients. Ultimately, because the demand for these CHW services was high and growing, the clinic had to limit the CHW's services to only one person per family.

CP services can increase patients' access to timely, appropriate care. For example, CP home visits were focused on determining a patient's needs and addressing those needs in a timely fashion, thereby potentially preventing unnecessary emergency department visits later. In another grantee organization, patients being discharged after hospital inpatient stays received help from CPs to better understand their discharge instructions, to improve their medication compliance, and to avoid rehospitalization. During the period of the grant, this grantee reported 140 patient encounters with 90 patients. The CPs hired by another grantee reported making 613 visits in 2016.

The DT/ADT grants increased access to dental services among underserved children in Minnesota. Grantees reported that hiring the DT/ADT added capacity to their workforce so they could serve more patients. The four grantees established goals for new patient encounters, and three of the four exceeded their new patient encounter goals. Overall, the DT/ADT grantees reported a total of 6,432 dental patient encounters over the course of the grant period.

Exhibit 6.3 Reported Number of People Served by Emerging Profession

Grantees	Emerging Profession	Reported Number of People Served
MVNA, Hennepin County Public Health Clinic, Open Door Health Center	CHW	1,098
HealthEast Care System, Ringdahl Ambulances	CP	216
Children's Dental Services, Community Dental Care, Northern Dental Access Center, West Side Community Health Services	DT/ADT	4,934
Total		**6,978**

Sources: Self-reported grantee quarterly progress reports and final reports submitted to state, 2014 – 2017.

Increased Efficiency/Creating Conditions for Working at the Top of Licensure

The Emerging Professions Integration grants demonstrated SIM Minnesota's commitment to capacity building and to strengthening health care teams to enable employees to maximize their productivity and to spend more time on the high-level tasks, or working at the "top of their licensure." One organization used grant funds to add a CHW to a home care team consisting of a Registered Nurse (RN) and a Medical Social Worker (MSW). The CHW assisted clients with Medical Assistance applications, initiating personal care attendant services, establishing doctor appointments, and scheduling transportation services, among other things. The goal for the CHW position was to cover the less complex duties done by the MSW, resulting in more capacity to work at the top of the MSW license. That goal was met during the grant period. This grantee described it as follows: "At first the nurse and CHW would visit each client together, but we soon realized that was not necessary. The nurse or medical social worker now focuses on clients with more severe trauma or mental health concerns, which is something we were unable to do before without the CHW due to time constraints." This grantee further stated, "The integration of the CHW has allowed not only our MSW to practice at the top of her license; it has enabled our public health nurses to do the same. There is

daily collaboration among the team, making sure services are not duplicated and that the client's needs are met."

DT/ADT grantees consistently reported that bringing a DT or ADT into a dental clinic resulted in: "freeing up the dentist to not be doing these new patient exams where they can be doing root canals and crowns and the bigger stuff that [the DT] can't do." One grantee summed it up as follows: "Adding a dental therapist to the staff…has both increased access to care, and allowed more time for dentists to pursue more complicated procedures, as the above numbers indicate. It educated and alleviated apprehensions of the other dental professionals that there is a place for this new dental professional to the team without encroaching on their professions in the dental field. Patients are very accepting of a dental therapist."

Assessed and Addressed Patients' Non-Medical Needs

In addition to acute medical needs, many other factors affected the overall health of the patients seen by emerging providers. Some of these non-medical needs included: limited access to quality health care; health behaviors such as tobacco use and lack of exercise; socioeconomic factors, such as income, employment, education, and family support; and challenges in the physical environment. The providers in the emerging professions, particularly CHWs and CPs, were trained to assess patients for non-medical needs and then to identify a plan to help patients meet those needs.

For example, a pervasive problem in Greater Minnesota was the lack of reliable transportation which frequently keeps patients from attending medical appointments or waiting until they have an emergency to see medical care. CHWs and CPs made a difference in many cases by going to the patient's house rather than having the patient go to the doctor's office for routine services such as checking vital signs, medication checks, etc. Another problem identified by CPs was the lack of food available often due to lack of money to purchase food. Again, the CHWs and CPs funded by the Emerging Professions Integration grants, stepped up to address these concerns. One group of CPs developed a program whereby they would go to the food shelf and pick up food and deliver it to people in the community.

In another case, a CHW found by asking and listening that the patient was eligible for Supplemental Nutrition Assistance Program (SNAP), which would enable her to buy food for herself and her family. She had avoided going to the county social services office to sign up because she didn't understand the system or eligibility rules. The CHW who unearthed this problem also stepped in to identify solutions and ended up accompanying this woman to the government center and helped her figure out how to access the benefits for which she was eligible.

A CHW also provided help to a few families filling out their children's paperwork for a school-based dental outreach program. Then, when the in-school dental exams revealed that some children would need extensive restorative care, the CHW helped these families connect with each other and coordinated transportation to a clinic in a neighboring town.

Decision and Capacity to Sustain

The Emerging Professions Integration grant funds were intended to cover a portion of the salary of an emerging professions practitioner. In most cases, funds from other sources inside the organization were tapped to cover the remaining salary amount. This shared investment between grant funds and other organizational funds may have contributed to the level of sustainability maintained after this grant program ended.

According to data reported by grantees in their final progress reports to MDH, as well as information gleaned from interviews with grantees and state staff, 11 of the 14 (79%) of the Emerging Professions Integration program grantees were continuing a commitment to emerging professions work (see Exhibit 6.4):

- Six of the 14 grantees (43%) were keeping the same position that was funded using grant funds;
- Five of the grantees (36%) were continuing their commitment to the emerging profession, but they are changing tactics or approach to see if they can succeed in developing a strong emerging professions presence; and
- Three of the 14 (21%) grantees decided not to continue any emerging professions presence.

Exhibit 6.4. Emerging Professions Integration Sustainability Status

Emerging Profession (EP)	# of Grants Awarded	Sustainability Status
Community Health Worker (CHW)	6 grants (3 metro, 3 non-metro)	5 grantees sustaining position post-grant *1 did not sustain any kind of effort*
Community Paramedic (CP)	4 grants (2 metro, 2 non-metro)	3 grantees continued post-grant CP effort *1 did not sustain any kind of effort*
Dental Therapist/Advanced Dental Therapist (DT/ADT)	4 grants (2 metro, 2 non-metro)	2 grantees sustained position post-grant 1 remains committed to DT/ADT concept *1 did not sustain any DT/ADT effort*
Total	14	Overall, 79% of grantees (11 of 14) sustained their EP effort in the post-grant period

Sources: State documentation, select self-reported grantee quarterly progress reports and final reports submitted to state, 2014 – 2017

Factors Enabling Sustainability

Through qualitative data collection, we identified factors that enabled and inhibited sustainability of emerging professions efforts under SIM.

Strong Integration into the Workforce

There has been little to no resistance or backlash on the part of patients/members of the public relative to the care provided by emerging professions practitioners. In the DT/ADT field, the dental field had some concern about inferior quality of care resulting from the mid-level providers. This was not borne out in the day to day experience of organizations hiring DT/ADT. In one case, the DT/ADT grantee enjoyed strong support from patients. As described in a SIM MN Success Story: "Patient response to the ADT at CDS has been overwhelmingly positive. Many patients request to be seen specifically by the ADT, and parents report feeling assured about the quality of treatment their children receive."[61]

One grantee, in strong statement of the importance of integrating emerging professions into the care teams said, "The primary accomplishment of the final quarter of our grant period was the more permanent integration of the CHW into our clinical workforce. He is now in a 2-year limited duration position, with the goal of a permanent position in the future. This systematization has the full support of upper management within the department, and reflects the CHW's important contributions to patient care." One CP grantee attributes its success, in part, to the demand created through other SIM investments in its community.

[61] SIM Minnesota Success Stories, "Emerging Professions: Dental Therapy," *Minnesota Department of Health*, January 2016, accessed July 24, 2017, http://www.dhs.state.mn.us/main/groups/sim/documents/pub/DHS-286750.pdf.

Education and Tools Created under Grant Program

Three comprehensive Emerging Professions Toolkits – one each for CHW, CP, and DT/ADT – were completed and are available on the MDH website. These toolkits will serve as ongoing resources to assist providers/employers interested in hiring emerging professions practitioners, and the toolkits are reported to be well-received in the community. The most current available data about educational offerings, workforce characteristics, and size the emerging health professions workforce are included in the toolkits available at the MDH Office of Rural Health and Primary Care website.[62]

State Support for Emerging Professions

The Office of Rural Health and Primary Care at MDH, in addition to running the Emerging Professions Integration Grant Program, reported its commitment to emerging professions integration and planned to continue to support this work going forward. Over the course of the SIM project, MDH personnel have strengthened existing capacity and developed resources to support the ongoing work of emerging health professions. MDH worked with DHS to convene an inter-agency CHW Workgroup meeting to share information on CHW activity related to new developments in the profession and reimbursement for services. Some advancements toward addressing some of the concerns in the regulations have been made with DHS revising the CHW provider manual related to the curriculum that CHWs teach individuals. In addition, MDH staff attended the Administrative Uniformity Committee and proposed creating a universal modifier for CHW services. While not tied to payment, a universal modifier can be added voluntarily to a claim for any service and serve as a flag for whether a CHW had been involved in the care an individual received.

Factors Inhibiting Sustainability

Reimbursement/Payment Concerns

Minnesota has been a leader in providing for Medical Assistance (MA) reimbursement for CHW services. However, the process is fraught with delays and limitations, and virtually no reimbursements for CHW services have been paid. This is a problem that larger organizations can work around as they haven't built their financial model around CHW reimbursement. For smaller organizations, including a few of the Emerging Professions grantees, that is not the case. These organizations were counting on MA reimbursements for the viability of the CHW hire. One grantee said, "I don't think the CHW is sustainable due to the billing [reimbursement] issue. We have other grants that can help but I don't know what we are going to do after. The CHWs are really integrated into our agency so it will be hard to lose them if we are unable to support them." Claims data requested from DHS by MDH showed the low number of claims for Community Health Worker (CHW) services in 2014-15. Only $7,000 in Medical Assistance fee-for-service claims were paid during that time period. CPs have similar concerns with reimbursements and trying to make this model more financially feasible. One grantee attempted to charge for CP services and found that the referrals they had been getting dried up, as the fledgling appetite for CP services was not strong enough to support the cost.

One grantee noted another aspect of the concern about billing for services saying,

> *"[CPs should be] funded through the health care home and based on patient population size. My fear is that with this role, will be like everything else and be fee-for-service. All that charting becomes time consuming. If we got a set amount of money, we could decide who needs the services most, what kinds of services, and how long they are needed."*

[62] "CHW Toolkit: Environmental Scan," *Minnesota Department of Health*, 2016, accessed July 2017, http://www.health.state.mn.us/divs/orhpc/workforce/emerging/chw/; [62] "CP Toolkit: Environmental Scan," *Minnesota Department of Health*, 2016, accessed July 2017, http://www.health.state.mn.us/divs/orhpc/workforce/emerging/cp/index.html; "Dental Therapy Toolkit: Environmental Scan," *Minnesota Department of Health*, 2017, accessed July 2017, http://www.health.state.mn.us/divs/orhpc/workforce/emerging/dt/index.html.

Reliance on Internal Champion/Vulnerability to Personnel Changes

The CP and CHW models rely heavily on referrals from the medical and behavioral health providers. In the case of CPs, those provider referrals have frequently been from physicians, so a medical staff champion has been critical. For example, a first round grantee had a very successful CP program that was providing services, making many patient visits, and had begun collecting data for continuous improvement purposes. However, when the physician leader – the driving force behind the CP effort and the key to its success – left for another institution, the team was unable to replace him with another medical staff champion, and the program ended.

Longstanding Challenges to Adopting New Models

Embracing change and learning to do things differently are critical components to effective integration of emerging professions into patient care environments. It is not surprising that many are resistant to change, and individuals who feel threatened or oppose change for any number of reasons can become formidable barriers to success. Since 2009, when Minnesota was the first state to establish licensure of DTs, there was considerable opposition from the professional dental associations to the idea of mid-level dental providers. This opposition has waned over time, and the DT/ADT has become more integrated into the profession.

Practice Transformation Grant Program Activities and Outcomes

The Centers for Medicare and Medicaid Services (CMS) defines practice transformation as a process that results in observable and measurable changes to practice behavior.[63] The key goal of practice transformation activities under the Minnesota Accountable Health Model was to transform care in Minnesota so that more patients receive care that is patient-centered, coordinated across settings, and delivered by multi-disciplinary care teams of clinicians and staff from medical, behavioral health, social services and public health settings. The Practice Transformation Grant Program set out to build on the infrastructure and momentum of the existing HCH Initiative as well as to support launch of a new state model, BHHs, to further expand patient-centered, coordinated care across the state.

Practice Transformation Grants Awarded

The Minnesota Department of Health (MDH) invited primary care, behavioral health, and other providers across the state to submit funding proposals that tailor their practice transformation activities as needed to achieve program goals. The flexibility afforded to grantees was a key tenet of program design. This approach also called for an investment in state program staff to manage the grants as well as to help grantees maximize their effectiveness in achieving their objectives.

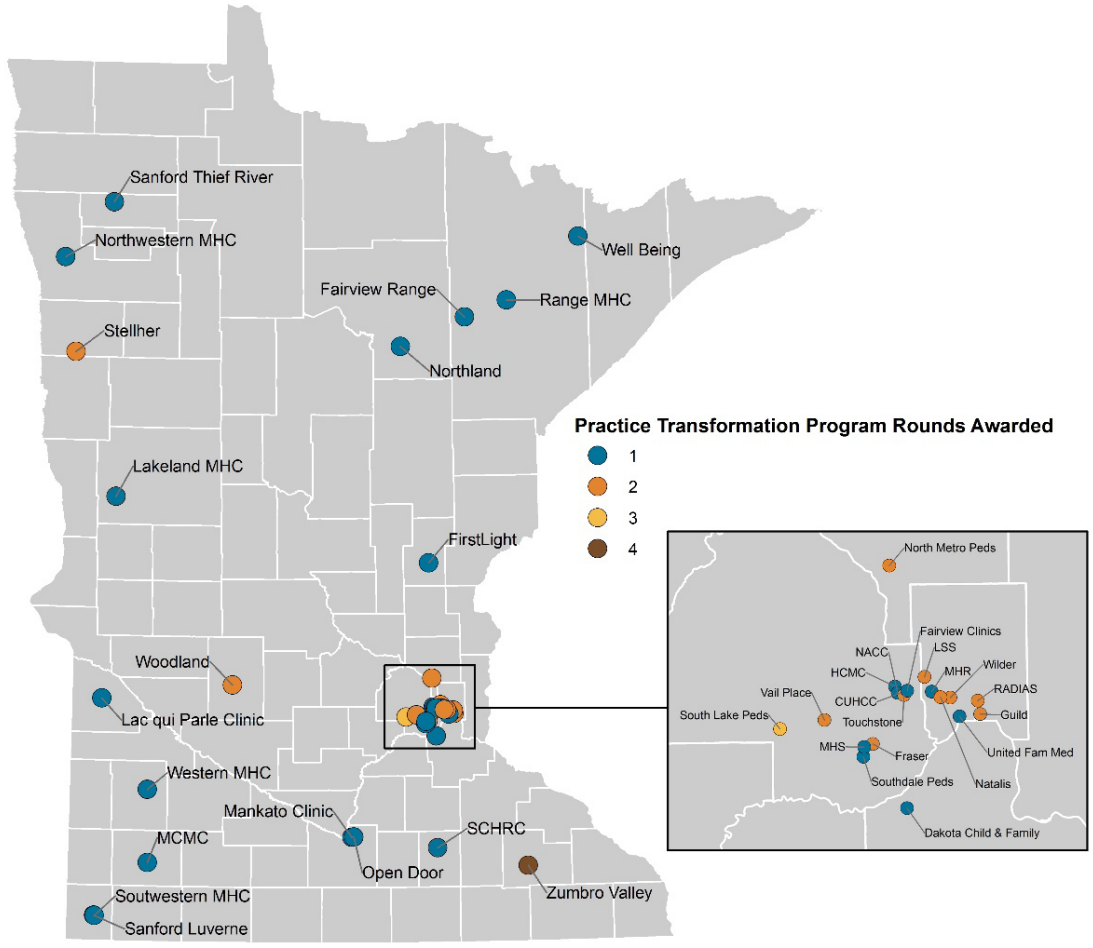
Key Activities

The state awarded grants directly to providers and social service agencies to support practice transformation activities such as training, clinical systems redesign, implementation of new workflows, coordination with learning collaboratives, development of new data collection or management tools, consulting services to assist with information technology (IT)/electronic health record (EHR) or process redesign, and implementation and expansion of quality improvement systems. Allowable activities under this grant program included preparation for HCH certification or recertification, as well as activities related to planning and preparation for BHH certification. Grant funds also supported increased community involvement (e.g., patient advisory committees, focus groups with patients).

[63] "Glossary of Terms," *Minnesota Accountable Health Model*, last modified October 12, 2016, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=SIM_Docs_Reps_Pres.

The Practice Transformation effort expressly provided support for grantees pursuing BHH certification. The third round of grants awarded to 24 of the 38 grantee organizations, was devoted entirely to BHH preparation with eligibility restricted to organizations participating in the BHH First Implementers group. Allowable use of grant funds in this round included dedicated staff time and expenses for participation in the group and covering staff time/expenses for working on action plans developed in preparation for seeking BHH certification. Exhibit 6.5 maps the locations of the 38 practice transformation grantees around the state, showing the split between metro area and non-metro area. It also shows the number of grant awards to each grantee.

Exhibit 6.5. Map of Practice Transformation Grants (Rounds 1-4)



Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Note: Database is based on state documentation, grant applications and agreements, organization websites, and consultation with the state and some grantees.

The state distributed nearly $1 million in 56 direct practice transformation grants over four rounds of funding. Prospective grantees could submit proposals for any or all rounds of funding. Consequently, several grantees received more than one practice transformation grant such that the 56 grants went to 38 unique grantee organizations. Over 60% of grantee organizations (24 of 38) received only one grant; nearly 30% (11 of 38) received awards under two rounds of funding; two organizations – Community University Health Care Center and South Lake Pediatrics – received three practice transformation grants; and one organization – Zumbro Valley Health Center – received funding under all four rounds of the program.

In addition, the practice transformation grantees were geographically dispersed with 50% (19 of 38) in the metro area and half in Greater Minnesota. With respect to the distribution of grant dollars, 57% went to metro area grantees and 43% to grantees in Greater Minnesota. Exhibit 6.6 details the number of grants and total dollar amount awarded to each of the 38 practice transformation grantees. It also provides the status of each grantee with respect to current HCH and BHH certification, as described in the next section.

Exhibit 6.6. Practice Transformation Grants and HCH/BHH Certification Status

Grantee Name	PT R1	PT R2	PT R3	PT R4	Total	BHH Certified (as of 8/9/17)	HCH Certified (as of 8/2/17)
Aquí Para Tí				✓	$30,000	✓	✓
Community-University Health Care Ctr	✓	✓	✓		$56,400		✓
Dakota Child and Family Center	✓				$20,000		✓
Fairview Integrated Primary Care			✓		$10,000	✓	✓
FirstLight Health System		✓			$26,400		✓
Fraser		✓	✓		$36,342	✓	
Guild, Inc.	✓		✓		$29,994	✓	
Lac Qui Parle Clinic		✓			$26,400		✓
Lakeland Mental Health Center			✓		$10,000	✓	
Lutheran Social Services/Altair ACO		✓		✓	$52,236		
Mankato Clinic Ltd.		✓			$26,400		✓
Mental Health Resources, Inc.			✓		$ 9,956		
Mental Health Systems, PC			✓		$10,000		
Murray County	✓				$20,000		✓
Natalis Outcomes			✓	✓	$32,724	✓	
Native American Community Clinic	✓				$18,800		✓
North Metro Pediatrics		✓		✓	$31,834		✓
Northland Counseling, Inc.			✓		$10,000	✓	
Northwestern Mental Health Center			✓		$ 9,997		
Open Door Health Center		✓			$26,250		✓
Range Mental Health Center			✓		$10,000	✓	
Range Regional Health Services/Mesaba			✓		$ 9,995	✓	✓
Sanford Luverne	✓				$19,335		✓
Sanford Med Center Thief River Falls			✓		$10,000	✓	✓
South Central Human Relations Center			✓		$ 9,998	✓	
South Lake Pediatrics	✓	✓	✓		$56,208		✓
South Metro Human Services (RADIAS)	✓		✓		$29,425		
Southdale Pediatric Associates		✓			$ 6,986		
Southwestern Mental Health Center			✓		$10,000	✓	
Stellher Human Services, Inc.			✓	✓	$38,939		
Touchstone Mental Health		✓	✓		$36,393	✓	
United Family Medicine				✓	$30,000		✓
Vail Place			✓	✓	$38,326	✓	
Well Being Development, Ely	✓				$19,056		
Western Mental Health Center			✓		$10,000	✓	
Wilder Foundation			✓	✓	$40,000	✓	
Woodland Centers			✓	✓	$39,974	✓	
Zumbro Valley Health Center	✓	✓	✓	✓	$80,498	✓	✓
Total	**10**	**12**	**24**	**10**	**$988,866**	**18**	**17**

Sources: State documentation, grant applications and agreements, select self-reported grantee progress reports, grantee interviews, and state and organization websites.

Outcomes

Reported outcomes of Practice Transformation grantees included expansion of HCH certification, pursuit of BHH certification, enhanced care coordination capacity, expanded data collection processes, and transformed communications, described in more detail below.

Expansion of Certified Health Care Home Certification

Certified health care homes (HCH) represent an overall approach to primary care transformation where providers, families, and patients work together on health outcomes and quality of life improvements for people with complex or chronic conditions. Moving grantees toward becoming certified (or recertified) HCHs and/or BHHs was an important goal of the Practice Transformation Grant Program.

While certification is not a direct measure of progress toward the overall goal of increasing the number of patients receiving team-based, coordinated care, the HCH standards are the foundation of successful practice transformation, which results in an increase in the number of patients receiving high quality, patient-centered, coordinated care.

Building on the existing framework, the initiative focused on adding HCH certification or recertification, and the establishment of certification through the implementation and enhancement of HCH standards. The HCH model requires comprehensive primary care services and the full spectrum of preventive, acute, and chronic care. For example, a HCH patient's care team would coordinate preventive care, as well as manage chronic concerns like high blood pressure or diabetes and any acute concerns such as a sore throat, earache, or back pain.

Three grantee organizations – FirstLight Health System, Lac qui Parle Clinic, and Zumbro Valley Health Center (ZVHC) – successfully obtained their initial HCH certification, representing progress toward the goal of increasing the number of certified HCHs in the state, particularly in rural Minnesota. ZVHC became the first community mental health organization in the state to receive HCH certification.

Currently, 17 practice transformation grantees hold HCH certification. In addition, over the course of this grant program, 10 grantees successfully completed the recertification of their HCH status. Overall, the number of certified HCHs in the state modestly increased, and there was a net increase in the number of enrolled individuals since 2015. In the first quarter of 2015, a total of 351 clinics were certified HCHs, with 3,694,278 individuals enrolled. In June of 2017, that number had increased to 376 clinics (including 20 clinics in border states), and 3,753,549 enrolled individuals.[64] Between January of 2015 and June of 2017, there was a net increase of 25 certified HCHs, and a net increase of 59,271 enrolled individuals.

Strengthened Behavioral Health Homes Launch

The Minnesota Department of Human Services (DHS) developed behavioral health home (BHH) services in 2016 to better serve the complex needs of Medical Assistance enrollees, specifically adults with serious mental illness (SMI) and children with severe emotional disturbances (SED). The BHH approach aims to meet enrollees' comprehensive physical and behavioral health needs in a coordinated manner that includes working toward the recipients' health goals in a setting that integrates medical and behavioral health care either by co-location of services or by using off-site services through contractual relationships or established referral patterns.

[64] The source for individuals enrolled was "Reporting Targets to CMMI," *Minnesota Departments of Health and Human Services*, January 2015 and June 2017. State staff provided clinic counts.

Exhibit 6.6 shows the current HCH and BHH certification status for all practice transformation grantee organizations; it also illustrates the strength of the launch of the BHH initiative and connects it to the Practice Transformation Grant Program. Between July 2016 and August 2017, 26 organizations across the state earned BHH certification (of which 18 were recipients of practice transformation grants) and 1,015 people had received services from BHH-certified providers, according to DHS.

Many grantees expressed appreciation for the training, information, insights, and assistance provided by their participation in the Practice Transformation Grant Program and the influence of that participation on their decisions about pursuing BHH certification or not. One grantee stated, "Our SIM participation helped position us to launch a BHH and offer families another option for care coordination." And another grantee summarized the feelings of several grantees stating, "Without this grant, I doubt that we would have moved toward the BHH certification."

Informed Decisions Not to Seek BHH Certification

Just as it was instrumental in enabling some providers to successfully pursue BHH certification, participation in the grant program also provided organizations with information and support to make the decision that further pursuit of certification was not viable at a given time. To that end, one critical aspect of preparing for BHH certification involved assessing the potential effects of BHH on an organization and examining the financial viability of the model within an organizational context.

Based on the activities undertaken in the practice transformation grants, three organizations that had begun pursuing BHH certification decided to stop pursuing certification at least for the time being. One of these organizations summarized the role of the grant in their decision making as follows: "…without this grant we would not have been able to determine that BHH was not a good fit for us at this time. We appreciate working with state [staff] on this grant and are thankful for being given this opportunity to explore BHH." In addition to certification, grantees reported the following outcomes most of which are related to the process of obtaining HCH certification or recertification.

Enhanced Care Coordination Capacity

In addition to certified HCHs and a strong representation of practice transformation grantees among the ranks of the newly certified BHHs, grantees reported enhanced care coordination capacity within their organizations because of their SIM practice transformation participation. Enhanced care coordination capacity was evident in the SIM Minnesota Organization Survey findings. Among the 38 organizations participating in SIM team-based, integrated/coordinated care programs or activities responding: 85% believed that their organization's care coordination abilities at the time of survey administration (March of 2017) were somewhat or much better than prior to SIM.[65] Additionally, 91% of respondents indicated implementation progress with at least one of the care coordination capabilities studied since SIM.

Individual care coordination capabilities for which 50% or more of respondents reported progress are described below:

- Fifty-nine percent (59%) of respondents reported having made progress toward including patient/client and family in care teams and decision making;
- Fifty-eight percent (58%) said that their organization had progressed toward more systematic designation of staff assigned to oversee documentation and implementation of care coordination approaches;

[65] Thirty-eight refers to the number of survey respondents, but percentages are based on analysis of weighted data. See Appendix A for additional detail on weighting.

- Fifty-five percent (55%) reported having made progress toward more systematic identification of clients/patients for care coordination than before SIM;
- Fifty percent (50%) reported that their organizations progressed since SIM in terms of implementing client/patient assessments of social determinants;
- Forty-eight percent (48%) said that their organizations had moved toward more education for clients/patients and tracking related to self-management and decision making;
- Forty-seven percent (47%) said that their organizations had moved toward more training and support on care coordination for care team members; and
- Forty-seven percent (47%) reported that their organizations progressed since SIM in terms of implementing client/patient health assessments and screenings.

Care coordination supports information-sharing across providers, service sites, and time frames with a goal of ensuring that patients' needs are met with efficient, high quality care.[66] Grantees reported improved care coordination outcomes in the following areas: revised staffing assignments to facilitate work at top of license; improved communications between providers, coordinators, and health educators; increased patient referrals to health coaches, dieticians, and other specialized services; and improved discharge planning and post-hospitalization care for patients.

Grantees reported that preparing for HCH and BHH certification had heightened awareness within their organizations of the importance of team-based, coordinated, patient-centered care. One grantee commented, "Everyone is educated on patient-centered care.... We may not have many patients with coordinated care at this time, but that type of thinking is being done for all our patients."

Another grantee tied increased care coordination capacity directly to the implementation of the HCH model saying, "We have continued to grow our care coordination programming and have made numerous connections with other programs, projects and community agencies in this work. We are able to recognize transformation within our clinic setting and attribute the way we see our work differently due to implementation of the HCH model."

Another grantee responding to the SIM Minnesota Organization Survey wrote, "While we did case management with an interdisciplinary team before SIM, our expanded care coordination has us connecting with medical providers such as primary care coordinators, Emergency Department, etc. We also implemented a care navigation program that expanded our reach. We are expanding care coordination as well by developing a BHH."

Expanded Data Collection Processes

Most grantees created or enhanced existing patient registries and some developed new data collection processes to support and improve care coordination activities and improve care quality. Pursuing HCH certification or recertification and/or preparing for BHH certification boosted grantees' use of patient registries, as the HCH and BHH standards require the use of registries to identify and manage gaps in care. Some grantees engaged the services of a consultant to get expert help designing and implementing these changes. One grantee made the connection between patient registries and communicating with partners saying, "As far as the patient registry goes, we found it extremely helpful to meet with organizations [using the same EHR] – local partners on how they used their patient registry and the process they began with."

[66] "Glossary of Terms," *Minnesota Accountable Health Model*, last modified October 12, 2016, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=SIM_Docs_Reps_Pres.

Transformed Communications

Grantees reported improved communication both internally, between departments or silos within their organizations, as well as externally, engaging stakeholders (e.g., providers outside of their organizations, other care team members, staff, IT personnel) in designing and implementing practice transformation activities. Grantees used existing provider and staff meetings, initiated new staff teams focused on integration or other practice transformation activities, facilitated staff presentations and other approaches for staff to share what they and their different departments do, and staff trainings to engage different individuals in the activities and/or to inform them of status.

A grantee in a small primary care setting reported that the practice transformation grant resulted in improved communication and work flows between the primary care providers and the diabetes education program offered by the adjacent hospital. This grantee said, "We have accomplished this by a standardized workflow for referrals to diabetic education, charting of data, and information exchange. Diabetic care is entered into our preventive tab. We are able to generate ad hoc reports for diabetic care so that there are not gaps in care."

A social service grantee reported that this practice transformation grant created an opportunity for "...building collaborative practice relationships with other similar organizations...helping to initiate increased cross referrals so that clients are being serviced more holistically and being offered several service elements that are important to their mental health." They further reported that this increased collaboration helped improve patient care for an individual who received primary and psychiatric care from one provider but was resistant to receiving Adult Rehabilitative Mental Health Services (ARMHS) from the same provider. Because of the collaboration, he was presented with the idea that the ARMHS services might be offered by external, collaborating entity, and this configuration was acceptable to the patient.

Practice Facilitation Activities and Outcomes

Practice facilitation is a supportive service provided to primary care by a trained individual or team of individuals. These individuals use a range of organizational development, project management, quality improvement, and practice improvement approaches and methods to build the internal capacity of a practice to help it engage in improvement activities over time and support it in reaching incremental and transformative improvement goals. This support may be provided on site, virtually (through phone conferences and webinars), or through a combination of onsite and virtual visits. In the research literature, Practice Facilitation sometimes is called quality improvement coaching or practice enhancement assistance.[67]

The Minnesota Accountable Health Model Practice Facilitation Grant Program funded practice facilitation services for primary care, behavioral health, and social services providers through grants issued in early 2015 to two entities: 1) the National Council for Behavioral Health (National Council); and 2) a collaborating team from the Institute for Clinical Systems Improvement and Stratis Health (ICSI-Stratis). MDH charged each entity with recruiting, selecting, and working with participating organizations to identify and achieve practice facilitation project goals.

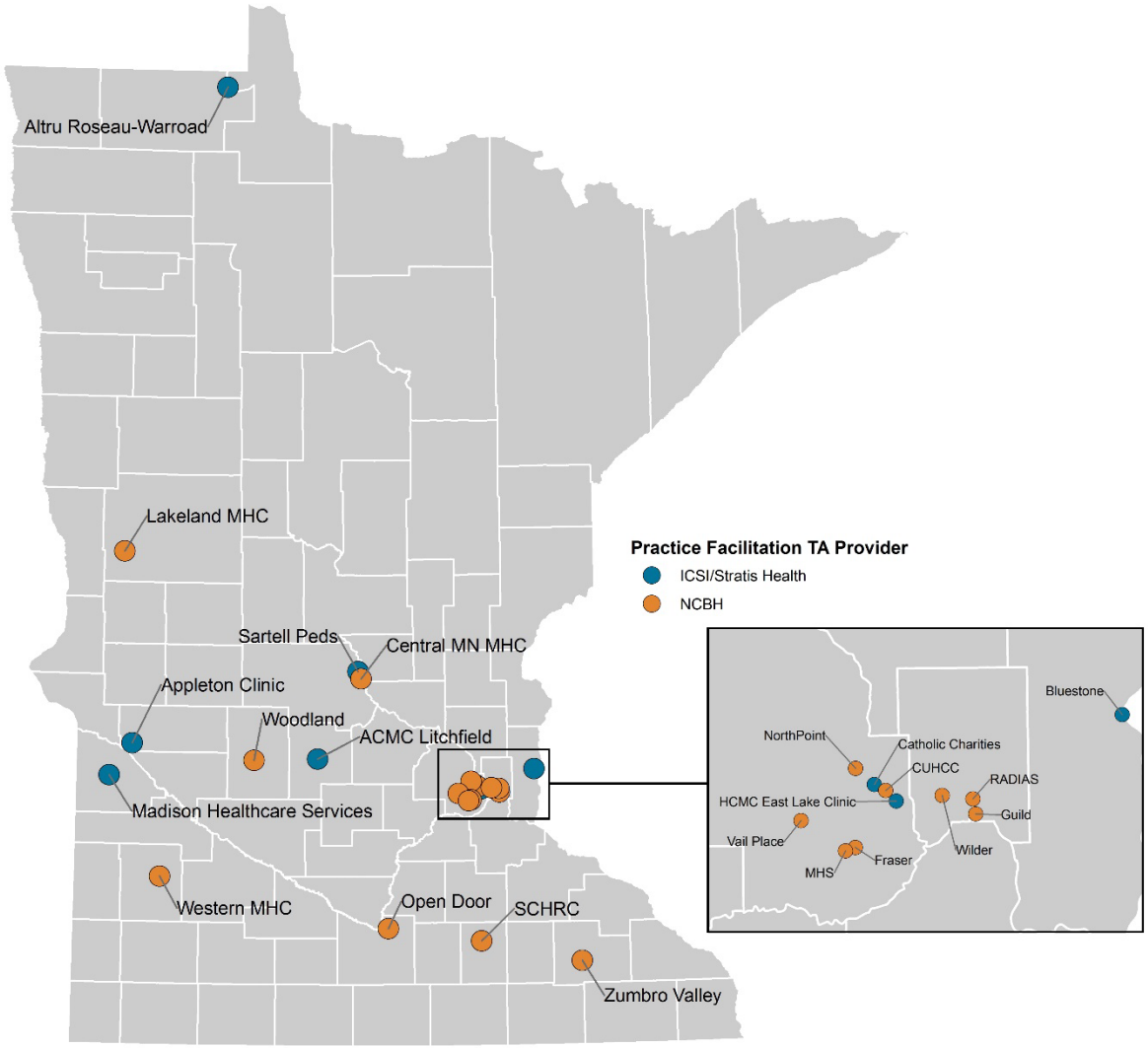
Exhibit 6.7 displays the geographic location of the organizations that signed official participation agreements with either the National Council for Behavioral Health or ICSI-Stratis. There are a total of 23 participating organizations. Exhibit 6.8 identifies the 23 participating organizations by practice facilitation provider. Of the 23, nine are in the metro area and 14 are in Greater Minnesota.

[67] "Glossary of Terms," *Minnesota Accountable Health Model*, last modified October 12, 2016, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=SIM_Docs_Reps_Pres.

The ICSI-Stratis team worked with eight organizations: seven primary care providers and one social service organization.[68] Geographically, five of the organizations are in Greater Minnesota, and three are in the metro area. The National Council worked with 15 participating organizations: nine behavioral health organizations, three Federally Qualified Health Centers (FQHC) that provide both behavioral health primary care, and two behavioral health organizations that now provide behavioral health and primary care services.[69] Geographically, nine of these organizations are in Greater Minnesota and six are in the metro area.

The practice facilitation providers were aware of the multiple grant opportunities available through SIM in Minnesota. Specifically, among the 23 organizations in practice facilitation, 12 were BHH First Implementers, eight were among the first certified BHHs in the state, nine were affiliated with an ACH, and seven were HCH certified. In addition, the National Council was particularly cognizant of other ongoing federal and state integration programs, so they created a crosswalk of integration programs to help participating organizations understand the full context of how these programs complimented each other.

Exhibit 6.7. Map of Practice Facilitation Participating Organizations



Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, organization websites, and consultation with the state and some grantees.

[68] Nine organizations originally signed participation agreements with the ICSI-Stratis team, but one withdrew due to other priorities.
[69] Sixteen organizations originally signed participation agreements with the National Council, but one withdrew due to other priorities.

Exhibit 6.8. Practice Facilitation Participating Organizations

PF Provider	Organization	Org. Type	Location	Focus Areas
ICSI-Stratis	ACMC Litchfield	Primary Care	Non-Metro	Manage total cost of care/chronic care
ICSI-Stratis	Altru Health System	Primary Care	Non-Metro	Manage chronic care (Vascular Care-D4 Minnesota Community Measurement)
ICSI-Stratis	Appleton Clinic	Primary Care	Non-Metro	Manage chronic disease
ICSI-Stratis	Bluestone Physician Services	Primary Care	Metro	Reduce percentage of ED admissions; integration of alternative care models
ICSI-Stratis	Catholic Charities	Social Service	Metro	Reduce the number of days clients are in medical respite
ICSI-Stratis	HCMC - East Lake Clinic	Primary Care	Metro	Manage chronic care/quality improvement; complete Asthma Care Training and Asthma Action Plan
ICSI-Stratis	Madison Clinic	Primary Care	Non-Metro	Close the loop on internal/external referrals (relates to total cost of care)
ICSI-Stratis	Sartell Pediatrics	Primary Care	Non-Metro	Support behavioral health integration/EHR documentation of Patient Health Questionnaire 2 (PHQ2) and PHQ9 in 11-13 year old well child visits
National Council	Community-Univ Health Center	Clinic/ FQHC	Metro	Increase population based registry capacity; increase data to providers; standardize expectations on panel management
National Council	Central MN Mental Health	Behavioral Health	Non-Metro	Establish integrative client registry, accessible to all staff, to track performance indicators
National Council	Fraser	Behavioral Health	Metro	Conduct BHH initiative and call for action; develop the infrastructure needed for BHH patient registry
National Council	Guild, Inc.	Behavioral Health	Metro	Build a BHH team with strengthened internal partnerships and community partners
National Council	Lakeland Mental Health	Behavioral Health	Non-Metro	Develop patient registry to improve data and integrated care and utilize EHR data in a meaningful way to improve outcomes
National Council	Mental Health Systems, PC	Behavioral Health	Non-Metro	Work collaboratively and/or hire case managers/coordination providers; explore bi-directional integration with medical care
National Council	NorthPoint	Clinic/ FQHC	Metro	Refine referral optimization plan; develop inter-operable IT system; improve use of demographic data for education materials
National Council	Open Door Health Center	Clinic/ FQHC	Non-Metro	Develop protocol to for all patient transitions; formalized education for integration
National Council	South Central Human Relations	Behavioral Health	Non-Metro	Determine appropriate clients for care coordination; develop high functioning BHH team
National Council	RADIAS (was South Metro)	Behavioral Health*	Metro	Create a patient registry; exchange data w/ United Family Medicine
National Council	Vail Place	Behavioral Health	Metro	Identify and assess service costs; test novel approaches; interoperability and reporting capacity
National Council	Western Mental Health	Behavioral Health	Non-Metro	60% of clients diagnosed with major depressive disorder will show a 30% reduction in PHQ-9 scores
National Council	Wilder	Behavioral Health	Non-Metro	Serve clients via collaborative practice
National Council	Woodlands	Behavioral Health	Non-Metro	Plan to improved integrated care and strategy implementation by county
National Council	Zumbro Valley	Behavioral Health *	Non-Metro	Identify and develop viable payment methodologies for sustainability

Sources: State documentation, select self-reported grantee progress reports and practice facilitator documentation to state, 2016–2017.
Note: *Now integrated primary care and behavioral health provider.

Key Activities

The two vendors offered similar practice facilitation services under these contracts, including one-on-one and small group phone calls for coaching, technical assistance, and troubleshooting, as well as in-person conferences and virtual conferences or webinars for quality improvement education and training, team building, and education around data use. The types of practice facilitation activities were driven by the participants based on their organizations' needs and goals. The primary activities included:

- using practice-level data to drive change;
- training of staff in quality improvement (QI) methods & transformation processes;
- forming practice teams;
- coaching & leadership training;
- recognizing successes;
- project/change management;
- resource identification/procurement;
- health IT capacity building; and
- technical assistance in implementing models of care.

In addition, vendors offered in-depth training on the development and monitoring of measurable objectives tied to the reason for organization participation in the practice facilitation effort.

As shown in Exhibit 6.8, the ICSI-Stratis participating organizations focused their practice facilitation activities on chronic disease management, health IT, HCH certification, integration of behavioral health, and quality improvement. The National Council's practice facilitation activities were primarily focused in four areas: behavioral health and primary care integration; data use related analytics and interoperability; identifying and assess service costs; and patient-centered, whole-person programs. The combination of these focus areas provided support for the participating organizations as many of them pursued BHH certification.

Outcomes

The two practice facilitation vendors took slightly different approaches, but, by design, practice facilitation yielded primarily process changes.

Health Care Home and Behavioral Health Home Certification

Practice facilitation services, not unlike practice transformation awards, could support providers on a journey towards state certification or recertification as HCHs or BHHs and some of the participating providers worked with vendors to this end. It is noteworthy that over half of the practice facilitation participating organizations received one or more practice transformation awards. Seven of the participating organizations are currently certified as HCHs; nine of the participating organizations are currently certified as BHHs as of August 2017.

Established and Achieved Clinical Process Goals

As stated above, both vendors provided coaching in developing measurable goals and metrics. The process of developing Specific, Measurable, Actionable, Relevant, and Time-framed (SMART) goals and tracking progress toward achievement was reported in detail by the ICSI-Stratis participants and is summarized below. Exhibit 6.9 shows that seven of the eight ICSI-Stratis participants achieved the SMART goals they identified as part of their practice facilitation work.

Exhibit 6.9. ICSI-Stratis Practice Facilitation Participant SMART Goals

SMART Goal Domain	# of orgs	Goal Example	Goal Achievement Status
Patient Outcomes	3	Reduce ED visits	Two of three organizations fully achieved their SMART goal; the other organization achieved its goal at one of two locations.
Patient Engagement/ Referral	3	Increase % completed referral forms	Two of three organizations fully achieved their SMART goal; the other organization paused its goal due to a timing conflict.
Care Plan	2	Implement new assessment for diabetes patients	One of two organizations fully achieved its SMART goal; the other organization fully achieved one of two goals and partially achieved its second goal.

Source: ICSI-Stratis Practice Facilitation Partner Progress Report, July 2017.

Exhibit 6.10 shows that the majority of National Council participants achieved the goals identified as part of their practice facilitation work.

Exhibit 6.10. National Council Practice Facilitation Participant Goals and Achievements

Goal Domain	# of orgs	Goal Example	Goal Achievement Status
BHH Certification	11	Build BHH leadership team; become BHH certified	Eleven organizations identified becoming a BHH as a goal; 9 of 11 are currently BHH certified; one is working toward certification; and one put certification on hold to participate in SAMHSA Grant.
Health Information Technology	7	Build/maintain/utilize patient registry	Six of the seven organizations with a goal in this area achieved it; one faced challenges and had not achieved goal.
Behavioral Health and Primary Care Integration Education	2	Develop resources and deliver education to staff on value of integration of behavior health and primary care	Both grantees successfully completed the development of materials and providing education to staff on the value of integrated behavioral health and primary care.
Behavioral Health and Primary Care Integration	5	Accelerate/improve behavioral health and primary care integration	All five organizations with this goal achieved it; two with co-located services.

Sources: National Council Post-Site Visit Reports, May–June 2016; National Council Final Report, January 2017; Practice Facilitation Participant Presentations at Practice Facilitation Meeting, November 2016.
Note: Organizations worked on more than one domain so counts are not mutually exclusive.

Institutionalized Process Improvements

Practice facilitation services provided participants with education, training, coaching, and tools to help them identify and assess their needs, consider options, craft measurable objectives, and identify metrics and timeliness. These skills resulted in participants engaging clinic or provider staff in day-to-day process changes that support and sustain progress toward practice transformation goals.

One clinic participant, for example, participated in practice facilitation with ICSI-Stratis, working to improve their process for caring for adults and children with asthma. Its goal was to implement process changes so asthma patients can avoid complications and enjoy improved health outcomes. The practice facilitation coach helped the team to identify the process steps, locate the gaps they needed to address, learn to set improvement goals, and coach them in engaging the staff in the process. Because this work resulted in "sustainable change for preventive care screening improvement," the clinic received recognition from the Partners in Quality Program sponsored by HealthPartners' integrated health care system.[70] This clinic was also in the process of spreading this process improvement to two sister clinics.

[70] "HCMC Receives Prevention Care Recognition Award," *Hennepin County Medical Center, Hcmcnews.org*, November 4, 2016, http://bit.ly/2tqpTN1.

Another clinic, one of the National Council's participants, set out to develop and formalize education and training for staff on effective communication to improve the integration of primary care and behavioral health. It developed and delivered educational presentations both internally and to external audiences including the Minnesota Association of Community Health Centers (MNACHC). This clinic also launched a new intranet site and created a publication for staff to highlight examples of successful integration partnerships.

Improved Skills in Using Data for Process and Practice Improvement

Like practice transformation findings, collecting, analyzing, understanding, interpreting, and communicating about data were essential elements of the practice facilitation services provided to participating organizations. The coaches worked with participants to not only identify data available within their organizations, but to know what the data represented and, to learn how to communicate about the data and what it can tell them about their organization and its effectiveness. One of the practice facilitation providers said that there are often lots of data reports available, so participants may feel like they have lots of data, but "…they don't always understand what they're looking at on a 25-page Clarity report out of Epic. They have no idea how that impacts the frontline. Nor does the frontline ever see it." The practice facilitation coaching helped them to identify the data point of greatest interest and then to figure out how to measure it.

Findings from the SIM Minnesota Organization Survey support qualitative data with respect to 45% of all respondent organizations (across SIM drivers) reported increased access to or collection of data sources to inform operations or quality improvement over the course of their SIM participation. Respondents were also asked about the ways in which and the extent to which their organizations use data for client/patient focused tracking, cost and finance tracking, program monitoring, and quality improvement and evaluation and 84% of all respondent organizations reported no change in the number of ways their organizations used data during the SIM initiative.

Practice Transformation/Facilitation Decision and Capacity to Sustain

The direct and support funding distributed over three years under the Practice Transformation and Practice Facilitation Grant Programs had similar aims at the practice level, and thus, the sustainability of SIM efforts to help practices transform and improve in measurable ways are discussed in one section below. The direct funding distributed in four rounds of funding under the Practice Transformation Grants will not continue after the end of the program, as well as the SIM program's ongoing guidance and monitoring of grantees. The Practice Facilitation opportunity was awarded to two vendors whose work on this intervention has been completed. However, many of the SIM investments funded education, process transformation, capacity building, and expert input from consultants that will continue to yield benefits and influence the ongoing work of these practices.

Targeted Practice Transformation and Facilitation Support Institutionalized

Practice facilitation is a supportive service using a range of approaches to build the internal capacity of a practice to help it engage in improvement activities over time. Thus, by definition, practice facilitation is intended as a support for sustainability of practice transformation, though no formal grant funding will continue. And as observed by the two vendors and grantees, successful implementation of such support services through Practice Facilitation as well as internalization of the transformed processes, tools, and strategies through Practice Transformation has indeed provided the foundation for movement towards Driver 3 goals to continue beyond the grant period.

Leveraging HCH and BHH infrastructure was a primary component of the grant funding's design strategy under Driver 3. A cornerstone of an organization's preparation for the certification process was to develop and implement improved processes to support more patient-centered, coordinated integrated care. As these process changes are likely to have become part of the ongoing work processes, they are thus likely to be institutionalized.

One grantee noted that the education received as part of the practice transformation work represented a long-lasting change with a sustained focus on learning about and working on improving existing processes within a practice. One grantee noted, "Our entire process of care coordination was refined and has solid direction for the next several years' growth. Our HCH model evolved and taught us to look at the processes we already do for efficiency, coordination and patient centeredness."

Influencing Factors for Sustainability

Adoption of Protocols and Mindset

In cases where organizations leveraged grant funding to develop new or refine existing processes, the work of training staff and integrating new activities was completed during the grant period. Consequently, these changes will remain incorporated into existing provider workflows and protocols (e.g., role clarification and position description revisions), and the activities will be sustained. For example, one clinic's goal was to support primary care and behavioral health by including the completion of the PHQ-2 or PHQ-9 screener at 11-13-year-old well-child visits. It succeeded in accomplishing its initial goal and has now moved on to apply the same process improvement approach, fusing the same structure, process, and tools in another clinical area. Another grantee summarized the change the organization experienced in saying, "The work we did with this grant, the work we accomplished, is now part of the work we do."

Participants commented that one of the values of practice facilitation was that it provided the structure within which they were encouraged to step away from the crush of daily tasks to focus one or two levels up on a performance area or process in need of improvement; and, from there, they were coached in carving out a manageable project with measurable objectives. The practice facilitation consultants reported hearing from the participants that they appreciated the process in that it gave them "permission to set aside time to concentrate on an improvement project…knowing that they would be held accountable to their PF coach." Moreover, some of the participants reported that knowing more about how to identify needs and craft manageable process improvement interventions would enable them to continue to see needs and continue to build their process improvement mindsets going forward.

Continuity of Resources

One consideration organizations may need to address in order to maintain commitment to Driver 3 goals after SIM was the consistency of staff and financial resources. One relatively common vulnerability was staff turnover, and several of the existing participants faced difficulties in maintaining the processes established through program participation, possibly due to the loss of an internal champion, thus jeopardizing protected time for staff to participate.

Furthermore, since practice facilitation and transformation were process-focused activities, the costs of cutting the resources available to support them may not have been immediately apparent. Consequently, in tight financial times, practice facilitation and transformation may not be considered vital activities or services, so may likely be susceptible to being eliminated and replaced with other priorities.

Continued Support for Practice Facilitation and Transformation Goals

To support the adoption of protocols, processes, and mindset for continued improvement, Practice Transformation and Facilitation Grant Programs were designed in part as a method for moving toward more certified HCHs, as well as implementing the BHH program. The ongoing HCH and BHH infrastructure, tools, and maintenance of certification were intended to serve as sources of sustainability for the practice transformation gains resulting from these SIM-funded efforts, just as the payment mechanism will continue to support some care coordination activities. According to SHADAC's interviews with state staff, the state hoped to continue future practice transformation efforts in support of the IHP, HCH, and BHH programs. Under its SIM no-cost extension, the state engaged a vendor to create e-Learning resources for these programs.

The National Council's goal was to illustrate to the participating organizations that their work in practice facilitation was not separate from other practice transformation work they had underway. One interviewee said they wanted to illustrate to participating organizations that "...it's not that [you're putting] one ball down and you're picking up another ball. It's the same ball." They described this effort at situating the practice facilitation work within the context of other ongoing practice transformation work, asking participating organizations to consider what are the "common threads" or the common things they need to think about between their work in practice facilitation and their work toward becoming certified BHH or HCH organizations. That way, one interviewee said, "...when the program ends or starts or is changed, you're still doing some of those same key components."

This theme was also reflected by the practice facilitation providers who agreed that one of the most important parts of their work with the participating organizations was creating sustainable change. An interviewee said they focused on "What are the skill sets? What are the leadership qualities? What are the key messages and behaviors of an organization that can be successful in sustaining change over time? Regardless of what the policy or financial or payment model details are, I think our overarching theme was, this is about change and change has its own unique patterns and comfort levels and environments and skill sets. And how do you assess your own organization, make sure you have what it takes to go forward? And then how do you plot that path and find a way to stay on it through thick and thin? I mean that's ultimately what the full program was about. And I think we successfully achieved it."

7. ACCOUNTABLE COMMUNITIES FOR HEALTH

Introduction

The goal of Driver 4 of the Minnesota Accountable Health Model is for provider organizations to partner with communities and engage consumers to identify health and cost goals and take on accountability for population health.[71] To this end, Minnesota's SIM funding supported three main areas of investment under Driver 4:

- **Accountable Communities for Health:** The key effort under Driver 4 has been the implementation of a competitive grant program to establish 15 Accountable Communities for Health (ACHs) across the state. ACHs are collaboratives including medical and community providers and other organizations to identify and implement 1) community-based care coordination and 2) population-based prevention strategies to address the health care needs of a community population. Each of the 15 ACHs received approximately $370,000 for the initial two-year program period (January 2015-December 2016), with six ACHs receiving approval to extend their grant periods as late as December of 2017. Note that three ACHs (Ely CCT, HCMC Brooklyn Park ACH, and Mayo CCT) evolved from a 2011-2012 grant program called the Community Care Team (CCT) pilot, which was administered by the Minnesota Department of Health's (MDH) Health Care Home (HCH) program. While two of the CCTs changed their activities and/or their target populations when they began their SIM ACH work, all three had already laid at least a portion of the groundwork (e.g., leadership structure, governance, and community-based care coordination and population health models) necessary to establish themselves as ACHs when the grant program launched, with the ACH grants building on their prior work.[72]
- **The ACH Learning Collaborative:** A related activity under this driver was the award of a competitive ACH Learning Collaborative Grant to the National Rural Health Resource Center (the Center) to provide technical assistance and facilitate peer learning between the 15 ACHs to increase knowledge and capabilities related to patient-centered, coordinated, and accountable care. The state required that the National Rural Health Resource Center address two topics in its learning activities (i.e., leadership team development and sustainability planning) but otherwise, the Center's work has been informed by a web-based technical-assistance needs assessment survey administered to the ACHs by the Center in the summer of 2015 and, beginning in July of 2016, through ad hoc monthly technical assistance calls with ACH Leadership Teams. From 2015 into 2017, the Center held a number of learning sessions for ACHs, all of which the ACHs were required to attend. These included: 1) five in-person ACH workshops focused, respectively, on leadership team development and sustainability, e-health and data analytics, and the status of the ACH model in Minnesota; 2) five webinars focused, respectively, on the results of the ACH technical assistance needs assessment survey, care coordination, cultural competency, and quality improvement; and 3) four newsletters and ten cohort calls to facilitate peer-to-peer sharing on care coordination and tools, e-health and data analytics, quality improvement technical assistance needs, and workflow processes. In addition to these group learning events, the Center has received requests from and has provided one-on-one support to most of the ACHs. According to reporting by the Center, these requests have pertained to community integration and partnership, e-health, data analytics, care coordination, behavioral health integration, and culturally appropriate care.

[71] "Fact Sheet: Accountable Communities for Health," *Minnesota Accountable Health Model*, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=SIM_Fact_Sheets.

[72] For more information on pre-ACH CCT activities, see page 9 of SHADAC's First Annual Evaluation Report. SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.

This assistance has been provided by Center staff, state staff, or contracted experts via email and telephone throughout the year.

- **ACH Expansion Grants:** In August of 2016, MDH issued a request for proposals for a second round of smaller ACH grants ("expansion grants") that were intended to "support further development of an ACH model in building and strengthening its infrastructure, continuing the development of services and supports that have a positive effect on health, and promoting sustainability."[73,74] In total, $425,000 was available, with up to $75,000 available for each individual grant. The grants were intended to provide funding for ACH models to address four priority areas: 1) involvement of an Accountable Care Organization (ACO) partner to collect, analyze, and report on utilization and quality data for attributed members of the ACH target population; 2) expansion of ACH services, supports, and partnerships; 3) the capacity to exchange information between ACH partners; and 4) the use of data or screening tools to address social determinants of health. As noted above, six of the ACHs were awarded ACH expansion grants of approximately $75,000 each. For more details on these ACHs and their funded strategies, see Appendix G.

The remainder of this chapter focuses on the work that the 15 ACHs conducted under their original SIM grants. We present information about changes to ACH structure, governance, and care coordination approaches since the first evaluation period; ACH population health approaches and activities; ACH impacts and outcomes; and efforts to sustain the ACHs beyond SIM. The findings included in this chapter were identified through SHADAC's review of grant program materials and grantee submitted reports, interviews with state staff, as well as interviews with individuals engaged in each of the 15 ACHs (a total of 102 individuals). We also include weighted results from a survey of medical and non-medical ACH providers (ACH Provider Survey) as well as results from a survey of organizations participating in SIM (SIM Minnesota Organization Survey).

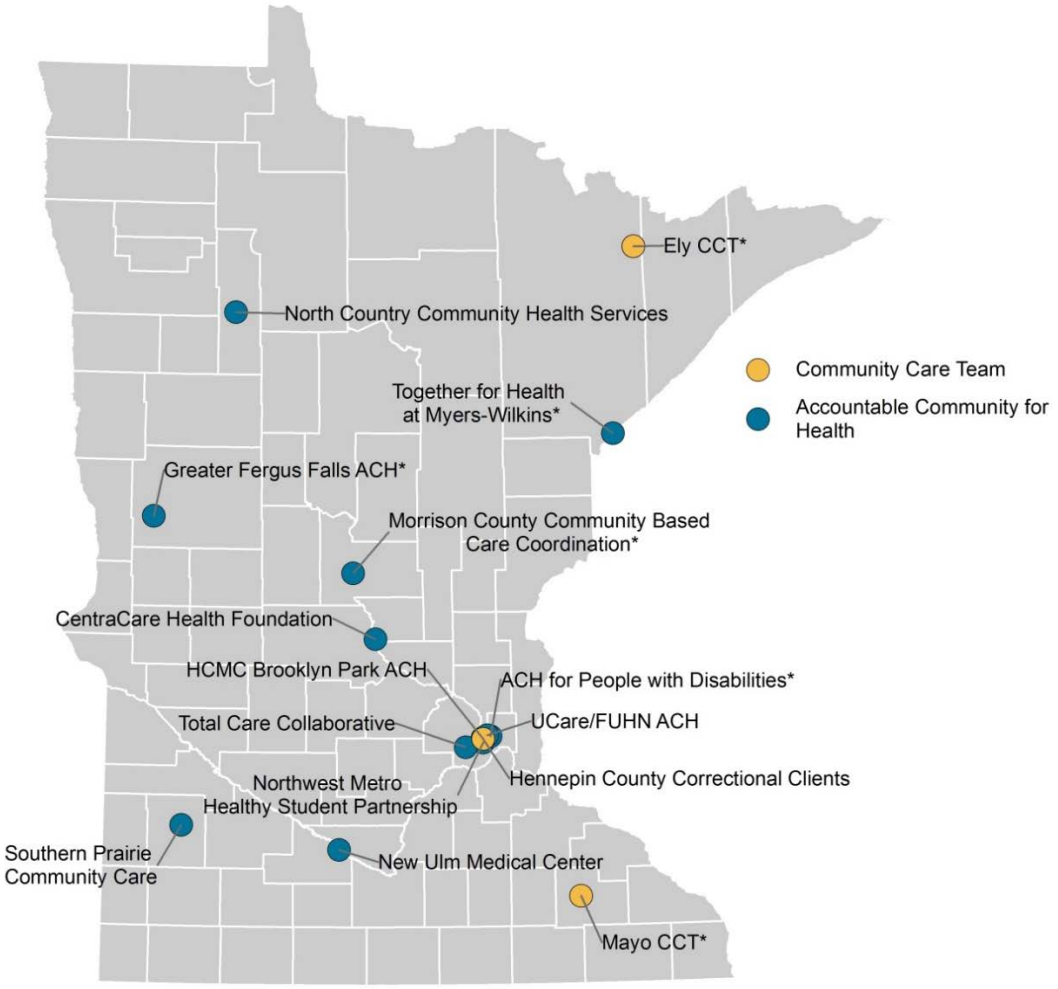
The interviews with ACHs were conducted between November of 2016 and April of 2017, and the surveys were administered from January of 2017 through April of 2017. All but one of our ACH interviews were conducted in-person at the location of the lead or other partner organization. Each interview included representative(s) of the lead agency, members of the ACH leadership team, and individuals familiar with the ACH's care coordination activities and population health efforts (e.g., project managers, community health workers [CHWs], care coordinators, community paramedics). The ACH Provider Survey was administered to medical and non-medical providers who interfaced with some aspect of an ACH's care coordination model. The survey asked providers about a) their perspectives on the ACH care coordination models with which they were involved and b) their assessments of the impacts that ACH care coordination had on the care or services they provide and on workload and workflow. The SIM Minnesota Organization Survey was administered to grantee and collaborating organizations actively involved in SIM grants and programs, including the ACH Grant Program. For additional information about the design and methodology of these two surveys, see Appendix A.

[73] "Minnesota Accountable Health Model Accountable Communities for Health Grant Program," *Minnesota Department of Health*, August 11, 2016, http://www.dhs.state.mn.us/main/groups/sim/documents/pub/dhs-288735.pdf.
[74] "Accountable Communities for Health Grant Program," *Minnesota Accountable Health Model*, Accessed July 21, 2017, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=DHS-288780

It should be noted that 11 of the 15 ACH grantees continued work beyond December 2016 through extensions and through expansion grants with additional funds. The findings presented here summarize the status of ACH implementation, impacts and outcomes, and sustainability at the time of our final interviews (updated where applicable with relevant information shared by ACHs in available progress reports for the second quarter of 2017) and not necessarily what the collaboratives were ultimately able to achieve at the end of the SIM funding period (September 2017). Additionally, while the present evaluation did not focus on the ACH expansion grants, we do address the activities and impacts of these grants in cases where expansion work is closely intertwined with the work of the original ACH grant. These cases will be noted when they occur.

The map and table below (Exhibits 7.1 and 7.2) identify the 15 awarded ACHs in the state. The map distinguishes between ACH sites that evolved from the CCT pilot program and non-CCT ACH sites. ACHs that received expansion grants are indicated with an asterisk. Bold text in the table descriptions indicate the ACH target populations and geography.

Exhibit 7.1. Map of Minnesota Accountable Communities for Health Grantees



Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, organization websites, and consultation with the state and some grantees. *Recipient of ACH Expansion Grant. Database is based on state documentation, grant applications and agreements, select progress reports, organization websites, and consultation with the state. Plotted organizations may overlap because they are in close proximity.

Exhibit 7.2. Minnesota Accountable Communities for Health (ACH) Grantees

ACH Name	Lead Agency	Description
ACH for People with Disabilities	Lutheran Social Service	Explored models of health care delivery and improved disability competency of medical providers with a holistic LifePlan approach for **people with intellectual and developmental disabilities** who lived in the **Metro area** and were supported by Altair ACO member organizations.
CentraCare Health Foundation	CentraCare Health Foundation	Reduced the incidence of unmanaged **diabetes** in **Latino and East African patient populations in Stearns County.**
Ely CCT	Essentia Health Ely Clinic	Provided coordinated health and social services for **people living in poverty or with behavioral health challenges** in **Ely and surrounding communities.**
Greater Fergus Falls ACH	Partnership4 Health Community Health Board	Coordinated health and social services for **people on Minnesota Healthcare Plans and uninsured low-income residents in Becker, Clay, and Otter Tail counties.**
HCMC Brooklyn Park ACH	Hennepin County Medical Center (HCMC)	Provided **mental health**-focused care using community interventions that combined social connectedness and healthful lifestyle, improved care transitions, and other supports in **Brooklyn Park.**
Hennepin County Correctional Clients	Hennepin Health	Improved enrollment in health programs, reduced homelessness, increased employment, and reduced recidivism among **correctional facility clients** in the **Metro area.**
Mayo CCT	Mayo Clinic	Linked **chronically ill adults** in the **Rochester area** with community services using a wraparound process to support patient self-management.
Morrison County Community Based Care Coordination	St. Gabriel's Health	Mitigated need, overuse, and access to **prescription narcotics and illegal drugs** among **seniors and other individuals in Morrison County.**
New Ulm Medical Center	New Ulm Medical Center	Decreased emergency department visits and inpatient admissions, and improved health outcomes in **New Ulm's Medical Assistance population.**
North Country Community Health Services	North Country Community Health Services	Improved region's capacity to support **at-risk youth in crisis** who live in **Clearwater, Hubbard, Beltrami, and Lake of the Woods counties and White Earth Tribe.**
Northwest Metro Healthy Student Partnership	Allina	Provided **Anoka-Hennepin School District high school students** with expanded mental health screening, supportive services, and health education.
Southern Prairie Community Care	Southern Prairie Community Care	Developed a community-wide initiative to delay and ultimately prevent **Type 2 diabetes** in those at risk who live in a **12-county area in southwestern Minnesota.**
Together for Health at Myers-Wilkins	Generations Health Care Initiatives	Met health and wellness needs of students and family members of **Myers-Wilkins Elementary School and the surrounding neighborhood in Duluth.**
Total Care Collaborative	Vail Place	Increased person-centered care for **people with serious mental illness living with chemical dependency issues and co-occurring chronic diseases** who lived in **North Minneapolis, Robbinsdale, Brooklyn Center, and Brooklyn Park.**
UCare/Federally Qualified Health Center Urban Health Network (FUHN) ACH	UCare	Documented and strengthened processes of care for **Minnesota Healthcare Plans members at FUHN clinics** in the **Metro area.**

Source: "Accountable Communities for Health Grant Projects," *Minnesota Accountable Health Model*, accessed July 21, 2017. http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=sim_achgp.

Key Activities

Background

The ACH Grant Program included several core requirements for ACHs, including the establishment of an ACH leadership team, a community-based care coordination system or team, a population-based health prevention component, a plan for sustaining the work of the ACH beyond the grant period, and an approach for measuring progress toward goals. Participation in the ACH Learning Collaborative and evaluation activities was also required.

The ACH Grant Program also included several collaboration requirements. ACHs were required to include at least one organization participating in or planning to participate in an accountable care organization (ACO) payment model. In addition, each ACH was encouraged to include providers and other organizations that reflect the goals of Minnesota's Model, including the priority settings identified under the Model: local public health, long-term post-acute and/or home care services, behavioral health, and social services. Finally, each ACH was required to include people who live in the community and organizations that represent the ACH's target population.

Each of the 15 awarded ACHs has focused its implementation efforts on a target population, such as people living within a particular geographic area (e.g., community or county), high utilizers of health care resources [e.g., individuals who have multiple emergency department (ED) visits per year], individuals with a specific health condition or disability, or an underserved or marginalized group. Depending on the ACH in question, the target population for an ACH's care coordination may have been the same as the target of the ACH's population health plan, or it may have been a subset of the population health target population. To implement ACH activities, each ACH depended on collaboration by multiple organizations within a community, ranging from five to over 25 organizations. Twelve ACHs have included community members and/or organizations that represent their target populations.

The following is a summary of ACH activities in the areas of structure and governance, partnerships, community-based care coordination, and population health as of the time of our final interviews. We discuss outcomes from ACH activities, along with ACH sustainability, after this section.

Accountable Communities for Health Structure and Governance

Each ACH was required to establish a leadership team and a community-based care coordination system or team. It was the intent of the state that each ACH leadership team would represent a broad range of providers and organizations in the community, people who live in the community, and members of the ACH target population. The state charged each leadership team, once established, with identifying the health priorities of the ACH and strategies to be implemented by the ACH within the community. The ACH care coordination systems or teams were meant to build on existing resources to provide assistance for individuals living in the community by providing such services as transitions management, referral coordination, and community service coordination. SHADAC's First Annual Evaluation Report described the leadership and governance approaches established by the ACHs.[75] We summarize what we learned in the first implementation year about these approaches and identify changes that occurred since then.

[75] SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.

Based on our final interviews with ACHs, their core structural elements remained largely unchanged beyond year one of the grant, with each of the 15 ACHs maintaining the leadership group and the community care or care coordination team/roles they initially put into place. Many ACHs also continued to incorporate other bodies beyond core leadership and care coordination teams (e.g., community task forces, population health workgroups, evaluation workgroups) into their governance structure after the first grant year in an advisory capacity. One notable and innovative change after year one was that one ACH began shifting to a "dyadic" leadership structure wherein the ACH lead/coordinator role was shared by two individuals from different ACH partners on a rotational basis in order to ensure the sustainability of knowledge and expertise about managing the ACH over time. ACH approaches to governance remained largely stable as well, with ACHs reporting little change to their governance models and with ACH decision-making processes (to the extent that they were specified) continuing to include informal, consensus, and "modified consensus" approaches—an ongoing point of innovation in governance among ACHs. The few governance changes that did occur were the formalizing of leadership partner responsibilities and decision-making expectations through official documentation in three ACHs. The frequency of ACH leadership group meetings continued the decline that began in year one, with many ACHs reporting that leadership groups were meeting less often over time because fewer high-level decisions needed to be made.

The ACH grant mechanism required that each ACH have a lead agency that also acted as fiscal agent, and the chosen lead agencies did not change after year one (Exhibit 7.2), nor did the roles and functions of ACH fiscal agents/lead agencies change significantly over time, with lead agencies continuing to be responsible for project management/coordination, financial monitoring, state reporting, communication, facilitation or/participation in ACH leadership teams, and oversight of implementation. ACHs were also required to have at least one active provider or organization partner engaged in an accountable care organization (ACO) or a similar accountable care model based on performance on cost, quality, and experience. All ACHs had an ACO or ACO-like partner in place by the end of year one of the grant, although in one case this partnership was not formalized until year two. Except in this last case, in which the ACO became involved on the ACH leadership team after entering a formal relationship with the ACH, the role of the ACO partner(s) in the ACHs and within ACH governance held steady after year one. ACHs were also encouraged to include local public health partners in order to support better integration of health care systems and public health in the state. At the end of year one, nine ACHs had reported active public health engagement, and this number rose to 10, with the county public health department engaging as an active member of the leadership team at an additional ACH and working to secure additional funding that aligns with the ACH's prevention efforts.

The state envisioned that each ACH would include community members (including those for whom ACH efforts were targeted) in the development and implementation of ACH activities and ultimately required that ACHs include community members and members of the target populations on their leadership teams as well so community members could play not just an advisory role but also a decision-making role in the ACHs. Nine ACHs reported the involvement of at least one community or target population member on their leadership team—up from eight in year one. In all except one of the 15 ACHs, members of the community or target population were involved in the ACH in some capacity after year one, even if not at the leadership level. One ACH implemented a very innovative approach -- engaging paid "community consultants" to represent a community perspective. The remaining ACH did report that it was not able to secure community member participation during the course of the grant.

Community-Based Care Coordination

The goal of care coordination within the ACHs was to address the challenges that individuals, especially those with complex conditions, face in getting the care they need—challenges that are often rooted in the social determinants of health and therefore extend beyond the medical realm. Community-based care coordination integrates medical and other services to reduce care fragmentation and avoid the risk of duplicative care coordination efforts. The RFP for the ACH Grant Program did not prescribe any particular framework or model for care coordination, providing flexibility to communities to identify and implement an approach based on the needs and means of their community. According to 2016 ACH quarterly report data submitted to the state, ACHs vary in terms of care coordination reach. Eight ACHs provided team-based care to a quarterly average of 10 to 84 individuals each. Four ACHs served a quarterly average of 100 to 150 individuals each. Three ACHs reached a quarterly average of more than 300 individuals each. (It is important to note that quarterly data may be cumulative or not depending on the ACH and quarterly counts, upon which averages are based, and may include outreach and service provision.) The following section describes the community-based care coordination models and approaches implemented by the ACHs and key changes across ACHs after the first year of the grant program.

As summarized in SHADAC's First Annual Evaluation Report, no single care coordination model accurately captures the care coordination approaches ACHs developed and implemented. ACH care coordination efforts have fallen into three general types. Just over half (n=9) conducted care coordination from the starting point of a medical facility or organization (e.g., clinic, hospital, health plan); four initiated care coordination within a community organization (e.g., social service agency, school, group living community); and two used a combination of medical and community-based starting points. ACHs have been innovative in choosing to anchor their services in a non-medical setting, in using a "no wrong door" approach to care coordination entry, and in using a "hub and spoke" model to assign individuals to care coordinators/partners. Medically-anchored care coordination models referred individuals outward to community resources to address needs related to social determinants of health. Care coordination anchored within community organizations involved addressing client needs within the non-medical community and connecting individuals outward to medical organizations for medical care. Where care coordination was initiated at both medical and community-based organizations, care coordination was approached using a "no wrong door" mechanism such that individuals were connected to both medical and non-medical services through a web of connections in the community.

Care coordination models remained largely unchanged after year one of the grant, with two exceptions. One ACH, with support from its ACH expansion grant, began to shift to a "hub-and-spoke" care coordination structure. Under this structure, the ACH maintained its original no wrong door approach, but individuals were to be routed from partner agencies through a central coordinator, who would ensure that care coordination responsibilities for a given patient/client scenario were triaged to the most appropriate partner rather than automatically falling to the partner through which the individual entered the care coordination system. Another ACH modified its care coordination workflow so that the HCH partner became the formal point of entry to care coordination, with the HCH care coordinator acting as the primary care coordinator unless an individual's need was related to mental or behavioral health, in which case he or she would be referred to the ACH's BHH partner for primary care coordination.

ACH community care coordination activities have ranged along a continuum of intensity that increases in tandem with patient needs. Lower-intensity coordination includes activities such as assessments and referrals. With greater patient/client need and increasing care coordination intensity, coordination activities expand to include elements such as the development of an individualized care plan, patient/client and family education and patient engagement, the involvement of a collaborative care team, and ongoing monitoring and follow-up.[76] The distribution of care coordination intensity among ACHs (from providing multiple levels of care coordination to focusing primarily on the higher or lower intensity ends of the spectrum) was largely stable after year one, with two exceptions. One ACH that had focused on providing high-intensity care/service coordination in year one added a moderate-intensity care coordination component for individuals with less intensive needs and, as part of an expansion grant, added a third arm for individuals that needed only lower-intensity care/service coordination. Another ACH that had not yet implemented care coordination in year one chose to pilot a care coordination model that provided intensive coordination for a high-needs population.

While the ACH community-based care coordination models and their intensity varied, ACH care coordination efforts continued to share several core elements: identification of individuals for coordination, patient/client awareness of and engagement in care coordination, provider awareness of and engagement with care coordination, individual needs assessments and care plans, authorization to share personal health information, communication protocols among providers and organizations, referral tracking and follow-up, team-based care/care teams, and health information technology. Baseline information on these elements was gathered from ACH interviews in year one and is available in SHADAC's First Annual Evaluation Report.[77] ACHs continue to demonstrate innovation in terms of the services and resources arranged and provided to address the health and social needs of their target populations [e.g., drumming circles, mindfulness training, art classes, and adverse childhood experiences (ACEs) education].

Among key changes to these elements after year one, two ACHs began identifying candidates for care coordination using IHP claims data, representing the first such use of IHP claims data. In another first, an ACH began to use hospital admissions data from its health plan partner (which was also an IHP) to alert care teams when an individual was admitted to the hospital in order to trigger care team outreach. Two ACHs changed the way in which they were conducting patient needs assessments, for which they had been conducting home visits in year one of the grant. One discontinued home visits altogether because the visits were deemed unnecessary to the care coordination model, and one changed which type of staff conducted home visits so that they could implement billing for the service.

Finally, ACHs reported a few changes in their use of health information technology after year one. In two cases, health information technology (HIT) use expanded, with one ACH implementing (with non-SIM funding) an electronic care coordination referral system that allowed providers to communicate with one another for the purpose of arranging referrals and automating the referral tracking process. Another ACH reported that its behavioral health partner gained read-only access to EpicCare Link, a portal for connecting providers to affiliates, for its care coordinated patients, with the goal of eventually gaining full access. In another case, HIT use decreased, with ACH care coordinators discontinuing use of a county-based EHR portal. A common lament among ACHs was the lack of health information exchange (HIE), with multiple ACHs having to rely on more than one HIT system simultaneously for different purposes, lacking access to

[76] McDonald, K. M., V. Sundaram, D. M. Bravata, R. Lewis, N. Lin, S. Kraft, et al., "Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies (Vol. 7: Care Coordination)," Rockville, MD: *Agency for Healthcare Research and Quality*, 2007.
[77] SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.

information that would help them to more successfully and efficiently do their work, and/or having to make and track referrals manually. (This complaint is supported by evidence from the SIM Minnesota Organization Survey, where 57% of ACH lead and collaborating organizations (n=64) reported that "health information reporting and analytics" was "very important" and 22% reported that "health information reporting and analytics" was "absolutely essential" as a means to achieving Triple Aim goals. The percentages of ACH participants reporting that "e-health" was "very important" or "absolutely essential" to their organizations as a means to improving client or patient experience, reducing costs, and improving population health were slightly lower but noteworthy, 35% and 25% (n=66) respectively.)[78]

Provider Feedback on Care Coordination Implementation

As noted previously, SHADAC administered a survey to medical and non-medical providers who were identified by ACHs as somehow interfacing with their care coordination models. The survey asked providers about a) their perspectives on the ACH care coordination models with which they were involved and b) their assessments of the impacts that ACH care coordination had on the care or services they provide and on workload and workflow. Here we consider provider feedback on care coordination implementation. We include provider assessments of care coordination impacts on care/service quality, patient/clients and their outcomes, and provider satisfaction in the next section.

The majority of providers reported that ACHs had implemented the key elements of care coordination "somewhat well" or "very well" (Exhibit 7.3). The activity that the greatest portion of providers rated positively was patient/client needs assessment, with 92.5% of provider respondents saying that this activity was done "somewhat well" or "very well." Related to this activity, and receiving positive marks from the next-highest percentage of respondents (91.3%), was the identification of patient/client needs and barriers related to social determinants of health or non-medical influences on patient/client health. A large majority of survey respondents (90.6%) also reported that ACH care coordinators did "somewhat well" or "very well" identifying individuals for care coordination services and reaching out to and educating patients/clients about these services (85.7%).

Most care team processes and workflows also received positive reviews from survey respondents, with 85.5% or more of respondents saying that ACHs had done "somewhat well" or "very well" in developing care or service workflow for patients/clients, defining roles and responsibilities for individuals providing these services, establishing care teams for patients/clients, and integrating care coordination. Provider assessments of the extent to which ACH care coordination services engaged medical providers and the four priority setting providers were comparatively mixed, with 90.2% of respondents rating engagement of community and/or social service agencies/providers positively, 86.5% rating engagement of medical providers positively, 86.0% rating engagement of behavioral health providers/services positively, 80.5% rating engagement of public health services positively, and 75.1% rating engagement of long-term care services and supports positively. Finally, provider assessments of information sharing, tracking, and follow-up varied the most, with the percent of positive responses ranging from a high of 92.0% for communication with providers in respondent organizations to a low of 71.5% for tracking client/patient referrals from services. (The percent of ACH participating providers reporting tracking client/patient referrals to services positively was higher at 77.8%.)

[78] The sample sizes refer to the number of survey respondents, but percentages are based on analysis of weighted data. See Appendix A for additional detail on weighting.

Exhibit 7.3. Providers' Perceptions of ACH Care Coordination Implementation

Activity	Very Well	Somewhat Well	Total Well	Poor	Neutral
Patient Identification, Outreach, and Assessment					
Identifying patients/clients for these services	57.2%	33.5%	**90.6%**	3.5%	5.8%
Reaching out to and educating patients/clients about these services	57.5%	28.2%	**85.7%**	6.4%	7.9%
Assessing patient/client medical needs	63.9%	28.5%	**92.5%**	3.8%	3.7%
Identifying patient/client needs and barriers related to social determinants of health or non-medical influences on patient/client health	75.2%	16.0%	**91.3%**	4.4%	4.3%
Care Plan and Care Team					
Developing care or service workflow for patients/clients	56.0%	29.5%	**85.5%**	5.1%	9.3%
Defining roles and responsibilities for individuals providing these services	58.8%	29.1%	**87.9%**	6.5%	5.6%
Establishing care teams for patients/clients	60.6%	27.1%	**87.7%**	4.5%	7.8%
Using provider support roles such as community health workers, community paramedics, health coaches, or others	61.9%	23.8%	**85.8%**	2.9%	11.3%
Integrating these services with other care coordination or case management activities within your organization	61.9%	26.8%	**88.7%**	3.5%	7.8%
Engaging patients/clients in making decisions about these services	62.7%	22.4%	**85.1%**	1.3%	13.5%
Engaging medical providers	56.2%	30.3%	**86.5%**	3.8%	9.7%
Engaging community and/or social service agencies/providers	65.2%	24.9%	**90.2%**	3.1%	6.7%
Engaging behavioral health providers/services	59.7%	26.3%	**86.0%**	3.4%	10.6%
Engaging long-term care services and supports	44.1%	31.0%	**75.1%**	11.0%	13.9%
Engaging public health services	58.8%	21.7%	**80.5%**	9.0%	10.6%
Information Sharing, Tracking, Follow-Up					
Communicating with providers within your organization	65.5%	26.5%	**92.0%**	2.5%	5.5%
Electronic sharing of health information with your organization	54.9%	25.2%	**80.1%**	9.6%	10.4%
Using electronic health information to provide these services	42.1%	34.1%	**76.2%**	13.1%	10.7%
Tracking client/patient referrals to these services	49.3%	28.5%	**77.8%**	8.8%	13.4%
Following up on client/patient referrals to these services	53.3%	32.6%	**85.8%**	9.6%	4.6%
Tracking client/patient referrals from these services	50.7%	20.8%	**71.5%**	14.2%	14.3%
Following up on client/patient referrals from these services	45.7%	29.3%	**75.0%**	8.6%	16.4%

Source: SHADAC, "Accountable Communities for Health (ACH) Provider Survey," *University of Minnesota, School of Public Health*, June 2017.

Providers were also asked for their assessments of the integration of care coordination roles and processes into their organizations (Exhibit 7.4). In all, 76.1% of respondents reported that care coordination was well-integrated into their organizations, with higher percentages (from 77.0% to 93.2%) offering positive assessments of individual aspects of integration. For example, 93.2% had a clear understanding of their roles and responsibilities related to care coordination services, 91.7% of respondents reported having a clear idea of which patients/clients should be referred to care coordination services, 91.6% understood how to refer patients/clients to care coordination, 84.2% reported that individuals providing care coordination services understood the limits of their role, and 79.9% said that the individuals providing these services were provided sufficient training for these services to be useful in their organizations.

Exhibit 7.4. Providers' Perception of ACH Care Coordination Implementation

Indicator	Agreed
I had a clear idea of which patients/clients should be referred to these services.	91.7%
I understood how to refer patients/clients to these services.	91.6%
I knew which of my patients/clients are receiving these services.	77.0%
I had a clear understanding of the roles and responsibilities of the individuals providing these services.	87.3%
I had a clear understanding of my roles and responsibilities related to these services.	93.2%
I had adequate information about the patients/clients referred to me from these services.	82.5%
The individuals providing these services were respectful of my training and position.	92.3%
The individuals providing these services understood the limits of their role.	84.2%
The individuals providing these services were provided sufficient training to be useful in my organization.	79.9%
I was provided sufficient training for these services to be useful in my organization.	81.4%
These services were well-integrated at my organization.	76.1%
Average # of items to which providers agreed (0-11)*	**9.3**

Source: SHADAC, "Accountable Communities for Health (ACH) Provider Survey," *University of Minnesota, School of Public Health*, June 2017.
Note: *Of those who responded to all 11 items (i.e., not Not Applicable).

The ACH Provider Survey also asked respondents about the impacts of ACH care coordination services on their access to information about patients/clients (Exhibit 7.5). Nearly 60% of respondents (59.7%) indicated that ACH care coordination had improved the completeness of patient/client information available to help with the provider's treatment/care planning, and 61% or more reported that ACH care coordination services had improved their knowledge of the care and services that their patients/clients need, with 61.1% reporting an improvement in their knowledge of medical care/services needed, 63.9% reporting an improvement in their knowledge of behavioral health care/services needed, 65.7% reporting an improvement in their knowledge of the public health services needed, and 66.1% reporting an improvement in their knowledge of the social services needed. Respondents who did not report improvement in these areas generally reported no change, with a small minority (less than one percent) reporting that their knowledge had worsened in any of these areas. While the majority of respondents reported increases in the patient information available to them and their knowledge about patient needs, a majority (67.8%) also reported that their *electronic* access to patient/client information/records was not changed in one direction or the other due to care coordination services, with less than one-third (31.4%) reporting improvement in this area.

Exhibit 7.5. Providers' Perceived Impact of ACH Care Coordination Services

Provider Information	Much Improved	Somewhat Improved	Total Improved	Worsened	No Change
Your electronic access to patient/client information/records	16.9%	14.5%	**31.4%**	0.8%	67.8%
Completeness of patient/client information to help with your treatment/care planning	31.8%	28.0%	**59.7%**	0.8%	39.4%
Your knowledge of the medical care/services that patients/clients need	39.3%	21.8%	**61.1%**	0.8%	39.4%
Your knowledge of the behavioral health care/services that patients/clients need	38.2%	25.7%	**63.9%**	0.8%	35.3%
Your knowledge of the social services that patients/clients need	41.8%	24.3%	**66.1%**	0.8%	33.1%
Your knowledge of the public health services that patients/clients need	38.7%	27.0%	**65.7%**	0.8%	33.4%

Source: SHADAC, "Accountable Communities for Health (ACH) Provider Survey," University of Minnesota, School of Public Health, June 2017.

Population Health

An area of increased focus for ACHs after year one of the grant program was population health. The ACH Grant Program required ACHs to develop and implement a population-based prevention plan that aligned with its care coordination target population *or* focused on diabetes management and prevention, tobacco cessation, hypertension, obesity, or adverse childhood experiences (ACEs), with the vision, according to state staff, of "looking at the population health indicators for [the] community."[79] In developing their population health plans, ACHs were encouraged to build upon prevention work initiated or underway through other community efforts— for example, the Statewide Health Improvement Program (SHIP; leveraged by six ACHs), Community Transformation Grants (leveraged by three ACHs), or other local public health initiatives (leveraged by nine ACHs).

ACHs were afforded significant flexibility in designing and implementing their population health plans, and, as a result (as with care coordination approaches), there was no single common approach to population health improvement among ACHs. According to interviews with state staff, the state envisioned ACHs looking at the population health indicators for a selected population so that they could "see where [they] could put forth effort beyond just individual care coordination for that population." To this end, population health activities would, ideally, focus on the same population as care coordination activities. In fact, all ACHs focused in whole or in part on the same populations for both care coordination and population health, and there was also frequent overlap between care coordination and population health activities themselves. Some ACHs, however, did implement separate activities for each component. In developing their population health goals, ACHs leveraged a variety of resources. For example, at least eight ACHs reportedly leveraged data collected during recent Community Health Needs Assessments (CHNAs) to identify areas of need in the community, and four ACHs engaged the community in focus groups and other outreach to identify and refine population health priority groups and issues.

Exhibit 7.6 below summarizes population health improvement goals, inputs used to determine these goals, target populations, and key population health activities pursued by ACHs as well as the degree to which these target populations and activities varied from care coordination target populations and activities.

[79] "Request for Proposals: Minnesota Accountable Health Model Accountable Communities for Health Grant Program," *Minnesota Department of Health,* September 2, 2014, http://www.dhs.state.mn.us/main/groups/sim/documents/pub/dhs16_184306.pdf.

Exhibit 7.6. Overview of ACH Population Health Activities

ACH Name	Population Health Goal	Inputs to Determine Goal(s)	Target Population	CC Population Overlap	Key Activities	CC Activity Overlap
ACH for People with Disabilities	Increase physical activity among people with developmental and/or intellectual disabilities served by Altair ACO	November 2012 Research from *Minnesota Medicine*; DATA 2010	People with disabilities, many of whom receive services through Medicaid Waiver funding	Same	Education around benefits of physical activity for people with disabilities	Complete
CentraCare Health Foundation	Raise diabetes prevention awareness and self-management among east African and Hispanic populations in Stearns County	Community Health Needs Assessment	Key ethnic groups including Somalis, Mexicans, Dominican Republicans, and Puerto Ricans; many covered by Prepaid Medicaid Assistance Program (PMAP)/Medicaid	Same	Education and awareness around diabetes prevention and treatment	Some
Ely CCT	Increase walk-ability and bike-ability in the Ely area	Safe Routes to School assessment and plan; Incredible Ely assessment and plan	Ely community	Care coordination population is a subset	Increased bike rack availability; design kiosk to highlight walking, biking opportunities; offer community event to promote education, safety, and awareness	No
Greater Fergus Falls ACH	Address chronic disease prevalence in the Greater Fergus Falls area	Community Health Needs Assessment; Community Conversations feedback; focus groups and individual interviews	Greater Fergus Falls community	Care coordination population is a subset	Coordinated with SHIP to continue ongoing population health activities around healthy behaviors	No
HCMC Brooklyn Park ACH	Improve clinic-community care coordination delivery model for people with depression in the Brooklyn Park community; develop and implement strategies that promote a community of health; create sustainable community relationships toward Triple Aim	Community Health Needs Assessment; SHAPE data; HCMC IHP patient data	Hennepin County community at-large, with particular focus on patients attending Brooklyn Park Clinic	Same	Expanded a depression support group; develop culture cohorts; leverage community champions to identify areas of health concerns	Some
Hennepin County Correctional Clients	Increase the dietary health and physical activity of residents of the Hennepin County Adult Correctional Facility (ACF) after release.	Hennepin Health enrollment data; ACF demographic and assessment data	People enrolled in Hennepin Health released from correctional facilities	Same	Education around healthy eating, physical activity, lifestyle changes, and decreased smoking	No
Mayo CCT	Target CCT activities that align with the financial stress/homelessness and mental health priorities of Olmsted County Public Health's Community Health Improvement Plan (CHIP)	Olmsted County Public Health CHIP	Community dwelling adults with multiple chronic conditions; particular focus on those with financial or mental health issues	Same	Coordinated with Community Health Improvement Program (CHIP) workgroups; "population health management" approach	No
Morrison County Community Based Care Coordination	Mitigate the need for prescription drugs through pain management, modify patient access to multiple narcotic prescriptions, overcome barriers to patient treatment, and coordinate chemical dependence treatment	Community Health Needs Assessment; hospital ED admissions data; pharmacy claims data	Greater Morrison County community	Care coordination population is a subset	Implemented care coordination model focused on pain management; raised awareness about long-term effects of opioid use and addiction as well as about treatment options; raised awareness about safe disposal of unused prescriptions; changed prescribing practices of providers	Some

ACH Name	Population Health Goal	Inputs to Determine Goal(s)	Target Population	CC Population Overlap	Key Activities	CC Activity Overlap
New Ulm Medical Center	Improve health equity and overall health in core measures	Community Health Needs Assessment; "hot spot" events; other community assessments; local public health SHIP; Heart of New Ulm (HONU) strategic plan	Individuals on medical assistance who have chronic conditions	Care coordination population is a subset	Promoted healthy eating, physical activity and tobacco cessation; improved access to healthy food; improved bike-ability and walk-ability in New Ulm, focusing on "hot spot" neighborhoods	No
North Country Community Health Services	Increase awareness of mental health issues and awareness and adoption of positive mental health strategies (and their benefits) for youth and at-risk youth	Community Health Needs Assessments; local public health SHIP	At-risk children and youth in the four-county area and adults who work directly with and support these groups (e.g., teachers, school administration)	Care coordination population is a subset	Collaborated with SHIP on opportunities to improve mental health of target population; advocated for ACEs awareness and mental health issues in the region where the target population lives; coordinated care for youth in crisis within school settings	Some
Northwest Metro Healthy Student Partnership	Promote wellness and a school-wide culture of health within high schools in the Anoka-Hennepin School District	CMMI and CDC population health metrics; information from the Anoka County Community Health Advisory Committee; Anoka-Hennepin High School biometric screening data; MN Student Survey; MDH health reports; County Health Rankings	Students and teachers who attend/work at Northwest Metro schools	Care coordination population is a subset	Provided proactive health education and programming around tobacco use, physical activity, healthy eating and wellness	Some
Southern Prairie Community Care	Delay and ultimately prevent type 2 diabetes in those at risk for the disease in the 12-county SPCC area	Consultation with community partners and stakeholders; data from CDC, Minnesota Center for Prevention, and Minnesota Diabetes Collective	Community members at-risk for diabetes	Care coordination population is a subset	Implemented I Can Prevent Diabetes Curriculum throughout the community; provided free diabetes screenings and education about physical activity and healthy eating	Some
Together for Health at Myers-Wilkins	Provide access for Myers-Wilkins to a greater number of resources that Myers-Wilkins families have identified as key to creating a healthy community including: economic pathways, mental health pathways, healthy lifestyle supports, and expanded community engagement in improving population health	Community Health Needs Assessment; surveys and focus groups of Myers-Wilkins families	Students and family members in Myers-Wilkins Elementary School Community	Same	Connected families to resources through Complete 4 Hope program, Circles of Security, and healthy lifestyles classes/events; increased number of ACH partnerships and increase outreach to community	Some
Total Care Collaborative	Reduce overall readmissions and ED utilization among individuals with serious mental illness and serious and persistent mental illness through improved coordination and transitions of care	ED utilization and readmissions data; Community Health Needs Assessment	Individuals with serious mental illness and serious and persistent mental illness	Same	Population management through care coordination	Complete
UCare/FUHN ACH	Enhance linkages between care coordination entities serving the Special Needs Basic Care population being targeted by the ACH	Clinic and health plan data; feedback from UCare Disability Advisory Committee	SNBC patients enrolled in UCARE	Same	Population management through care coordination	Complete

Sources: ACH self-reported annual reports (2016) and quarterly progress reports (Quarter 1 2017) and interviews with ACH participants.

Key Outcomes

A key focus of our final interviews with ACHs pertained to the outcomes and implications of the work conducted under their ACH grants. Specifically, we inquired about both positive and negative expected and unintended outcomes as well as areas where ACHs may not have achieved desired results. The ACH Provider Survey also collected provider perspectives on the impacts of ACH community-based care coordination models on the quality of services provided and on provider workload and workflow.

The ACHs reported a number of outcomes and implications from their work over the grant period. The bulk of these outcomes and implications occurred at the organizational or health systems and provider level, but patient experiences and patient health outcomes were included as well. The areas of most significant impact across ACHs included: the development of new organizational partnerships and the deepening of existing ones, improved care/service quality, increased provider satisfaction, and improved patient/client outcomes. ACHs reported some cost savings which, when combined with improvements in quality measures, could support shared savings arrangements; however, ACHs also highlighted the conflicting incentives of value-based and fee-for-service payment models.

New or Strengthened Collaborations

The development of new or strengthened collaborations among ACH partner organizations and providers was a key outcome of the ACH grant, mentioned consistently throughout the final ACH interviews and in ACH administrative documentation. Results from the SIM Minnesota Organization Survey support this finding, with 89% of ACH organizational respondents reporting that their organizations experienced at least some increase in the number of collaborations resulting from ACH work under SIM (out of 70 organizations). ACHs stand out in terms of the unique and broad set of stakeholders at the ACH table (e.g., law enforcement, schools, hospitals, health plans, individual community members, youth programs).[80]

Additionally, 80% of ACH organizational respondents indicated that they believed their organizations' collaborations with other organizations became somewhat (51%) or much more (29%) formalized under the ACH grant. ACH respondent perception of strengthened relationships was in alignment with retrospective pre/post survey data comparing the formality of relationships that ACH participants had with various stakeholder types at two points in time, at the time of survey administration and before SIM. (SHADAC defines increased formality as organizations reporting their relationship with a stakeholder type as farther along the scale at the time of the survey compared to before SIM. The survey scale is as follows: no relationship exists; aware of one another; informal collaboration; one formal collaboration; and formal collaboration with shared accountability for quality and cost.) We found that 78% of ACH participating organizations reported increases in relationship formality with at least one of the stakeholder types surveyed, especially priority setting provider organizations. One ACH participant commented, "This really…has re-energized and created new partnerships that weren't in existence."

The development of new and strengthened collaborations, besides being a result in itself, had several functional implications. It led to meaningful relationship development, trust building, and the willingness of partners to leverage one another's resources in a way that improved the efficiency of each organization.

[80] Seventy organizations refers to the number of survey respondents, but percentages are based on analysis of weighted data. See Appendix A for additional detail on weighting.

The ACH Provided a Structure for Communities to Come Together

ACHs mentioned the importance of development and/or strengthening of partnerships and collaborations more often than any other outcome of their work under the grant: "A slam dunk, really, has just been…bringing people together, bringing the components of the service spectrum together." This qualitative finding is consistent with SIM Minnesota Organization Survey findings such that almost all of the ACH participating organizations that responded to the survey rate relationships with other organizations as either "absolutely essential" (53%) or "very important" (40%) to achieving Triple Aim goals. ACH interviewees testified that the creation of "a framework for people to come together" was "one of the really incredibly valuable things that the ACH has done." Another emphasized that the ACH served as a vehicle for the "opening of the doors" between organizations. One ACH interviewee remarked: "[The ACH grant has] really brought the teams together in the clinic and the community. It's really, really brought our community together. I can't say enough positive about…all this time together." The ACH offered a mechanism—one that in many cases would not otherwise have occurred—for "organizational learning," for the opportunity "to get together, sit in room…and just hear, what's life like? What is it like to serve [this population] from your perspective?" This opportunity to learn from each other was described as "an incredible luxury."

Partners Were Able to Build Relationships and Trust

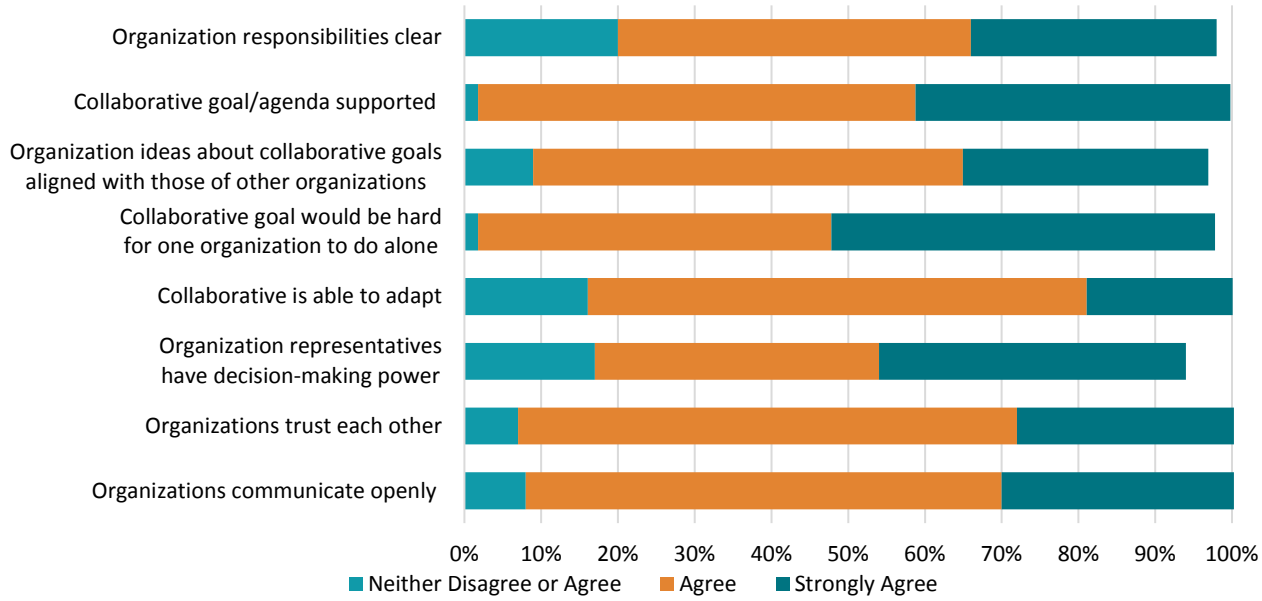
This relationship building has, in turn, led to the development of trust between partners. "It's given us trust in each other of what we are capable of," noted one interviewee. This trust was identified as a necessary precursor to partnering on a functional level for the purposes of better coordination of services. According to one interviewee: "That took some time and it took trust building to kind of work with partners to understand what they were doing and endorse that and support that and use them." In other words, meaningful coordination and collaboration depended on organizations' willingness to rely on one another. ACHs spoke directly to the importance of the experience of cultivating and maintaining trusting relationships among multiple organizational partners, emphasizing that the knowledge gained from this experience was an important impact in and of itself, "That's an impact, I think. That's a big impact, to be able to know how to pull something together of this magnitude." Another ACH emphasized, "…we know how we have to work together…that's a really significant outcome."

Organizations Relied on One Another and Became More Efficient

According to the ACHs, the willingness of organizations to depend on one another ultimately led to improved organizational efficiency and reduced duplication of effort because partner organizations were comfortable leveraging one another's resources and expertise. One ACH noted, "We're not all reinventing the wheel. We're sharing resources and tools that we use along the way." According to another ACH, "[We]… now know so much more about how we are connected and can connect support for needs that are going to show up in own smaller organizations." One interviewee pointed out, "Everybody is around the table, and they may be coming there with different grants and different things, but…there's nobody trying to compete to provide that service. There's coordination of services, trying to make sure that we're not overlapping on services." In another case, an ACH interviewee spoke about the extent to which this increased efficiency built on itself in such a way that ACH partners could be more proactive, "…by bringing the agencies together the way we have, it's allowed each site to not feel like their only option is to be reactionary." With an awareness of the capacities of other partners, partner agencies have been able to work to "do more in…prevention."

Overall, ACH participants who responded to the collaborative functioning section of the SIM Minnesota Organization Survey (n=56) felt strongly that their ACHs functioned well throughout the grant period (Exhibit 7.7).[81] Participating organizations especially felt that their ACH goal or agenda was supported by the partner organizations, that the ACH goal would have been hard for one organization to achieve alone, and that organizations in the ACH trust each other. Key benefits to working in ACHs reported by survey respondents include: developed valuable relationships (92%); new useful knowledge about services, programs, or people (85%); developed new skills (68%); and the quality of services improved (58%). One ACH survey respondent explained ACH benefits in this way: "In order to accomplish the Triple Aim, we need to collaborate with many other organizations. SIM funding allowed us to move our agenda forward and accomplish much more than we could have ever done on our own."

Exhibit 7.7. ACH Participants' Perspectives on Collaborative Functioning



Source: SHADAC, "Minnesota Accountable Health Model - SIM Minnesota Organization Survey," *University of Minnesota, School of Public Health*, June 2017.
Notes: SHADAC received one "Strongly Disagree" response to reported questions, and few responses were "Disagree." These categories are not shown. Percentages are based on analysis of weighted data.

Improved Care Quality

Many ACH interviewees reported that ACH community-based care coordination led to improvements in care quality, and 78.3% of ACH Provider Survey respondents stated that care quality was somewhat or much improved as a result of ACH care coordination services. Quality indicators mentioned most often by ACHs interviewees included: care becoming more patient-centered, improved patient/client experiences and satisfaction, and improved management of care transitions and chronic conditions.

Increase in Extent to Which Care is Patient-Centered

ACH care coordination, according to many ACH interviewees, increased the extent to which care and services were provided in a patient-centered way. "I think [providers] are now starting to look at individuals [with] a much more whole-person perspective [compared to] last year," commented one interviewee. Providers are looking beyond a patient's or client's diagnosis and asking, "What else is going on in your life?" Another interviewee highlighted the extent to which individual patient needs

[81] The sample size refers to the number of survey respondents, but percentages are based on analysis of weighted data. See Appendix A for additional detail on weighting.

were being considered when coordinating care and services: “Our patients stay at the center of our program. It is a completely patient-driven program…. [We ask] ‘What’s important to *you* [patient]? What will make this last for *you*?’” A different provider reflected this approach in describing another ACH’s approach to care plan development, pointing out the importance of letting patient priorities drive the plan: “We’re really trying to get people to assume some responsibility for their plan…it’s *their* plan. People aren’t going to do something that they’re not invested in.” Data from the ACH Provider Survey indicate that patients/clients were engaged in decision-making about their care/services, with 78.8% of ACH providers indicating improvement in this area. Related to this point, respondents also perceived an improvement in patient awareness of available care/services/resources (80.9%) and in patient access to available care/services/resources (79.9%). Moreover, the general shift toward a patient-centered approach also corresponded with a perceived improvement in the extent to which care was better suited to the needs of individual patients, with 78.3% of respondents saying that the appropriateness of the care/services that patients/clients received was somewhat or much improved due to ACH care coordination.

In one case, the integration of behavioral health and health care services through the ACH was identified as facilitating its capacity to adopt a whole person approach. A provider from this particular ACH explained, “Our primarily behavioral health, mental health program…we are now so much more integrated with health and looking at the whole person…. It’s really expanded what our world looks like.”

Greater Patient Satisfaction

ACHs repeatedly pointed to improvements in patient satisfaction as an outcome of ACH care coordination services. Patient/client satisfaction was framed most often in terms of the navigation/advocacy function of ACH care coordination. An ACH social worker cited patient testimony: “They are incredibly thankful. They will admit to you, ‘I wouldn’t be able to do this without you, and I don’t know how people do this without help.’ Because otherwise…if they were in the ER or in the clinic and they needed resources, like, ‘oh, I can’t pay my bills,’ the nurses don’t know any of that.” Another interviewee noted, “The biggest thing I see is people who are stuck…they don’t realize how complex [the system] is. But when they get to know you it’s like, oh, here’s somebody who can help me find my way through all this…there are resources around, but it’s very difficult for them to figure out.” Another interviewee echoed this sentiment, describing “the amount of relief that these patients have knowing that finally there is someone that will help them navigate…they’re very relieved. I don’t know how you measure relief.”

Several ACH interviewees noted the value that patients placed on the extent to which the ACH care/service coordination made patients feel like they were personally connected with the system: “They feel like they have someone that they’re connected to. They’re not just calling the clinic and getting some nurse that answers the phone. They’re getting [name] that met with them after their appointment…who is directly relaying stuff to the providers.” At another ACH, “We give our patients our direct line so they don’t have to go through reception…you know, get lost in the shuffle.” ACH Provider Survey data support ACH interviewee perceptions of improved patient satisfaction, with 78.5% of respondents reporting that patient/client satisfaction and experiences with care/services were either somewhat or much improved as a result of ACH care coordination.

Improved Care Transitions and Behavioral Health and Chronic Disease Management

A key outcome among ACHs was the improvement of both care transitions and behavioral health and chronic disease management among target populations. A number of ACHs collected quality data on service utilization and care processes that demonstrate improvements in the care provided to their target populations. For example, six ACHs monitored emergency department (ED) utilization among their target populations, four monitored inpatient hospitalizations, and two monitored 30-day re-admissions. While these particular indicators are based on hospital utilization, they can provide insight into the quality of the care management provided outside the hospital setting, because these types of utilization often indicate the occurrence of an ambulatory care sensitive condition that could have been avoided through appropriate care coordination/management.[82] At the time of this writing, five of six ACHs saw decreases in ED utilization over time, three of four ACHs saw decreases in inpatient hospitalizations over time, and both of the ACHs monitoring 30-day readmissions reported decreases on this measure for the target population. (Results for one ACH collecting data on ED utilization and inpatient hospitalization were not yet available.)

With respect to care processes, seven ACHs monitored their screening rates for certain mental health and chronic conditions (most often depression and diabetes but also breast and colon cancer) among their target populations, and all seven saw improvements in these rates by the end of year two of the project period. At least two ACHs went so far as to collect health outcome data related to these process indicators. One assessed depression remission and glycemic control among target population members with depression and/or diabetes. This particular ACH found that six-month depression remission among the ACH target population dropped over a two-year timespan but pointed out that the ACH target population was still performing better than the general population. The ACH also found an improvement in glycemic control among individuals in the ACH target population with a diagnosis of diabetes both compared to baseline and the general patient population. The second ACH assessed change in patient/client diabetes status (managed vs. unmanaged as indicated by A1C levels) using diabetes registry data. This ACH did not achieve its desired outcome of reducing the total number of patients with unmanaged diabetes at a clinic site; however, the ACH speculates that this outcome was attributable to growth in the numbers of clinic patients with diabetes resulting from ACH education and outreach on the topic.

Data from ACH Provider Survey respondents also indicate improvements in care management, with 75.3% of respondents indicating that management of care/service transitions for patients/clients were improved due to ACH care coordination services (24.3% of ACH providers responding to the survey reported no change on this item due to ACH care coordination services, with fewer than 0.5% reporting a worsening on this item), and 72.4% reporting that chronic disease management was improved as a result of ACH care coordination efforts (27.2% of ACH providers responding to the survey reported no change on this item due to ACH care coordination services, with fewer than 0.5% reporting a worsening on this item). Survey respondents also pointed to perceived improvements in utilization indicators that correspond to better care quality: 69.2% felt that ACH care coordination services had reduced preventable hospital admissions among their patients/clients, and 66.3% felt that ACH services has reduced unnecessary emergency room visits among their patients/clients.

[82] "Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Care Sensitive Conditions," *U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality*, October 2001, https://www.ahrq.gov/downloads/pub/ahrqqi/pqiguide.pdf.

Improved Provider Satisfaction

When asked about ACH impacts, at least eight ACHs noted during our interviews that provider satisfaction increased as a result of ACH care coordination efforts. Improvements in provider satisfaction stemmed from improved provider effectiveness, including increased knowledge among providers about community resources to address the social determinants of health and improved workflows. Together, these improvements have led to provider support for ACH care coordination efforts, with 83.9% of ACH Provider Survey respondents indicating that they would like to continue to participate in or use the ACH care coordination services, and 85.5% of respondents indicating that ACH care coordination services were an appropriate use of their organization's resources.

Providers Were Able to Address a Broader Range of Patient Needs

An increase in provider knowledge about resources available in the community and how to access these resources (e.g., "being able to pick up the phone and know who to call") was among the most frequently mentioned outcomes reported by ACH interviewees. This knowledge improved the ability and capacity of providers to meet a broader range of patient/client needs—i.e., to adopt the more patient-centered care approach described above. An increased awareness of resources helped providers ask potentially difficult, non-medical questions that they might not have asked previously because they felt like they were not able help. With ACH care coordination in place, providers didn't feel like they had to "have all the answers" but could give "an educated response," connecting individuals with the people and organizations that could help. Providers reported an increase in capacity resulting from this new awareness of available resources: "[This knowledge] has increased our capacity simply because…we are networked into more resources. And we're learning more." One interviewee noted, "I think the [providers] probably feel like…they are helping more [clients] with more resources than they had before." An ACH provider confirmed this: "…It also gives me more resources in the ER where before… I didn't have all the nursing resources and I didn't have [a social worker] to follow up with people…it makes for a more comprehensive visit for the patient."

An enhanced ability to meet patient needs was evident from responses to ACH Provider Survey questions that addressed the ways in which providers and organizations benefitted from ACH care coordination services. In all, 89.4% of provider respondents said that they had acquired useful knowledge about services, programs, or people in the community from these services; 59.5% indicated that they had acquired new skills; 83.8% said they had developed or strengthened valuable relationships, and 59.8% reported that their relationships with patients/clients in particular were somewhat or much improved due to ACH care coordination services. In all, 70% of respondents indicated that ACH care coordination services had helped their organization address an important issue that it had otherwise been unable to address.

One ACH pointed out during our interview that high care utilizing patients are discouraging for providers who see such patients repeatedly without being able to help them, and ACH care coordination relieves this pressure on providers by addressing the underlying social needs that are driving high utilization: "…we look at it as a piece of provider satisfaction. The provider who walks in and is like, oh my God, they're here again? And I couldn't do anything for them yesterday, I can't do anything for them today, I'm not going to be able to do anything for them tomorrow…that's really discouraging to somebody who just wants to help people." This sentiment was echoed by other ACHs, which pointed out that coordination efforts deliver "provider relief," in order to avoid "burnout and compassion fatigue." This relief was tied to the improved sense of effectiveness described above, whereby providers were aware

of more resources for patients. Reinforcing interviewee statements about provider relief, 52.3% of ACH Provider Survey respondents reported that ACH care/service coordination helped to improve staff morale.

Workloads and Workflows Improved

Many ACHs also framed provider satisfaction in the context of improved operations, noting, "…if you ask any clinician, it's very obvious to them how [community-based care coordination] helps. Just being able to pick up the phone and know who to call or just seeing how differently it feels in getting referrals followed through…they may not be able to articulate it well, but that is huge." Nearly three-fourths (72.6%) of ACH provider survey respondents reported that ACH care coordination services had a positive impact on workload, and a similar percentage (73.7%) reported that ACH care/service coordination had a positive impact on provider work*flow.* A comparable proportion (73.2%) of ACH providers also indicated that care coordination services were easy to use. Operational improvements were facilitated, according to the ACHs, by providers, care coordinators, and other staff knowing and understanding their respective roles and areas of expertise. In most cases, the delineation of roles was very intentional: "We talked about that. 'Okay, this is my role. This is your role. This is what I'm going to do.'" Another ACH stated, "…we worked very hard…to carve out that role of the care coordinator. So the clinical duties are someone else and the care coordination duties are for the care coordinator." Most ACH Provider Survey respondents (87.9%) reported that ACHs did "very well" or "somewhat well" in defining roles and responsibilities for individuals providing care coordination services.

Improved Patient Health Outcomes

ACHs generally felt that their work had improved patient/client health outcomes. While this was not among the most common outcomes mentioned during ACH interviews, 80.2% of ACH Provider Survey respondents reported that patient/client health outcomes were improved because of ACH care coordination services. ACHs measured patient health outcomes using clinical indicators and utilization indicators (previously discussed), patient self-report data, and via anecdotal feedback from providers and patients.

Clinical Indicators: Few Collected, Mixed Results Seen

Most ACHs (13 of 15) did not collect clinical data that would allow them to demonstrate changes in patient/client health outcomes. ACHs cited several reasons for not measuring ACH outcomes using clinical data: the duration of the ACH intervention did not allow sufficient time for an impact to be evident in the data; the ACH did not know what outcomes to measure; the connection between the ACH intervention and health outcomes data was not clearly demonstrable (e.g., because ACHs were not able to connect data points for individual patients/clients); and/or the ACH did not have access to clinical outcomes information (for example, school-based ACHs were unable to access this data). As mentioned previously, at least two ACHs did collect clinical quality measures and saw mixed results. For example, one ACH found that six-month depression remission dropped over a two-year timespan and glycemic control among diabetes patients improved. The second ACH did not see reductions in patients/clients with unmanaged diabetes (indicated by A1C levels).

Process and Utilization Indicators Showed Improvements

As mentioned previously, seven ACHs monitored their screening rates for certain conditions (most often depression and diabetes but also breast and colon cancer) among their target populations, and all seven saw improvements in these rates by the end of year two of the project period. In addition to screenings, five ACHs monitored ED utilization among their target populations, four monitored inpatient

hospitalizations, two monitored 30-day re-admissions, and one collected pharmacy utilization data. By the end of year two of the grant period, four of five ACHs monitoring ED utilization saw decreases over time (with one more awaiting results); one saw a decrease in the frequency with which therapeutic drug monitoring was an ED diagnosis; three of four ACHs saw decreases in inpatient hospitalizations over time (one was awaiting results); both of the ACHs monitoring 30-day readmissions reported a decrease on this measure for the target population; and the ACH monitoring pharmacy utilization saw decreases in the number of Prepaid Medicaid Assistance Program (PMAP) members with pharmacy claims and the number of pharmacy claims paid for individuals with multiple claims, as well as a decrease in total prescription fills for controlled substances at the local pharmacy. The table in Exhibit 7.8. presents details about these utilization and cost results, which were available to six ACHs in total. While not a predictor of outcomes, we organized ACHs in the table by locus of care coordination: four ACHs with outcome data conducted care coordination from the starting point of a medical facility, and two ACHs with outcome data initiated care coordination from within a community organization or employing a combination of medical and community-based starting points.

Exhibit 7.8. Available Utilization and Cost Results by Locus of ACH Care Coordination

Utilization and Cost Measures	Community based starting point or combination of medical and community based starting point	Care coordination models with a medical facility starting point
ED utilization	**Two** ACHs reported **decreases** in number of **ED episodes** after initiation of care coordination.	- **Three** ACHs reported **decreases** in use of ED (in terms of MA patients, for therapeutic drug monitoring) after initiation of care coordination. - **One** ACH anticipates **decreases** in ED use.
Inpatient hospitalizations	**One** ACH reported **decreases** in number of **inpatient episodes** after initiation of care coordination.	- **Two** ACHs reported **decreases** in inpatient admissions (one ACH measured at 30, 60 and 90-day marks; the other ACH measured for MA patients) after initiation of care coordination. - **One** ACH anticipates **decreases** in inpatient hospitalizations.
30-day readmissions	**One** ACH reported **mixed results** in **readmission rate** for Medicare FFS beneficiaries	**One** ACH reported **some decrease** in re-admissions among MA patients.
Pharmacy utilization	**N/A**	- **One** ACH reported **decreases** in pharmacy claims year over (and for claims paid for patients with multiple claims year over year). - **One** ACH reported **decreases** in total pill/patch counts per month.
Emergency Department costs	**One** ACH reported **reductions** in year-over-year **ED costs** for patients enrolled in care coordination	- **N/A**
Prescription costs	**N/A**	- **One** ACH reported **reduced** prescription costs among care coordinated patients after intervention.

Sources: ACH self-reported annual reports (2016) and quarterly progress reports (Quarter 1 2017) and interviews with ACH participants.

Patient Self-Reports and Provider Perceptions Indicate Improved Health Status

A small proportion of ACHs (3 of 15) measured patient/client outcomes through patient self-assessments of health status and quality of life and reported these results as indicators of short-term health impact. These ACHs used validated instruments including the CDC Healthy Days Measure (health-related quality of life), the SF-36 (quality of life), the PROMIS-29 (physical, mental, and social health), the PROMIS Scale - Global Health (physical, mental, social, pain, fatigue, overall quality of life), the General

Self-Efficacy Scale, the Connor-Davidson Resilience Scale (CD-RISC-10; ability to adapt to adversity), and the Well-Being Picture Scale (non-language based assessment of current state of well-being).[83, 84, 85, 86, 87, 88] Data from these assessments showed improvements among participants over time compared to baseline and, in two cases, when comparing ACH participants to non-participants over the course of the project (one ACH did not draw this comparison to non-participants).

Feedback from ACH interviewees and ACH Provider Survey respondents confirmed that ACH activities had a positive impact on patient/client health and social determinants of health. One ACH interviewee stated, "…the work of the [ACH] has really made a difference. You listen to our doctors' talk about the community aspect of making it a healthy place to live or [of] preventive medicine. I think that's very important and effective." Another pointed to evidence in the form of new/potential clients seeking out ACH services and saying things like, "I hear you can help me," and to former patients testifying to the cascading positive impact of the ACH on their lives, where improved health led to improved socioeconomic outcomes through, for example, a new ability to hold a job. "[It] ripples into the community because now they might be mentoring, or they have a job, and now they're paying taxes…" added one ACH interviewee. A school-based ACH noted positive socio-emotional outcomes among students in target schools, reporting that these schools are seeing "better behavior, fewer issues in the classroom...the school population is getting healthier because they can communicate on mental health issues." Among respondents to the ACH Provider Survey, 80.2% perceived that ACH care coordination services improved patient/client health outcomes (as noted earlier), and 70.1% perceived that these services improved patient/client social/economic health outcomes.

Limited Evidence of Cost Savings

The majority of ACHs did not measure cost impacts from their work. Generally, ACHs didn't have access to the claims information necessary for cost analysis. However, some ACHs also estimated that their interventions/cohorts were too small to allow for a feasible financial analysis and/or that a connection could not have been clearly made between ACH interventions and patient claims, even if the claims were to have been accessible. A significant challenge to identifying cost impacts was that ACH target populations were generally broader than attributed populations of ACO partners. Even in cases where ACO data were used to identify and target candidates for care coordination, the ACO data were usually not the only source of referrals. Additionally, in one case where the ACH *had* specifically targeted its ACO population in year one of the grant, the ACH decided to expand its outreach after year one to a broader population in order to increase take-up of ACH services. (Several ACHs pointed out the difficulty of achieving a more precise level of overlap between ACH target populations and IHP attributed populations, in particular, since IHP patients are attributed retroactively so that providers "don't know who they are until after the fact." In this vein, one ACH described IHP attributed patients as "moving targets.") ACH patient/client bases were fluid, presenting yet another challenge to tracking cost impacts. According to one ACH interviewee, "The people we started out with might not be the people that

[83] "Health-Related Quality of Life," *Centers for Disease Control and Prevention*, last modified May 27, 2016, https://www.cdc.gov/hrqol/methods.htm.
[84] "36-Item Short Form Survey (SF-36)," *Rand Health*, accessed July 21, 2017, https://www.rand.org/health/surveys_tools/.
[85] "PROMIS (Patient Reported Outcomes Measurement Information System," *Health Measures*, accessed July 21, 2017, http://www.healthmeasures.net/explore-measurement-systems/promis.
[86] "General Self-Efficacy Scale (GSE)," *Measurement Instrument Database for Social Services*, Accessed July, 21, 2017, http://www.midss.org/content/general-self-efficacy-scale-gse.
[87] "CDRISC: The Connor-Davidson Resilience Scale," *CD-RISC*, accessed July 21, 2017, http://www.cd-risc.com/index.php.
[88] Gueldner, Sarah Hall, Yvonne Michel, Martha Hains Bramlett, Chin-Fang Liu, Linda W. Johnston, Emiko Endo, Hideko Minegishi, and Mable Searcy Carlyle, "The Well-Being Picture Scale: A Revision of the Index of Field Energy," *Nursing Science Quarterly* 18, no. 1 (2005): 42–50, http://journals.sagepub.com/doi/pdf/10.1177/0894318404272107.

they're working with now. And so it's been a little more complicated in terms of showing, here's your starting point, here's an ending point, and we magically have better outcomes and reduced costs."

In all, four ACHs conducted cost analyses of some kind to determine the impact of ACH services on the cost of care (Exhibit 7.8). In two of these cases, cost analyses were directly driven by utilization indicators described above. One examined total ED costs year-over-year for patients continuously enrolled in care coordination and found a 55% reduction in total ED costs from baseline, for a savings of $29,304. Another ACH examined total pharmacy claims among the ACH target population before and after the ACH intervention and found a 9.1% drop in claims, representing a $439,674 reduction in costs. Two ACHs were conducting total cost of care (TCOC) analyses to identify any pre/post-ACH TCOC changes for ACH patients/clients. In one of these cases, TCOC was being examined in relation to ED utilization and inpatient hospitalizations, while the other did not specify targeted indicators. At the time of this writing, both of these TCOC analyses were still underway and results were not yet available, although one of the two ACHs anticipated TCOC reductions for approximately 10% of ACH patients. These cost reductions, combined with improvements in quality measures, could support shared savings arrangements, but ACHs also highlighted (as detailed below) that the conflicting incentives of value-based and fee-for-service payments meant improvements in care quality could ultimately reduce provider revenue.

No Impact on Alternative Payment Model Advancement Yet

During our interviews, ACHs pointed out that fee-for-service (FFS) payment models and value-based payment arrangements were working at financial cross-purposes. For example, in one case an ACH clinic was rewarded for a reduction in PHQ-9 scores, but the attached hospital saw reduced income from the consequent reduction in ED visits and inpatient hospitalizations. This concern about conflicting incentives was echoed by several medically-based ACHs who mentioned not only a reduction in ED visits and inpatient hospitalizations but also a reduction in re-admissions. In these scenarios where higher quality care was having the effect of lost revenue, "the ACOs [need] to catch up to a more value-based payment arrangement." In the words of one ACH, the incentives to increase care quality and the incentives to reduce total cost of care "have to be lined up and…we just don't have those lined up quite yet." A different respondent suggested that the ACOs were beginning to move in the right direction with strategies such as risk-adjusted payments but pointed out that "we're not in a full ACO model, we're in a mixed ACO model…[we're not at] that full thing where…the clinic just gets paid x amount to take care of you as a whole person for the year, there's not that vision." That being said, others pointed out that even though the system was not completely ACO-oriented yet, there was a need to continue to demonstrate the value provided by care/service coordination: "…that's going to be the ongoing work that we need to do…clearly that is where we are—it's not just where we're going but it's where we *are* in terms of value-based contracts." Data from the ACH Provider Survey supported this sentiment, with 67.1% of respondents agreeing with the statement: "[ACH care coordination services] are necessary for my organization to participate in value-based or alternative payment arrangements."

Decision and Capacity to Sustain

Under the terms of the ACH grant, each ACH was required to develop a sustainability plan and to report on sustainability developments in quarterly administrative reports; in addition, they were asked in their 2016 Annual Reports to identify all the sustainability activities and options they were pursuing. The most commonly identified option for sustaining ACH activities in 2016 Annual Reports was foundation funding, followed by federal grant funding, support from an ACO partner, and reinvestment from

partnering agencies and organizations. A variety of sustainability mechanisms fell into the "other" category, including, among others: in-kind support from community partner organizations to sustain population health activities; state grants focused on new health issues; private grants focused on new programming/services; and grants from state agencies beyond MDH and DHS, such as the Minnesota Department of Education. Exhibit 7.9 includes a list of all activities and options provided by the state in the 2016 Annual Report template and the numbers of ACHs pursuing each as of the end of year two of the grant period.

Exhibit 7.9. Sustainability Options Being Pursued by ACHs

Sustainability Mechanism	Number of ACHs Pursuing
Foundation Funding	9
Non-Profit Community Health Benefits	4
Federal Grants	7
Provider and Hospital Investments	3
Payers (Public, Commercial, and Self-Funding Employers)	4
ACO Partner	7
Private Investors	1
Local Government Taxes or Fees	1
Employer Investments	2
Reinvestment from Partnering Agencies and Organizations	7
Other*	8

Source: ACH annual reports, 2016.
Note: * Examples of "other" responses include: in-kind support from community partner organizations to sustain population health activities; state grants focused on new health issues; private grants focused on new programming/services; and grants from state agencies beyond MDH and DHS.

By the end of year two, the majority of ACHs were pursuing additional grant funding to support their work, and at least three ACHs had already secured some additional grant funding, with grants obtained from foundations, non-profits, MDH, and the federal government, i.e., Health Resources and Services Administration (HRSA). Additionally, four ACHs were billing for certain components of their care coordination and population health work through Medicare, Medicaid, and/or private insurers; four ACHs had plans to either beginning billing or consider whether billing opportunities might exist; and two ACHs planned to consider the possibility of entering into shared savings and value-based purchasing arrangements. Seven ACHs were working to operationalize certain components of their care coordination and population health work, either by providing operational funding from lead or partner agencies to continue roles established as part of the ACH grant, by delegating ACH-initiated activities and responsibilities to existing staff and providers across partner organizations, or—in three cases—by incorporating ACH activities into the HCH or BHH models of the lead agency. Per ACH administrative reports, at least one additional ACH had secured additional grant funding to sustain its work in full by the midpoint of 2017.

Most ACHs Wanted to Sustain; Capacity to Do So Was Mixed

All fifteen ACHs were expected to plan for and facilitate the sustainability of their ACH activities, and 14 of the 15 were hoping to sustain many if not all of the initiatives undertaken as part of their ACH grants. The ACH that did not wish to sustain its work was not able to achieve its project goals due to significant and insurmountable process and population-related barriers. Leaders of the ACH highlighted the strength of the leadership/operations and care coordination teams but ultimately determined that the project itself was not worth pursuing further.

As indicated above, at least 11 of the 14 ACHs that wanted to sustain their projects had, by the end of year two, either secured some external source of funding (i.e., grants or reimbursement) to support ACH activities or were working to develop the capacity to sustain all or some ACH activities through lead/partner agency operational funding, delegation of ACH responsibilities to existing staff at lead or partner agencies, or incorporation of some ACH activities into a BHH or HCH model. However, only six ACHs were positioned to sustain *all* desired activities through secured funds or existing community programs at the time our final interviews or, as applicable, at the time of reporting for the second quarter of 2017. Another five ACHs reported that they would likely be able to sustain some of their ACH activities but were seeking outside funding to continue additional work, and three others were actively seeking grant and other outside funds but would not be continuing any ACH activities unless funding was secured. In addition to the ACH described above that did not wish to pursue additional funding, one ACH did not, per our interview, anticipate sustaining its activities because the ACH evolved—due to a variety of factors—into a pilot effort to improve enhanced care coordination and linkages across settings and over time. As a pilot study, the ACH itself will serve to inform future work with related goals.

Among the five ACHs that were not positioned to sustain activities beyond the grant period, almost all reported during our final interviews that they had built institutional capacity and knowledge and new community partnerships that will endure beyond the life of the grant even if they are unable to sustain ACH activities. Additionally, five ACHs reported some degree of model replication or spread that occurred as a result of the success of ACH care coordination activities, and this spread was acting as a form of sustainability.

Our analysis of ACH sustainability, along with feedback from state staff interviews, indicates that capacity to sustain was associated with several factors including a rural location, a history of formal collaboration among community partners, and a medical orientation. Among the ten ACHs that have confirmed sustainability for all or some of their activities, six are located in rural areas, either in whole or part (one has both a rural and urban presence). In contrast, of the five ACHs that were not poised to sustain their efforts, only one is anchored in a rural location. Six of the ten sustaining ACHs leveraged existing or historical community collaborations to improve health in their communities. In some cases, community collaboratives acted as ACH lead agencies, while in others they supported certain components of ACH activities including leadership, care coordination, population health, and community engagement. Among the three ACHs for which sustainability was not yet determined at the time our final interviews or at the time of reporting for the second quarter of 2017, and of the two ACHs that do not plan to continue their work, no formal collaborative served as a launching mechanism or partner for ACH work. Finally, nine of the 10 ACHs for which sustainability has been confirmed are medically oriented—that is, they have a medical locus for care coordination or a medical organization is the lead agency, such that the local clinic health system played a significant role in supporting ACH leadership and activities.[89] In contrast, of the four ACHs that are not medically oriented, only one was positioned to sustain its ACH activities. See Exhibit 7.10 for details on the sustainability status of each ACH along with the activities/components of ACHs that were slated to continue at the time of our final interviews or at the time of second quarter 2017 reporting, as applicable. Instances of pre-ACH collaboration and ACH model spread are also described.

[89] See SHADAC's First Annual Evaluation Report for more details on "locus" of ACH care coordination activities.

Exhibit 7.10. ACH Sustainability Plans

ACH Name	Sustainability Status	Activities/Components Being Sustained	Collaborative Leveraged	Model Replication/Spread
ACH for People with Disabilities	Sustaining all desired activities	Use of LifePlan to coordinate care	N/A	N/A
CentraCare Health Foundation	Sustaining all desired activities	CHW role for care/service coordination	N/A	CentraCare added a new CHW role based on ACH experience and is trying to bring on more system-wide
Ely CCT	Sustaining some desired activities^	CCT including care facilitator role via "hub and spoke" model; some leadership team functioning	Ely Area CCT: Multi-sectoral collaborative that began in 2011 to identify and address gaps in care in Minnesota's Northeast Iron Range Community	Essentia Health is replicating Ely's ACH care coordination role system-wide
Greater Fergus Falls ACH~	Sustaining some desired activities^	Community-based care coordination will be incorporated into HCH and BHH models	PartnerSHIP 4 Health: Collaboration of community and public health partners in Becker, Clay, Otter Tail, and Wilkin counties working to prevent chronic disease	N/A
HCMC Brooklyn Park ACH	Sustaining some desired activities^	Care coordination activities will be continued through HCH approach; community partnerships; depression support groups	N/A	N/A
Hennepin County Correctional Clients	Not sustaining	N/A	N/A	N/A
Mayo CCT	TBD^	TBD	N/A	N/A
Morrison County Community Based Care Coordination*	Sustaining all desired activities	Care coordination for patients tapering their narcotics prescriptions; establishment and maintenance of care plans for all clinic patients with narcotics prescriptions	Morrison County Prescription Drug Abuse Task Force (formerly the Methamphetamine Task Force): A collaboration of law enforcement, social services, public health, the school district, local pharmacies and medical providers; originally established to combat methamphetamine use and re-established to combat prescription drug abuse as part of the ACH grant	ACH received state funding to educate surrounding hospitals and clinics about implementing its care coordination model for substance abuse prevention
New Ulm Medical Center	Sustaining all desired activities	Care coordination activities; community engagement; population health activities	Heart of New Ulm (HONU): Collaborative Partnership of the New Ulm community, the Minneapolis Health Institute Foundation, and New Ulm Medical Center	N/A
North Country Community Health Services	TBD^	TBD	N/A	N/A
Northwest Metro Healthy Student Partnership	TBD^	TBD	N/A	N/A
Southern Prairie Community Care	Sustaining some desired activities^	Data-driven care coordination; I Can Prevent Diabetes courses; population health activities	Southern Prairie Community Care: 12-county collaboration that works with community partners on	N/A

ACH Name	Sustainability Status	Activities/Components Being Sustained	Collaborative Leveraged	Model Replication/Spread
			innovative strategies to improve the population in the 12-county region	
Together for Health	Sustaining all desired activities	Care coordination/navigation services for Duluth's Hillside residents; community engagement; population health activities	Myers-Wilkins Community School Collaborative: Seven-member agency that aims to foster strong partner-ships that expand opportunities for positive youth development and school, family, and community involvement to serve children and families (now known as Duluth Community School Collaborative)	ACH received expansion grant to implement similar school-based collaborative in another Duluth neighborhood
Total Care Collaborative	Sustaining all desired activities	Care coordination activities	N/A	ACH added new arms to its care coordination model based on success of and lessons learned from Rapid Access Case Management
UCare/FUHN ACH	Not sustaining	N/A	N/A	N/A

Sources: ACH grantee proposals, self-reported annual reports (2016) and quarterly progress reports (Quarters 1 and 2 2017) and interviews with ACH participants.
Notes: ^As of time of interview, ACH leadership is actively seeking additional fund to continue any or additional ACH activities.
~ "SIM 'Stack' in Minnesota: A Case Study of Otter Tail County Public Health," notes the particular importance of a history of collaboration in Otter Tail county in positioning the county's SIM initiatives for sustainability.[90]
*Morrison County Community-Based Care Coordination has been recognized at the county, state, and national level for its work to prevent and treat substance abuse.

[90] SHADAC, "SIM 'Stack' in Minnesota – A Case Study of Otter Tail County Public Health," *University of Minnesota, School of Public Health*, December 15, 2016, http://www.dhs.state.mn.us/main/.

Facilitators of and Barriers to Sustainability

During our final interviews with ACHs, we inquired about the ACH components that would continue, end, or change; the factors that were enabling program continuation; and the resources that were needed to sustain but that ACHs were lacking. ACHs identified several key factors as being critical to supporting sustainability of ACH activities. In general, ACHs reported that the ability to demonstrate success with data; collaboration and alignment with existing community efforts; community, organizational, and leadership support; and access to new funding streams have each played a role in the extent to which ACHs were able to sustain their work. These factors cannot always be disentangled from one another, with one often influencing the other; however, they emerged as separate themes from ACH interviews, reports, and survey data, so we present them separately here.

Ability to Demonstrate Success with Data

A key theme that emerged from our final interviews with ACHs was the importance of being able to provide data-driven evidence of success in order to access additional sources of funding—in particular if these funding sources involved reimbursement, alternative payment arrangements, or hospital/clinic investments. Said one ACH interviewee, "Our ultimate plan is to…demonstrate that it [community-based care coordination] is a reimbursable type of service and it's just as valuable as all of the things that they've been paying for in the past that haven't been working." Accordingly, identifying the right data and metrics to demonstrate program effectiveness was a priority—and a challenge—for ensuring program sustainability: "Instead of just anecdotal stories of how great the service is, we're trying to come up with, back it up with, some data."

Care coordination was the activity for which ACHs were able to most often demonstrate effectiveness. This is largely because, in many cases, the success of ACH care coordination—especially its clinical aspects—could be shown using a variety of accepted and accessible quality and clinical indicators and/or cost calculations corresponding to care coordination activities (although several ACHs did emphasize, as indicated above, that not *all* benefits of care coordination were easy to track using traditional evaluation metrics). Several ACHs, along with state ACH staff, pointed out that the effectiveness of the innovative aspects of their work—e.g., the "community" portion of community-based care coordination, along with population health and community engagement efforts—was more difficult to demonstrate because the relevant social determinants and population health indicators are more difficult to measure in general, (for example, a community-wide data collection effort is often involved, as with Community Health Needs Assessments (CHNAs)), and the time horizon for both data collection and demonstrating meaningful change, especially at the population level, was longer than the ACH grant period (CHNAs, for example, are conducted every three years). Moreover, it is difficult to connect any changes in community/population-level data to one intervention in particular. In the words of one ACH interviewee:

> *"…it's easier to make a financial argument for how a care [coordinator] can benefit the ACO model and save the organization money or help contribute to other practitioners working at a higher level so they're more financially productive; whereas it's much harder to argue for the community portion of my position."*

With these data considerations in mind, it follows that care coordination was the most commonly cited sustainable activity among ACHs, with ACH care coordination continuing in some form or another among all ten confirmed sustainers, and reimbursement, alternative payment arrangements (shared savings, braided funding models, HCHs, etc.), and/or hospital/clinic investments being involved in nine of these cases. Population health and community engagement efforts (including—importantly—efforts to sustain partnerships among agencies for the leveraging of knowledge and resources to facilitate care and service coordination beyond the medical model) were, on the other hand, less likely to be among sustained activities, with only four ACHs confirming that these activities would continue as of the time of final interviews. According to several ACHs, the extent to which their care coordination addressed non-medical (i.e., social determinants of health) issues, and the extent to which their care coordination and population health activities overlapped, meant that the community engagement and population health work was critical to the success of ACH care coordination. These ACHs expressed frustration with the difficulty of demonstrating the success of, and getting funding for, their population health and community engagement activities. Without both components, ACHs worried that their care coordination work, even if sustained, might not continue in the way the ACHs originally envisioned—as care coordination that addresses gaps in care and social determinants of health. State staff pointed out that evaluation metrics were never developed for ACHs and noted that laying out measurement more clearly from the beginning of the initiative would have helped ACHs more clearly demonstrate success and make the case for sustainability. Some ACH interviewees, though, were hopeful that the benefits of this work could be quantified in the future to justify continued funding. One interviewee noted, "…we have to continue to measure and we have to continue to evaluate how we can quantify and show the value that this brings…" adding, "it's…about the *right* data."

Collaboration and Alignment with Existing Efforts

ACHs identified strong collaborative engagement and alignment with past or new community health efforts as a key facilitator of sustainability. A collaborative approach, observed several ACHs, can spread the capacity to sustain across multiple organizations, making no single player or funding source indispensable: "The beauty of the collaborative in the middle is that one person, one funding source alone is not necessarily enough to take and create a program and then to sustain the program. Because you don't want to start something that you can't sustain and when the grant money goes away, *it* goes away."

ACH interviewees did note risks involved with a reliance on collaboration, which depends on the commitment of partners: "…people change, their commitment can go away, too…really, in order to be effective…the persons in each of the different places have to believe that collaboration is the way to deal with it." Nevertheless, the benefits of collaboration and alignment for sustainability were significant, allowing ACHs to leverage institutional capacity and complimentary missions and goals: "that's kind of the sustainability piece, is aligning the work so that it fits within organizations' existing work or other initiatives and then looking at are there other funding sources for some of the other activities." For example, several ACHs undertook population health activities in conjunction with their local Statewide Health Improvement Partnership (SHIP) entity. After the ACH grant funding ends, these SHIP entities will continue to work on the ACH population health plans in some capacity due to intentional alignment of ACH and SHIP activities and goals.

Other ACHs carefully aligned ACO partners with an eye to sustaining beyond the grant period:

> *"That was the beauty of the application was that the [ACO partner] said, let's apply with the idea of wanting to be a partner with us and wanting to help lead the efforts with project coordination…they felt they could have a better chance of sustaining a coordinating force than we probably could if we had it as an outside entity…where…the grant goes away and now we have to fund that position. So I think it was a commitment from the get-go."*

Conversely, at least one ACH that did not collaborate or align as intensively as others noted that this lack acted as a barrier to sustaining its work: "…we remain sort of a grant-funded entity and just didn't have I think as close ties as we needed to [to implement] a community care element in [clinic name]'s practice." This particular ACH reported that it was taking this learning into account in its approach to sustaining its work. For example, the ACH is explicitly working in future grant proposals to establish itself as a product of the wider community rather than the niche of just a few organizations.

Community, Organizational, and Leadership Support

At least five of the ten ACHs that are confirmed sustainers reported that support from the wider community, from lead and partner organizations, and/or from people in leadership roles was essential for successfully sustaining ACH activities beyond the grant period. Community and partner support was reflected in demand for and engagement with ACH services and activities: "…there are many, many clinics that are asking for community health workers and wanting to know when they can get community health workers in their site, both primary care and specialty," noted one interviewee. Support from leadership was seen at multiple levels within ACH lead and partner organizations, from clinic leads to health system CEOs: "…that goes all the way to the top of our organization with our CEO. He's demonstrated his support of this type of work and this function." In fact, leadership support extended to the state itself: "We are so lucky to live in Minnesota. This state has supported …accountable care to a degree that other states haven't…they have made it easier, this idea of being accountable." This support at multiple levels and across organizations and individuals not only added to the number of voices calling for the continuation of ACH activities but served as evidence of ACH success, helping ACHs to make the case for sustaining, especially with respect to ACH activities like community engagement and project coordination, where the ACHs weren't always able to quantify the impact of the activities in order to demonstrate success.

Access to New and Various Funding Streams

According to ACHs, access to new and various funding streams was the primary factor influencing ACH sustainability. As indicated above, and in alignment with 2016 MDH recommendations for financing ACHs or ACH-like models[91], ACHs were pursuing a variety of funding mechanisms to support their work, including grants from non-profits, foundations, and federal and state agencies; billing/reimbursement; shared savings and value-based purchasing arrangements; HCH and BHH models; and funding from within lead or partner agencies. Additionally, most ACHs—and all sustainers—were pursuing (or had secured) funding from more than one of these sources. Leveraging a variety of funding streams enabled ACHs to be creative, stretching dollars where necessary (e.g., supporting different portions of staff position with multiple grants) and combining funding streams for an enhanced impact (e.g., using a

[91] "Accountable Communities for Health: Perspectives on Grant Projects and Future Considerations." *Minnesota Department of Health, Health Care Homes*, St. Paul, MN, October 2016.

braided funding model that combines both Medicaid waiver funding and Medicaid Special Needs Basic Care funding). ACHs recognized that accessing multiple funding sources would facilitate sustainability in the short-term but they also hoped that relying on a variety of funding mechanisms would allow them to "avoid a little bit going into a fundraising mode all the time…and a grant writing mode all the time," instead treating grants as "maybe a supplement to a base funding."

With access to new funding being essential to sustainability, ACH work was not sustainable without it, even in the presence of other facilitating factors like evidence of success, alignment, and a supportive environment. Indeed, the four ACHs that had not yet secured additional funding at the time of final interviews—and all which had multiple facilitating factors working in their favor—reported that they would not continue their ACH activities in any form unless/until funding was secured.

8. EXPANSION OF IHP AND ACO ALIGNMENT EFFORTS

Introduction

Accountable care organizations (ACOs), provider delivery systems that manage the health care needs of a defined population through performance and financial incentives, are one of the building blocks of the Minnesota Accountable Health Model. The state's stated goal for Driver 5 was to standardize the performance measurement, competencies, and payment methodologies of ACOs and ACO-like arrangements in Minnesota, with a focus on complex populations. As such, Driver 5 of the Model pertains to the advancement and alignment of ACOs in Minnesota, both in the Medicaid program and across other payers.

The Minnesota Department of Human Services' (DHS) Medicaid ACO demonstration—called the Integrated Health Partnerships (IHP) program[92]—has been a focus for many of the innovative investments made as part of the Minnesota Accountable Health Model. Through the IHP program, DHS has engaged in alternative payment arrangements directly with provider organizations that serve an attributed population based on an agreed-upon Total Cost of Care (TCOC) and risk and gain sharing payment arrangement, which also incorporates quality of care and patient experience measures.

Guided by the work of the state's internal workgroups, as well as external stakeholders who serve on the Community Advisory Task Force and Multi-Payer Alignment Task Force, key SIM activities related to Driver 5 fell into three categories: 1) IHP program expansion from six to 21 participating organizations covering over 461,000 Minnesota Health Care Program (MHCP) beneficiaries; 2) IHP program development and improvement, including state efforts to engage and contract with new, diverse entrants and efforts to seek stakeholder feedback on program design, resulting in IHP model revisions and corresponding legislative changes; and 3) broader ACO alignment efforts, including the completion of a baseline survey of ACO and ACO-like arrangements in Minnesota, which informed Multi-Payer Alignment Task Force discussions about SIM goals and priorities as well as IHP program development.

This chapter describes the core activities associated with Driver 5 in detail, explores the outcomes of these activities, and concludes with a discussion of lessons learned and key sustainability factors as the state moves beyond SIM. As the state's contractor for Minnesota's SIM evaluation, SHADAC relied on multiple data sources for the analysis provided in this chapter. First, SHADAC conducted multiple interviews with executive leadership and state program staff at Minnesota Department of Human Services (DHS) and Minnesota Department of Health (MDH) associated with Driver 5 of the Model throughout the course of our evaluation. In addition, in February 2017, SHADAC sought feedback from members of the Multi-Payer Alignment Task Force.[93]

Conclusions in this chapter around outcomes, lessons learned, and sustainability also rely upon the results of the SIM Minnesota Organization Survey conducted by SHADAC in March of 2017, as well as Minnesota All Payer Claims Database (MN APCD) and the Minnesota Statewide Quality Reporting and Measurement System (SQRMS) data analysis on utilization, cost, and quality outcomes as available at the time of the writing of this report. Data also came from a review of relevant state documents,

[92] Minnesota's IHP demonstration, implemented prior to the Minnesota Accountable Health Model in 2013, was originally called the Health Care Delivery Systems (HCDS) demonstration.

[93] SHADAC asked task force members to provide written responses to questions about SIM accomplishments, missed opportunities, barriers to ACO alignment in Minnesota, meaningful milestones of success toward ACO alignment, outcomes, and opportunities for sustainability.

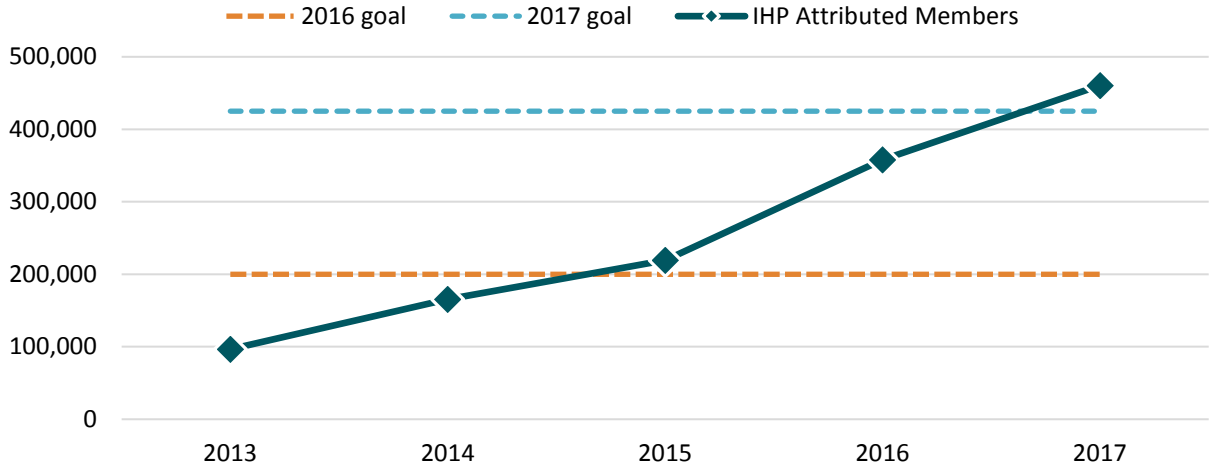
contracts, task force reports, and other SIM materials. Finally, the joint response from state and task force members to the Center for Medicare and Medicaid Innovation (CMMI) Request for Information (RFI) on State Innovation Model Concepts was also consulted.

Key Activities

Integrated Health Partnerships Program Expansion

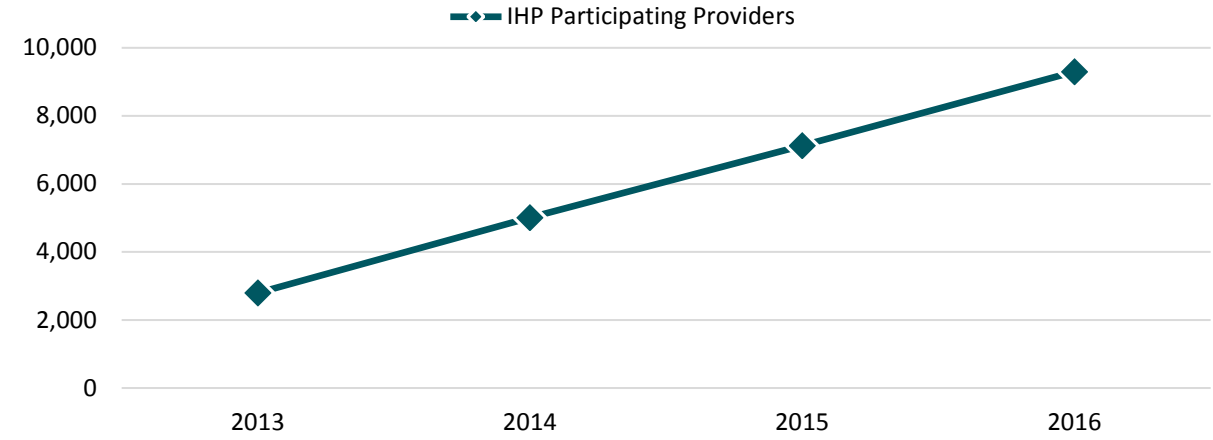
Since its inception in 2013, the number of health care delivery systems participating in the IHP program has grown year after year. As of June of 2017, the program has expanded from six to 21 IHP providers and from covering nearly 97,000 to over 461,000 MHCP beneficiaries, exceeding both the 2017 and 2017 SIM goals (see Exhibit 8.1).[94] Physicians participating as rostered providers in IHPs has also increased steadily, with the number of individual providers/doctors participating in IHP growing from approximately 2,800 in 2013 to 9,300 in 2016 (see Exhibit 8.2).

Exhibit 8.1. Growth in IHP Attributed Members



Sources: "2013–2015 Final Performance Results and 2016 Interim Performance Results, IHP Demonstration Project," *Minnesota Department of Human Services*, 2017 figures from Minnesota Department of Human Services. SIM IHP goals from 2017 SIM Progress infographic available here: http://www.dhs.state.mn.us/main/groups/sim/documents/pub/dhs-295374.pdf.

Exhibit 8.2. Growth in IHP Participating Providers/Doctors



Source: Minnesota All Payer Claims Database, number of unique providers participating in IHP, 2013–2016.

[94] "Request for Proposals for a Qualified Grantee to Provide Health Care Services to Medical Assistance and MinnesotaCare Enrollees under Alternative Payment Arrangements through the Integrated Health Partnerships (IHP) Demonstration," *Minnesota Department of Human Services Health Care Administration*, May 15, 2017, page 2.

Seeking to expand the IHP program further in different geographic regions of the state as well as across different models of care delivery, in May of 2017, DHS released a new Request for Proposal (RFP) for IHPs to provide health care services under alternative payment arrangements from January 1, 2018 through December 31, 2020 (hereafter referred to as the 2018 IHP contracting cycle.) Organizational proposals to participate in the 2018 IHP contracting cycle were due September 1, 2017; IHP contract negotiations were anticipated to begin later that month.[95]

Exhibit 8.3 lists the six IHP delivery systems that began participating in 2013 (hereafter referred to as Round 1 IHPs); three that began participating in 2014 (Round 2 IHPs); seven that began participating in 2015 (Round 3 IHPs); three that began participating in 2016 (Round 4 IHPs); and two that began participating in 2017 (Round 5 IHPs), along with a summary of key organizational characteristics. Exhibit 8.4, a map, provides the specific central location of each of these participating IHPs (note that IHPs may have hospitals and clinics participating in the program in other locations in the state).

High-level requirements for participating IHP providers currently include developing new care models and strategies to provide comprehensive and coordinated services, engaging and partnering with patients and families, and instituting partnerships with community organizations to encourage the integration of social services into clinical care. However, participating delivery systems have significant flexibility to design, develop, and refine their own clinical models and innovations. Importantly, the state's goal for the demonstration was not to create one model, but to encourage the creation of many diverse models.

To that end, the state provided flexibility for and encouraged urban and rural as well as large and small delivery systems to participate in the program. Current contracts also allow "integrated" delivery systems to take on upside and downside financial risk, while non-integrated delivery systems participate as "virtual" partners with upside risk only. As the program has expanded, the diversity of organizations participating also grew. Exhibit 8.3 illustrates this diversity by summarizing key characteristics of IHPs who began participating in the program over time: IHP patient catchment area (urban/rural); size (with the number of IHP participating providers serving as a proxy for size); and care delivery model (integrated versus non-integrated provider systems).

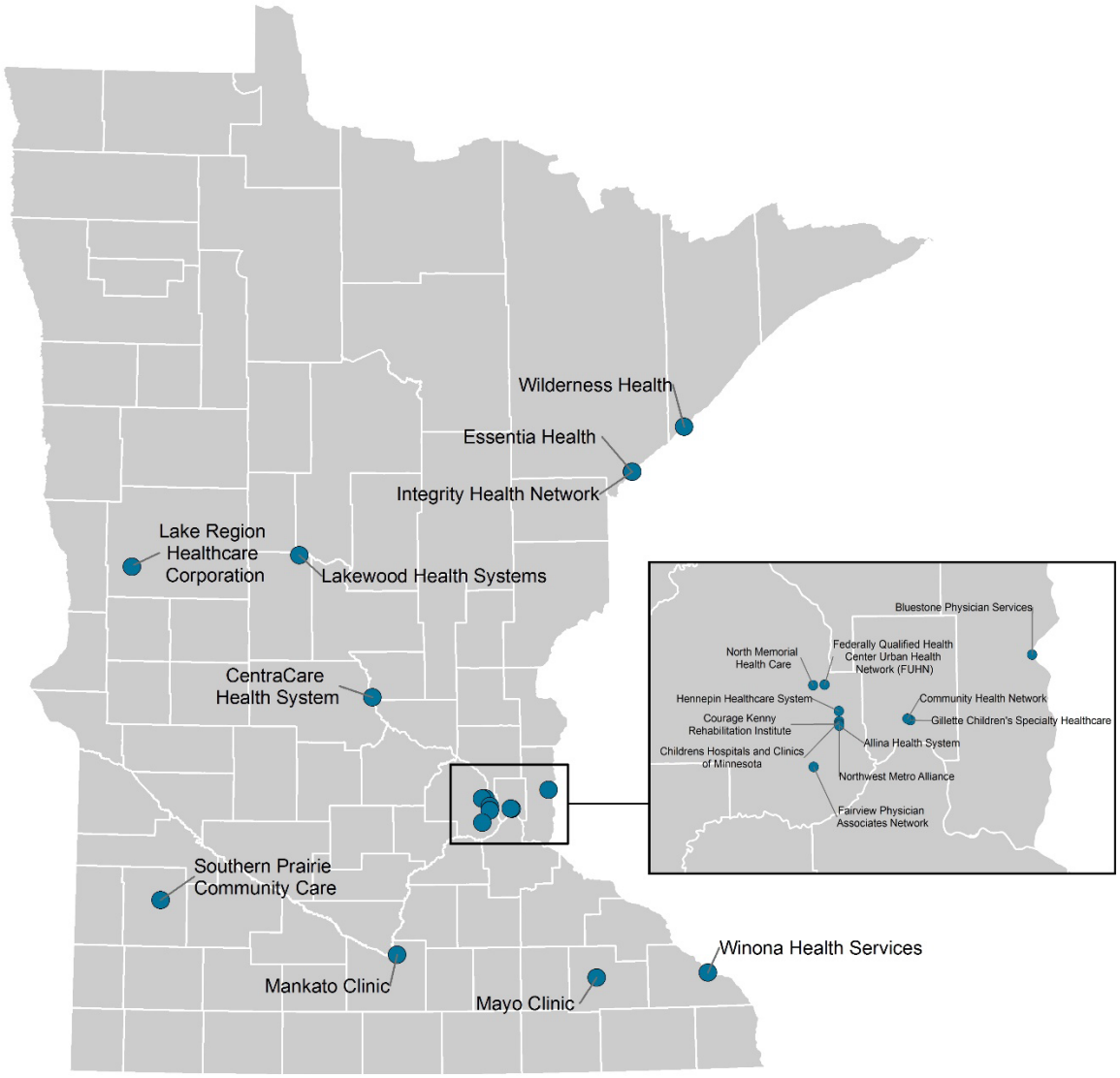
[95] "Request for Proposals for a Qualified Grantee to Provide Health Care Services to Medical Assistance and MinnesotaCare Enrollees under Alternative Payment Arrangements through the Integrated Health Partnerships (IHP) Demonstration," *Minnesota Department of Human Services Health Care Administration*, May 15, 2017, page 5.

Exhibit 8.3. List of IHP Organizations and Key Characteristics

IHP	Serve Patients from Primarily Urban or Rural Areas	Number of IHP Participating Providers, 2016	IHP Payment Model
Delivery systems that began participating in 2013 (Round 1)			
Children's Hospitals and Clinics of MN	Urban	131	Integrated
CentraCare Health System	Mixed	906	Integrated
Essentia Health	Mixed	1,924	Integrated
Federally Qualified Health Center Urban Health Network (FUHN)	Urban	486	Virtual
North Memorial Health Care	Urban	411	Integrated
Northwest Metro Alliance (a partnership between Allina Health and HealthPartners)	Urban	207	Integrated
Delivery systems that began participating in 2014 (Round 2)			
Hennepin Healthcare System	Urban	1,147	Integrated
Mayo Clinic	Urban	784	Integrated
Southern Prairie Community Care	Rural	879	Virtual
Delivery systems that began participating in 2015 (Round 3)			
Bluestone Physician Services	Urban	44	Virtual
Courage Kenny Rehabilitation Institute, part of Allina Health	Urban	478	Virtual
Lake Region Healthcare	Rural	176	Integrated
Lakewood Health Systems	Rural	99	Integrated
Mankato Clinic	Rural	171	Virtual
Wilderness Health	Rural	314	Virtual
Winona Health	Rural	378	Integrated
Delivery systems that began participating in 2016 (Round 4)			
Allina Health System	Urban	500	Integrated
Gillette Children's Specialty Healthcare	Urban	167	Virtual*
Integrity Health Network	Mixed	97	Virtual
Delivery systems that began participating in 2017 (Round 5)			
Fairview Physician Associates Network (FPA Network)	Urban	n/a	Integrated
Community Healthcare Network	Urban	n/a	Integrated

Sources: SHADAC, Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative, University of Minnesota, School of Public Health. Minneapolis, Minnesota. May 2017. DHS IHP provider rosters.
Notes: Database is based on state documentation, grant applications and agreements, organization websites, and consultation with the state and some grantees. *Gillette Children's Specialty Healthcare was in a non-risk bearing arrangement because its population was too low.

Exhibit 8.4. Map of IHP Organizations and Central Locations as of June 2017



Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.

Note: Database is based on state documentation, grant applications and agreements, organization websites, and consultation with the state and some grantees.

Although the IHP program existed prior to SIM funding, its expansion from six participating delivery systems (in Round 1, which predated SIM) and its growth to 461,000 attributed lives was partially due to investments made as part of SIM. When asked what the most important SIM activities and investments were in facilitating IHP growth, the state leaders we interviewed focused their responses on how SIM funding allowed DHS to hire additional data analytics, quality, and contracts staff and actuarial resources that were instrumental to working with new and increasingly diverse organizations that were interested in participating in the IHP program. As one state staffer remarked, "Prior to SIM, it [IHP staff support] was basically just a two-person show. Without SIM we would have been able to grow the program slowly, or at least maintain the program. But we would not have been able to bring on 7 new IHPs in Round 3, for example. These new entrants were small organizations, but the marginal workload to the agency was significant."

Integrated Health Partnerships Model Development

Additional state staff and actuarial resources under SIM have also been critical as DHS has grown and further developed the IHP program over the last several years. Program expansion has brought greater diversity among the participating IHP providers. As noted above, DHS expanded the IHP program in different geographic regions of the state between 2013 and 2017, and also across different organizational models of care delivery. New entrants also included IHPs that were beginning to test the inclusion of services not traditionally included for complex populations (e.g., behavioral health) and other ACO innovations. Each of the IHPs under contract with the state has a different geographic footprint, target population, organizational structure, and size. That new and different types of delivery systems—especially those that treat populations with complex medical and social needs—are interested in becoming IHPs has been very encouraging to state officials.

Working to on-board a diverse group of provider organizations means that DHS has had many different opportunities to negotiate and execute unique TCOC and risk/gain sharing payment arrangements amenable to both parties. According to state staff, while challenging, experience with different kinds of organizations in terms of geography, size, care model, and capacity significantly informed how the state could allocate staff and resources improve the IHP program in successive rounds of contracting. One state leader expressed that the diversification of IHP providers over time has really added value to the program: "Having those providers there and having them weigh in, it has affected the direction we have gone in. Without them, with only the usual suspects, we would not be where we are." Another state official put it this way, "A traditional ACO program would only attract the largest systems with enough volume. What SIM did was to get us into more nuanced discussions with smaller providers."

IHP 2.0 Design Elements

In April of 2016, two and a half years into SIM implementation, DHS also formally solicited comments on how the IHP program could be enhanced to support health care innovation for MHCP populations through a RFI, with the goal of revising the IHP model for the 2018 IHP contracting cycle.[96] Exhibit 8.5 below shows the areas in which DHS sought specific feedback on the IHP program enhancements.

Exhibit 8.5. DHS' RFI on Enhancements to IHP Program

Content Area	Feedback Requested
Sustainability and Infrastructure Needs	- Percent of revenue at risk necessary to drive meaningful changes to care delivery - Level of prospective payments for care management services - Infrastructure and supports needed to participate in total cost of care models - Delineation of the roles and responsibilities of providers versus MCOs - Opportunities to align the IHP model with other payers' value-based payment programs
Payment and Performance on Cost	- Long-term savings potential and trajectory of savings - Market performance and IHP total cost of care targets
Member Attachment	- Additional types of care or services for determining members' attribution to principal providers - Potential for members' designation of principal providers during enrollment process - Determination of principal providers for patients with unique or complex conditions

[96] See Minnesota Department of Human Services, Request for Information (RFI): Integrated Health Partnerships (April 18, 2016), accessed at https://edocs.dhs.state.mn.us/lfserver/Public/DHS-3780A-ENG.

Content Area	Feedback Requested
Integration of Services	- Participation of non-primary care providers, such as behavioral health, chemical dependency, or disability service providers, in risk-bearing arrangements - IHP partnership requirements with non-primary care providers - Participation of non-medical social service providers, such as housing services, food banks, job placement services, or other community programs, in risk-bearing arrangements - IHP partnership requirements with non-medical social service providers - Inclusion of non-medical, social service costs into a cost of care model and financial arrangement
Quality and Patient Outcomes Measurement	- Inclusion of quality metrics outside of Minnesota's Statewide Quality Reporting and Measurement System - Inclusion of process, access, or health outcomes measures related to the use of non-primary care services - Inclusion of process, access, or health outcomes measures related to the use of non-medical services - Measurement of IHP impact on health disparities - Impact of quality measurement results on shared savings and shared losses
Other	- Implementation timeline for proposed enhancements to IHP program

Source: Minnesota Department of Human Services, Request for Information (RFI): Integrated Health Partnerships (April 18, 2016), accessed at https://edocs.dhs.state.mn.us/lfserver/Public/DHS-3780A-ENG.

In total, 27 organizations responded to the RFI, including current and potential IHPs, smaller specialty health care providers, large mature health systems, nonprofit interest groups, coalitions, health plans, and behavioral health and disability providers. DHS staff summarized the responses to the RFI in January of 2017[97] and used this feedback to inform key changes to the IHP model (hereafter referred to as "IHP 2.0") as well as future policy and budget proposals and IHP contracting changes.

By design, IHP 2.0:

- includes a population-based prospective care coordination payment;
- supports the exchange of electronic clinical event notifications between IHPs and providers;
- incorporates IHP contract incentives that strengthen partnerships with community supports and social services organizations;
- ensures a "no risk" track for IHPs that are not able to take on risk, but are still accountable for patient care;
- develops an "advanced" track for higher capacity systems to take on increased accountability for patient population health outcomes; and
- strengthens alignment between the IHP program and other health care initiatives, such as the state's Health Care Homes (HCH) program and the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) payment reform changes in Medicare.

[97] For a summary of the RFI feedback, see "Integrated Health Partnerships: Request for Information (RFI) Summary and Highlights (January 2017)," *Minnesota Department of Human Services*, https://edocs.dhs.state.mn.us/lfserver/Public/DHS-3780-ENG.

As mentioned already, organizational proposals to participate in the 2018 IHP contracting cycle were due September 1, 2017; IHP contract negotiations were anticipated to begin later that month. Many of these changes in IHP program design were proposed as part of Governor Dayton's Fiscal Year (FY) 2018-19 budget for DHS, and legislation and funding necessary to implement them were approved by the 2017 Minnesota Legislature and signed into law by Governor Dayton.[98] Legislative changes will be discussed in more detail later in this chapter.

Accountable Care Organization Alignment Activities

The state's original goal for Driver 5 was expansive and ambitious, including aligning performance measurement, competencies, and payment methodologies of ACOs and ACO-like arrangements in Minnesota across payers, with a focus on complex populations. As noted in SHADAC's First Annual Evaluation Report, SIM activities in this area did not occur as originally envisioned. Still, the state made important progress in defining the ACO market in Minnesota and, through formation of the Data Analytics Subgroup, convening a diverse group of stakeholders to develop recommendations to promote consistent sharing of data analytics reports between payers and providers that are part of ACO models in the state. Both of these key activities are described in detail below. Other activities related to ACO alignment included a state convened multi-payer meeting with the Center for Medicare and Medicaid Innovation (CMMI) and the State Employee Group Insurance Program (SEGIP) in the summer of 2016.

ACO Baseline Assessment

One of the state's chief accomplishments in the alignment area was completion of an ACO baseline assessment in May of 2015. As a first step toward alignment of ACO components across multiple payers, MDH—through a contract with IBM/KPMG—conducted key informant interviews and an Internet survey of ACO and ACO-like arrangements in Minnesota. IBM/KPMG gathered and synthesized information about the scope and characteristics of existing ACO arrangements in the state. The methodology, findings, and limitations of the state's ACO baseline assessment were documented by IBM/KPMG and MDH as part of the SIM grant.[99] As provided in the factsheet produced by DHS and MDH,[100] the 2015 baseline assessment found the following:

- Reported ACO participation in the commercial market in Minnesota is relatively high, with 41% of fully insured covered lives attributed to ACO models. However, participation is heavily concentrated among the largest health plans.
- Based on clinical level data and survey information, approximately 50% of clinics, hospitals and physicians either belong to an ACO or belong to a larger organization that participates in an ACO.
- ACO development and maturity are greatest among larger organizations in the state, with independent and specialty providers less likely to be in an ACO and relatively less "mature."
- The assessment rated organizations on their maturity across seven domains that are critical to the performance of a clinically integrated organization (i.e., population health management, disease management, patient engagement, case management, clinical decision support, performance

[98] See Laws of MN 2017, 1st Special Session, Chapter 6, SF2, Article 4, Sections 39–43, https://www.revisor.mn.gov/laws/.
[99] "Baseline Assessment of ACO Payment and Performance Methodologies in Minnesota for the State Innovation Model (SIM)," *IBM/KPMG*, prepared for the *Health Economics Program, Minnesota Department of Health*, May 2015, accessed February 2016, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_FILE&RevisionSelectionMethod=LatestReleased&Rendition=Primary&allowInterrupt=1&noSaveAs=1&dDocName=dhs16_197638.
[100] "Factsheet: ACO Baseline Assessment," *Minnesota Department of Human Services*, accessed July 2017, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_FILE&RevisionSelectionMethod=LatestReleased&Rendition=Primary&allowInterrupt=1&noSaveAs=1&dDocName=dhs16_197637.

management, and utilization management). The assessment showed a relatively low median ACO maturity level of 30% across all core competencies. The "maturity" rating was highest for competencies related to clinical decision support (40%), and lowest for disease management (10%).

- Most ACO arrangements in Minnesota are hospital-focused. Few ACO-based organizations have revenue or risk-sharing contracts that include long-term care, behavioral health, or non-clinical services. Only a quarter have contracts that include community-based service providers.
- Sixty percent (60%) of respondents cite behavioral health as a "very important" priority for enhanced clinical services in the future, followed by long-term care (35%), social services (32%), and public health (31%).
- The percentage of revenue currently at risk in ACO or similar arrangements is low, with two-thirds of providers indicating that 10% or less of their organization's revenue is at risk. Providers anticipate this percentage to increase in the coming years; a quarter of respondents expect to see more than 30% of their revenue at risk five years from now.

According to state staff, these findings generated from the IBM/KPMG tool—particularly those related to the relatively low percentage of provider revenue currently at risk in ACO arrangements and the lack of revenue/risk-sharing contracts between ACO-based organizations and long-term care, behavioral health, or non-clinical service providers—were extremely valuable as they began to lay the groundwork with stakeholders and to refine SIM goals and priorities throughout the broader project. State staff also noted how this broader market context on ACOs in Minnesota directly informed DHS' work on the 2016 RFI on the IHP program and the development of the IHP 2.0 model and associated 2018 IHP RFP. At various points over the period of the cooperative agreement, state staff discussed the possibility of conducting a follow-up survey to the ACO baseline assessment to gather updated information, but at this time it is unclear whether or when this will be pursued further.

Data Analytics Subgroup

In addition to the ACO baseline survey, another aspect of the state's ACO alignment activities involved the work of the Data Analytics Subgroup, formed from members representing various care settings and positions in care delivery and payment and drawn from the two task forces (the Community Advisory Task Force and Multi-Payer Alignment Task Force), as well as key state staff and other personnel, including foundation, community, and association representatives. The Data Analytics Subgroup was formed to develop recommendations to promote consistent sharing of data analytics reports between payers and providers that are part of ACO models, such as the IHPs.

The Data Analytics Subgroup work was divided into two phases. During three Phase I meetings (November of 2014, December of 2014, and February of 2015), representatives focused on the current data analytic environment and possible immediate improvements in alignment of data analytic reports used by payers with the providers that they contract with in ACO or similar arrangements.

As outlined in Chapter 2 of this report, Phase 1 subgroup identified five high priority data elements where greater alignment would be beneficial in the ACO-related data providers receive from payers, including:[101]

[101] "Data Analytics Subgroup Phase One Report," *Minnesota Accountable Health Model – SIM Minnesota*, March 17, 2015, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_FILE&RevisionSelectionMethod=LatestReleased&Rendition=Primary&allowInterrupt=1&noSaveAs=1&dDocName=dhs16_196127.

- contact information and identified primary care providers of attributed patients;
- health status and risk level of attributed population;
- total cost of care for attributed population;
- health status indicators for attributed population, grouped by demographic characteristics; and
- patterns of care (utilization and cost) of attributed population within and outside of ACO providers.

This work was institutionalized, in part, by the Administrative Uniformity Committee (AUC), a voluntary group working to improve health care administrative processes in the state. In September of 2015, the AUC voted to establish an ACO Data Analytics Technical Advisory Group (TAG) to address the need for providers to receive consistent patient contact information and identified primary care provider data elements across payers.

During three subsequent meetings (January of 2016, March of 2016, and April of 2016), representatives participating in the Data Analytics Subgroup's Phase II work expanded the scope of data analytic elements recommended for alignment in Phase I to include those that address social or environmental determinants of health. The Phase II work identified six elements (also identified in Chapter 2 of this report) critical to the work of accountable entities, including ACOs and ACHs:

- Mental health and substance use (current diagnosis or unmet need)
- Race, ethnicity, and language
- Access to reliable transportation
- Social services already being received
- Housing status or situation
- Food insecurity.

While representatives of the Phase 2 subgroup unanimously supported the sharing and use of the data elements to improve population health, there was a healthy debate about how to integrate these elements into future alternative payment and quality measurement arrangements, whether the approach should be mandatory or voluntary for organizations and how it should be phased in.[102]

Outcomes

We report outcomes associated with core Driver 5 activities in this section followed by a discussion of sustainability.

Increase in SIM Organizations Participating in APM Arrangements, But Primarily in Medicaid

As part of the SIM Minnesota Organization Survey, respondents were asked about their organization's billing or payment approaches at the time of survey administration (March of 2017) and before being involved in SIM, including the extent of their participation in APMs, or payments that give added incentives for quality and value. APMs were defined in the survey according to the 2016 Health Care Payment Learning and Action Network (HCP-LAN) APM Framework[103] as: 1) Alternative fee-for-service (FFS) models (HCP-LAN APM Category 2), including FFS linked to quality (e.g., "pay for performance") and FFS with per member per month payments (e.g., Minnesota's HCH Program); 2) APMs with upside risk (HCP-LAN APM Category 3a), or payment tied to value in some way with upside gainsharing (e.g.,

[102] "Data Analytics Subgroup Phase Two Report," *Minnesota Accountable Health Model – SIM Minnesota*, August 31, 2016, http://www.dhs.state.mn.us/main/groups/sim/documents/pub/dhs-289330.pdf.
[103] "APM Framework White Paper," *Health Care Payment Learning and Action Network*, accessed July 2017, https://hcp-lan.org/groups/apm-fpt-work-products/apm-framework/.

some IHPs, some patient-centered medical homes, some other ACOs); 3) APMs with two-sided risk, upside and downside (HCP-LAN APM Category 3b), (e.g., some IHPs, episode-based payment programs); and 4) population-based payment (HCP-LAN APM Category 4), that is APMs not linked to volume and applied to a population (e.g., global payments, capitation).

Of the 77 SIM award recipients and collaborators who responded, 31% reported an increase in their level of implementation of one or more of these models before and after being involved in SIM, with:

- fourteen percent (14%) reporting an increase in their level of implementation of alternative FFS models linked to quality;
- twenty one percent (21%) reporting an increase in their level of implementation of APMs tied to value with upside gainsharing;
- ten percent (10%) reporting an increase in their level of implementation of APMs tied to value with two-sided risk; and
- five percent (5%) reporting an increase in their level of implementation of population-based payments.

Survey respondents were also asked to designate with which payers (i.e., Medicare, MHCP or Medicaid, commercial fully insured, commercial self-insured, or other) their organizations were participating in APMs, both at the time of survey administration and before involvement in SIM. As indicated in Exhibit 8.6, before involvement in SIM, 48% of respondents reported participating in a Medicaid APM, 27% in a Medicare APM, 26% in a commercial fully-insured APM, 19% in a commercial self-insured APM, and 10% in another type of APM. Thirty-one percent (31%) of respondents reported participating in no APM before their involvement in SIM. After involvement in SIM, 65% of respondents reported participating in a Medicaid APM, 32% in a Medicare APM, 28% in a commercial fully-insured APM, 19% in a commercial self-insured APM, and 7% in another type of APM. Twenty-six percent (26%) of respondents reported participating in no APM after their involvement in SIM.

Exhibit 8.6. SIM Organizations Participating in APMs Before and After SIM, by Payer

	Medicaid	Medicare	Commercial Fully-Insured	Commercial Self-Insured	Other	None
Before SIM	48%	27%	26%	19%	10%	31%
After SIM	65%	32%	28%	19%	7%	26%

Source: SHADAC, "Minnesota Accountable Health Model - SIM Minnesota Organization Survey," *University of Minnesota, School of Public Health*, June 2017.
Notes: Organizations could choose multiple payers. Organizations responding to the "before SIM" question totaled 78. Organizations responding to the "after SIM" question, which refers to the time of survey administration, totaled 80. Percentages are based on analysis of weighted results.

As shown above, while survey data suggest that there was an increase in SIM providers participating in APM arrangements before and after SIM, this increase was primarily in Medicaid where the state has taken a leadership role through the IHP program, and to some extent in Medicare. Other changes in APM participation, both increases and decreases, were smaller, suggesting little to no change among respondents beyond public programs (i.e., Medicaid and Medicare).

Medicaid IHP Expansion Estimated by State to Produce Cost Savings and Shared Savings for IHPs

Another outcome of Driver 5 is the cost savings reported by the state that has accrued as a result of the IHP program. Although the IHP program existed prior to SIM funding, its expansion is at least partially due to key investments made as part of SIM, as described above. Thus far, the state has calculated cost savings figures for the first four years of the program, through year end 2016. According to state actuarial analysis, IHPs have achieved a total cost savings of $212.8 million[104] between 2013 and 2016 (preliminary) (see Exhibit 8.7).[105] The state attributes this success to IHP providers taking innovative steps to better coordinate care and to decrease hospitalizations and emergency room visits.[106]

Exhibit 8.7. State Calculated/Reported Cost Savings Associated with IHP Program (2013-2016)

Year	Cost Savings[107]
2013	$14.8 million
2014	$65.3 million
2015	$87.5 million
2016	$45.1 million
Total	**$212.8 million**

Source: "2013–2015 Final Performance Results and 2016 Interim Performance Results, IHP Demonstration Project," *Minnesota Department of Human Services*.
Notes: 2016 figures are considered preliminary as of the writing of this report. Total does not tie due to rounding.

Of the over $212.8 million in reported IHP savings from 2013-2016, roughly $70.5 million have been or is expected to be returned to IHPs who have met cost and quality targets in the form of shared savings settlements.[108] IHPs are able, though not required, to reinvest these shared savings payments into enhancements to their health care delivery and integration processes and infrastructure. The remainder of the savings, $142.3 million, can be thought of as accruing to the state budget over those years as it represents an estimate of the additional health care costs for IHP-attributed members that would have been borne by the state in the absence of the IHP program. Exhibit 8.8 provides the number of IHPs who received a shared savings settlement based on quality and cost benchmarks for years 2013-2016, along with the range of shared savings settlements each year.

Exhibit 8.8. Number of IHPs Earning Shared Savings and Range of Settlements by Year

Year	Number of IHPs Earning Shared Savings Settlement	Total Number of Eligible IHPs	Range of Shared Savings Settlements
2013	5	6	$400,000 - $2.4 million
2014	9	9	$389,000 - $4.7 million
2015	11	15	$247,000 - $5.5 million
2016	6	16	$210,000 - $5.3 million

Source: "2013–2015 Final Performance Results and 2016 Interim Performance Results, IHP Demonstration Project," *Minnesota Department of Human Services*.
Note: 2016 figures are considered preliminary as of the writing of this report.

[104] Represents state share of cost savings.
[105] "2013–2015 Final Performance Results and 2016 Interim Performance Results, IHP Demonstration Project," *Minnesota Department of Human Services*.
[106] "Integrated Health Partnerships – Partnerships save $76 million in Medicaid costs," *Minnesota Accountable Health Model*, August 2015, http://www.dhs.state.mn.us/main/groups/sim/documents/pub/dhs16_196131.pdf.
[107] Represents state share of cost savings.
[108] Ibid.

Other Analyses of Round 1 IHPs Show Some Reductions in Health Care Utilization and Costs over Time

As part of the state evaluation of the SIM initiative in Minnesota, SHADAC conducted analyses of the MN APCD and SQRMS to examine health care outcomes for providers and clinics participating in the first and second round of Minnesota's ACO program, the Integrated Health Partnerships (IHPs). The purpose of these analyses was to examine whether and how health care utilization and costs (MN APCD) and quality (SQRMS) have changed under MHCP – specifically, Medical Assistance, or Medicaid, and MinnesotaCare – during early provider IHP participation. Another goal of these analyses was to assess whether similar or different trends are visible for IHPs' commercial patients. We used MN APCD data for 2012-2014 and SQRMS data for 2011-2014 to examine trends in outcomes for Round 1 IHPs (which took effect in 2013) and Round 2 IHPs (which started in 2014). Appendix B (below in this document) contains more information about the methods used in these analyses.

It is important to note that additional analyses by SHADAC are forthcoming in a separate manuscript. These analyses will build on the results presented in this report through incorporation of a control group, which will help the analysis to control for other policies or trends occurring contemporaneously with IHP implementation that would be misattributed to IHPs in estimated year-to-year changes.

Health Care Utilization

Exhibits 8.9 and 8.10 below present health care utilization among children and adult MHCP and commercial enrollees we attributed to Round 1 and 2 IHPs. We focused on four measures of annualized utilization including primary care visits, specialist visits, emergency department (ED) use without hospitalization, and hospitalizations. A binary variable indicating whether an individual had a type of utilization and the count of visits/services are provided for each type of utilization. For Round 1 IHPs, we estimated annual averages in 2012-2014 and separate adjusted changes from 2012 (the baseline period) to Year 1 (2013) and Year 2 (2014) of the IHP program, as well as an overall post-IHP change (2012 to 2013 and 2014). For Round 2 IHPs, we estimated annual averages in 2013 and 2014 and the adjusted change from 2013 (the baseline period) to 2014 (the first year of IHP program participation).

For pediatric patients, we observe little change in the probability or count of PCP or specialist visits among MHCP or commercially enrolled patients in Round 1 and Round 2 IHPs following IHP participation (Exhibit 8.9). We observe 3.0 and 3.3 percentage point reductions in MHCP ED use without a hospitalization in the first and second years of the IHP program, respectively, relative to the year prior to IHP participation (2012), after adjusting for patient case-mix. We find smaller, although statistically significant, reductions in ED use among commercially insured pediatric patients attributed to IHPs. In both enrollee groups, we also observe reductions in the probability of hospitalizations; we estimate reductions of 0.7 percentage points for MHCP patients and 0.6 percentage points for commercially insured patients in 2013 and 2014 relative to 2012. Among Round 2 IHPs, we see no systematic reduction in pediatric ED use or hospitalizations in the first year of IHP participation. Among Round 2 MHCP pediatric enrollees, ED use without hospitalization increased during the first year, and among commercial enrollees, the rate of hospitalizations decreased slightly.

Among adults, we observe similar decreases in ED use without hospitalization and decreases in hospitalizations for both MHCP and commercial health plan enrollees for Round 1 IHPs during the first two years of program participation (Exhibit 8.10). For commercially insured adults only, we also observe a reduction in specialist visits (by 1.8 percentage points) for Round 1 IHPs in 2013 and 2014 relative to 2012.

For adult patients attributed to Round 2 IHPs, we find little evidence of systematic changes in PCP and specialist visits or changes in ED or inpatient care in the first year of IHP participation. As with Round 2 IHP pediatric patients, the number of ED services without hospitalization increased for adults enrolled in MHCP during the first year of program participation.

Health Care Costs

Exhibit 8.11 and 8.12 below present health care costs for the children and adult MHCP and commercial health plan enrollees we assigned to Round 1 and Round 2 IHPs. We produced four measures of annualized costs for professional, outpatient, acute inpatient, and non-acute inpatient services based on standardized prices. Our costs include all costs just in these categories (and, notably, exclude retail pharmacy costs) and are not limited to the core set of services included in the state's calculation of total cost of care (TCOC) for the program or other services IHPs negotiated as part of their TCOC calculations. Therefore, it is important to emphasize that the costs we report from our MN APCD analyses are not equivalent to the program costs and savings monitored and reported by DHS. Note that the annual averages are unadjusted, while the changes are adjusted for enrollee comorbidities and other characteristics. Once accounting for enrollee characteristics, the direction of adjusted and unadjusted trends change in some cases.

For pediatric patients, we see no systematic changes in health care costs for Round 1 IHPs during the first two years of IHP participation (Exhibit 8.11). Although we find an increase in professional costs ($47) for Round 1 commercially insured children in 2013 and 2014, relative to 2012, we observe an overall reduction in non-acute inpatient costs ($2) for pediatric MHCP enrollees during the same period. For Round 2 IHPs, we find a noticeable increase in total costs during the first year of IHP participation for commercially insured children ($181) as well as in professional costs for MHCP enrollees ($121).

In contrast, for adults, we observe an overall decrease of $176 in total costs for MHCP enrollees we attributed to Round 1 IHPs, stemming from an overall reduction in acute inpatient costs in 2013 and 2014 relative to 2012 (Exhibit 8.12). For Round 1 commercially insured adults, we also observed an overall decrease in acute inpatient costs ($91) but an increase in professional costs ($51) during the first two years of program participation. Similar to pediatric patients, some increases in MHCP and commercial costs are visible for adults attributed to Round 2 IHPs during their first year of the program.

Quality

Exhibit 8.13 presents the average raw rates for five clinic-level SQRMS quality measures for clinics participating in Round 1 IHPs between 2011 and 2014, two years prior to and two years following IHP participation. These measures include clinics' depression remission rate at six months, optimal diabetes care rate, optimal vascular care rate, and optimal asthma rates for children and adults (see Appendix B for more information). For all but one of the measures, mean rates are presented for clinics' MHCP population and commercial population (separate rates by population are not available for depression). For this analysis, we focused solely on clinics associated with the Round 1 IHPs due to the timing of IHP program requirements related to quality reporting and performance. In the first year of the program, the assessment of IHP performance only required IHP *reporting* of quality measures. Starting in the second year of program participation, IHP clinics' performance assessment incorporated quality scores, and 25% of an IHP's shared savings calculation was based on quality performance. For this reason, we would not expect the program to have an impact on clinic quality performance until at least the second year. Our time period for the analysis (2011-2014) did not afford two years of post-intervention data for Round 2 IHPs and, therefore, these IHPs were excluded from our analysis.

As is evident in the first four columns in Exhibit 8.13, average rates for all of the optimal care measures are higher for Round 1 IHPs' commercial patients than their MHCP population, but rates appear to increase for all measures and both populations between 2011 and 2014.

The last three columns in Exhibit 8.13 present results from linear regression models testing whether IHP quality measures changed significantly over time while controlling for select clinic characteristics (see Appendix B). These results are based on a standardized (or normalized) version of the measures – i.e., the difference between an IHP clinic's score and the mean score for all SQRMS-reporting clinics divided by the standard deviation for all clinics— to facilitate comparison of the scores over time. We estimated separate adjusted changes from 2011/2012 (the baseline period) to Year 1 (2013) and Year 2 (2014) of the IHP program, as well as an average post-IHP change (baseline to 2013/2014). While the raw rates increased over time, only one significant change was observed across the five standardized quality measures over time (increase in the overall depression remission rate in Year 2). Relative to other SQRMS clinics overall, on average, IHP clinics' scores on these measures did not change (improve or worsen) following IHP participation.

Summary of Findings

In summary, our analyses show reductions in ED and hospital utilization for both children and adult MHCP enrollees for Round 1 IHPs during the first two years of IHP program participation. We also observe for Round 1 IHPs reductions in inpatient costs for both children and adults enrolled in MHCP during the same time frame. We observe most of these changes among Round 1 IHP commercial enrollees as well, although it is only for adult MHCP enrollees that we see an overall reduction in total costs (-$176). We find some evidence that MHCP and commercial health care costs increased for Round 2 IHPs during their first year in the IHP program. On average, we find no significant change in Round 1 IHP quality performance for both MHCP and commercial patient populations during the study period.

The Minnesota Department of Human Services (DHS) IHP program staff reported that a major focus among early IHPs was on reducing ED visits, and our results show some evidence of success in this area. DHS IHP program staff were not surprised by our lack of evidence of change in quality, particularly in year 1 of the program when the state's assessment of IHP performance and share savings calculation only requires IHP reporting of quality measures and in year 2 when an IHP's quality performance impacts a relatively small proportion (25%) of its shared savings calculation. It is possible that later years of program participation (e.g., during year three, 50% of the shared savings calculation is based on an IHP's quality performance*)* would show different results in quality.

Per our First Annual Evaluation Report and Chapter 5 of this report, IHP providers have reported changing practice patterns after participation in the IHP program, and some have reported "spillover" effects of IHP participation (including use of data analytics) on other patients seen by the same providers. Although our analyses do not enable us to identify the reasons for similar utilization, cost, and quality trends for Round 1 MHCP and commercial enrollees during the first two years of program participation, given these common results, our findings do not rule out the potential for spillover of IHP-related practice changes to non-IHP patients.

There may be secular trends that are unrelated to the IHP program that are responsible for our observed reductions in ED use, hospitalizations, and inpatient costs among both MHCP and commercial health plan enrollees. As mentioned above, additional analyses by SHADAC are forthcoming. These analyses will incorporate a control group to help the analysis adjust for other policies or trends occurring

contemporaneously with IHP implementation that would be misattributed to IHPs in estimated year-to-year changes. At the same time, focusing on differential changes for IHPs relative to the control group may be conservative if medical groups in the control group are also participating in other advanced payment models similar to the IHP. In this way, the pre-post changes in utilization, costs, and quality we present for IHPs in this report may represent an "upper bound" of the effect of the IHP program, in that they capture both changes from the policy and other contemporaneous changes occurring simultaneously with the IHP. In contrast, by identifying pre-post changes relative to those exhibited by a control group of other medical groups in the state, the forthcoming results may be a more conservative "lower bound" estimate of IHP effects.

Exhibit 8.9. Child Health Care Utilization among Round 1 and Round 2 IHPs, 2012-2014

Measure	MHCP						Commercial					
	2012	2013	2014	Adjusted Year 1 Change†	Adjusted Year 2 Change††	Adjusted Average Post-IHP Change†††	2012	2013	2014	Adjusted Year 1 Change†	Adjusted Year 2 Change††	Adjusted Average Post-IHP Change†††
IHP Round 1												
Any PCP Visit	95%	96%	96%	0.5 pp	1.1 pp	0.8 pp	98%	98%	97%	-0.2 pp	-0.6 pp*	-0.4 pp
PCP Visits	3.48	3.40	3.45	0.00	0.13	0.07	3.43	3.18	3.22	-0.16	-0.12	-0.14
Any Specialist Visit	30%	28%	30%	-1.1 pp	0.7 pp	-0.2 pp	32%	31%	33%	-0.6 pp	2.0 pp	0.7 pp
Specialist Visits	0.63	0.60	0.62	-0.02	0.02	0.00	0.64	0.59	0.65	-0.02	0.04	0.01
Any ED Use without Hospitalization	40%	37%	36%	-3.0 pp***	-3.3 pp **	-3.1 pp ***	15%	14%	14%	-0.8 pp **	-0.7 pp**	-0.7 pp***
ED Services without Hospitalization	0.93	0.82	0.82	-0.10***	-0.07*	-0.08**	0.25	0.24	0.25	-0.01	0.00	-0.01
Any Hospitalization	9%	8%	7%	-0.4 pp	-1.0 pp***	-0.7 pp ***	5%	5%	4%	-0.3 pp ***	-0.9 pp***	-0.6 pp***
Hospitalizations	0.12	0.11	0.09	0.00	-0.01***	-0.01***	0.07	0.06	0.05	0.00	-0.01***	-0.01**
IHP Round 2												
Any PCP Visit		96%	96%	-0.2 pp				97%	96%	-0.6 pp		
PCP Visits		3.05	3.18	0.28***				2.90	2.92	0.13		
Any Specialist Visit		32%	33%	0.9 pp				30%	29%	-0.5 pp		
Specialist Visits		0.67	0.68	0.03				0.58	0.56	0.00		
Any ED Use without Hospitalization		31%	34%	2.5 pp*				16%	17%	0.2 pp		
ED Services without Hospitalization		0.61	0.68	0.07*				0.26	0.28	0.01		
Any Hospitalization		8%	7%	-0.3 pp				6%	5%	-0.6pp**		
Hospitalizations		0.10	0.09	-0.01				0.07	0.06	-0.01		

Source: SHADAC analysis of Minnesota All Payer Claims Database (MN APCD) data for calendars years 2012–2014.

Notes: The abbreviation "pp" indicates percentage point change. See Appendix B for more information about the data and methods used. Data reported include the percentage of children (< 19) MHCP and commercial health plan enrollees we assigned to an IHP who had a visit during a year and the mean count of visits/services per enrollee per year. To assess change over time, we used multivariable linear probability models. Models adjusted for sex, age, annual Chronic Illness and Disability Payment System (CDPS) risk categories, zip code-level socio-demographic characteristics, and medical group-health services area fixed effects. *p<0.05 **p<0.01 ***p<0.001 †Year 1 Change refers to difference between 2012 and 2013 for Round 1 IHPs and 2013 and 2014 for Round 2 IHPs. ††Year 2 Change refers to difference between 2012 and 2014 for Round 1 IHPs. †††Average Post-IHP Change refers to average of Year 1 and Year 2 Change for Round 1 IHPs.

Exhibit 8.10. Adult Health Care Utilization among Round 1 and Round 2 IHPs, 2012-2014

Measure	MHCP						Commercial					
	2012	2013	2014	Adjusted Year 1 Change†	Adjusted Year 2 Change††	Adjusted Average Post-IHP Change†††	2012	2013	2014	Adjusted Year 1 Change†	Adjusted Year 2 Change††	Adjusted Average Post-IHP Change†††
IHP Round 1												
Any PCP Visit	94%	95%	95%	0.3 pp	0.9 pp	0.6 pp	95%	95%	95%	0.5 pp	0.0 pp	0.2 pp
PCP Visits	4.38	4.40	4.14	0.03	-0.03	0.00	2.73	2.71	2.67	0.01	-0.03	-0.01
Any Specialist Visit	52%	52%	51%	0.0 pp	-0.5 pp	-0.2 pp	49%	46%	47%	-1.8 pp ***	-1.7 pp *	-1.8 pp ***
Specialist Visits	1.52	1.58	1.47	0.08	0.01	0.04	1.18	1.11	1.11	-0.06***	-0.07**	-0.07**
Any ED Use without Hospitalization	43%	42%	37%	-1.7 pp **	-4.1 pp ***	-3.0 pp ***	14%	13%	13%	-0.7 pp **	-0.8 pp *	-0.8 pp **
ED Services without Hospitalization	1.55	1.53	1.41	-0.02	-0.01	-0.02	0.29	0.28	0.29	-0.02	-0.01	-0.01
Any Hospitalization	18%	17%	14%	-1.1 pp***	-2.2 pp***	-1.7 pp ***	7%	6%	6%	-0.4 pp ***	-1.0 pp ***	-0.7 pp***
Hospitalizations	0.27	0.24	0.20	-0.02***	-0.04***	-0.03***	0.09	0.08	0.07	-0.01**	-0.02***	-0.01***
IHP Round 2												
Any PCP Visit		94%	95%	0.7 pp				96%	94%	-2.2 pp		
PCP Visits		4.00	4.08	0.30				2.64	2.60	0.01		
Any Specialist Visit		50%	51%	1.0 pp				40%	41%	1.7 pp		
Specialist Visits		1.47	1.56	0.11				0.88	0.91	0.06		
Any ED Use without Hospitalization		38%	40%	1.2 pp				14%	14%	-0.6 pp		
ED Services without Hospitalization		1.30	1.39	0.16***				0.28	0.28	0.00		
Any Hospitalization		18%	16%	0.4 pp				6%	6%	-0.2 pp		
Hospitalizations		0.27	0.25	0.00				0.08	0.07	0.00		

Source: SHADAC analysis of Minnesota All Payer Claims Database (MN APCD) data for calendars years 2012–2014.
Notes: The abbreviation "pp" indicates percentage point change. See Appendix B for more information about the data and methods used. Data reported include the percentage of adult (19+) MHCP and commercial health plan enrollees we assigned to an IHP who had a visit during a year and the mean count of visits/services per enrollee per year. To assess change over time, we used multivariable linear probability models. Models adjusted for sex, age, annual Chronic Illness and Disability Payment System (CDPS) risk categories, zip code-level socio-demographic characteristics, and medical group-health services area fixed effects. *p<0.05 **p<0.01 ***p<0.001 †Year 1 Change refers to difference between 2012 and 2013 for Round 1 IHPs and 2013 and 2014 for Round 2 IHPs. ††Year 2 Change refers to difference between 2012 and 2014 for Round 1 IHPs. †††Average Post-IHP Change refers to average of Year 1 and Year 2 Change for Round 1 IHPs.

Exhibit 8.11. Child Health Care Costs among Round 1 and Round 2 IHPs, 2012-2014

Measure	MHCP						Commercial					
	Unadjusted 2012 Mean	Unadjusted 2013 Mean	Unadjusted 2014 Mean	Adjusted Year 1 Change†	Adjusted Year 2 Change††	Adjusted Average Post-IHP Change†††	Unadjusted 2012 Mean	Unadjusted 2013 Mean	Unadjusted 2014 Mean	Adjusted Year 1 Change†	Adjusted Year 2 Change††	Adjusted Average Post-IHP Change†††
IHP Round 1												
Professional	$2738	$2685	$2575	$17	$6	$12	$884	$872	$875	$50*	$43*	$47*
Outpatient	$946	$860	$853	$8	$53	$31	$431	$375	$416	$2	$28	$15
Inpatient Acute	$884	$761	$698	-$21	-$43	-$32	$573	$445	$450	$10	-$25	-$7
Inpatient Non-Acute	$8	$7	$6	-$2	-$3*	-$2*	$18	$15	$13	-$3	-$5	-$4
Total	$4577	$4314	$4131	$3	$13	$8	$1906	$1707	$1753	$60	$42	$51
IHP Round 2												
Professional		$1846	$1950	$121*				$627	$752	$133***		
Outpatient		$667	$703	$52				$311	$336	$28**		
Inpatient Acute		$609	$565	-$12				$371	$369	$16		
Inpatient Non-Acute		$6	$7	$0				$12	$13	$4		
Total		$3128	$3225	$161				$1321	$1470	$181**		

Source: SHADAC analysis of Minnesota All Payer Claims Database (MN APCD) data for calendars years 2012–2014.

Notes: See Appendix B for more information about the data and methods. Data reported include the mean, unadjusted annual total health care costs for children (< 19) MHCP and commercial health plan enrollees we assigned to an IHP. To assess change over time, we used multivariable linear regression models. Models adjusted for sex, age, annual Chronic Illness and Disability Payment System (CDPS) risk categories, zip code-level socio-demographic characteristics, and medical group-health services area fixed effects. *p<0.05 **p<0.01 ***p<0.001 †Year 1 Change refers to difference between 2012 and 2013 for Round 1 IHPs and 2013 and 2014 for Round 2 IHPs. ††Year 2 Change refers to difference between 2012 and 2014 for Round 1 IHPs. †††Average Post-IHP Change refers to average of Year 1 and Year 2 Change for Round 1 IHPs.

Exhibit 8.12. Adult Health Care Costs among Round 1 and Round 2 IHPs, 2012-2014

Measure	MHCP						Commercial					
	Unadjusted 2012 Mean	Unadjusted 2013 Mean	Unadjusted 2014 Mean	Adjusted Year 1 Change†	Adjusted Year 2 Change††	Adjusted Average Post-IHP Change†††	Unadjusted 2012 Mean	Unadjusted 2013 Mean	Unadjusted 2014 Mean	Adjusted Year 1 Change†	Adjusted Year 2 Change††	Adjusted Average Post-IHP Change†††
IHP Round 1												
Professional	$4133	$4006	$3688	$13	$30	$23	$1170	$1217	$1199	$62***	$40**	$51***
Outpatient	$1969	$1995	$1893	-$2	$8	$4	$836	$847	$878	$7	$23	$15
Inpatient Acute	$1876	$1711	$1514	-$161***	-$235***	-$202***	$738	$664	$632	-$68***	-$113***	-$91***
Inpatient Non-Acute	$65	$68	$66	$2	-$2	-$1	$32	$28	$24	-$5	-$10	-$7
Total	$8043	$7780	$7162	-$148	-$198	-$176*	$2776	$2757	$2734	-$4	-$59	-$31
IHP Round 2												
Professional		$4606	$4049	-$58				$1045	$1163	$104		
Outpatient		$2175	$2329	$153*				$841	$830	$6		
Inpatient Acute		$1926	$1992	$111				$606	$634	$23		
Inpatient Non-Acute		$84	$82	-$3				$32	$34	$8		
Total		$8791	$8453	$204				$2524	$2661	$140*		

Source: SHADAC analysis of Minnesota All Payer Claims Database (MN APCD) data for calendars years 2012–2014.

Notes: See Appendix B for more information about the data and methods. Data reported include the mean unadjusted annual total health care costs for adult (19+) MHCP and commercial health plan enrollees we assigned to an IHP. To assess change over time, we used multivariable linear regression models. Models adjusted for sex, age, annual Chronic Illness and Disability Payment System (CDPS) risk categories, zip code-level socio-demographic characteristics, and medical group-health services area fixed effects. *p<0.05 **p<0.01 ***p<0.001 †Year 1 Change refers to difference between 2012 and 2013 for Round 1 IHPs and 2013 and 2014 for Round 2 IHPs. ††Year 2 Change refers to difference between 2012 and 2014 for Round 1 IHPs. †††Average Post-IHP Change refers to average of Year 1 and Year 2 Change for Round 1 IHPs.

Exhibit 8.13. Quality Measures for MHCP and Commercial Patient Populations among Round 1 IHPs, 2011-2014

Measure	Mean Clinic Rates (Non-Standardized)				Change Over Time (Standardized)		
	2011	2012	2013	2014^	Year 1 Change†	Year 2 Change††	Average Post- IHP Change†††
Depression Remission Rate at 6 Months	4.3%	6.1%	6.7%	9.3%	-0.020	0.326*	0.145
Diabetes Optimal Care Rate, MHCP	22.9%	26.5%	25.8%	40.3%	-0.029	0.032	0.000
Diabetes Optimal Care Rate, Commercial	33.1%	35.0%	35.2%	52.0%	0.030	0.060	0.045
Asthma Optimal Care Rate, Adults, MHCP	20.6%	30.2%	36.3%	45.9%	-0.024	0.034	-0.013
Asthma Optimal Care Rate, Adults, Commercial	35.0%	43.9%	49.4%	59.1%	-0.085	-0.128	-0.106
Asthma Optimal Care Rate, Children, MHCP	30.3%	34.3%	44.8%	50.3%	0.016	-0.011	0.003
Asthma Optimal Care Rate, Children, Commercial	40.0%	50.1%	57.8%	62.9%	-0.013	-0.039	-0.026
Vascular Optimal Care Rate, MHCP	26.6%	29.2%	34.4%	49.9%	0.057	0.009	0.034
Vascular Optimal Care Rate, Commercial	49.3%	47.5%	49.8%	68.2%	-0.021	-0.132	-0.074

Source: SHADAC analysis of Minnesota Statewide Quality Reporting and Measurement (SQRMS) data for calendars years 2011–2014.

Notes: See Appendix B for more information about the data and methods. Data reported are the annual mean non-standardized clinic rates. To assess change over time, we produced mean standardized scores (i.e., the difference between an IHP clinic's score and the mean score for all clinics divided by the standard deviation for all clinics) and used multivariable linear regression models. Models adjusted for clinic size, primary care penetration, and patient payer composition. ^In 2014, the asthma measure was the optimal asthma control rate. *p<0.05 **p<0.01 ***p<0.001 †Year 1 Change refers to difference between baseline (2011/2012) and 2013. ††Year 2 Change refers to difference between baseline and 2014. †††Average Post-IHP Change refers to the average of Year 1 and Year 2 Change.

Momentum for ACO Alignment Remains Unclear

State executive leaders and program staff felt that little progress towards ACO multi-payer alignment had been made over the period of the cooperative agreement. As SHADAC noted in the First Annual Evaluation Report, state efforts under SIM to develop quality measures, core competencies, and aligned payment methodologies for ACOs and ACO-like models with a focus on complex populations started on a slower timeline than originally planned and continued to lack momentum as the grant went on.

A consistent theme among Multi-Payer Alignment Task Force members responding to SHADAC's questions was that there had been a lack of progress in the alignment of different value-based payment initiatives and quality measurement systems across payers. Members noted that providers have insufficient care coordination and data analytics capacity to manage disparate quality measurement systems and value-based incentives. Furthermore, members cited their own struggle to identify common goals across payers as a shortcoming of the SIM Data Analytics Subgroup. While SIM furthered the conversation regarding the use of data analytics for multi-payer alignment, task force members stressed the need to focus efforts across sectors and suggested that little tangible progress was made in aligning payers.

The dynamics that exist in the broader market may not be conducive to the state playing an effective role as a convener or a broker of multi-payer ACO alignment at this time. These dynamics were summarized by members of both task forces when responding to a series of questions on multi-payer state-based strategies to transition providers to APMs posed by CMMI as part of their RFI on State Innovation Model Concepts. In particular, the group remarked that, "Public programs in Minnesota are not a large enough base to drive payer alignment without the involvement of commercial payers, who have distinct reimbursement and quality improvement programs. The competitive nature of health plans and health systems makes it difficult for payer alignment and including self-insured groups, which represent a significant portion of the commercial population [in Minnesota], in APMs is also challenging…."[109]

State staff echoed some of these points in discussing the reasons behind a lack of momentum for ACO alignment activities over the course of SIM. Specifically, they suggested that the uptake of value-based purchasing among commercial payers in the state may be happening slowly, especially with regards to the percent of revenue at risk in provider contracts; that there was mixed evidence emerging across the country as to the financial performance and quality results associated with ACOs[110]; that there had been a lack of tangible goals for multi-payer alignment under SIM given that ACOs are not currently defined or regulated under state statute; and that there was a perceived lack of leadership supporting ACO alignment outside of the public sector.

Multi-Payer Alignment Task Force members who responded to SHADAC's questions also had perspectives on the key barriers to ACO alignment in the Minnesota context. They overwhelmingly cited fragmented initiatives as the primary barrier to ACO alignment. ACOs, IHPs, HCHs, and other programs were seen in many cases as conflicting, overlapping value-based models. Members felt strongly that the number of different programs using different approaches to accomplish the same goals undermines

[109] "CMMI RFI Survey Questions and Synthesis of Responses from Members of the Community Advisory Task Force and Multi-Payer Alignment Task Force," *Minnesota Accountable Health Model*, October 2016.
[110] For example, see Muhlestein, David, Robert Saunders, and Mark McClellan, "Medicare Accountable Care Organization Results for 2015: The Journey to Better Quality and Lower Costs Continues," *HealthAffairs Blog*, September 9, 2016, http://healthaffairs.org/blog/2016/09/09/medicare-accountable-care-organization-results-for-2015-the-journey-to-better-quality-and-lower-costs-continues/.

alignment for providers. Additionally, the lack of broad initiatives and relatively small market share of value-based purchasing were cited as barriers. Members emphasized a need for large-scale programs in order to achieve meaningful system-level change. The lack of a single statewide HIE system was another consistently cited barrier to managing care. In their responses, members encouraged stakeholders to work through data privacy concerns to achieve greater data sharing capability across the state.

Still, state executive leaders and program staff maintained that a key outcome of this Driver 5 work was an increased awareness and knowledge of the relatively low percentage of revenue providers currently have at risk in ACO arrangements in the broader health care market, as well as the lack of formal relationships between ACOs and non-medical providers (e.g., behavioral health, social services) important to working with complex populations, and how this information grounded discussions among stakeholders throughout the SIM grant. This knowledge was facilitated by both the state's ACO Baseline Assessment conducted early on in the process, as well as through the state's experience expanding and developing the IHP program. Task force member feedback echoed these comments by citing the results of the assessment as an important accomplishment of SIM related to Driver 5. According to SIM Minnesota Organization Survey findings, most organizations participating in APMs report low levels of implementation defined as 1-10% of organization revenue "at risk."

Another common theme among Multi-Payer Alignment Task Force respondents was collaboration, both across task force members and between state agencies. Getting a range of stakeholders "around the table" for open conversations about alignment, measurement, and key barriers were cited as critical work related to Driver 5. Task force members were mixed, however, on the question of whether participation in the Multi-Payer Alignment Task Force resulted in new conversations, relationships, or partnerships related to alignment at their organizations. Some noted that there had been no impact or that conversations had started, but lost momentum over time. Others noted that their participation had resulted in opportunities to explore improved care coordination across their system and expanding technical assistance resources to providers to help them move toward value-based payments. One member noted that participation in the task force did not change their organization's approach to value-based payment—because they have been engaged in this work for many years—but that the conversations were validating and would help to facilitate conversations with potential new partners in the future.

All comments considered, it appears that conditions did not exist in the market such that significant, tangible progress could be made in developing quality measures, core competencies, or aligned payment methodologies for ACO arrangements under SIM. However, some progress was made in increasing knowledge of the market, engaging stakeholders around the topic, and building relationships that may help facilitate productive discussions about ACO alignment in the future. Increased knowledge of the market also informed the ongoing development of the IHP program, where the state has leverage as a purchaser of health care services.

It is important to note one specific outcome that came out of the AUC ACO Data Analytics TAG. In 2016, the TAG approved a recommendation for a standard format for exchanging member contact, demographic, and associated responsible provider data as part of the data analytics furnished by health plans to providers participating in accountable health models. The TAG's recommendation was then approved by the AUC. In May of 2017, Blue Cross Blue Shield of Minnesota (BCBS-MN) updated their attributed member file for all of its value programs (i.e., aligned incentive contracts, patient centered

medical homes, Medicaid, Minnesota Senior Health Options, and ACOs) to align with the TAG recommendation for a uniform member file format for health plans to use when sharing attributed member information with providers. BCBS-MN is Minnesota's largest carrier in the state's total fully-insured private market, as well as Minnesota's largest carrier in individual (non-group) and small group markets (according to figures from 2014).[111] This move may pave the way for other carriers to follow suit in aligning data elements according to current and future TAG recommendations related to ACO arrangements.

Decisions and Capacity to Sustain

Sustainability of the IHP Program

Beyond the SIM cooperative agreement, DHS stands poised to expand and refine the IHP program further. As mentioned earlier in this chapter, several key changes are being made to the model in IHP 2.0.

When asked what the most important SIM activities and investments were in facilitating IHP expansion and development, state leaders described how SIM funding allowed DHS to hire additional data analytics, quality, and contracts staff and actuarial resources that were instrumental to working with new and increasingly diverse organizations interested in participating in the IHP program. Added state staff and actuarial resources under SIM were also critical as DHS has developed changes to the model (IHP 2.0) through its RFI process and subsequent contracting cycles.

Enabling further expansion and evolution of the IHP model, many changes to the IHP program design were proposed as part of Governor Dayton's FY 2018-2019 budget, and legislation and funding necessary to implement them were approved by the 2017 Minnesota Legislature, and signed into law by Governor Dayton.[112] Specific statutory changes include a requirement for DHS to provide IHPs with a population-based payment for care coordination services that is risk-adjusted to reflect enrollees' chronic conditions, limited English skills, cultural differences, and other factors. This per member per month payment will be provided to IHPs on at least a quarterly basis, provided they continue to meet cost and quality metrics under the program. IHPs were also given authority to provide financial incentives to patients who see primary care providers for initial health assessments, maintain continuous relationships with primary care providers, and participate in ongoing health improvements and coordination of care activities. New funding was provided to the Commissioner of Human Services to contract with health information exchange (HIE) vendors to support IHPs in connecting enrollees with community supports and social services. Finally, additional administrative funding for an additional four full-time equivalent (FTE) staff was provided to DHS to support work with new contracted IHPs and for policy and administrative support related to prospective payments, HIE, and other changes aimed at strengthening partnerships with community supports and social service organizations.[113]

Along with funding for these enhancements to the program, the legislation's fiscal estimates include assumptions that these changes to the program will attract additional providers to participate in the IHP program, and that an additional 193,000 Medical Assistance and MinnesotaCare recipients will be served by IHPs by FY 2021, resulting in net health care savings of $9.4 million in FY 2018-2019 and

[111] Based on share of health plan premium volume. "Minnesota Health Care Markets Chartbook, Section 7: Health Plans," *Minnesota Department of Health, Health Economics Program*, last modified September 2016, http://www.health.state.mn.us/divs/hpsc/hep/chartbook/index.html.
[112] See Laws of MN 2017, 1st Special Session, Chapter 6, SF2, Article 4, Sections 39–43, https://www.revisor.mn.gov/laws/.
[113] See House Research Bill Summary by Randall Chun on H.F. 237 (delete everything amendment H0237DE4-1), March 11, 2017, http://www.house.leg.state.mn.us/hrd/bs/90/hf0237.pdf.

$34.1 million in FY 2020-2021 (all funds).[114] Sustaining this trajectory of program savings will be important as DHS works to help delivery systems sustain their momentum around value-based payments and to demonstrate the overall financial sustainability of the IHP model to providers and stakeholders.

Future Opportunities for Progress on ACO Alignment

According to state program staff, while the foundation has been laid for informed discussions among payers and providers regarding standardized performance measurement, competencies, and payment methodologies for ACOs as a result of SIM, it is unclear whether the state will lead additional ACO alignment work in the near future. The dynamics that exist in the broader market may not be conducive to the state playing an effective role as a convener or a broker of multi-payer ACO alignment at this time.

Looking ahead to future ACO alignment opportunities, task force respondents affirmed the need for standardized quality measurement across multi-payer value-based models and the importance of making sure that state approaches align with federal models. According to amended Minnesota statute, the legislature is calling for the development of a new measurement framework by June of 2018 "that identifies the most important elements for assessing the quality of care, articulates statewide quality improvement goals, ensures clinical relevance, fosters alignment with other measurement efforts, and defines the role of stakeholders."[115] By December 2018, the framework will inform updates to SQRMS. State staff reported that the work accomplished under SIM has the potential to inform the process to develop the framework. Other areas that members highlighted as important for standardization included an interoperable HIE and a shared understanding of what an effectively integrated system would look like. There was also concern about ensuring that reliable data for value-based payment and delivery system reform continue to be generated and maintained as the system shifts from fee-for-service to more value-based payment, since a large share of existing data infrastructure is based on claims data generated through the fee-for-service system.

Multi-Payer Alignment Task Force members also noted that any future standardization should be balanced with flexibility, particularly with regard to how shared goals—such as effective integration—are achieved. Members noted that this level of flexibility is essential for continuing to engage key stakeholders in moving toward a value-based system. Task force members also emphasized the importance of local flexibility (e.g., among payers and providers) given the present federal health policy climate, noting that health care innovation may be less of a priority moving forward.

As to the role the state should play in sustaining and advancing progress on ACO alignment in the future, task force members had mixed opinions. One member suggested that the state should continue to convene the task force, with the hope that separating the task force from SIM program and federal oversight could free the group to focus on more critical priorities (which were not specified). Another expressed skepticism that the state would continue to engage with stakeholders after SIM ended. The importance of aligning incentives, focusing on data sharing and uniformity, and engaging MCOs through the IHP program were cited as opportunities for sustaining momentum. Concern about the impact that the changing federal policy environment may have on the ability to sustain and advance progress on alignment goals was also raised.

---

[114] See fiscal note on H.F. 237 from Minnesota Management and Budget, http://mn.gov/fnsearch/.
[115] "2017 Minnesota Statutes: 62U.02 Payment Restructuring; Quality Incentive Payments," *The Office of the Revisor of Statutes*, accessed July 2017, https://www.revisor.mn.gov/statutes/?id=62U.022.

9. SUSTAINABILITY OF SIM INVESTMENTS AND FUTURE CONSIDERATIONS

Minnesota's State Innovation Models (SIM) four-plus year initiative will conclude in December 2017. Since 2015, the SIM Leadership Team in Minnesota has taken several steps to plan for program sustainability beyond initiative. During the summer of 2015, state staff held two sustainability planning meetings with contracted facilitator Center for Health Care Strategies (CHCS), during which three priorities for sustaining health reform activities beyond SIM funding were identified: 1) continued efforts with health information exchange (HIE) and data analytics; 2) value-based purchasing and the alignment of incentives with desired outcomes; and 3) community connections, partnerships, and authentic engagement. Also during this time, the state conducted a Sustainability Survey of the Community Advisory and Multi-Payer Alignment Task Forces to seek their feedback on the continued relevance of the state's driver diagram, priorities for the final year of the SIM initiative, and priorities for the future. In the fall of 2015, the state consulted the task forces to confirm the priority areas identified earlier in the year. Shortly thereafter, the legislatively-mandated Minnesota Health Care Financing Task Force issued recommendations to increase access to and the quality of health care, many of which aligned with SIM activities in Minnesota and the sustainability priorities identified by the state. In May 2016, the state held another strategic planning meeting with CHCS to identify a plan for major activities in the priority areas and in August 2016, the SIM Leadership Team put forth the three priority areas to the federal sponsor, the Center for Medicare and Medicaid Innovation (CMMI). The state is scheduled to submit a sustainability plan to CMMI at the end of the initiative.

In this chapter, we first summarize the status and sustainability of investments under each of the five Model drivers beyond the end of SIM funding. We then focus on the sustainability of a core set of DHS and MDH programs, activities, and investments and outline possible future considerations for the state.

Sustainability of Driver-Specific Investments

Each of the earlier driver-specific chapters within this report summarized the programs and activities that will continue, evolve, or conclude at the completion of the state's SIM award. Findings were based on interviews, survey results, and document review as of September 2017. Exhibit 9.1 summarizes the status and continuation of activities under each of the drivers. It is important to note that the status of some activities may evolve following the completion of this report as a number of providers and organizations complete their grants and contracts over the next several months.

Exhibit 9.1. Capacity of Model Programs and Activities Included in the Evaluation to Sustain beyond SIM Funding

Capacity of Model Programs and Activities Included in the Evaluation to Sustain, by Driver
Driver 1. Health Information Technology (HIT)/Health Information Exchange (HIE) Goal: Providers have the ability to exchange clinical data for treatment, care coordination, and quality improvement
e-Health Collaborative Grants • Three of the seven collaboratives that chose an HIE service provider indicated at the time of interviews that they plan to continue to use the HIE that was implemented under SIM after their grant funding ends. • The majority of respondents who completed the HIE User Survey, representing four e-Health collaboratives, indicated that they want to continue to use HIE (81%) and are seeking ways to expand HIE (52%). • The two grantees who had not made an HIE selection at the time of interviews indicated that the work done under the SIM e-Health grant to build capacity for care coordination and data analytics would continue, even if they were ultimately unable to connect to a state-certified HIE. • Several factors identified as supporting sustainability during interviews included a well-defined use case, incorporation of HIE into existing workflows, and onboarding of additional users. • Interviewees reported the following factors inhibiting sustainability: the time commitments and costs of ongoing HIE activities, especially among rural or smaller providers; difficulty demonstrating return-on-investment (ROI); and difficulty for some providers in connecting to existing EHR-enabled networks, i.e. Epic Care Everywhere. • E-health collaboratives reported early in their program implementation the lack of data standards for electronic exchange of non-clinical information, which created practical barriers to sharing data across settings. ***e-Health Roadmap*** • The *E-Health Roadmap for Behavioral Health, Local Public Health, Long-Term and Post-Acute Care, and Social Services* was made publically available and disseminated.[116] • The lack of funding for Roadmap implementation raised concerns for future work. In 2017, MDH and the Minnesota e-Health Initiative indicated they would continue to support the implementation of the Roadmap in three ways: 1) monitor and share progress; 2) support priority settings and key partners; and 3) implement MDH call to action. ***Privacy, Security, and Consent Grant*** • *The Foundations in Privacy Toolkit* was publically available and the state reported plans to update and continue dissemination of this SIM product. [117] ***Minnesota HIE Strategy Implementation Roadmap*** • The State of Minnesota drafted an HIE Strategy Implementation Roadmap in mid-2016 and was in the process of carrying out its three-phased approach to supporting accountable health and payment reform goals. In addition to completing a legislatively-mandated HIE study by February 2018, future state HIE investments may be in the form of grants for communities to work on ADT and care summary exchange implementation, maintenance of privacy and security resources, research on HIE ROI, and engagement of public and private stakeholders for creating shared infrastructure services for all HIOs and HDIs.
Driver 2. IHP Data Analytics Goal: Providers have analytic tools to manage cost/risk and improve quality
IHP Data Analytics Grants • During interviews, grantees consistently noted the benefits of their capacity building, and most planned on sustaining the enhanced data infrastructure established through the grants, though future modifications may be necessary. • While these organizations agree that the data infrastructure is to remain intact, there was less certainty among IHP data analytics interviewees regarding ongoing internal capacity to interpret and distribute data to providers in meaningful ways.

[116] "The Minnesota E-Health Roadmap for Behavioral Health, Local Public Health, Long-Term and Post-Acute Care, and Social Services," *Minnesota Department of Health*, August 2016, http://www.health.state.mn.us/e-health/roadmap/index.html.
[117] Gray Plant Mooty, "Foundations in Privacy Toolkit," *Minnesota Department of Health*, accessed July 2017 http://www.gpmlaw.com/Practices/Health-Law/Foundations-in-Privacy-Toolkit.

Capacity of Model Programs and Activities Included in the Evaluation to Sustain, by Driver
• During interviews, grantees reported that the factors enabling sustainability included data analytic projects that build on existing work and target all patients rather than those that are payer-specific. They also highlighted the importance of creating demand for the data and reporting among key leadership. The primary inhibitor to sustaining continued investment in the work begun under the data analytic grants was proving return on investment. • The state plans to continue providing enhanced reporting and technical assistance for IHPs related to data analytics, through mechanisms such as the continued support of DHS analysts and IHP Learning Days and Data User Groups.
Driver 3. Practice Transformation Goal: Expanded numbers of patients served by team-based, integrated/coordinated care
Emerging Professions Grants • The direct state funding distributed under the Emerging Professions Grants program will not continue after the SIM initiative. • According to state documentation and grantee reports to MDH as well as interviews with grantees and state staff, 79% of the Emerging Professions Integration Program grantees expressed a commitment to emerging professions in their practice. Some grantees were changing their emerging profession approach, and fewer have decided to discontinue any emerging professions presence. • During interviews, grantees indicated that the factors enabling sustainability included the strong integration of the emerging profession practitioner into the workforce, the education and tools created under the grant program, and state support for emerging professions. • Factors inhibiting sustainability included uncertainty around reimbursement and payment (e.g., for CHWs), the reliance on an internal champion and vulnerability to personnel changes, and the longstanding challenges to embracing change and adoption of new models. ***Practice Transformation (Round 1-3) and Practice Facilitation Grants*** • The direct funding distributed in multiple rounds of funding under the Practice Transformation Grants will not continue after the end of the program, nor will the SIM program's ongoing guidance and monitoring of grantees. The Practice Facilitation opportunity was awarded to two vendors whose work on this intervention has been completed. • Many of these SIM investments funded education, process transformation, capacity building, and expert input from consultants that will continue to yield benefits and influence the ongoing work of these practices. Likewise, where grant funding was used to develop new or refine existing processes, these changes were incorporated into daily work and will also continue to have a role in the ongoing work of these organizations. • According to interviews with grantees, the successful adoption of new or improved workflows and an organizational mindset able to address system change were factors that promoted, and may continue to facilitate, sustainability. • Grantees reported that the continuity of resources was one factor that may inhibit sustainability, as staff turnover can prevent the establishment of an internal champion from leading a consistent charge, while financial concerns can divert prioritizations and/or limit adherence to adopted system changes. • The state will continue to support practice facilitation and transformation efforts through its delivery and payment avenues, including the HCH, BHH, and IHP programs.
Driver 4. Accountable Communities for Health Goal: Provider organizations partner with communities and engage consumers to identify health and cost goals and take on accountability for population health
ACH Grants • The state does not plan to continue funding the ACH grant program beyond the SIM initiative. • According to grantee interviews, most ACHs wanted to sustain on their own but their capacity to do so was mixed. At least 11 of the 14 ACHs that wanted to sustain their projects had either secured some external source of funding (i.e., grants or reimbursement) or were working to develop the capacity to sustain all or some activities through lead/partner agency operational funding, delegation of ACH responsibilities to existing staff at lead or partner agencies, or incorporation of some activities into a BHH or HCH model. However, only six ACHs were

Capacity of Model Programs and Activities Included in the Evaluation to Sustain, by Driver
positioned to sustain all desired activities through secured funds or existing community programs as of the time of our final interviews or, as applicable, at the time of reporting for the second quarter of 2017. • Among ACHs that may not or will not sustain activities beyond the grant period, almost all reported during interviews that they have built institutional capacity and knowledge and new community partnerships that will endure beyond the life of the grant even if they are unable to sustain ACH activities. Additionally, five ACHs reported some degree of model replication or spread that occurred as a result of the success of ACH care coordination activities, and this spread is acting as a form of sustainability. • ACHs that are sustaining tend to be located in rural areas, leverage existing or historical formal community collaborations, and be medically oriented. • According to grantee interviews, factors that influenced the sustainability of ACH activities included the ability to demonstrate success with data; collaboration and alignment with other community efforts; community, organizational, and leadership support; and access to new and multiple funding streams. • Other sustainability concerns raised early in ACH implementation included reimbursement levels for care coordination and funding for a central point person or project manager who coordinated and maintained collaborative efforts.
Driver 5. Accountable Care Organization (ACO) Alignment Goal: ACO performance measurement, competencies, payment methodologies are standardized, and focus on complex populations
IHP Program • The 2017 Minnesota Legislature approved and the Governor of Minnesota signed into law needed legislative and funding proposals to support IHP 2.0. Efforts are in place to proceed with IHP 2.0 implementation. ***ACO Alignment*** • It is unclear whether the state will lead additional ACO alignment work in the near future. • Future ACO alignment opportunities include the need for standardized quality measurement across existing multi-payer value-based models and alignment between state approaches and federal models.

Sources: SHADAC interviews with SIM grantees, contractors, collaborators, and state staff, 2015-2017. Self-reported grantee progress and annual reports to the state, 2015-2017.

Sustainability of SIM Investments at the State Level

Based on our findings across all Model drivers and discussions with state leadership and staff, we highlight below eight key areas related to the sustainability of SIM investments in Minnesota. We emphasize core programs, activities, and investments at the state level as well as issues to consider for the future. The key areas include the three aforementioned priority areas identified as part of the state's sustainability planning to date. The eight areas addressed in this section are:

- Value-based purchasing under Medicaid,
- The state's HCH program,
- The state's support for community, cross-sector collaboratives,
- The state's HIE planning,
- Multi-payer ACO alignment,
- State-led community engagement,
- State development and dissemination of practice transformation resources, and
- The state's joint-agency governance structure.

Value-Based Purchasing under Medicaid

Minnesota's Medicaid ACO program, the Integrated Health Partnerships (IHP) program, was initiated prior to Minnesota's SIM award, but due in part to SIM investments in the program, the IHP program has been expanded and refined. DHS stands poised to further advance the program in the future. As one Executive Team member stated, "placing a value on value-based purchasing: there is still a lot of dedication to continuing with that."

When asked what the most important SIM activities and investments were in facilitating IHP expansion and development, state leaders described how SIM funding allowed DHS to hire additional data analytics, quality, and contracts staff as well as actuarial resources that were instrumental to working with new and increasingly diverse organizations interested in participating in the IHP program. Added state staff and actuarial resources under SIM have also been critical as DHS has developed changes to the model (IHP 2.0) through its Request for Information (RFI) process and subsequent contracting cycles.

By design, IHP 2.0:

- includes a population-based prospective care coordination payment;
- supports the exchange of electronic clinical event notifications between IHPs and providers;
- Incorporates IHP contract incentives that strengthen partnerships with community supports and social services organizations;
- ensures a "no risk" track for IHPs that are not able to take on risk, but are still accountable for patient care;
- develops an "advanced" track for higher capacity systems to take on increased accountability for patient population health outcomes; and
- strengthens alignment between the IHP program and other health care initiatives, such as the state's Health Care Homes (HCH) program and the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), payment reform changes in Medicare.

Provider proposals to participate in the new 2018 IHP contracting cycle were due September 1, 2017; IHP contract negotiations were anticipated to begin later that month.

Enabling further expansion and evolution of the IHP model, many changes to the IHP program design were proposed as part of Governor Dayton's FY 2018-19 budget, and legislation and funding necessary to implement them were approved by the 2017 Minnesota Legislature and signed into law by Governor Dayton.[118] Specific statutory changes included a requirement for DHS to provide IHPs with a population-based payment for care coordination services that is risk-adjusted to reflect enrollees' chronic conditions, limited English skills, cultural differences, and other factors. This per member, per month payment will be provided to IHPs on at least a quarterly basis, provided they continue to meet cost and quality metrics under the program. IHPs were also given authority to provide financial incentives to patients who see primary care providers for initial health assessments, maintain continuous relationships with primary care providers, and participate in ongoing health improvements and coordination of care activities. New funding was also provided to the Commissioner of Human Services to contract with HIE vendors to support IHPs in connecting enrollees with community supports and social services. Finally, additional administrative funding for an additional four full-time equivalent (FTE) staff was provided to DHS to support work with new contracted IHPs and for policy and administrative support related to prospective payments, HIE, and other changes aimed at strengthening partnerships with community supports and social service organizations.[119]

[118] See Laws of MN 2017, 1st Special Session, Chapter 6, SF2, Article 4, Sections 39–43, https://www.revisor.mn.gov/laws/.
[119] See House Research Bill Summary by Randall Chun on H.F. 237 (delete everything amendment H0237DE4-1), March 11, 2017, http://www.house.leg.state.mn.us/hrd/bs/90/hf0237.pdf.

Along with funding for these program enhancements, the legislation's fiscal estimates included assumptions that these changes to the program will attract additional providers to participate in IHP, and that an additional 193,000 Medical Assistance and MinnesotaCare recipients will be served by IHPs by FY 2021, resulting in net health care savings of $9.4 million in FY 2018-19, and $34.1 million in FY 2020-21 (all funds).[120]

Key issues for the advancement of the IHP program moving forward include the following:

- **Strengthening infrastructure and supports so that an even wider variety of providers—both medical (e.g., rural, independent, specialist, critical access hospitals) and non-medical (e.g., behavioral health, chemical dependency, or disability service providers)—can participate in total cost of care models**: The inability to share and act upon health care data and technology are key barriers for many organizations that may otherwise seek to participate in value-based purchasing. Continuing to invest in real-time data as well as interactive data and information related to care coordination will be important as the IHP program evolves.
- **Creating, strengthening, and formalizing partnerships between IHPs and non-medical providers:** As the state begins to implement new incentives for these partnerships through an advanced track for IHP participation under IHP 2.0, the state must assess how providing additional financial incentives to IHPs results in shared accountability for quality and cost with non-medical providers, and evaluate how this broadened accountability addresses patient population health outcomes.
- **Increasing clarity and further delineating the roles and responsibilities of IHPs vis-à-vis managed care organizations and the managed care delivery system:** Overlap in responsibilities for care coordination, utilization management, quality measurement and improvement initiatives, and data analytics and exchange continue to cause confusion for provider systems, MCOs, and patients.
- **Aligning the IHP program, both contractually and operationally, with other payer value-based payment models that emerge:** As value-based payment models in the state grow, there may be opportunities for the IHP program to align with other private and public sector models (see more below on ACO alignment).
- **Balancing prospective payments for care management and risk-based payments tied to TCOC benchmarks:** As the IHP program further expands and evolves, the state will need to continually assess the balance between ensuring adequate funding for care coordination infrastructure and providing the right incentives for organizations to drive meaningful changes to care delivery and to address social determinants of health and health equity objectives.
- **Sustaining this trajectory of program savings and demonstrating the overall financial sustainability of the IHP model to providers, payers/purchasers, and other and stakeholders:** It is hoped that IHPs "are going to re-direct that [care coordination] investment internally to find new savings." More rigorous evaluation and monitoring of evidence on IHPs from a cost, quality, and utilization perspective are needed, and use of the Minnesota All Payer Claims Database (MN APCD) for this analysis will be indispensable in this regard.

[120] See fiscal note on H.F. 237 from Minnesota Management and Budget, http://mn.gov/fnsearch/.

Health Care Home Program Adaptation

At the start of SIM, the state's goal was to double the percentage of HCH-certified clinics across Minnesota to 67%.[121] While this goal has not yet been reached, progress was made during the SIM initiative, and the state continues its commitment to expanding HCH certification throughout the state.[122] Driver 3 investments, in particular, were designed to support certification and recertification of providers in the state through grants, contracts, and learning opportunities. In addition, many ACHs included an HCH partner and, while MDH did not pursue a legislative proposal in 2017 for continuation of the ACH program, several ACHs indicated in interviews with SHADAC that work began or expanded under the program will be sustained through HCH (or BHH) care coordination models. In addition, during the SIM initiative, the percentage of HCHs participating in the IHP program grew from 28% in the first quarter of 2014 to 76% in June 2017.[123] In total, SIM programs and activities in Minnesota attracted 48 HCH-certified clinics as either grantees or partners, representing 74% of all medical clinics participating in the state's SIM initiative. SIM implementation and alignment with the state's HCH program, among other factors, have contributed to program sustainability, continued innovation, and adaptations under discussion.

State leaders spoke of a next generation of the HCH program benefiting from SIM experiences: "SIM conversation around expanding [the] table, partnership, and priority setting [providers] has direct programmatic impact for HCH" and "evolution of who [HCH program] they are came about because of SIM." The state began to test new ideas under the no-cost extension it received for the SIM initiative from CMMI. For example, SIM emphasis on relationship building with priority setting providers informed a new Primary Care and Local Public Health Learning Community implemented in 2017 including HCH-certified clinics and county public health to explore how health care clinics and local public health agencies can work together to achieve population health goals. In addition, findings from SHADAC's First Annual Evaluation Report as well as recommendations of the Minnesota Health Care Financing Task Force[124] reinforced concerns related to the limited funding options and reimbursement levels for care coordination. Population health payments under IHP 2.0 will help to support Medicaid care coordination costs for HCHs starting in 2018. In addition, SIM funds are supporting a study jointly led by DHS and MDH to quantify the cost of care coordination under the HCH program and provide information to guide future reimbursement policy.

In August of 2016, MDH issued a Request for Information (RFI) to solicit stakeholder input on the HCH program, particularly potential enhancements to the program, implementation experiences, and necessary resources for the program. As part of this RFI, MDH asked explicitly for stakeholder insights related to the ACH model of "intentional partnerships" between health care systems and community resources implemented under Minnesota's SIM initiative to inform future changes to the HCH program that may be enacted via a revised Administrative Rule. Recent strategic planning by MDH has led to a

[121] "Minnesota Accountable Health Model Triple Aim," *Minnesota Accountable Health Model*, July 2015, http://www.dhs.state.mn.us/main/groups/sim/documents/pub/dhs16_196540.pdf.
[122] At the end of 2014, a total of 359 clinics were certified HCHs, which represented approximately 50% the HCH eligible clinics in the state. The HCH Evaluation report is the source for the clinic denominator of 770 available here: http://www.health.state.mn.us/healthreform/homes/legreport/docs/hch2016report.pdf. By June of 2017, the number of clinics that were certified had increased to 376 including 20 clinics in border states. The number of participating providers in the program has been volatile over the course of the SIM initiative due to Essentia's program exit in 2016. However, according to 2017 data submitted to CMMI by the state, the number of providers participating in the program has returned to 2015 highs.
[123] The source for the percentages was "Reporting Targets to CMMI," *Minnesota Department of Human Services*, 2014 and June 2017.
[124] "Health Care Financing Task Force Report – At a Glance Summary of Recommendations," *Manatt Health*, January 2016.

new HCH Advisory Committee workgroup and three priority areas. These areas include: 1) advancing certification standards, a focus for the Program Innovation workgroup; 2) learning and technical assistance, a focus for the Learning and TA workgroup; and value-based reimbursement, a focus of the Financial Sustainability workgroup.[125]

Looking forward, multi-payer engagement in the HCH program remains uncertain. While IHP 2.0 will provide additional reimbursement for care coordination efforts of HCHs engaged in the IHP program, it will not address reimbursement concerns for HCHs that are not IHPs or for the commercially-insured patients of HCHs. With respect to Medicare, the new Quality Payment Program under MACRA gives credit to Minnesota HCH-certified Medicare providers towards their Merit-based Incentive Payment System (MIPS) scoring.

Despite a recent programmatic shift from annual certification to certification every three years, absence of grant funds in the future to support organizations in preparing for HCH certification and recertification is a concern. Engagement strategies will need to continue to focus on harder to reach clinics, including smaller and rural clinics. The aforementioned HCH care coordination cost study may inform future engagement strategies.

State Support for Community and Provider Collaboratives

One objective of the Minnesota Accountable Health Model was to increase provider, community, and consumer partnerships to set and achieve health improvement goals (i.e., address a population health need or challenge of a specific population). The SIM initiative in Minnesota helped to spawn and support such collaboratives particularly through two drivers and programs, the e-Health Collaborative (Driver 1) and ACH (Driver 4) grant programs. Under the e-Health Collaborative program, nine collaboratives involving medical and priority setting providers were formed to implement or expand e-health capabilities to support secure exchange of medical or health-related information between organizations. Under the ACH program, 15 community, cross-sector collaboratives were established across the state to design, implement, and test community-based care coordination approaches focused on a diverse set of target populations.

While the state will not continue to sponsor or administer either grant program in their current form beyond December of 2017, interviews with participating organizations indicated that several collaboratives will be able to continue their work beyond their SIM grant funding. As described in greater detail in Chapters 4 and 7 of this report, in total, ten (66%) of the ACH grantees and a third of the e-Health Collaboratives have secured (at this time) the funding/resources to continue their initiatives at least in part. In an effort to assess collaborative sustainability, SHADAC also asked participating organizations whether the initiatives they implemented under SIM have been carried out in other parts of their organizations or have been extended to include other partners. With a few exceptions, there is modest evidence of the spread of e-Health Collaborative and ACH efforts within participating organizations or to other organizations, although several e-health grantees reported that the sustainability of their HIEs could ultimately depend on their ability to onboard additional partners. That said, even among collaboratives that have not secured additional funding/resources or have not expanded, grantees highlighted that aspects of their initiatives may prevail in the form of institutional and staff knowledge/capacities, relationships, automation, and new/revised processes and tools.

[125] Minnesota Department of Health, "The Connection, June 2017 Issue," *Health Care Homes Newsletter*, http://www.health.state.mn.us/healthreform/homes/hchnewsletter.html.

Full or partial ACH sustainability was associated with a rural location, a reliance on formal historical collaboration, and a medical orientation. Among the ten ACHs that have confirmed partial or complete sustainability, six are located in rural areas, six leveraged existing or historical community collaborations, and nine are medically oriented. Sustainability of ACH activities was facilitated by the ability to demonstrate success with data (e.g., on costs, utilization, and/or patience experience); collaboration and alignment with other community efforts; community, organizational, and leadership support (which served as evidence of ACH success, especially with respect to less quantifiable ACH activities like community engagement and project coordination); and access to new and multiple funding streams. For e-Health Collaboratives, having a well-defined understanding of the intended use of the HIE was critical for implementation as well as continued use. Also, the ability to fit the new HIE approach into existing workflows was an important design and sustainability consideration. The costs of maintaining HIE activities, competing organization priorities, and difficulty demonstrating return on investment have been challenges in sustaining the HIE work beyond the SIM funding.

The Minnesota Department of Health (MDH) does not have plans to continue the e-Health Collaboratives Grant Program but may pursue other grant priorities (see more below). In the case of the ACH Grant Program, MDH did not have sufficient evidence of cost savings and did not pursue a legislative proposal for funding. As one state leader said, it is "harder when people ask what ACHs did. [There is] no one model. It's hard to turn around and talk about what worked when it is always different. It was hard to form an elevator speech about ACHs and get support for moving forward."

A report prepared by MDH in October 2016 summarized the ACHs at the end of the first year of the program and outlined lessons learned and recommendations in 12 main areas for future ACH projects.[126] Several of these recommendations could help to address in the future the gaps in needed evidence among ACHs. Select recommendations included:

- **Scope of ACH:** Require attribution to an ACO and assure that population size is adequate to demonstrate measureable impact;
- **Community care coordination:** Include at least one HCH and administration of a social determinants of health assessment;
- **Financing:** Include a match requirement for 20% for future funding and consider options for stepping down state grant funding over time while requiring enhanced support from other funders;
- **Infrastructure:** Require ability to share certain types of information with partners in compliance with state and federal laws and dedicate a coordinator for the ACH;
- **Governance:** Require policies and organization structure and bylaws;
- **Partnerships:** Require participation from local public health, payers, clinics, hospitals, ACO, and social and community services;
- **HIE and HIT:** Require strong measurement/data analytics capacity;
- **Workforce:** Integrate emerging professions;

[126] "Accountable Communities for Health: Perspectives of Grant Projects and Future Considerations," *Minnesota Accountable Health Model*, October 2016, http://www.dhs.state.mn.us/main/groups/sim/documents/pub/dhs-290682.pdf.

- **Population Health:** Collect data on specific measures that align with local plans and address health equity and disparities;
- **Evaluation:** Require reporting on outcomes and process measures and demonstrating measurable progress towards goals;
- **Health Equity:** Conduct assessments and act on results of social determinants of health screenings for housing, transportation, food security, etc.;
- **Timeline:** Support ACHs for at a minimum of a four-year period to ensure the ACH ability to build meaningful partnerships and to meet programmatic goals; and
- **Alignment with other programs:** Align ACH development with the federal Accountable Health Communities (AHC) program, IHPs, HCHs or other programs as appropriate.

SHADAC's initial and final interviews with ACHs and state staff about implementation and sustainability facilitators and challenges lend support to a number of these insights and recommendations for future community collaborative health programs. One state staff person posed the idea of funding both planning and implementation grants acknowledging that ACHs started off in different places, some leveraging existing collaboratives and relationships and efforts, with others creating brand new partnerships and initiatives. This state representative also called for retaining the ACO requirement but strengthening it such that collaboratives target the ACO-attributable population. This as well as requiring more prescriptive outcomes of collaboratives were viewed as ways to better position the state and collaboratives to have the data to demonstrate return on investment.

Another key area for future consideration pertains to collaborative funding models and reimbursement options. ACHs that aligned with other existing efforts and that have a variety of sources of funding were more likely to be sustained than others. As one state leader stated, "[Different communities] have different opportunities," and the state may need to move forward "where the energy is…to take advantage of opportunity." Finally, extending the period of performance to longer than two years would allow for more time for program design, community engagement, full implementation of the program, and observation of outcomes necessary to demonstrate Triple Aim impacts.

Future State e-Health HIE Strategic Planning

The advancement of e-health, and specifically HIE, will continue to be a major focus area for the state post-SIM. As noted above, the state identified HIE as one of three priority sustainability areas in 2016, after which the state developed an HIE Strategy Implementation Roadmap outlining recommendations to guide the state's overall work. This roadmap identified activities for state leadership, as well as other existing bodies that inform HIE work in the state, including: the Minnesota e-Health Advisory Committee, the HIE Review Panel, and the Minnesota Health Information Network (MNHIN). Several of the recommendations included in this roadmap were based on lessons learned from the investments made under Driver 1 of the state's SIM initiative.

One current activity that will inform the state's ongoing HIE sustainability planning is the forthcoming Minnesota HIE Study. In 2016, the Minnesota Legislature charged that MDH conduct a study to assess Minnesota's legal, financial, and regulatory framework for HIE. This includes examining the requirements of the Minnesota Health Records Act and making recommendations for modifications that would strengthen the ability of Minnesota health care providers to securely exchange data in

compliance with patient preferences and in a way that is efficient and financially sustainable.[127] The idea for the HIE study originated from a recommendation included in the Health Care Financing Task Force's final report and was informed by a state leader. Leaders at both MDH and DHS commented on the need for infrastructure, not just financial resources. As one stated, “Unless you fix a broken system for HIE in Minnesota, additional money won't get you anywhere. [SIM] Grantee frustrations really drove urgency of the problem.”

The HIE Study is due to the legislature in February 2018, and it will ultimately be the guiding sustainability document for the state’s HIE work going forward. While additional future HIE investment priorities will be identified from the HIE Study, the state has for the time being repurposed several existing e-health appropriations to support ongoing HIE work such as grants to communities to work on implementing Admit Discharge Transfer (ADT) alerts and exchanging care summary documents (e.g., Continuity of Care Documents or CCDs) and research grants for the provider community to evaluate the return on investment for implementing HIE. The state will also continue the privacy and security work begun under SIM, including updating the SIM-sponsored online Foundations in Privacy Toolkit, adding additional resources, and continuing to disseminate the findings.

The composition of Minnesota’s state-certified HIE service provider market, including what services they provide and which organizations they connect to, will likely be one major factor affecting the ongoing work of the state in the area of HIE. As a result of the SIM grants under Driver 1, the state’s thoughts on a strategy to achieve statewide interoperability have evolved to place greater emphasis on connecting directly with a Health Information Organization (HIO). When the SIM grant began there was only one HIO in the state. However, today there are four certified HIOs. A stronger HIO infrastructure plays an important role in achieving statewide interoperability (because HIOs are required to connect to each other). Many SIM participants felt, however, that the market-based system that currently exists introduces costs and complexities for provider organizations looking to connect. As one participant explained, “Every time we foster a system that requires multiple connections, we're building cost into that system, too. There's a cost to connect HIO to HIO.”

Provider organizations, especially priority setting organizations or small, rural and independent medical providers continue to worry about the costs associated with connecting to HIE service providers. The ability to identify and sustain a governance and financing model for some sort of shared services infrastructure among HIO providers will undoubtedly be key to increasing efficiencies and making a market-based HIE solution functional and cost-effective long-term.

A second factor will be the state’s role recommending policy and regulatory changes to advance HIE. Several Driver 1 grantees did not connect to a state-certified HIE service provider because doing so would not have provided access to data from large health systems that only use EHR-enabled HIE (e.g., Epic Care Everywhere). A number of grantees commented on their desire to see the state employ additional policy levers such as stronger payment incentives, or even mandates, that would encourage organizations to share data outside their own organizational walls (for example, requiring that hospitals provide IHP participants’ real time clinical data as a condition of participation in Medicaid).

The SIM initiative in Minnesota has demonstrated the importance of defining exactly what product or HIE capability is desired in the end. Moving forward, it appears many provider organizations and HIE service providers are looking to the state to advance HIE by defining specific use cases and linking those

[127] Laws of Minnesota 2016, Chapter 189, Article 20, section 5.

to tangible goals and business requirements. As one participant explained, "[the e-Health Collaborative Grant] wasn't linked to anything specific or consistent other than the use of a state-certified vendor. If there was a requirement that everybody was building to, and you said, community one, two, three, go, get there…. If I could go back and do it all over again, I think it should have been completely tied to the IHPs in advancing interoperability for the purpose of accountable health."

The direction the state is taking now, with DHS utilizing meaningful use funds to advance ADT alerts for Medicaid enrollees, will be an important proof of concept toward the state's ability to incrementally build HIE that is statewide and consistent. It is yet to be seen exactly, however, how the state plans to advance HIE use cases for settings other than medical providers. The e-Health Roadmap, while an important first step in identifying those use cases and recommendations, did not include any funds for implementation but MDH is leveraging current funds to advance the roadmap. For example, MDH has offered a training for county attorneys and is working with local health departments to conduct informatics-savvy assessments.

Overall, state staff indicated a sense of momentum developing around e-health as a result of SIM, which it expects to continue. State staff observed, "We have more momentum on HIE across the state in many communities. Many of them are SIM communities, some of them aren't, but momentum kind of creates momentum. And we're starting to see a direction, moving with the HIOs that we have, and willingness to work together. That wasn't necessarily envisioned four years ago, but I think that's one of the outcomes for sure that ties together all the little pieces of everything from the grants and their successes as well as where it's been difficult."

Multi-payer ACO Alignment

As described in Chapter 8, the dynamics that exist in the broader market may not have been conducive to the state playing an effective role as convener or broker of multi-payer ACO alignment. While no tangible progress was or could be made under SIM in developing quality measures, core competencies, and aligned payment methodologies for ACO arrangements in the state, progress was made in increasing knowledge of the market, engaging stakeholders around the topic, and building relationships that may help to facilitate productive discussions about ACO alignment in the future.

Looking ahead to future ACO alignment opportunities, Multi-Payer Alignment Task Force members who responded to questions from SHADAC about ACO alignment emphasized a need for large scale programs in order to achieve meaningful system level change and for standardized quality measurement across multi-payer value-based models and the importance of making sure that state approaches align with federal models, including the Quality Payment Program (QPP) under MACRA. According to amended Minnesota statute, the legislature is calling for the development of a new measurement framework by June of 2018 "that identifies the most important elements for assessing the quality of care, articulates statewide quality improvement goals, ensures clinical relevance, fosters alignment with other measurement efforts, and defines the role of stakeholders."[128] By December 2018, the framework will inform updates to SQRMS. State staff reported that the work accomplished under SIM has the potential to inform the process to develop the framework. Other areas that members highlighted as important for standardization included interoperable HIE and a shared understanding of what an effectively integrated system would look like. There was also concern about ensuring that reliable data for value-based payment and delivery system reform continue to be generated and maintained as the system shifts from

[128] 2017 Minnesota Statutes, 62U.02 Payment Restructuring; Quality Incentive Payments, https://www.revisor.mn.gov/statutes/.

fee-for-service to more value-based payment, since a large share of existing data infrastructure is based on claims data generated through the fee-for-service system.

Task force members noted that any future standardization should be balanced with flexibility, particularly with regard to how shared goals—such as effective integration—are achieved. Members noted that this level of flexibility is essential for continuing to engage key stakeholders in moving toward a value-based system. Task force members also emphasized the importance of local flexibility (e.g., among payers and providers) given the present federal health policy climate, noting that health care innovation may be less of a priority moving forward.

As to the role the state should play in sustaining and advancing progress on ACO alignment in the future, task force members had mixed opinions. One member suggested that the state should continue to convene the task force (which ended in spring of 2017), with the hope that separating the task force from the SIM program and federal oversight could free the group to focus on more critical priorities (which were not specified). Another expressed skepticism that the state would continue to engage with stakeholders after SIM ended. The importance of aligning incentives, focusing on data sharing and uniformity, and engaging MCOs through the IHP program were cited as opportunities for sustaining momentum. Concern about the impact that the changing federal policy environment may have on the ability to sustain and advance progress on alignment goals was also raised.

It is unclear whether the state will lead additional ACO alignment work in the near future. Future efforts will need to consider barriers experienced during the SIM initiative. Among several, these included a need for more clarity around alignment goals, fragmentation of existing public and private initiatives, the competitive nature of health plans and health systems, lack of ACO definition and regulation in the state, and a need for leadership supporting alignment across both private and public sectors.

State-Led Community Engagement

As summarized in Chapter 2 of this report, Minnesota employed a variety of strategies to engage payers, medical and non-medical providers, community organizations, and state agency staff to participate in the Minnesota Accountable Health Model. These approaches included sharing information about the Model; seeking guidance on the initiative (e.g., via the task forces); supporting relationships between state agencies and external organizations and within and across state agencies; building staff capacity within state agencies through training and consultation; awarding grants to organizations and communities across the state and providing flexibility for grant recipients to design and implement unique reform models tailored to local circumstances; focusing program development on priority setting providers and involving community members; and promoting health equity policy. In all, a total of 495 organizations were involved in the SIM initiative in one capacity of another.

As part of the state evaluation, Rainbow Research prepared a report[129] on state-led community engagement and partnership activities under SIM and—based on interviews they conducted with state staff and stakeholders —summarized several recommendations for the state. A key point highlighted by Rainbow Research is that engagement and partnerships "take focused, ongoing commitment." ACHs, e-Health Collaboratives and other grantees reiterated this point in interviews with SHADAC, and, in fact, it was a key issue to surface in the First Annual Evaluation Report.

[129] Rainbow Research, Inc. "Findings on Community Engagement and Partnership Activities for the State Innovation Model in Minnesota," report to *SHADAC*, October 7, 2016.

Rainbow Research outlined the following recommendations for future state-led community engagement:

- Fully commit to community engagement within MDH and DHS through dedicated strategy, funding, and staffing, and make community engagement "foundational to every aspect of the state's work";
- Increase state staff capacity to engage communities and build partnerships (e.g., related to who and how);
- Focus sustainability efforts on successful community engagement approaches; and
- Continue to build trust in the community as trust is "integral to doing authentic community engagement."

Future engagement can focus on maintaining connections with stakeholders who participated in the SIM initiative as well as engaging new stakeholder who were not actively or directly involved in SIM including a subset of private purchasers, long-term, post-acute and/or home care service providers, some provider associations, some state and county government offices, and consumers. The SIM Organization Database developed by SHADAC as part of the state evaluation could serve as a useful resource in the state's future engagement efforts.

Resources to Support Future Accountable Care Reform Efforts

Minnesota used SIM funds to make direct investments to medical and priority setting organizations and collaboratives across the state as well as to make "support" investments to vendors/consultants and state agencies charged with assisting the transformation of organizations and collaboratives. Many of these support investments resulted in products that can and are envisioned to serve as ongoing resources to assist organizations in their transformation efforts in the future and to reach not only organizations that participated in the SIM initiative but also other organizations and stakeholders throughout the state. Available online for broad access and use, these resources are important mechanisms for sustaining and spreading the progress made and knowledge generated under the SIM initiative. These resources include:

- **e-Health Roadmap for Behavioral Health, Local Public Health, Long-Term and Post-Acute Care, and Social Services**: This publication includes 10 recommendations for priority settings to support the adoption and use of e-health, as well as over 40 actions with resources and considerations that support the recommendations, aimed at key partners such as providers, professional organizations, and state government. Available online at: http://www.health.state.mn.us/e-health/roadmap/index.html
- **Foundations in Privacy Toolkit**: This toolkit includes template policies and procedures, template agreements, flow charts, and checklists designed to address challenges providers face exchanging health information under Minnesota and federal laws. Available online at: http://www.gpmlaw.com/Practices/Health-Law/Foundations-in-Privacy-Toolkit
- **Emerging Professions Toolkits:** These toolkits compile tools and resources to aid in the integration of three emerging professions – community health workers, community paramedics, and dental or advanced dental therapists – into the workforce. The toolkits are intended to inform potential employers how to hire emerging profession practitioners, how to successfully integrate them into care coordination models, and what potential benefits arise from hiring an emerging professional - benefits to the organization, care delivery team, and patients and clients served by the emerging profession practitioner. Available online at: http://www.health.state.mn.us/divs/orhpc/toolkit.html

- **Learning Collaborative Materials**: In partnership with the HCH program, a webinar series was conducted to provide opportunities for health care providers and community partners to learn about health transformation. Materials from these webinars available online at: http://www.health.state.mn.us/healthreform/homes/collaborative/webinars.html
- **Minnesota Accountable Health Model Continuum of Accountability Matrix**: DHS and MDH, in collaboration with the two SIM task forces, developed this tool, which is comprised of a number capabilities and functions designed to measure an organization's capacity to provide accountable care, according to the values of the Minnesota Model. Available online at: http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=SIM_Docs_Reps_Pres
- **Community Engagement Materials:** SIM funding in Minnesota supported the development of products, including written documentation, posters, a presentations and video, aimed at illustrating the interaction of various communities and the health care system and highlighting innovative ways to reach communities about health. Presentation and video available online at: http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=SIM_success. The MDH publication, *Stories of Strength: Overcoming Challenges Navigating the Healthcare System,* could be another resource. The most recent community engagement investment under SIM - the development of narratives related to increasing access to and integrating food services and behavioral health services into the broader conversation about health-- may also result in materials for dissemination.
- **E-Learning Training Modules for IHPs, BHHs, and HCHs**: State leaders conveyed that future practice transformation efforts will be strategic and in support of existing delivery system and payment reform models. LearningLens is working with DHS to develop online learning tools to provide support and information to providers about IHP, BHH and HCH program policies, procedures, and practices. One state leader commented, "…ACO work is really important and the practice transformation work…which are totally aligned and inextricably linked to one another."
- **Directory of SIM-funded programs**: A future print and online resource documenting program goals, target population, outcomes and learnings, and resources will be available for each project funded under the SIM initiative in Minnesota.

Finally, materials from this state evaluation (the First Annual Evaluation Report and this Final Report)—available online at http://www.dhs.state.mn.us/main/ – may serve as an ongoing source of information for the State and organizations that participated in SIM as well as for disseminating information about the SIM initiative and care delivery and payment reform more generally to a broader audience in the state. Per interviews with state staff, it is unclear whether and how the state's Minnesota Accountable Health Model website, including success stories, will be maintained beyond 2017. An important factor for leveraging these numerous resources and expanding their reach in the future will be the state's plans and approach for furnishing and promoting these materials.

SIM Governance Structure in Minnesota

SHADAC interviews with state staff confirmed that the SIM Executive Committee, Leadership Team, and Core Workgroups will disband formally after the SIM funding ends. The two task forces advising the state on the SIM initiative have also ended and met for the last time in the spring of 2017. These governance structures were critical to broadening the conversation of the health in the state and deepening relationships across state agencies and between state agencies and provider organizations. Qualitative findings suggest that SIM staff at the state level and participating organizations throughout the state will proceed with a shared vision and knowledge base.

Many of the state employees who were assigned to or hired to work on the SIM initiative will continue in other roles or return to their previous positions and take SIM knowledge and relationships with them. State leadership expressed a "…desire not to lose what was created and built under SIM." For example, several SIM project leads or managers will continue at DHS supporting a new area under Policy Development and Implementation within the division of Health Care Administration. This area is the home of Minnesota Medicaid's BHH services. In addition, the community engagement coordinator for SIM hired by MDH will transition from the Department of Health Policy to a new role intended to extend the community engagement and partnership work in MDH's Center for Health Equity. Finally, state managers and staff have new and strengthened relationships and contacts across agencies due to SIM.

State staff reported already leveraging cross-agency relationships developed under SIM. For example, DHS staff consulted with MDH staff on the IHP Encounter Alerting Service Vendor request for proposals, and it is anticipated that there could be more coordination and collaboration on this effort over time. MDH also sought input from DHS staff on the current HIE study. Other opportunities for cross-agency collaboration will continue such as MDH's and DHS's representation on the e-Health and HCH Advisory Committees and the Administrative Uniformity Committee (AUC). MDH and DHS will also continue with an Inter-Agency Agreement (contract) in which a full-time staff person is paid for by DHS but resides at MDH and supports behavioral health integration and BHH services.

State leadership spoke of the need for intentional organizational changes to sustain the progress made under SIM in terms of state agency structures (e.g., job descriptions) and coordination within and across state programs. For example, Executive Committee members spoke of incorporating a health and health equity lens in diverse state programs ("health in all policy"), better coordinating the distribution of state funding (between health care and public health, across programs, in or across communities, rural/urban, etc.), and developing cross-agency or cross-program blended requests for proposals. A Leadership Team member provided the example of the DHS Cultural and Ethnic Communities Leadership Council, which is now integrating council liaisons throughout DHS, bringing subgroups across the agency together. "The idea that you can have these workgroups with a liaison that looks at your work – interagency boundary spanning is what they call it – it's not a new idea, but it's a new awareness within MDH and DHS to staff or support a position that thinks about one thing across several areas." An Executive Committee member spoke about a study commissioned to examine "under the hood" of programs to "demonstrate the need to be more linked in how we think about things." A challenge in executing organization change and coordination across programs/departments moving forward will be the disappearance of the clout and weight associated with the SIM cooperative agreement. "SIM staff came in on silver platter…. They had access to people they don't normally do…."

As mentioned above, both task forces have come to an end but 18 individual members, including members of the ACH or Data Analytics Subgroups, made commitments to sustainability that were presented at their final meeting. The ways in which these individuals and organizations plan to continue SIM work varies. For example, task force members committed to sustaining their participation in the IHP model. Three task force members pointed to strengthening their use of electronic health records and other health information technology, which were crucial elements of their SIM work. Two members noted that SIM helped them to expand their use of data in order to improve care coordination. One member of both task forces expressed dedication to promoting the hiring and utilization of emerging professions.

Multiple task force members also expressed that their work under SIM allowed them to better understand the needs of clients and/or their target population in order to provide quality care. For instance, four members indicated that they intend to continue SIM work by fostering ongoing collaborations with community partners and stakeholders to promote the health of their targeted populations. Three individuals also stressed the importance of focusing on social determinants of health in order to improve population health.

The Minnesota Accountable Health Model term was the umbrella term for all of the state's work under SIM and its five drivers, and state leadership reported that this term will not continue to be formally used by the state. While the term was meant to show "we are trying to all go in one direction," it was never as well known in the state as the "SIM" acronym and will likely disappear over time. As mentioned earlier, at this time, it is unclear how the state's Minnesota Accountable Health Model website will be maintained. One state staff person would like to see "…the site [used] to showcase other areas of innovation."

CONCLUSION

Minnesota's four-year SIM initiative, the Minnesota Accountable Health Model ("the Model"), comes to an end in December 2017. With these federal funds, the Minnesota Department of Human Services (DHS), together with the Minnesota Department of Health (MDH), made significant investments in health information technology (HIT) and Health Information Exchange (HIE); the size and capabilities of the Integrated Health Partnership (IHP) program; person-centered, coordinated care and Health Care Home (HCH) and Behavioral Health Home (BHH) readiness among providers; engagement of and relationships between and among medical and non-medical providers, especially behavioral health and social services providers; and understanding the multi-payer Accountable Care Organization (ACO) landscape in the state.

Key accomplishments and outcomes across Model investments are as follows.

- The state expanded and advanced its Medicaid ACO program and was viewed by IHP provider systems as a leader among payers in data analytics and reporting.
- The number of SIM-collaborating organizations participating in alternative payment arrangements (APMs) increased over the period of the cooperative agreement, but this increase was primarily in the Medicaid market.
- SIM e-health investments increased provider connections to the state's HIE infrastructure and augmented statewide HIE vendor capacity.
- State practice transformation programs and activities under SIM placed emerging professions practitioners in select front-line work settings; led to improvements in the capacity of participating providers and organizations to deliver coordinated care across settings; supported new and existing HCHs; and facilitated the successful launch of BHHs.
- ACH community-based care coordination led to improvements in care quality and patient outcomes, and individual ACH evaluations provided some evidence of cost savings.
- The state developed knowledge of the ACO market, engaged public and private sector stakeholders, and built relationships that may help to support future discussions about ACO multi-payer alignment.
- Through joint-agency leadership, intentional stakeholder engagement, and the distribution of grants across the state with the flexibility to support innovative local reform models, DHS and MDH fostered new and strengthened relationships across sectors within the state, and broadened the conversation about health to one that goes beyond the medical care system to consider community characteristics and social determinants of health.

Although the infrastructure built around the SIM initiative will be disbanding with the federal funding, it is clear that Minnesota's SIM investments have left their mark on the state and among provider communities in several key ways. The IHP program is pressing forward with new provider capabilities and new program enhancements stemming from SIM investments and lessons, and the state's HCH program is adapting to encourage more providers to become certified and re-certified. Over half of the ACHs and a third of e-Health collaboratives have secured funding/resources to continue their initiatives in some form. The state is well-informed and positioned to continue to advance e-health through its HIE Strategy Implementation Roadmap. A number of new capabilities and resources now exist that can provide future support to organizations across the state in their transformation to accountable care and community engagement efforts.

Key considerations for the future include:

- continued engagement of a variety of both medical and non-medical providers in state models, (e.g., the IHP and HCH programs), including the harder to reach organizations or those that are not as far along in their transformation to patient-centered, coordinated and/or integrated care;
- continued support for provider organizations on the journey to accountable care and monitoring of practice transformation efforts;
- further study of the impact of state models on quality and costs and their overall viability over time;
- identification of the state's future HIE investment priorities based on its legislatively mandated HIE study, including specific use cases linked to tangible goals and business requirements;
- discussion of future alignment efforts across state multi-payer, value-based or alternative payment models that is informed by the SIM experience.

Ultimately, through this massive effort, the state progressed toward its original SIM aims of achieving a health care system that provides patient-centered, coordinated care, holds providers accountable for costs and quality of care, aligns financial incentives to promote the Triple Aim, and implements collaborative approaches to set and achieve health improvement goals.

APPENDICES

APPENDIX A: SHADAC SIM SURVEY METHODS

The State Health Access Data Assistance Center (SHADAC) administered three surveys in 2017 as part of its evaluation of the Minnesota Accountable Health Model: 1) the SIM Minnesota Organization Survey; 2) the ACH Provider Survey; and 3) the Health Information Exchange (HIE) Users Survey. We describe our methods for survey design, sample, administration, data cleaning, and analysis for each of the surveys below.

SIM Minnesota Organization Survey

SHADAC designed the SIM Minnesota Organization Survey to assess organization change over the course of SIM in the essential components of the original Minnesota Accountable Health Model Continuum of Accountability Assessment Tool.[130] In addition to gathering descriptive information about each organization, SHADAC designed the survey to address the following components:

- Relationship Building
- Care Coordination
- E-Health Availability, Exchange, and Use
- Analysis and Reporting of Health Information
- Health Payment Transformation
- Functioning, Benefits, and Drawbacks of SIM Health Collaboratives (for e-Health and ACH participants only)

Design. To determine what specific activities should be asked about regarding each of these broader components, SHADAC reviewed the state's original solicitations to note the requirements and expectations for the work to be performed under the Minnesota Accountable Health Model. In addition, SHADAC conducted a targeted literature review and considered findings from a previous evaluation effort. According to SHADAC's 2016 assessment of the state's Continuum of Accountability Matrix Assessment Tool (CoA), some respondents felt that the tool was medically focused, so SHADAC designed the SIM Minnesota Organization Survey with language appropriate for the wide-ranging group of stakeholders involved in the model.

SHADAC designed the survey to assess change over the course of SIM in two ways. First, the survey was structured as a retrospective pre-post instrument that asked respondents to assess their organization's capacity relative to each of the above components twice: first at the time of survey administration, between March and April of 2017 (the post, or "NOW" period), and then before SIM participation (the pre, or "THEN" period).[131] This approach is particularly advantageous given the importance of familiarity with assessment tool concepts.[132] Second, the survey also included questions directing respondents to reflect on the extent to which changes in organization capacity were due to SIM involvement.

The final questionnaire included 70 items, including a combination of questions from existing surveys and questions developed or modified by SHADAC. The majority of survey questions were close-ended items and used 5-point rating or Likert scales. The questionnaire required approximately 45 minutes to complete.

---

[130] "Minnesota Accountable Health Model: Continuum of Accountability Matrix," *Minnesota Accountable Health Model*, January 12, 2014, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod.

[131] Nimon, Kim, Drea Zigarmi, and Jeff Allen, "Measures of Program Effectiveness Based on Retrospective Pretest Data: Are All Created Equal?" *American Journal of Evaluation* 32, no. 1 (2011): 8–28.

[132] To avoid potential desirability bias, or the possibility of respondents altering their data to demonstrate change, the survey prevented organizations from navigating backward to change responses.

Sample. The University of Minnesota Institutional Review Board (IRB) reviewed a description of the survey and determined that the project did not meet the regulatory definition of human subjects research. Therefore, additional IRB review was not required.

SHADAC targeted all grantee organization representatives and as many of the partner and participant organizations as possible to complete the survey. Eligible organizations were those that have played an active role in SIM programs or activities, including lead organizations or grantees in IHP/IHP Data Analytics Grants, Emerging Professions Grants, Practice Transformation Grants, as well as lead and partner organizations in e-Health Collaboratives and ACH programs. Organizations excluded from the survey sample included new grantees ending in September of 2017, vendors, and those receiving Practice Facilitation supports, although many of these Practice Facilitation organizations were targeted due to their role on other SIM programs or activities.

SHADAC collected names and email addresses of SIM grantee and collaborating organizations through extensive collaboration with the state SIM Leadership Team. Contacts were initially identified through the SIM Organization Database. SHADAC also consulted information it had collected during previous evaluation activities (e.g., subjects of previous interviews). SHADAC then shared the list with the state SIM Leadership Team and key program staff to confirm SIM participation and the appropriateness and accuracy of SIM contact names and email addresses. SHADAC reduced a list of almost 400 organizations to 237 organizations which received the survey.

Administration. SHADAC selected Qualtrics, LLC, to assist in the implementation of the survey, which then built the survey in a web-based environment. SHADAC conducted an internal pilot to ensure that the technical aspects of the survey were functioning as intended (e.g., outreach communications, links to the survey, piped text,[133] and survey skip logic). Then, SHADAC conducted an external pilot with two organizations participating in SIM programs and made final adjustments to the language and layout.

SHADAC also consulted with the state on survey administration. Through a subcontract with Qualtrics, SHADAC programmed the web-based survey into the Qualtrics web-based platform and administered it using a modified Tailored Design Method approach.[134] First, SHADAC asked state program staff leads to email a lead letter to their respective sample organization representatives informing them about the forthcoming survey. SHADAC provided recommended language to state contacts for this correspondence. After this lead letter, sample members received an initial email with a survey link from Qualtrics, followed by three weekly follow-up emails from Qualtrics. In addition, at the time of the second and final follow-up, SHADAC solicited the assistance of the state lead contacts to issue a survey reminder via email to providers, again providing recommended language for this correspondence. The total survey administration period was approximately four weeks. No incentives or remuneration was provided to respondents for their participation in the survey.

[133] A macro used in the Qualtrics web-based survey environment to populate custom data/text.
[134] Dillman, Don A., Jolene D. Smyth, and Leah Melani Christian, *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method* (John Wiley & Sons: 2014).

Exhibit A.1 below presents the final response rate for the Organization Survey. Of the original list of 242 organizations, five were identified as ineligible and removed from the sample because an organization declared itself ineligible, no contact information was found, or no contact was able to respond to the survey because of the timing of personnel changes. Of the remaining 237 organizations in the sample, 110 organization representatives completed the survey in full or in part. The final response rate, using American Association for Public Opinion Research's (AAPOR) response rate #2 (RR2), was 46.4%.[135] The response rate varied by grant program, ranging from 42% to 94%.

Exhibit A.1. Calculation of the SIM Minnesota Organization Survey Overall Response Rate

SIM Minnesota Organization Survey Sample	Number/Percent
Total number of initial sample members	242
Returned questionnaire	110
Completed survey	101
Partial survey	9
Eligible, incomplete (includes explicit refusal and no response)	127
Ineligible, incomplete	5
Total number of eligible sample members	237
Final response rate (returned/returned + eligible incompletes)	46%

Source: SHADAC, "SIM Minnesota Organization Survey," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.

Exhibit A.2. SIM Minnesota Organization Survey Response Rate by SIM Program Participation

Program (duplicated counts)	Submitted	Possible	RR
E-Health Lead	10	12	83%
E-Health Partner	40	84	48%
IHP	17	18	94%
Emerging Professions Grantee	8	13	62%
Practice Transformation Lead	30	36	83%
Practice Facilitation	12	NA	NA
ACH Lead	15	15	100%
ACH Partner	59	137	42%

Source: SHADAC, "SIM Minnesota Organization Survey," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.

Data Cleaning and Analysis. SHADAC reviewed raw data and respondent counts by section. Organizations that completed 17% or more of the survey were included in the analysis sample (n=110); nine organizations stopped completing the survey before the end. SHADAC reviewed open-ended response data to determine whether an existing response option may have been possible, and SHADAC re-coded a limited number of responses, as appropriate. SHADAC also re-coded some organization IDs in cases where an organization's name or relationship with another existing SIM organization had changed over the course of SIM.

SHADAC reviewed initial output by section to identify the number of "Not Applicable" (NA) and "Don't Know" (DK) responses and to identify whether such data could be analyzed. For reporting the organizational status regarding *specific* questions, SHADAC excluded organizations from the sample if they had an NA or DK response in either the before- or after-SIM time periods. However, in cases where

[135] "Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys, 9th edition," *The American Association for Public Opinion Research*, 2016.

responses were aggregated and measures were calculated *across* questions, SHADAC allowed NA and DK responses. For example, in calculating the frequency of organizations that established a relationship with at least one new stakeholder type, SHADAC did not exclude an organization's response in cases where the organization provided an NA response regarding one stakeholder but established a relationship with a different stakeholder. SHADAC applied this approach in each section.

SHADAC conducted a principle component analysis using data from the care coordination section of the survey to help determine which specific results were best suited to demonstrate the change an organization experienced over the course of SIM. SHADAC weighted final survey data to adjust for nonresponse by organization type and by SIM program, where applicable.

ACH Provider Survey

The purpose of the ACH Provider Survey was to collect providers' perspectives on the care coordination activities implemented as part of the ACH program and to assess the impacts the activities had on the care or services these individuals provide and on their workload and workflow. SHADAC identified the universe of providers for each ACH with the assistance of the lead contact at each ACH. SHADAC asked each ACH for a list of health care providers or other care/service providers who are engaged in, who interface with, and/or who are knowledgeable about the ACH care coordination services, along with their email addresses. The original number of providers identified for each ACH ranged from five to 55, for a total of 379.

SHADAC designed the questionnaire to address the following key domains of interest:

- Provider awareness of and involvement in ACH care coordination
- Provider perceptions of ACH care coordination implementation
- Impacts of ACH care coordination on care quality
- Impacts of ACH care coordination on providers' work
- Provider satisfaction with ACH care coordination
- Provider and organization characteristics

SHADAC worked with each ACH lead contact to determine and tailor the appropriate wording for referring to each ACH's care coordination approach, and SHADAC consulted with a number of existing and publicly available provider surveys for question wording.[136] The final questionnaire included 105 individual items, including a combination of questions from existing surveys and questions SHADAC developed or modified. The majority of survey questions were close-ended items and used a 5-point Likert scale. The questionnaire required approximately 15–20 minutes to complete.

SHADAC inquired with each ACH lead contact about the most effective way to administer the survey to their respective providers. All but one ACH recommended reaching providers via email. For one ACH, the lead contact recommended administering a pen-and-paper version of the survey for a subset of providers. Based on this feedback, SHADAC administered the survey via email as a web-based survey for

[136] For example: "National Ambulatory Medical Care Survey – Physician Workflow Supplement for EHR Adopters," *Centers for Disease Control: National Center for Health Statistics*, 2012, https://www.cdc.gov/nchs/ahcd/ahcd_survey_instruments.htm; "Commonwealth Fund/Kaiser Family Foundation 2015 National Survey of Primary Care Providers," *Commonwealth Fund* and *Kaiser Family Foundation*, June 18, 2015, http://www.commonwealthfund.org/interactives-and-data/surveys/surveys-of-providers/2015/2015-national-survey-of-primary-care; Wholey, Douglas R., Katie M. White, Richard Adair, Jon B. Christianson, Suhna Lee, and Deborah Elumba, "Care Guides: An Examination of Occupational Conflict and Role Relationships in Primary Care," *Health Care Management Review* 38, no. 4 (2013): 272–283, doi: 10.1097/HMR.0b013e31825f3df9.

all but 10 providers, who received hard copies of the survey. Through a subcontract with Qualtrics, SHADAC programmed the web-based survey into the Qualtrics web-based platform and administered it using a modified Tailored Design Method approach.[137] First, SHADAC asked all ACH leads to email a lead letter to their respective sample members informing them about the forthcoming survey. SHADAC provided recommended language to ACH contacts for this correspondence. After this lead letter, sample members received an initial email with survey link from Qualtrics, followed by three additional follow-up emails from Qualtrics, each one week apart. In addition, at the time of the second and final follow-up, SHADAC solicited the assistance of the ACH lead contacts to issue a survey reminder via email to providers, again providing recommended language for this correspondence. The total survey administration period was approximately four weeks. The survey was administered in two batches: The first batch was distributed in January of 2017 to providers in six ACHs, and the second was administered in March of 2017 to providers in the remaining nine ACHs. No incentives or remuneration was provided to respondents for their participation in the survey.

Exhibit A.3 below presents the final response rate for the ACH Provider Survey. Of the original list of 377 providers, 10 were identified as ineligible and removed from the sample based on either an explicit communication by the sample member or an open-ended comment by the sample member within the survey indicating an individual's lack of knowledge about the care coordination services. Of the remaining 369 sample members, 183 individuals completed the survey in full or part. The final response rate, using AAPOR's response rate #2 (RR2), was 49.6%.[138] The response rate varied among the ACHs, ranging from 22.2% to 81.8%.

Exhibit A.3. Calculation of the ACH Provider Survey Overall Response Rate

ACH Provider Survey Sample	Number/Percent
Total number of initial sample members	377
Returned questionnaire	183
Completed survey	160
Partial survey	23
Eligible, incomplete (includes explicit refusal and no response)	186
Ineligible, incomplete	8
Total number of eligible sample members	369
Final response rate (returned/returned + eligible incompletes)	49.6%

Source: SHADAC, "SIM Minnesota ACH Provider Survey," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.

The final survey data were weighted to adjust for nonresponse within ACHs by organization. To avoid results being dominated by the experiences of providers in larger ACHs, we also applied weights so that each ACH's set of observations received equal weight. Analyses were conducted using the survey estimation procedures (svy) in Stata 12. The University of Minnesota Institutional Review Board (IRB) reviewed a description of the survey and determined that the project did not meet the regulatory definition of human subjects research. Therefore, additional IRB review was not required.

[137] Dillman, Don A., Jolene D. Smyth, and Leah Melani Christian, *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method* (John Wiley & Sons: 2014).
[138] "Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys, 9th edition," *The American Association for Public Opinion Research*, 2016, AAPOR.

Health Information Exchange (HIE) User Survey

The purpose of the Health Information Exchange (HIE) User Survey was to collect current HIE users' perspectives of the electronic HIE that was implemented through the SIM e-Health Collaborative grant, and to assess the impacts HIE had on workload and workflow, privacy and security concerns, and on the care or services provided.

Through interviews with nine implementation e-Health Collaboratives, SHADAC identified four e-Health Collaboratives that had connected to a state-certified HIE service provider and had current HIE users at the time of survey administration. The universe of HIE users at each of the four e-Health Collaboratives was identified with the assistance of the lead contact at each of the partner organizations that had connected to the HIE. SHADAC asked each HIE connected organization for a list of clinical practitioners, service providers, or administrators who were trained on and/or used the HIE implemented through the SIM e-Health Collaborative grant. The original number of HIE users identified for each e-Health Collaborative ranged from nine to 39, for a total of 102.

SHADAC designed the questionnaire to address the following key domains of interest:

- HIE users' current use of HIE
- HIE users' perceptions of the impact of HIE on workload and work flow
- HIE users' perceptions of the impact of HIE on privacy and security
- HIE users' perceptions of the impact of HIE on care and services provided
- HIE users' satisfaction with the HIE method implemented
- HIE user and organization characteristics

SHADAC reviewed a number of existing and publicly available surveys regarding the adoption, use, and views of HIEs, as well as SHADAC's interview findings regarding the benefits and barriers documented for health data exchange systems, for question wording. The final questionnaire included 89 individual items, including a combination of questions from existing surveys and questions that SHADAC developed or modified. The majority of survey questions were close-ended items and used a 5-point Likert scale. The questionnaire required approximately 10–12 minutes to complete.

SHADAC administered the survey in May 2017 via email as a web-based survey. Through a subcontract with Qualtrics, SHADAC programmed the web-based survey into the Qualtrics web-based platform and administered it using a modified Tailored Design Method approach.[139] First, SHADAC emailed a lead letter to all sample members informing them about the forthcoming survey. After this lead letter, sample members received an initial email with survey link from Qualtrics, followed by three additional follow-up emails from Qualtrics, each one week apart. In addition, at the time of the final follow-up, SHADAC issued a survey reminder via email to the HIE users. The total survey administration period was approximately four weeks. No incentives or remuneration was provided to respondents for their participation in the survey.

[139] Dillman, Don A., Jolene D. Smyth, and Leah Melani Christian, *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method* (John Wiley & Sons: 2014).

Exhibit A.4 below presents the final response rate for the HIE Users Survey. Of the original list of 102 HIE users, 32 individuals completed the survey in full or part. The final response rate, using AAPOR's response rate #2 (RR2), was 31.4%.[140] The response rate varied among the four e-Health Collaboratives, ranging from 21.2% to 42.9%.

Exhibit A.4. Calculation of the HIE Users Survey Overall Response Rate

Collaborative Number	Sample	HIE Method	Respondents	*HIE Users Included in Analysis	Response Rate
Collaborative 1	21	DSM	9	9	42.9%
Collaborative 2	33	DSM	7	7	21.2%
Collaborative 3	9	ADT	3	1	33.3%
Collaborative 4	39	CCD/ADT	13	4	33.3%
Total	102		32	21	31.4%

Note: *Respondents who indicated that they were not current users of HIE were excluded from analysis (n=11).

SHADAC conducted analyses using the survey estimation procedures (svy) in Stata 12. The University of Minnesota Institutional Review Board (IRB) reviewed a description of the survey and determined that the project did not meet the regulatory definition of human subjects research. Therefore, additional IRB review was not required.

[140] "Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys, 9th edition," *The American Association for Public Opinion Research*, 2016, AAPOR.

APPENDIX B: MN APCD AND SQRMS ANALYSIS METHODOLOGY

As part of the state evaluation of the State Innovation Models (SIM) initiative in Minnesota, the State Health Access Data Assistance Center (SHADAC) conducted analyses of the Minnesota All Payer Claims Database (MN APCD) and the Minnesota Statewide Quality Reporting and Measurement System (SQRMS) to examine health care outcomes for Minnesota Health Care Program (MHCP) enrollees and commercial patients of providers and clinics participating in Minnesota's Medicaid Accountable Care Organizations (ACOs), the Integrated Health Partnerships (IHPs). The purpose of these analyses was to examine whether and how health care utilization and costs (MN APCD) and quality (SQRMS) have changed under MHCP during early IHP participation and whether similar or different trends are visible for IHPs' commercial patients. IHP providers have reported changing practice patterns after participation in the program, and some have reported "spillover" effects of IHP participation, including use of data analytics, on other patients seen by the same providers (see First Annual Evaluation Report[141] and Chapter 8 in this report).

In this appendix, we describe our methods used in the analysis of the MN APCD and SQRMS data. Analyses conducted as part of the state SIM evaluation were legislatively established as an approved use of the MN APCD, and access to the MN APCD was carried out in collaboration with the Minnesota Department of Health (MDH). Clinic-level SQRMS data were also provided to SHADAC by MDH for this project. More information about both data systems is available online.[142]

MN APCD

Study Population

At the time our analyses were conducted, MN APCD data were available for calendar years through 2014. For this reason, our analyses focused on the first two years of the IHP program—i.e., the 6 initial IHPs that came on board in 2013 ("Round 1") and the three IHPs that were initiated in 2014 ("Round 2").

The MN APCD data do not include a field flagging patients' IHP attribution status. Furthermore, the MN APCD data lacked the sufficient clinic identifiers we needed to directly identify the clinics participating in IHPs. Therefore, the first step in the sampling process was the identification of 2013 and 2014 IHP providers. Using 2013 and 2014 IHP provider rosters provided by the Minnesota Department of Human Services (DHS), we identified individual IHP providers outside of the MN APCD and merged their national provider identification (NPI) numbers with the MN APCD data. For each IHP and year, the IHP provider rosters identified the individual providers with IHP attributed patients (provider name, NPI, title, specialty), along with each provider's clinic name, location, and clinic NPI.

For the IHP baseline years (2012 for Round 1 and 2012 and 2013 for Round 2) prior to the program, our goal was to use the individual providers who were associated with the clinics that in the next year became Round 1 or Round 2 IHPs. Because IHP clinics were not identifiable within the MN APCD, additional data sources were required to 1) identify the IHP clinics and 2) identify their affiliated NPIs during the baseline period.

[141] SHADAC, "Evaluation of the Minnesota Accountable Health Model: First Annual Report – Full," *University of Minnesota, School of Public Health*, May 6, 2016, http://www.dhs.state.mn.us/main/.
[142] For more information about the MN APCD, see http://www.health.state.mn.us/healthreform/allpayer/index.html; for more information about SQRMS, see http://www.health.state.mn.us/healthreform/measurement/.

In addition to the IHP provider rosters, two other sources were used to accomplish this step: a registry of clinics in the state from the SQRMS and an updated list of IHP facilities by round furnished by DHS (containing name and SQRMS identification number for each IHP clinic). SQRMS is the state's legislated system for measuring and annually collecting uniform health care quality data from clinics and hospitals. Provided by MDH, the SQRMS registry included a list of providers for each reporting clinic. The registry included individual provider name, NPI, board certification, credentials, and full-time equivalent status along with his/her medical group, name, and identification number and clinic name, address, clinic NPI, and SQRMS identification number.

The final list of Round 1 and Round 2 IHP clinics included all those identified in the DHS IHP facility list (just focusing on those with affiliated physicians on the IHP provider roster) as well as other clinics represented in the DHS 2013 (Round 1) IHP provider rosters where, according to the SQRMS registry, a high percentage of clinicians (≥75% of total FTE) were IHP NPIs. To establish these clinics' individual providers for the baseline periods, we used the SQRMS registry data for 2012 and 2013 and identified the NPIs associated with the IHP clinics.[143] All IHP NPIs for years 2012, 2013, and 2014 were merged onto the MN APCD data. Exhibit B.1 below shows the number of clinics and NPIs included in our Round 1 and Round 2 IHP provider samples. Among Round 1 IHPs, our attribution list included fewer NPIs and clinic locations in 2012 relative to 2013 and 2014. This reduction was due to: (1) Round 1 IHPs listed registered nurses in the IHP provider roster, but nurses are not included in the SQRMS registry, and (2) the Round 1 IHPs included out-of-state providers on the IHP provider roster in 2013, whose clinics are not included in the SQRMS registry. Among Round 2 IHPs, roster NPIs were more diffusely distributed across clinic locations, and a much higher percentage of NPIs in 2014 (relative to the Round 1 IHPs) were affiliated with clinics that were neither listed on the facility list nor with 75% of total FTE represented by IHP roster physicians. As a result, there is a more pronounced reduction in the number of NPIs in 2013 and 2012 relative to 2014.

Exhibit B.1. Count of Round 1 and Round 2 Sample Clinics and Providers

	Round 1			Round 2		
	2012	2013	2014	2012	2013	2014
Clinics	131	207	221	76	80	91
NPIs	1887	2795	2959	1004	941	2049

Source: SHADAC analysis of IHP provider and facility rosters furnished by DHS and SQRMS provider registry provided by MDH.

Patient Attribution. As a final step in selecting the study population, we identified relevant MHCP enrollees and commercial patients for the IHP providers (NPIs) in each of the study years. Taking into consideration patient eligibility requirements under the IHP program,[144] the study MHCP population was based on individuals enrolled in Medicaid (fee-for-service or managed care) or MinnesotaCare for at least six months continuously or nine months in total for each of our study calendar years (2012, 2013, and 2014) and who had an Evaluation and Management (E & M) or Health Care Home (HCH) code during the year. We excluded people who were dually eligible for Medicare and Medicaid. Comparable eligibility and claim requirements were applied to patients with commercial coverage (HMO, PPO, or point of service) during the same years. Cross-sectional samples of both groups were identified for each of the study years.

[143] In addition to this core set of NPIs identified for the IHP baseline periods, we also included in the baseline IHP samples a small number of NPIs directly from the 2013 IHP provider lists who were located outside of Minnesota and therefore were not available in the SQRMS data.

[144] Payment Model Overview, memo from Mike Schoeberl to Marie Zimmerman, January 17, 2013, *Forma Actuarial Consulting Services*, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_FILE&RevisionSelectionMethod=LatestReleased

Working from this base set of MHCP and commercial patients, we then approximated the IHP patient attribution methodology[145] within the MN APCD data using the NPIs of the IHPs in each of the study years. Per this methodology, we examined encounters[146] with HCH and E & M lines and sequentially executed the three components of the state's IHP attribution process: HCH attribution, primary care provider (PCP) E & M attribution, and specialist attribution. In general, if an enrollee had an encounter with an HCH code and the plurality of the patient's HCH encounters were affiliated with an IHP provider versus another clinician, the patient was attributed to the IHP with the most HCH visits. If the patient did not have an HCH encounter but had an E &M visit (using the list of CPT codes listed by the state) with a NPI we identified as a PCP and the plurality of PCP encounters were affiliated with an IHP provider, the patient was attributed to the IHP with the most PCP encounters. Finally, if the patient did not have a PCP encounter, then a determination was made based on encounters with specialist claims. In cases where there were equal numbers of encounters at multiple IHPs or non-IHP providers, the enrollee was attributed to an IHP if the most recent encounter was with an IHP.

In the case of PCP attribution, if the count of PCP encounters was tied between either 2+ IHPs and/or non-IHPs, the patient was first attributed to an IHP if the patient's total specialty claims was highest with an IHP; if this was not the case, then the most recent date was used. Furthermore, in cases where a patient had PCP E & M visits with a mix of both IHPs and non-IHP providers, a patient was not attributed to an IHP if the majority of the patient's E & M claims were with a non-IHP provider. Because we do not have access to the needed clinic information within the MN APCD data, we considered all visits with an IHP provider (or non-IHP provider) regardless of the location of that visit. We relied on the specialty information available in the IHP provider rosters provided by DHS, and we used National Plan and Provider Enumeration System (NPPES) codes to assign primary care/specialty for other providers. We used the same mapping of taxonomy codes to PCP status as that used by the state.[147] Exhibit B.2 below shows the number of MHCP and commercial enrollees we assigned to the IHP sample in each year.

Our final attribution counts are similar to actual attribution determined as part of final IHP assessments by the state for years 2013 and 2014. Actual attribution for Round 1 IHPs in 2013 was 96,615 and 106,275 in 2014. Round 2 IHP attribution in 2014 was 59,363.[148]

[145] "Payment Model Overview," Memo from Mike Schoeberl to Marie Zimmerman, January 17, 2013, *Forma Actuarial Consulting Services*, https://edocs.dhs.state.mn.us/lfserver/Public/DHS-7664-ENG.

[146] Encounters were defined as unique combinations of unique member identification number, unique provider identification number, service start date, and service end date.

[147] Minnesota Department of Human Services, "2017 IHP Request for Proposals, Appendix D: Attribution Methodology," https://mn.gov/dhs/assets/2017-ihp-rfp-appendix-d_tcm1053-294444.pdf.

[148] Based on data furnished to SHADAC by DHS.

Exhibit B.2. Patients with MHCP/Commercial Coverage Attributed to IHP Samples (#/%)

Attribution	MHCP			Commercial		
	2012	2013	2014	2012	2013	2014
Meets Minimum Coverage Eligibility*	655,647	682,937	883,602	2,396,509	2,411,577	2,474,035
Attributed to Round 1 IHP	86,757 (13.2%)	97,004 (14.2%)	117,978 (13.4%)	202,440 (8.4%)	218,257 (9.1%)	226,479 (9.2%)
Step 1: HCH	1,368 (1.6%)	1,703 (1.8%)	1,848 (1.6%)	219 (0.1%)	231 (0.1%)	207 (0.1%)
Step 2: PCP	83,982 (96.8%)	93,371 (96.3%)	112,365 95.2%)	197,873 (97.7%)	213,186 (97.6%)	218,167 (96.3%)
Step 3: Specialist	1,407 (1.6%)	1,930 (2.0%)	3,765 (3.2%)	4,348 (2.1%)	4,840 (2.2%)	8,105 (3.6%)
Attributed to Round 2 IHP	32,681 (5.0%)	35,556 (5.2%)	52,444 (5.9%)	81,858 (3.4%)	74,219 (3.1%)	106,258 (4.3%)
Step 1: HCH	389 (1.2%)	1,121 (3.2%)	1,705 (3.3%)	21 (0.0%)	103 (0.1%)	48 (0.0%)
Step 2: PCP	31,416 (96.1%)	33,299 (93.7%)	48,315 (92.1%)	79,492 (97.1%)	72,161 (97.2%)	100,746 (94.8%)
Step 3: Specialist	876 (2.7%)	1,136 (3.2%)	2,424 (4.6%)	2,345 (2.9%)	1,955 (2.6%)	5,464 (5.1%)

Source: SHADAC analysis of Minnesota All Payer Claims Database (MN APCD) data for calendars years, 2012–2014.
Note: *6 months consecutive coverage or 9 months coverage in total during calendar year.

Variables

We assessed four measures of health care utilization and four measures of health care expenditures. The utilization measures captured whether an enrollee had any PCP visit, specialist visit, emergency department (ED) use without hospitalization, or any hospitalization and the number of each type of visit or service. PCP and specialist visits were based on claim lines with professional claims and on service site; ED and hospital visits were based on encounters with facility claims with a MN APCD ED flag and inpatient detail record information, respectively.

We created measures of standardized expenditures for professional, outpatient, non-acute inpatient, and acute inpatient services based on mean observed paid amounts for the IHP MHCP sample and large medical groups not participating in an IHP in 2013 and applied them to both the MHCP and commercial samples included in our analysis. For professional and outpatient services, we calculated the average payment per Current Procedural Terminology (CPT) code.[149] For acute inpatient costs, we calculated the average payment per Medicare-Severity Diagnostic Related Group (DRG), and for non-acute inpatient costs, we calculated the average payment per day for each "bill type" (which indicates the type of subacute inpatient facility).[150] For CPTs, DRGs, and bill types observed only in 2012 and/or 2014, we calculated average payments observed in those years, and we applied the Consumer Price Index (CPI) for medical care to inflate 2012 costs to 2013 and deflate 2014 costs to 2013. The top and bottom 2.5% of observed payment values were omitted from all calculated means. At the time of our analysis, de-duplicated pharmacy claims data (drugs from retail pharmacies) were not available for 2012–2014 and were excluded from the analysis.

[149] If a CPT was missing payment information for outpatient services, we used an average based on revenue code.
[150] In the event of a missing DRG paid amount, an average payment of all DRGs was applied.

However, prescription drug spending in medical claims (drugs administered in clinics and hospitals) was included. A recent study by MDH reported that medical claim spending on drugs represented 35.8% of overall prescription drug spending in the state in 2013.[151]

It is important to note that the calculated costs in this report are not limited to the core set of services included in the state's calculation of total cost of care (TCOC) for the program or other services IHPs negotiate as part of their TCOC calculations. On one hand, the costs displayed in this report are broader than the program's TCOC cost categories (which, for example, exclude costs for long-term care and waiver services, dental, DME, transportation, foster care and child welfare case management, intensive/residential mental health and chemical dependency services[152]). On the other hand, the IHPs' TCOC calculation does include pharmacy claims, which our analysis excludes. For these reasons, the costs reported in this report and the program costs and savings monitored and reported by the state are not equivalent.

It is important to note that because we use standardized prices, our analyses do not take into account changes in price due to reimbursement changes.

Statistical Analysis

All analyses were conducted at the annual level. For each measure, percentages of enrollees with each type of utilization per year and the mean number of visits/services per person per year are reported. To analyze utilization outcomes over time, we used multivariable linear probability models, and for health care cost outcomes, we used linear regression models. We ran separate models for children (0–18 years of age) and adults (19 years and older). For Round 1 IHPs, indicator variables were included to assess changes between 2012 (the baseline period) and 2013 (the first year of IHP participation), 2012 and 2014, and 2012 to the average of 2013 and 2014. For Round 2 IHPs, we just estimated changes between 2013 and 2014. All models were adjusted for sex, age (included as a quadratic term), annual Chronic Illness and Disability Payment System (CDPS) risk categories, and zip code-level socio-demographic characteristics. The sociodemographic variables included percentage below the federal poverty level, percentage with a bachelor's degree, and percentages with private and public coverage among those with insurance from the 2015 American Community Survey and were linked based on patient zip code. Standard errors were adjusted for clustering at medical group by health services area (i.e., as a measure of market).[153]

[151] Minnesota Department of Health, Health Economics Program, "Pharmaceutical Spending and Use in Minnesota: 2009–2013," Issue Brief, November 2016, http://www.health.state.mn.us/healthreform/allpayer/RxIssueBrief1Proof20161102.pdf.

[152] "Payment Model Overview," Memo from Mike Schoeberl to Marie Zimmerman, January 17, 2013, *Forma Actuarial Consulting Services*, https://edocs.dhs.state.mn.us/lfserver/Public/DHS-7664-ENG.

[153] "Health Services Areas," *National Cancer Institute*, Last Updated April 11, 2008. https://seer.cancer.gov/seerstat/variables/countyattribs/hsa.html.

Sample Characteristics

Exhibit B.3 summarizes the demographic and risk characteristics of the final samples included in the analysis.

Exhibit B.3. Summary of Sample Characteristics for MN APCD Analysis

Characteristic	MHCP			Commercial		
	2012	2013	2014	2012	2013	2014
ROUND 1						
Age/Gender						
< 19 years	59.40%	58.35%	54.64%	38.57%	37.45%	36.40%
19–64 years	40.60%	41.65%	45.36%	61.43%	62.55%	63.60%
Female	55.90%	56.29%	56.12%	55.02%	54.74%	54.73%
Socioeconomic Status						
Bachelor Degree or Higher	28.18%	28.19%	29.00%	31.12%	31.39%	32.19%
Below Poverty	16.34%	16.84%	16.48%	9.56%	10.07%	10.13%
Public Insurance	31.40%	32.68%	33.24%	24.36%	25.74%	26.65%
Private Insurance	69.29%	68.24%	68.67%	79.10%	78.06%	77.95%
CDPS						
No Categories	39.28%	39.44%	39.95%	47.54%	47.81%	46.77%
Average # of Categories/Person	1.31	1.30	1.27	0.93	0.92	0.94
Average # of Categories/Person with 1+	2.15	2.15	2.12	1.77	1.76	1.76
ROUND 2						
Age/Gender						
< 19 years	60.23%	59.81%	52.70%	31.15%	31.34%	30.25%
19–64 years	39.77%	40.19%	47.30%	68.85%	68.66%	69.75%
Female	56.48%	55.48%	55.49%	55.84%	54.00%	54.98%
Socioeconomic Status						
Bachelor Degree or Higher	27.97%	27.82%	29.82%	30.10%	28.40%	31.36%
Below Poverty	16.29%	16.74%	16.21%	10.41%	11.09%	10.45%
Public Insurance	32.45%	33.15%	32.86%	27.34%	28.68%	28.10%
Private Insurance	68.56%	67.63%	68.99%	77.97%	76.46%	77.79%
CDPS						
No Categories	40.08%	40.81%	39.75%	49%	48%	48%
Average # of Categories/Person	1.32	1.31	1.36	0.91	0.94	0.91
Average # of Categories/Person with 1+	2.20	2.22	2.26	1.77	1.79	1.76

Source: SHADAC analysis of Minnesota All Payer Claims Database (MN APCD) data for calendars years, 2012–2014.

SQRMS

For this analysis, we used clinic-level SQRMS data and focused on clinics associated with the Round 1 IHPs. The rationale for only focusing on the Round 1 IHPs was that in the first year of the program, the assessment of IHP performance only requires IHP *reporting* of quality measures. Starting in the second year of program participation, IHP clinics' performance assessment incorporates actual quality scores, and 25% of an IHP's shared savings calculation is based on quality performance. For this reason, we would not expect the program to have an impact on clinic quality performance until at least the second year. Our time period for the analysis (2011–2014) did not afford two years of post-intervention data for Round 2 IHPs and, therefore, these IHPs were excluded from our analysis.

Quality Measures

We focused our analyses on five existing clinic-level SQRMS measures that DHS also uses in their assessment of IHP performance.[154] These measures are the:

- **Depression remission rate at six months (risk adjusted):** the percentage of adult patients with depression or dysthymia who have reached remission at six months (+/- 30 days) after an index PHQ-9 score greater than nine. Remission is defined as a PHQ-9 score less than five.
- **Optimal diabetes care composite rate (MHCP-specific, commercial-specific, and overall; all risk adjusted):** the percentage of adult patients who have type 1 or type 2 diabetes with optimally managed modifiable risk factors (HbA1c, LDL cholesterol, blood pressure, daily aspirin use, and tobacco use).
- **Optimal vascular care composite rate (MHCP-specific, commercial-specific, and overall; all risk adjusted):** the percentage of adult vascular patients with managed modifiable risk factors (LDL cholesterol, blood pressure, daily aspirin use, and tobacco use.
- **Optimal asthma care composite rate for adult population (MHCP-specific, commercial-specific, and overall; all risk adjusted):** the percentage of individuals with asthma whose asthma is well controlled, who are not at increased risk of exacerbations, and have a written asthma management plan.
- **Optimal asthma care composite rate for pediatric population (MHCP-specific, commercial-specific, and overall; all risk adjusted):** the percentage of individuals with asthma whose asthma is well controlled, who are not at increased risk of exacerbations, and have a written asthma management plan.[155]

Between 2011 and 2013, there were no changes to the definition and measurement of the SQRMS measures included in the analysis. For 2014, the LDL component was removed from the optimal diabetes and vascular measures, the index criteria for the depression measure were changed, and education and self-management was removed from the optimal asthma composite measures and renamed as Optimal Asthma Control. By using quality scores that were normalized within each year, our main estimates identified changes for IHP clinics relative to non-IHP clinics (described in more detail below).

Study Population

To identify the Round 1 IHP clinics for our analysis, we first identified the base sample of clinics for the year 2013 (the first year of IHP participation for Round 1 IHPs). These clinics included: (1) clinics listed on the DHS IHP facility list and with providers on the DHS IHP provider roster (determined using the SQRMS provider registry) and (2) clinics not listed on the IHP facility list but where 75% or more of total physician time was comprised of physicians listed on the DHS IHP roster (also determined using the SQRMS provider registry). Next, we identified the same clinics in the 2011–2012 and 2014 SQRMS data. Not all clinics were represented in the SQRMS quality measures in every year. For each measure, our final analysis included a balanced panel of IHP medical groups that had reported the measure for all four study years. Of the Round 1 six IHPs, all are represented in our analysis, except for one IHP, which is only represented in the children's optimal asthma care measure.

[154] "Integrated Health Partnerships (IHP) Quality Measurement," *Minnesota Department of Human Services*, 2014, https://edocs.dhs.state.mn.us/lfserver/Public/DHS-7663-ENG.

[155] See for example: http://mncm.org/wp-content/uploads/2015/11/2015-Health-Care-Quality-Report-Final-Part-11.pdf.

Statistical Analysis

For each measure, we produced the mean raw rate for the Round 1 IHP clinics and also calculated a mean standardized (or normalized) score (i.e., the difference between an IHP clinic's score and the mean score for all SQRMS-reporting clinics divided by the standard deviation for all clinics, where the means and standard deviations were calculated separately for each year) to facilitate comparison of the scores over time. Mean rates and standardized scores were calculated for each of the study years.

We employed linear regression models to examine change in each standardized quality measure over time. Indicator variables were included to assess changes between 2012/2012 (the baseline period) and 2013 (the first year of IHP participation), the baseline period and 2014, and the baseline period to the average of 2013 and 2014. We included clinic-level covariates to control for confounders that may be related to a clinic's quality outcomes. Specifically, we controlled for clinic size (number of full-time-equivalent (FTE) physicians and number of patients), primary care penetration (the percentage of the clinic FTE physicians that is made up by PCPs), and patient payer composition (the proportion of clinic patients receiving insurance from MHCP and commercial payers; not available for depression). Standard errors were adjusted for clustering at the clinic level.

Sample Characteristics

Exhibit B.4 summarizes the clinic characteristics of the final sample of Round 1 IHP clinics included in the SQRMS analysis. While the medical groups included in the analysis were constant across years, the number of clinics for which measurement data exist under these groups varied by measure and on an annual basis. The total number of unique clinics for which data were available across the study years varies across the measures from 64 to 84 unique clinics. The overall size of the clinics (as measured by clinic FTE) did not vary significantly across measures, but the total number of patients among clinics did differ by measure, with the mean number of patients ranging from as low as 84 for the optimal pediatric asthma care measure and as high as 452 for the optimal diabetes care measure. The mean payer distribution for the clinics on which measures were calculated also varied by measure.

Exhibit B.4. Summary of Sample Characteristics for SQRMS Analysis

Measure	Characteristic	Round 1 IHP Sample
Depression Remission Rate at Six Months	Clinic-year observations	243 (64 unique clinics)
	Clinic FTE (mean)	13.43
	PCP FTE Percentage (mean)	64.17
	Total Patients (mean)	155.79
Asthma Optimal Care Rate, Children	Clinic-year observations	309 (84 unique clinics)
	Clinic FTE (mean)	12.13
	PCP FTE Percentage (mean)	68.22
	Total Patients (mean)	83.58
	Commercial Insurance Percentage (mean)	52.02
	Medicare Percentage (mean)	1.35
	MHCP Percentage (mean)	43.7
Asthma Optimal Care Rate, Adult	Clinic-year observations	277 (73 unique clinics)
	Clinic FTE (mean)	12.17
	PCP FTE Percentage (mean)	62.93
	Total Patients (mean)	95.62
	Commercial Insurance Percentage (mean)	53.25
	Medicare Percentage (mean)	7.61
	MHCP Percentage (mean)	33.57
Vascular Optimal Care Rate	Clinic-year observations	264 (70 unique clinics)
	Clinic FTE (mean)	11.99
	PCP FTE Percentage (mean)	60.8
	Total Patients (mean	176.56
	Commercial Insurance Percentage (mean)	30.43
	Medicare Percentage (mean)	52.75
	MHCP Percentage (mean)	13.97
Diabetes Optimal Care Rate	Clinic-year observations	261 (68 unique clinics)
	Clinic FTE (mean)	12.27
	PCP FTE Percentage (mean)	63.71
	Total Patients (mean)	451.64
	Commercial Insurance Percentage (mean)	38.43
	Medicare Percentage (mean)	38.27
	MHCP Percentage (mean)	16.92

Source: SHADAC analysis of Minnesota Statewide Quality Reporting and Measurement (SQRMS) data for calendars years, 2011–2014.
*Payer distribution does not total 100% because self-pay and uninsured are not included.

APPENDIX C: CONTINUUM OF ACCOUNTABILITY MATRIX ASSESSMENT TOOL FINDINGS PRE-SIM AWARD

With input from the Community Advisory and Multi-Payer Alignment Task Forces, the Minnesota Department of Human Services (DHS) and the Minnesota Department of Health (MDH) developed the Minnesota Accountable Health Model: Continuum of Accountability (COA) Matrix Assessment Tool and required most organizations applying for awards under the Model to complete the tool. The COA is comprised of 31 capabilities and functions designed to measure an organization's capacity to provide accountable care, according to the values of the Minnesota Model. The state collected the completed tools from organizations as part of their grant proposal submissions in order to establish a pre-award baseline for organizations participating in the Model. In addition, the process of completing the tool informed organizations seeking Model participation about the state's expectations.

The COA was initially intended to be administered a second time, in order to track progress over the course of SIM, but SHADAC's assessment of the COA in the summer of 2016 revealed that analysis of changes in COA results over the course of SIM would be difficult to interpret for a variety of reasons. These analytic challenges included confusion among organizations about response levels and sublevels, lack of uniformity in tool administration across grant programs, variable relevance of tool items across organizations, and other data quality issues. As a result, SHADAC developed the SIM Minnesota Organization Survey, informed by the COA tool. This appendix presents findings from pre-award COA results of all grantees of SIM-funded programs through April 2017.

The assessment tool is organized into seven categories:

- Model Spread and Multi-Payer Participation (1 question)
- Payment Transformation (1 question)
- Delivery and Community Integration and Partnership (14 questions)
- Infrastructure to Support Shared Accountability Organizations (2 questions)
- Health Information Technology (7 questions)
- Health Information Exchange (4 questions)
- Data Analytics (2 questions)

For each of the 31 questions in the tool, organizations were instructed to choose a level (Pre-Level, Level A, Level B, Level C, or Level D) that best represents their status related to a particular capability or function. Generally, Level D indicates that a capability or function is more regular, institutionalized, and robust within an organization, while Pre-Level indicates that an organization has yet to implement the capability or function. Within a chosen level, organizations were asked to select a progress indicator (beginning, in progress, or mostly done). For this analysis, only the five status levels were used, and progress indicators were disregarded. Each level was assigned a numeric value (1–5), with 1 being the lowest (Pre-Level) and 5 being the highest (Level D). In cases where organizations recorded multiple status levels for a single question, data for that question were excluded.

In total, SHADAC received from the state and analyzed 271 completed tools for 181 organizations. This represents approximately 38% of the organizations involved in SIM. Organizations that received grants from more than one program under SIM often completed a COA tool for each grant they received. Partner organizations, especially those that joined SIM post-award, were not required to complete a COA tool, and neither were some organization types, such as health plans and vendors. The distribution

of organization types among completed tools was similar to total organizations participating in the Model, with a few exceptions. Health clinics and behavioral health providers were overrepresented in completed COA tools, while education and other types of organizations (e.g., vendors, advocacy) were underrepresented. Exhibit C.1 provides counts of tools received by the SIM program.

Exhibit C.1. Number of Completed Assessment Tools by Program

Program	Completed Tools
E-Health	84
ACH	71
Practice Transformation	58
Practice Facilitation	23
Emerging Professions	16
Learning Communities	9
IHP Data Analytics	9
Oral Health	1

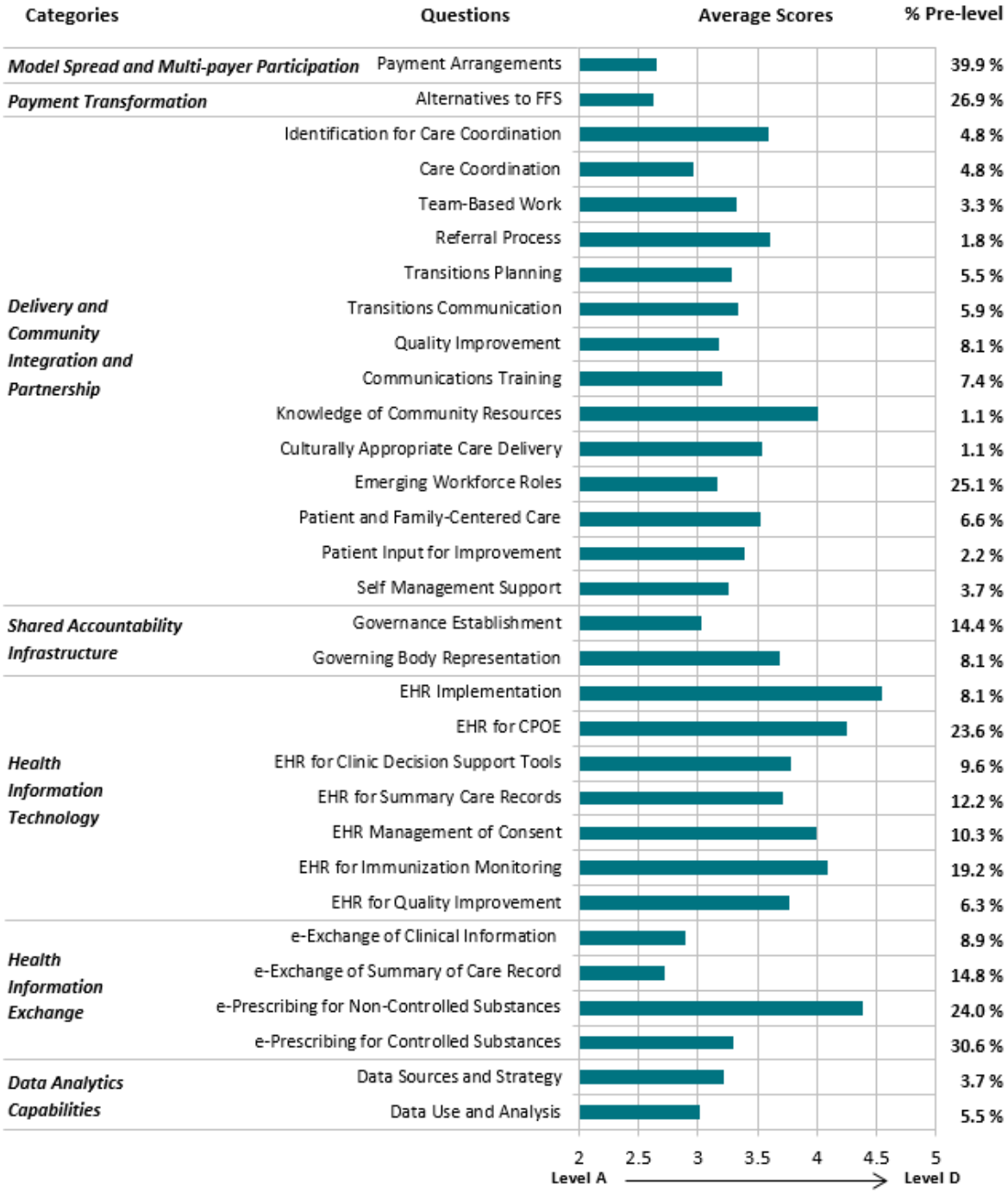
Source: SHADAC, "Database: Continuum of Accountability Assessment Tools Submitted by Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, select progress reports and grantee interviews, organization websites, and consultation with the state. The same organization may have submitted more than one completed tool due to participation in multiple grant programs.

The e-Health and ACH programs submitted the most assessment tools, due to the collaborative nature of the grants and the corresponding high number of partner organizations. The Oral Health program has the smallest count, as the initiative consists of only one grantee. The number of completed tools reported here differs from that reported in SHADAC's First Annual Evaluation Report due to additional rounds of funding for some SIM programs as well as the initiation of new grant programs.

Overall COA Findings

Exhibit C.2 presents the average scores for all completed assessment tools by questionnaire item. For this analysis, pre-level data was not included in the calculation of scores in order to focus on the capacity of organizations already conducting the capabilities and functions. Instead, pre-level responses were compiled in a separate count, and data reported in this section express pre-level responses as a percentage of total answers. Average scores for each question in the COA tool are displayed in bars on a continuum from 2 (Level A) to 5 (Level D). The far left column outlines the assessment tool sections to which each question belongs. The far right column notes the percentage of "Pre-Level" responses, indicating that an organization had not started implementing a function at the pre-award stage. For example, 39.9% of respondents indicated that their organization was not involved in payment arrangements with incentives (Payment Arrangements), and among those respondents in organizations that were, the average self-reported score was 2.7 as shown in the bar, meaning that their organizations participate in these arrangements with at least one payer or participation representing anywhere from five to 15% of total revenue.

Exhibit C.2. Average Continuum of Accountability (COA) Scores by Question



Source: SHADAC, "Database: Continuum of Accountability Assessment Tools Submitted by Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," University of Minnesota, School of Public Health, May 2017.
Notes: All completed tools are included in this analysis, with the exception of those with missing data or multiple responses. The same organization may have submitted more than one completed tool due to participation in multiple grant programs. Questions are ordered as they appear on the tool.

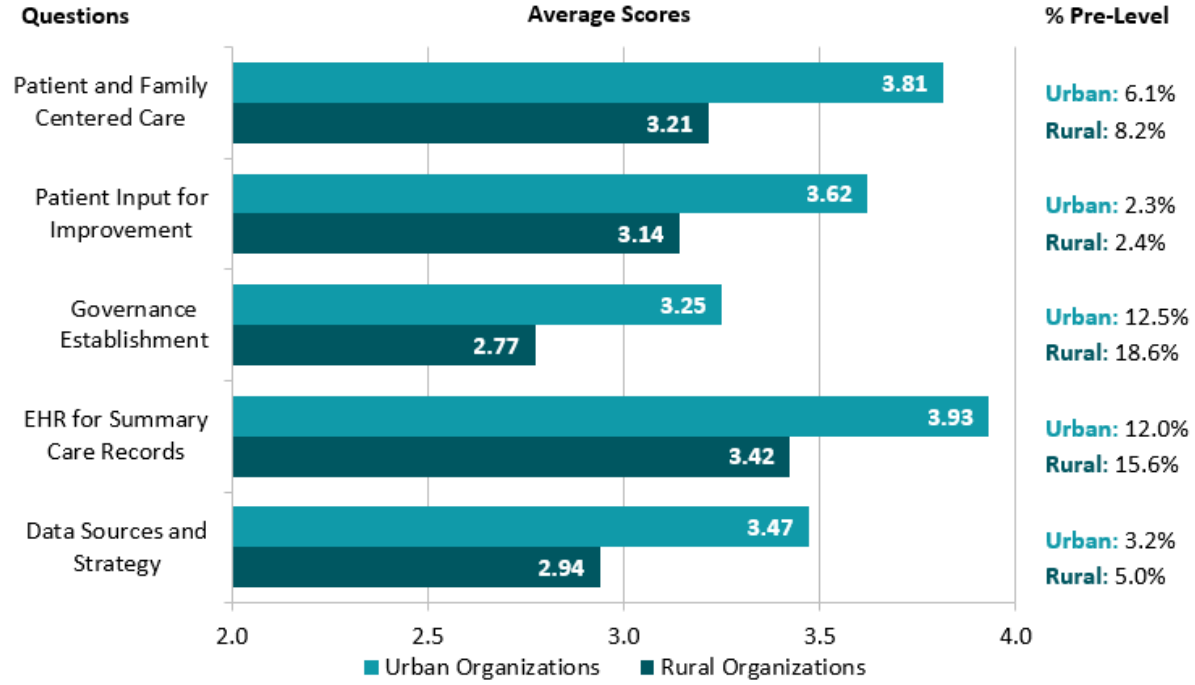
The first two questions on the tool related to movement toward value-based payment arrangements. Over a quarter of respondents reported pre-level to participating in alternatives to fee-for-service arrangements, and the remaining organizations reported lower average scores on this item. Overall, the highest scores were reported for Health Information Technologies capabilities. Respondents were least likely to report a pre-level response to items in the Delivery and Community Integration and Partnership category (with the exception of emerging workforce employment), indicating that most organizations that completed tools had started implementing these functions to some degree before receiving a SIM award.

Findings by Urban and Rural Organizations

One goal of SIM was to facilitate health payment and delivery system reform across Minnesota. DHS and MDH awarded SIM grants and contracts to organizations throughout the state, including many based in rural counties. The COA tool results indicated some differences in capability/functioning between rural and urban organizations participating in SIM. Urban/rural designation was determined according to 2010 Census Bureau Urban-Rural Classification, where "Urban" is part of an urbanized area and "Rural" is part of an urbanized cluster or rural area.[156] Forty-eight percent of completed tools were submitted by organizations located or headquartered in rural counties. (Of the almost 500 organizations participating in SIM, 43% are located in rural areas.)

Overall, average scores were only higher for urban organizations, but results for a few functions varied more than others. Exhibit C.3 presents the five COA tool questions on which responses from urban and rural organizations differed by at least half a point on average. Urban organizations were more likely to report moderately higher scores in Data Analytics Capabilities, use of Patient and Family-Centered Care principles, Governance Establishment for community partnerships, and the use of EHR for Summary of Care Records.

Exhibit C.3. Select COA Scores by Urban and Rural Status



Source: SHADAC, "Database: Continuum of Accountability Assessment Tools Submitted by Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," University of Minnesota, School of Public Health, May 2017.
Notes: All completed tools are included in this analysis, with the exception of those with missing data or multiple responses. The same organization may have submitted more than one completed tool due to participation in multiple grant programs.

Findings by Medical and Priority Setting Providers

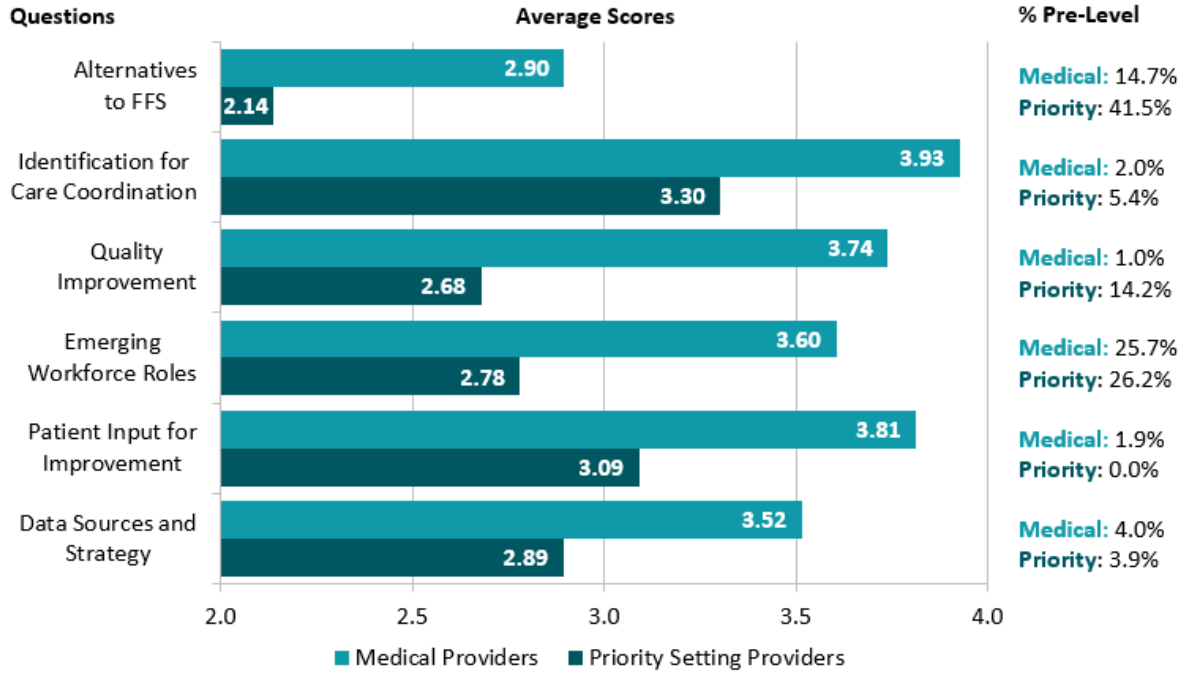
Another goal of SIM was to improve health in communities by supporting both traditional medical and non-medical organizations. For this analysis, medical providers were defined as hospitals, clinics, or health care systems. Behavioral health, social services, long-term post-acute supports and services, and local public health agencies were considered non-medical providers (known as priority setting providers under the SIM Minnesota Initiative). These organizations received SIM awards or participated in SIM

[156] Ratcliffe, M. et.al., "Defining Rural at the U.S. Census Bureau," *American Community Survey and Geography Brief*, Accessed December 2016, https://www2.census.gov/geo/pdfs/reference/ua/Defining_Rural.pdf.

collaboratives, such as e-Health Collaboratives or Accountable Communities for Health (ACH). Our analysis of COA tools found differences in average scores among medical and priority setting providers. Of the tools analyzed for this section, 46% were completed by medical providers, while 54% were completed by priority setting providers.

Medical organizations self-scored higher for nearly all questions compared to priority setting organizations. The largest score differences between medical and priority setting providers were in Health Information Technology Capabilities and Quality Improvement for Community Partnership. On average, medical scores for Health Information Technology (HIT) and Health Information Exchange (HIE) were 0.89 points higher than those for priority setting organizations. Medical organizations also exceeded priority-setting organizations in other categories including some functions in the Community Integration and Payment Transformation categories. Exhibit C.4 presents the six COA tool questions on which responses from medical providers were the most different from priority setting organization responses, excluding HIT and HIE. Interestingly, priority setting providers were more likely than medical providers to report being at a pre-implementation stage as it relates to several of these capabilities or functions.

Exhibit C.4. Select COA Scores by Traditional Medical and Priority Setting Providers



Source: SHADAC, "Database: Continuum of Accountability Assessment Tools Submitted by Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," University of Minnesota, School of Public Health, May 2017.
Notes: This universe includes COA tools completed by medical providers such as clinics, hospitals, and health systems, as well as priority setting providers. Health plans and vendors are excluded. Completed COA tools with missing data or multiple responses are also excluded. The same organization may have submitted more than one completed tool due to participation in multiple grant programs.

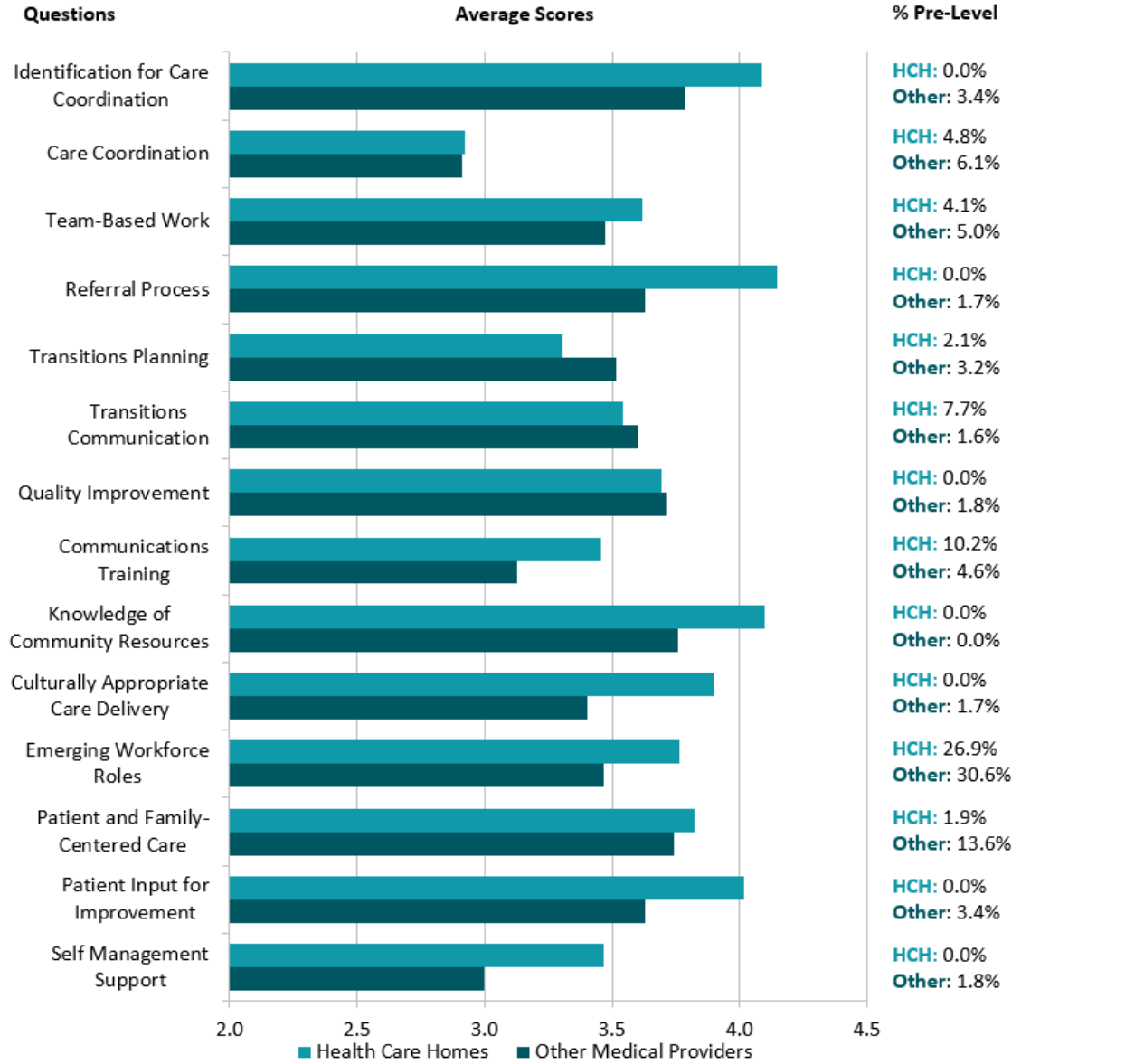
Findings by Health Care Home Certification Status

The Health Care Home (HCH) program is a key driver of care coordination among Medicaid and other patients in Minnesota and a foundational component of the Minnesota Accountable Health Model. HCH certification is based on criteria in the following categories: access/communication, patient tracking and registry functions, care coordination, care plans, performance reporting, and quality improvement.[157] Of the 285 COA tools completed, 54 (19%) were completed by certified HCHs.

[157] "List of Certified HCH's (PDF)," *Minnesota Department of Health*, June 5, 2017, http://www.health.state.mn.us/healthreform/homes/hchmap/index.html.

SHADAC used the Minnesota Department of Health's (MDH) list of Certified HCHs to identify HCH certified providers in the SIM organization database. We compared data from tools completed by certified HCHs to data provided by other clinics, hospitals, and health systems not HCH certified. Our analysis of COA tools found that self-reported scores of HCH certified providers were similar to other medical providers for most functions, but HCHs reported higher scores for some care coordination questions. Exhibit C.5 displays the average scores of HCH certified medical providers and other medical providers for each question in the Community Integration and Partnership section of the COA tool. HCHs reported notably higher scores for Referral Process, Culturally Appropriate Care, and Self-Management Support.[158]

Exhibit C.5. Community Integration and Partnership COA Scores by Health Care Home Status



Source: SHADAC, "Database: Continuum of Accountability Assessment Tools Submitted by Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, May 2017.
Notes: This universe includes COA tools completed by clinics, hospitals, and health systems across all grant programs. Completed COA tools with missing data or multiple responses are also excluded. The same organization may have submitted more than one completed tool due to participation in multiple grant programs.

[158] The scores of medical providers not certified as HCHs exceeded HCH providers' scores by over half a point on average for the Payment Arrangements question, which asked organizations the degree to which they were involved in value-based purchasing agreements prior to SIM.

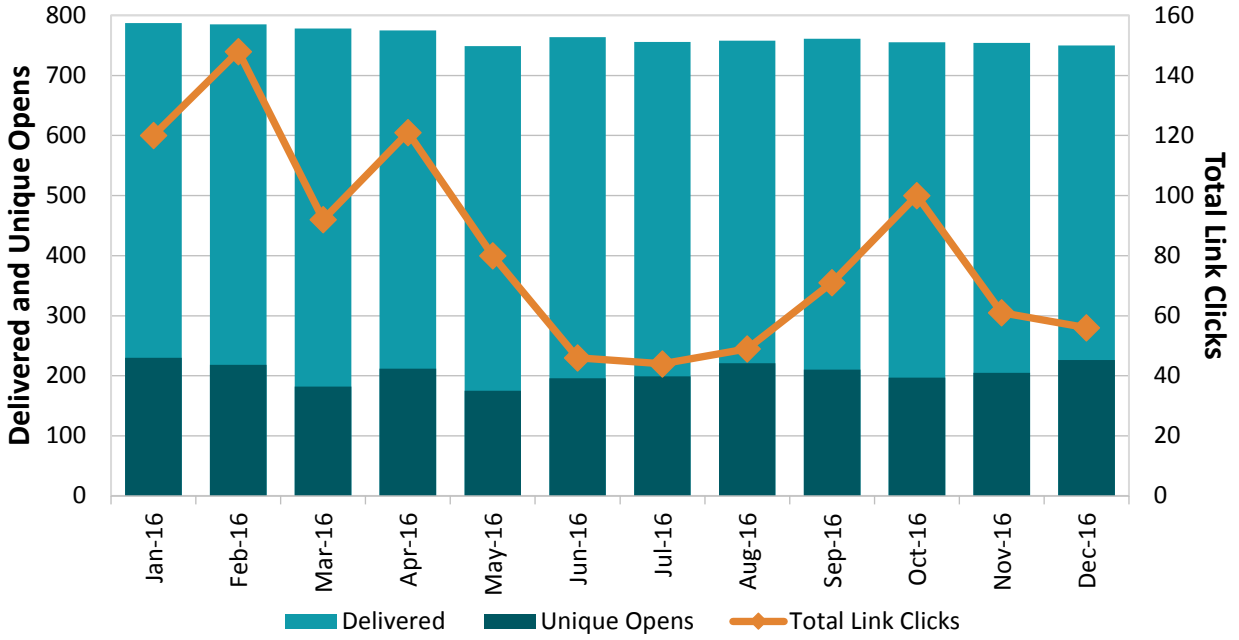
In summary, these pre-award COA findings provide a snapshot of where organizations participating in SIM in Minnesota rated themselves along several components of the Minnesota Accountable Health Model. Organizations that completed tools reported being further along in EHR capabilities and not as advanced in alternative payment systems. Findings varied only slightly for organizations in urban compared to rural areas. As expected, medical providers reported higher average scores in EHR capabilities, some community integration functions, and alternative payment arrangements compared to priority setting providers. HCH providers reported higher scores on community integration items than medical organizations without HCH certification.

APPENDIX D: 2016 DATA ON SIM MONTHLY BULLETIN REACH

The state's approach to external communications under SIM included DHS sending monthly update bulletins to approximately 800 recipients. The unique open rate for monthly updates was steady at 26.8% on average in 2016, indicating that slightly over one-fourth of all recipients opened these bulletins (this rate was consistent with the industry average). There was little variance from the lowest unique open rate of 23.4% in March and May to the highest of 30.1% in December.

The state also tracked the extent to which recipients clicked links embedded in monthly newsletters. The increase in total link clicks in October of 2016 appeared to be correlated with the announcement of Practice Transformation grant awards and/or the Equity in Action Summit announcement. Exhibit D.1 provides a snapshot of communications reach by month for 2016. Total monthly update bulletins delivered are displayed in bars, and unique opens are displayed in overlaid darker bars. Total link clicks are shown in a line.

Exhibit D.1. Monthly Newsletter Communications Reach



Source: "Minnesota Department of Human Services – Bulletin Analytics Report," *GovDelivery*, Saint Paul, Minnesota, April 25, 2017.

APPENDIX E: ADDITIONAL TABLES ON SIM INVESTMENTS AND PARTICIPATING ORGANIZATIONS

SIM Investments (2013–2017)

The Minnesota Accountable Health Model was the brand or umbrella concept for the various programs and activities implemented under each of its five drivers. The state made direct investments to organizations and collaboratives under each of these drivers as well as "support" investments to contractors or vendors charged with supporting the transformation of the state, organizations, and collaboratives to deliver patient-centered, coordinated care. Exhibit E.1 summarizes the state's grant and contract investments by driver. Since the no-cost extension approval from CMMI in August of 2016, the state continued to disseminate RFPs and allocate SIM funds primarily investing in direct support to providers. Awards funded since the last SHADAC's First Annual Evaluation Report included new programs under the Model (i.e., Food Security Services and Oral Health Access Grants), as well as new rounds for some existing programs.

Exhibit E.1. Minnesota SIM Investment by Driver

Driver	Program	Type	Award Period	Investment
Driver 1: HIT/HIE	E-Health Roadmap Award (Stratis Health)	Support	2014 – 2016	$596,726
	E-Health Collaborative Program	Direct	2014 – 2017	$4,863,396
	Privacy, Security, and Consent Award	Support	2015 – 2016	$499,137
	HIE and Data Analytics Awards*	Direct	2016 – 2017	$1,067,319
Driver 2: Data Analytics	IHP Data Analytics Vendor Contract (3M)	Support	2015 – 2016	$1,750,000
	IHP Provider Data Analytics Grants	Direct	2015 – 2017	$4,063,472
	Food Security Award*	Direct	2016 – 2017	$250,000
Driver 3: Practice Transformation	Learning Days Meeting Planner (NRHRC)	Support	2014 – 2015	$37,738
	Emerging Professions Grants	Direct	2014 – 2016	$418,061
	Practice Facilitation Grants	Support	2015 – 2016	$966,601
	Practice Transformation Grants: Rounds 1–3	Direct	2015 – 2016	$716,082
	Emerging Professions Toolkit Contracts	Support	2015 – 2016	$297,480
	Learning Community Award (General)	Support	2015 – 2016	$199,690
	Practice Transformation Grants: Round 4*	Direct	2016 – 2017	$272,784
	Oral Health Access Award*	Direct	2017	$100,000
	Learning Community Award (Primary Care & Public Health)*	Support	2017	$50,000
Driver 4: ACH	Accountable Communities for Health: Round 1	Direct	2015 – 2016	$5,543,160
	Learning Community Awards (ACH)	Support	2015 – 2016	$198,405
	Accountable Communities for Health Round 2*	Direct	2016	$447,684
Driver 5: ACO Alignment	ACO Baseline Assessment	Support	2014 - 2015	Not Available
Select Cross-Driver Initiatives	State Evaluation (SHADAC)	Support	2014 – 2017	$3,635,713
	Regional Meeting Host Awards	Support	2016	$24,400
	Storytelling Projects	Support	2015 – 2017	$125,000
Total Investment				**$26,122,848**

Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, select progress reports and grantee interviews, organization websites, and consultation with the state. *New investments since SHADAC's first technical report. Due to limited data at the writing of this report, recent SIM investments, namely the IHP Alerting Service, e-Learning Module, and Community Engagement Narrative project are not included in this table.

Participating Providers and Organizations

As many as 495 organizations have been involved in the SIM initiative in Minnesota. This count represents an increase of 71 organizations reached since the last evaluation report SHADAC prepared. SIM organizations include fiscal agents as well as other organizations participating in SIM investments, such as partner or collaborating organizations, as well as consultants or vendors.

Organizations representing the four priority setting provider types (including the Human and Other Public Health & Social Services type) remained the highest percentage of organizations participating in SIM, as Exhibit E.2 shows. Traditional medical providers, specifically hospitals, clinics, and health systems, made up the second highest percentage of organizations participating in SIM (27%), 48 of which are certified Health Care Homes (HCH). Organizations representing the non-profit and government sectors make up the majority of participants (58% and 25% respectively).

Exhibit E.2. Types of Participating Organizations

Organization Type	# Organizations (% of Total)
Hospitals and/or Network of Hospitals	19 (4%)
Clinics and/or Network of Clinics	65 (13%)
Health Care Systems	48 (10%)
Health Plan	8 (2%)
Behavioral Health Providers	60 (12%)
Social Service Organizations	75 (15%)
Local Public Health	25 (5%)
Long-Term, Post-Acute, and/or Home Care Services	26 (5%)
Human and Other Public Health & Social Services	22 (4%)
Education	43 (9%)
Other*	104 (21%)
Total Organizations	**495 (100%)**

Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, select progress reports and grantee interviews, organization websites, and consultation with the state. Due to limited data at the writing of this report, recent SIM investments, namely the IHP Alerting Service, e-Learning Module, and Community Engagement Narrative project are not included in this table. Organization type is assigned by SHADAC based on primary service as described in either proposal materials or organization websites. Social Service Organizations include local governmental social service agencies, non-profit social service providers, and organizations serving people with disabilities. Human and Other Public Health & Social Services includes governmental organizations that combine public health and human services under one umbrella as well as non-governmental agencies that provide social and other human services functions. *Other organizations include vendors, consultants, EMS, associations, food services, community organizations or networks, and pharmacies.

Exhibit E.3 summarizes organizations by urban/rural status, excluding 16 organizations located out of state. Overall, 43% of SIM participating organizations were located in rural counties. Representation varied from rural counties by organization type. For example, of the hospitals and health care systems participating in SIM, most resided in rural counties.

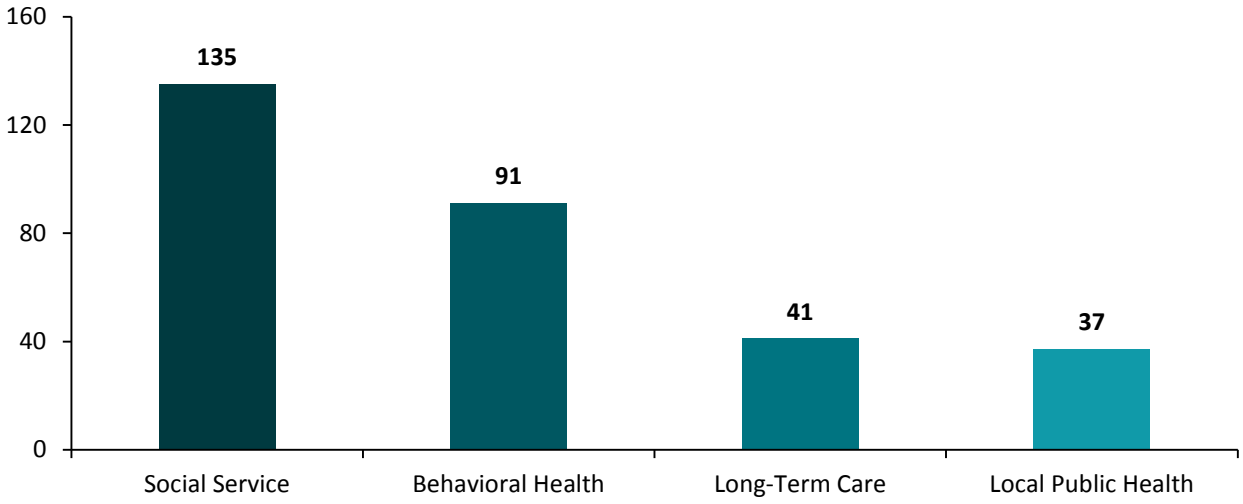
Exhibit E.3. Types of Participating Organizations by Urban/Rural Status

Organization Type	% Urban	% Rural
Hospitals and/or Network of Hospitals	5%	95%
Clinics and/or Network of Clinics	62%	38%
Health Care Systems	42%	58%
Health Plan	88%	12%
Behavioral Health Providers	50%	50%
Social Service Organizations	56%	44%
Local Public Health	32%	68%
Long-Term, Post-Acute, and/or Home Care Services	38%	62%
Human and Other Public Health & Social Services	55%	45%
Education	77%	23%
Other	77%	23%
Total Organizations	**57%**	**43%**

Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, select progress reports and grantee interviews, organization websites, and consultation with the state. The total organization count is 479 because out-of-state vendors are excluded. Due to limited data at the writing of this report, recent SIM investments, namely the IHP Alerting Service, e-Learning Module, and Community Engagement Narrative project are not included in this table. Since the previous annual report, SHADAC changed the definition of Urban/Rural status. Previously, the urban/rural distinction was drawn based on the Metropolitan Statistical Area definition from the U.S. Census Bureau, which uses county lines as boundaries. The new distinction is based on the U.S. Census Bureau's definition of "Urbanized Areas," which allows for more geographic nuance and accuracy in defining urban and rural. All of the organizations that saw a change in their definition moved from being defined as urban to being defined as rural.

Several organizations (n=231) participating in SIM offered services within and across the four priority setting provider types designated by the state. Exhibit E.4 presents the counts of organizations that offer services in each of these areas, many of which offer more than one service. Consistent with SHADAC's First Annual Evaluation Report, organizations providing social and behavioral health services had strong representation in SIM grants and contracts in Minnesota.

Exhibit E.4. Participating Organizations by Service Offerings



Source: SHADAC, "Database: Organizations Participating in the Minnesota State Innovation Model (SIM) Initiative," *University of Minnesota, School of Public Health*, Minneapolis, Minnesota, May 2017.
Notes: Database is based on state documentation, grant applications and agreements, select progress reports and grantee interviews, organization websites, and consultation with the state. Categories are not mutually exclusive; participating organizations may provide services in more than one area. Due to limited data at the writing of this report, recent SIM investments, namely the IHP Alerting Service, e-Learning Module, and Community Engagement Narrative project are not included in this table.

APPENDIX F: HEALTH INFORMATION EXCHANGE AND DATA ANALYTICS GRANT PROGRAM

Purpose

The purpose of the HIE and Data Analytics Grant Program is to further secure exchange of electronic health information in Minnesota through funding to expand HIE and data analytics work within the state's Integrated Health Partnership (IHP) model. Organizations participating in a health collaborative were eligible to submit proposals to implement plans to expand HIE capabilities supporting care coordination through connection to a state-certified Health Information Organization (HIO). Data analytics proposals were also considered, such as efforts to integrate or utilize clinical, administrative, and claims data. Six proposals were ultimately funded. For more information on Driver 1 e-health programs, see SHADAC's First Annual Evaluation Report, Appendix E.

Select Requirements

- Eligible applicants were required to be currently participating in an Integrated Health Partnership (IHP) or the e-Health (Community Collaborative) Grant Program.
- Eligible applicants could apply for funds for an HIE, data analytics, or combined HIE and data analytics project.
- HIE-supported activities included establishing connectivity to a state-certified HIO AND capabilities that directly support care coordination or population health, such as implementing:
    - Direct secure messaging (DSM)
    - Admit discharge transfer alerts (ADTs)
    - Care summaries (e.g., CCDs)
- Special consideration was granted to collaboratives submitting proposals together or those including small and independent providers.

Total Award

$1,067,319

Timeframe

Single Round: January 2017 – September 2017

Awardees

Exhibit F.1 below lists the awardees of the HIE and Data Analytics Grant Program, including project descriptions and the number of participating organizations.

Exhibit F.1. HIE and Data Analytics Awardees

HIE Data Analytics Awardee	# of Participating Organizations	Project Description
Northwestern Mental Health Center	22	Expand the established Northwest Minnesota e-Health Collaborative HIE Network into four new counties (Kittson, Marshall, Pennington, and Red Lake) through connection to Koble Minnesota HIO.
Lakewood Health System	1	Further develop the Lakewood internal health data dashboard established through a previous IHP provider grant by enhancing patient monitoring and care management.
Lutheran Social Service of Minnesota	9	Add data-driven events such as ADT to existing e-health capabilities in the Altair ACO; aggregate disparate data from the diverse Altair partners collected under the existing ACO e-health initiative.
Integrity Health Network, LLC	14	Connect two Carlton Count Connects hospitals to a certified HIO; implement ADT alerts across the network.
Southern Prairie Community Care	5	Establish an HIE for Southern Prairie and Northern Minnesota Network (FQHCs and Migrant Health Centers), including Direct Secure Messaging and a query system featuring ADTs and a patient portal.
Minnesota Community Health Network	6	Develop and facilitate HIE and data analytics across a diverse range of partners; implement risk assessment and IHP claims analysis; and leverage existing HIE capabilities within the IHP.

Source: "Health Information Exchange (HIE) and Data Analytics Grant Program," *Minnesota Accountable Health Model*, Last Modified October 21, 2016, http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_DYNAMIC_CONVERSION&RevisionSelectionMethod=LatestReleased&dDocName=SIM_HIE-DA.

APPENDIX G: ACH EXPANSION GRANT PROGRAM

Purpose

The purpose of the ACH expansion grant program is to provide funding for ACH models to address four priority areas: (1) involvement of an Accountable Care Organization (ACO) partner to collect, analyze, and report on utilization and quality data for attributed members of the ACH target population; (2) expansion of ACH services, supports, and partnerships; (3) the capacity to exchange information between ACH partners; and (4) the use of data or screening tools to address social determinants of health. Six proposals were ultimately funded.

Select Requirements

- Eligible applicants were required to be existing ACHs, but they did not need to be current grantees.
- Eligible applicants needed to have basic infrastructure established in the first round of the ACH program, including:
    - A target population supported by community-based data defining the population and how it is a health priority for the ACH.
    - Leadership team structure with decision-making responsibility that reflects people who live in the community and are part of the target population and a broad range of providers and community partners.
    - Community care coordination model that integrates clinical providers and community and social service partners for effective coordination of services for the target population.
    - Population-based prevention plan that reflects community-specific public agency priorities and/or community health assessment data and plans.
    - Participation of an Accountable Care Organization (ACO) or like entities engaged in a value-based payment arrangement with one or more payers.
    - Sustainability planning that details how an ACH will continue beyond the funding period.
    - Measurement and evaluation that measures the progress on project goals, and ability to participate in the state and federal evaluation.
    - Health equity focus in their work.

Total Award

$425,000

Timeframe

Single Round: January 2017 – September 2017

Awardees

Exhibit G.1 below lists the awardees of the ACH Expansion Grant Program, including the grantee name and a project description for each ACH.

Exhibit G.1. ACH Expansion Grant Awardees

Grantee Organization	ACH	Project Description
Essentia Health Ely Clinic	Ely Community Care Team (CCT)	Increase structural and fiscal sustainability of CCT care facilitation by establishing a hub and spoke care facilitation model, connecting community members to care facilitation; add a fourth care facilitation site at Range Mental Health.
Generations Health Care Initiatives	Together for Health	Expand care coordination services, population-based prevention strategies, and relationships with organizations that promote greater economic security and educational opportunities for those experiencing inequities; establish a framework for electronic data exchange.
Lutheran South Services of Minnesota	ACH for People with Disabilities	Expand participation of ACO partners in collection, analysis, and reporting of utilization and quality data for members of the target population; expand capabilities in using available data or screening tools to address the social determinants of health.
Mayo Clinic	Mayo Community Care Team (CCT)	Enhance the infrastructure of the current ACH/CCT to provide more efficient and effective community-wide care coordination to community-dwelling adults with multiple chronic health conditions and health-related social needs.
Otter Tail County Public Health	Greater Fergus Falls ACH	Further develop services and supports to address social determinants of health issues facing children participating in the Salvation Army after school program; expand information exchange capability among ACH partners, building upon use of the Personal Health Record and using RelayHealth as the Health Data Intermediary.
Unity Family Healthcare d/b/a CHI St. Gabriel's Health	Unity Family Healthcare	Further address and expand health care for a target population that misuses prescription narcotics and has developed an addiction.

Source: "MN Sim – Awards to Date, March 2017," *Minnesota Accountable Health Model*, March 2017, http://www.dhs.state.mn.us/main/groups/sim/documents/pub/dhs16_188792.pdf.