Minnesota Department of Education

Examining and Developing Statewide Swimming Resources

Work Group Report

Fiscal Year 2016

Report

To the

Legislature

As required by

Minnesota 2015 Special Session Law,

Chapter 3, Article 2, section 66(b).

COMMISSIONER:

Brenda Cassellius, Ed. D.

Existing Resources and Best Practices Available for Swimming Instruction in Minnesota Public Schools

February 2016

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Cost of Report Preparation

The total cost for the Minnesota Department of Education (MDE) to prepare this report was approximately $ 1,500. Most of these costs involved staff time in analyzing data from surveys and preparing the written report. Incidental costs include paper, copying and other office supplies.

Estimated costs are provided in accordance with Minnesota Statutes 2011, section 3.197, which requires that at the beginning of a report to the Legislature, the cost of preparing the report must be provided.

Introduction

This report presents conclusions and recommendations established by a work group of stakeholders with a stake in swimming instruction and activities in Minnesota. It reports on the curriculum, resources, personnel and other costs needed to make swimming instruction available in all Minnesota public schools for children beginning at an early age. Findings from a statewide swimming inventory (as required by Laws of Minnesota 2015, Chapter 3, Article 2, Section 66(a)) were considered in the preparation of this report.

The work group was composed of representatives from the following entities: the Minnesota Departments of Education and Health, K-12 physical education teachers, K-12 school administrators, Minnesota School Boards Association, nonprofit fitness and recreational organizations, public parks and recreation departments and other stakeholders interested in swimming instruction. They met in-person for two half-day meetings on December 9, 2015, and January 7, 2016. In addition, they used a secure online platform to share documents and discuss the report between meetings. Appendix A contains a complete list of work group members and their corresponding organizations.

Legislative Charge

Consistent with the Laws of Minnesota 2015, chapter 3, article 2, section 66(b), the commissioner of Education “must establish a work group of interested stakeholders, including the commissioner or commissioner's designee, the commissioner of Health or the commissioner's designee, and representatives of K-12 physical education teachers, K-12 school administrators, the Minnesota School Board Association, nonprofit fitness and recreational organizations, public parks and recreation departments, and other stakeholders, including community members underserved and disproportionately impacted by the current distribution of swimming resources, interested in swimming instruction and activities identified by the commissioner of education, to determine and report to the education committees of the legislature by February 1, 2016, on the curriculum, resources, personnel, and other costs needed to make swimming instruction available in all Minnesota public schools for children beginning at an early age. The work group must consider the substance of the report under paragraph (a) in preparing its report.”

Analysis

In order to make swimming instruction available in all Minnesota public schools, significant consideration must be given to numerous issues related to curriculum, resources, personnel and other costs.

Curriculum

The swimming instruction work group focused their conversation on physical education standards and learning outcomes in Minnesota as a precursor to decisions regarding swimming curriculum. Minnesota identifies the National Standards for Physical Education as its state standards. (http://www.education.state.mn.us/MDE/EdExc/StanCurri/K-12AcademicStandards/HealthPhysEduc/index.html) Currently there are no state grade-level learning outcomes in physical education. Learning outcomes are legislated to be developed at the local school district level. State-mandated swimming instruction would require state-adopted

learning outcomes for physical education, in general, and swimming instruction specifically. Several activities were identified as necessary steps in this process.

1. Development of state physical education learning outcomes in water safety and swimming.

    a. In order to ensure swimming instruction is available for all students in Minnesota, the Minnesota Legislature should require the commissioner of Education to adopt the SHAPE America 2013 National Physical Education Standards and expected Student Outcomes (http://www.shapeamerica.org/standards/pe/) for desired water safety and swimming knowledge and skills. The commissioner should establish a work group to develop the required Minnesota expected grade-level student outcomes in water safety and swimming.

2. Development of water safety and swimming implementation guidance document.

    a. Once the water safety and swimming grade-specific student outcomes are established, the Minnesota Legislature should require the commissioner of Education to develop a water safety and swimming implementation guidance document that can serve as a model for school districts to utilize as they develop and implement their own programs to meet the identified outcomes. The commissioner should establish a work group to develop the model Water Safety and Swimming Implementation Guidance Document.

3. Creation and implementation of professional development plan for Minnesota schools and teachers.

    a. Once the model water safety and swimming implementation guidance document has been developed, the Legislature should require the commissioner of Education to create and implement a professional development plan for Minnesota schools and teachers to assist local schools to meet the state required water safety and swimming outcomes.

4. Employment of one water safety and swimming staff person at the Minnesota Department of Education.

    a. The Minnesota Legislature should require the commissioner of Education to create a full-time Water Safety and Swimming staff position to facilitate a work group to identify the expected grade-level student outcomes in water safety and swimming and to write the model water safety and swimming implementation guidance document. A full-time staff position is also required to develop and implement a professional development plan and provide technical assistance for the implementation of the student-level outcomes over an identified period of time through multiple delivery vehicles that include social media, Internet (webinar), and face-to-face experiences.

5. Identify the specfic adoption school year

a. The Minnesota Legislature should identify the specfic adoption school year that every school district will be required to meet the watersafety and student outcomes.

6. Integration of compliance reporting of the implementation of the water safety and swimming outcomes into system used by other academic standard programs.

    a. The Minnesota Legislature should require the commissioner of Education to require all school districts in Minnesota to report compliance in implementing the water safety and swimming outcomes using the same mechanism that other academic standards programs use to report compliance.

Resources

Key resources are needed in order to make swimming instruction available in all Minnesota public schools. The work group focused their discussion about resources on 1) access to swimming pools, and 2) the necessary equipment to provide quality water-based instruction to students.

Access to swimming pools. Only one out of five Minnesota schools currently owns a pool, and about two-thirds of school districts do not have a pool in any of their buildings. In other words, there are more than 200 Minnesota districts without access to a school-operated pool in the district. Access to swimming pools can be gained through new construction of a pool at a school site or through a collaboration model. Several industry sources viewed an estimate to construct a new pool for swim instruction purposes (i.e. uniform shallow depth, warm water). The cost ranged from $275-$350/ square foot, with $315/square foot being a recommendation over the next six months. The estimate included architectural, engineering, permitting, contingencies, and so forth. It did not include land. (See Appendix B for an estimate of pool construction costs.)

If each district needed at least one pool for water-based instruction, it would cost state and local taxpayers over $550 million to construct new pools and take years to implement the swimming programs. This figure does not include on-going maintenance and operation costs associated with running the pools or staffing costs to ensure pool safety and instruction for school children.

There are an unknown number of pools in the state that are out of service or in need of repair due to advanced age. The age of pools or the condition of the out of service pools were not gathered as part of the swimming instruction inventory. In addition, cost estimates to rehabilitate or repair an out of service pool were not obtained. Anecdotally, work group members with experience in this area remarked the cost to bring an out of service pool into service could be comparable if not greater than new construction.

For schools and/or districts who do not have access to a swimming pool to deliver water-based instruction, community partnerships between facilities could be established. Many pools are designed to accommodate multiple users, including lessons, therapy, exercise and athletics, and these pools could be leveraged for water-based instruction through partnerships or rental agreements. Work group members identified available pools (YMCA, YWCA, community centers, swim clubs, etc.) through effective community partnership models that are already making progress in giving swim access to students in communities throughout the state. Furthermore, these community based organizations have access to evidence-based

programming and curriculum for swim instruction and drowning prevention. Examples of effective community partnership models that could be viewed by legislators include the following:

1. White Bear Area YMCA and White Bear Lake Area Schools
    a. Through a partnership with the YMCA, elementary students in all eight of the school district elementary schools receive water safety lessons during the school year. In addition, extended day participants receive summer swimming lessons. The YMCA also serves as the home pool for the high school girls' and boys' swimming and diving teams and as a site for an outreach teen and senior center. The District also partners with the YMCA on a childcare center at Birch Lake Elementary.
2. Willmar YMCA and Wilmar Area Schools
    a. The Wilmar YMCA provides swimming lessons at the YMCA for all 3rd graders in two Willmar elementary schools.
3. Minnetonka Public Schools, Minnetonka Aquatics and YMCA
    a. Minnetonka Aquatics supports and promotes education, wellness, competition and safety by providing excellence in programming and outstanding facilities for all ages and abilities in the Minnetonka School District and the broader community. In the summer of 2015, Minnetonka Public Schools, Minnetonka Aquatics and the YMCA partnered on a collaboration for drowning prevention for youth at the Minnetonka West Middle school.

Equipment for swimming instruction. There are a number of different types of equipment and supplies that are needed to run a swimming lesson and drowning prevention program. Supplies that need to be considered are:

1. Maintenance supplies (if not paid for as overhead)
2. Medical and first aid supplies (if not paid for as overhead)
3. Pool licenses (if not paid for as overhead)
4. Locker room and changing areas with adequate supervision
5. Safety equipment including but not limited to: rescue tubes, shepherds hook, ring buoy, AED, oxygen tank, emergency phone, two-way communication system, and backboard
6. Swim attire for participants with consideration of cultural expression and access, including towels
7. Laundry facility for swim attire plus additional staffing for services
8. Instructional supplies and program equipment to include but not limited to: instructional flotation devices of various styles, lifejackets, youth masks and fins, pencils, inflatable boat, toys, balls, a CPR mannequin set, safety cones, communication content and paperwork for parents and caregivers
9. Training equipment and supplies for staff, such as paper, markers, and electronic presentation materials
10. Staff uniforms and supplies including suits and whistles

11. Instructor and participant materials, such as skill sheets, reports, handouts (if not paid in overhead)

Personnel

The swimming instruction work group discussed personnel as a key consideration in providing swimming instruction in all Minnesota public schools. Specifically, they identified necessary teacher licensure requirements and pool supervision certifications for physical education teachers, swimming instructors and lifeguards.

1. Development of pre-service physical education teacher requirements.

    a. All pre-service physical education teachers should be required to have, at a minimum, both lifeguarding and water swimming instructor certification. This requires a directive to the Minnesota Board of Teaching to add this requirement to the existing Minnesota Administrative Rules on the teachers of physical education (https://revisor.mn.gov/rules/?id=8710.4700) as well as changes in swimming content added to the Minnesota Administrative Rules in the Minnesota physical education licensure exam (https://www.revisor.mn.gov/rules/?id=8710.0500).

2. Development of current physical education teacher requirements.

    a. All current Minnesota physical education teachers should be required to obtain or renew teacher swimming instruction through their Continuing Education Units (CEUs) during their five year licensure renewal period. This requires an addition to the Minnesota Administrative Rules on the issuance, renewal and validity of all teacher licenses (https://www.revisor.mn.gov/rules/?id=8710.0300). Once certification is obtained, it must be maintatined as long as they are a physical education teacher in Minnesota.

3. Employment of lifeguards (hourly wage for equivalent hours as required by the instructor)

    a. In addition to swimming instructors, it is imperative to have a qualified lifeguard present who is able to conduct a rescue from the water, carry out cardiopulminary resuscitation (CPR), operate an Automated External Defibrillator (AED), and effectively employ emergency procedures. This person should NOT be the physical education teacher. Supervision of children in the water, performed by lifeguards who are not distracted by involvement in the task of instruction, is crucial to insure the safety of each student. Since swimming is a potentially lethal activity, and drowning is typically silent, an unencumbered observer is deemed an absolute necessity by all major swimming lesson providers. (See Appendix C for Minnesota Department of Health rules regarding certification of lifeguards for supervision of public pools.)

4. Employment of pool maintenance staff (likely .3 to .5 full-time equivalent)

Other Costs

The swimming instruction work group discussed personnel as a key consideration in providing swimming instruction in all Minnesota public schools. Specifically, they identified the following costs that are not related to personnel or curriculum:

1. Transportation costs – reference transportation information on MDE website
2. Liability insurance
3. Overhead and maintenance costs – not related to staff or curriculum
    a. Heating and cooling
    b. Inspections
    c. Testing
    d. Chemicals and equipment
4. Financial incentives to meet increased staffing needs – especially for teachers of color and lifeguards

The state is encouraged to underwrite the costs of these programs, which could include these costs as well as appropriate personnel and pool operation costs.

Conclusion

The swimming instruction work group offers two primary recommendations to the Minnesota Legislature.

1. A school-day only approach to water-based swimming instruction is a monumental task with significant costs, time constraints and curriculum impacts. Therefore, the State should consider a plan that incentivizes school and community partnerships that already exist in many parts of the state to expand access for children to obtain swimming and safety instruction. The development of additional partnerships could be incentivized where they do not already exist.
2. The focus on swimming instruction should be expanded to include drowning prevention education, another crucial effort to save Minnesota children from drowning. This includes options for land-based water safety instruction for students at all developmental levels. Land-based instruction does not require access to water, making it accessible for students across the state. However, it is not currently a widespread practice in Minnesota schools with only three schools in the state identified as providing land-based instruction only. Others that provide land-based instruction do so in conjunction with a water-based program. Another approach to drowning prevention includes the education of parents and caregivers in the recognition and prevention of drowning. (See Appendix D for an executive summary on drowning prevention from the United State Swimming Foundation and National Drowning Prevention Alliance.)

It is the recommendation of the work group that the state should consider the least costly options available for providing swimming instruction to Minnesota students. The work group considers school and community partnerships to be a more easily implemented model for outreach to a significant portion of Minnesota children requiring swimming instruction. This coupled with class curricula aimed at drowning prevention that can reinforce safe behaviors around water and reach out to the parents and other caregivers of those children is the most likely model to further reduce drowning rates for Minnesota children of all ages.

Outreach efforts to reach high risk populations should be a prime focus of further program development, including the encouragement and support of increasing the diversity of swimming instructor and lifeguard staff membership. The very act of increasing instruction and participation in diverse populations will further advance the development of a swimming culture for all Minnesota children and their families. The state should assist with reducing barriers associated with income and cultural standards that otherwise prevent children from obtaining drowning prevention, water safety and developmentally appropriate swimming instruction. Although this is a significant endeavor with associated costs, the recommendations highlighted above are significantly less cost intensive than the constructions of large numbers of swimming facilities and the staffing and operation of those facilities, and yet can yield similar positive results.

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Appendix A

Swimming Instruction Work Group Members:

Bob Crunsted, Minnesota Swimming

Joe Gould, YMCA of the Greater Twin Cities

Vicki Johnson, Detroit Lakes Public Schools

Grace Kelliher, Minnesota School Boards Association

Sara McKay, Minnesota Recreation and Park Association

Lindsay Mondick, YMCA of the Greater Twin Cities

Blanca Monter, University of Minnesota

Mellanie Pusateri, Edina Public Schools

Alice Seuffert, Association of Metropolitan School Districts

Steve Skinner, Minnesota Recreation and Park Association

Michelle Snider, Minnesota Recreation and Park Association

Mary Thissen-Milder, Minnesota Departments of Health and Education

Sam Walseth, YMCA of the Greater Twin Cities

The following organizations were invited, but unable to participate:

Association of Metropolitan School Districts

Council for Minnesotans of African Heritage

Council on Asian Pacific Minnesotans

Minnesota Association of School Administrators

Minnesota Council on Latino Affairs

Minnesota Indian Affairs Council

Minnesota Society of Health and Physical Educators

Minnesota State Council on Disability

YWCA of Minneapolis

Appendix B

Estimate of Instructional Pool Construction Costs

MEMORANDUM

Date: Dec. 17, 2015

To: MDE Work Group on Swimming Instruction

From: Bob Crunstedt, Minnesota Swimming Inc., work group member

Subject: **Estimate for instruction pool**

For the purposes of *supporting* the work being done by the work group on swimming instruction, the following summary is provided for discussion purposes only. It has been viewed by a several sources in the industry, however, no one will stand behind the estimate at this point because there are too many unknown variables.

Essentially, an aquatic facility can range from $275/square foot to $350/square foot.

The numbers can vary slightly depending on materials and equipment.

This estimate includes project costs including architectural, engineering, permitting, contingencies and so forth. It does *not* include land.

The proposed pool would be a uniform depth for instruction purposes only. It consists of the following and the square footages:

Pool: 75' X 42'	3,150 square feet
8' Deck around Pool	2,000 square feet
Locker facilities	1,000 square feet (500 square feet each)
Entry	200 square feet
Viewing Room	300 square feet
Public Rest rooms	300 square feet (150 square feet each)
Office	135 square feet
Mechanical space (water)	850 square feet
Mechanical space (air)	400 square feet
Mechanical electrical	50 square feet
	8,385 Square Feet Total
Estimated Project Cost:	$2,537,350

Again, the estimate can vary based on adding or subtracting features listed. The square footage can be increased or decreased, and then multiply the total square footage with a number between $275 and $350 to get a rough estimate for something smaller or larger. The suggestion was made to use *$315* square foot as the multiplier for the next six months.

Finally, money can be saved by purchasing prefabricated pools. If more than one district bands together or multiple schools within a district buy prefabricated pools, then considerably more money can be saved. The same for buying mechanical components in bulk. Hotel chains do it this way.

Appendix C

Minnesota Department of Health Lifeguard Certification Rules

Minnesota Administrative Rules

4717.0950 LIFEGUARD REQUIREMENT.

An individual currently certified in first aid and adult, child, and infant cardiopulmonary resuscitation must be on duty at all times the pool is open to use, unless a sign warning that a lifeguard is not present is posted as specified in part 4717.1050.

The individual must have a Red Cross lifeguard certification or equivalent and be responsible for user supervision, safety, and sanitation at all times the pool is in use.

Appendix D

Executive Summary on “Drowning and What We Can Do About It”

EXECUTIVE SUMMARY

DROWNING: DEFINING THE PROBLEM

Drowning is classified as an unintentional injury related fatality by the Center for Disease Control and Prevention (CDC). There is an average of 3,533 fatal drownings each year (2005-2009), at a rate of about 10 deaths per day in the United States (CDC, 2014). Additionally, during the same time period there was an estimated average of 4,938 non-fatal submersion injuries each year (CDC, 2015).

It has also been reported that for every child that dies from a drowning, another 5 receive emergency department care for nonfatal submersion injuries. Over 50 percent of all drowning victims treated in emergency departments require further care. Non-fatal drowning injuries can cause severe brain damage resulting in long-term disability (CDC, 2014).

In Minnesota, 29 fatal drownings were reported by the Minnesota Department of Natural Resources (MDNR) in 2014 (MDNR, 2015).

Drowning is especially problematic among certain minority populations as it has been found that African American children ages five - 19 drown in swimming pools at rates 5.5 times that of white children (Gilchrist & Parker, 2014). Drowning ranks as the leading cause of unintentional injury related death for children one - four in the U.S., accounting for 30 percent of unintentional injuries in that specific age range. Drowning remains in the top 10 unintentional injury related fatalities up to age 54. Nearly 80 percent of people who die from drowning are male (CDC, 2014).

WHAT WE CAN DO ABOUT IT

Drowning is an unintentional injury; however, there are a number of prevention strategies that have been developed, endorsed, and supported by leaders in injury prevention as well as national organizations.

Layers of protection is commonly discussed for the prevention of drowning. Layers of protection is the use of multiple layers for the prevention of drowning and other aquatic injuries. Common layers include; knowing how to swim and performing simple water rescues; providing constant – uninterrupted supervision of the water at all times; swimming where lifeguards are present; using proper, tested and approved flotation devices; installing and maintaining proper barriers around water such as fencing; following directions for safe use including obeying posted rules, signage, and regulations specific to the body of water; using physical layers such as covers to prevent unauthorized access to the water; installing alarms on all doors and windows with access to water; and insuring that all access points have a self-latching gate.

Additional layers should also be in place in the event of an emergency including; the use of proper rescue equipment; knowing how to preform proper first aid and CPR; obtaining additional

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Bob Crunstedt, Minnesota Swimming Inc.

water safety and rescue training; and having quick access to the emergency medical services system.

As with any prevention strategy, **education is a key factor**. Creating a more well informed public for the prevention and response to drowning are crucial variables in reducing the number of fatal and non-fatal drownings. Obtaining cognitive water safety knowledge and learning the practical application of rescues skills are vital safety measures for everyone around water.

A number of curriculums have been developed for this purpose:

Safer 3 Water Safety Foundation: Safer 3
Johnny Johnson and Jim Spiers
(Pre-k to Grade 2)
http://www.swimforlife.org/about_us/

American Red Cross
Longfellow's WHALE Tales Program
(Pre-k)
http://www.redcross.org/take-a-class/program-highlights/swimming/whale-tales/resources

YMCA of the USA
New dryland educational component, currently for internal YMCA use only

Starfish Aquatics Institute is currently in the development process for a classroom-based curriculum

Aquatic Training: Breaking Drowning Cycle with School Curriculum
Dave Benjamin, Great Lakes Surf Rescue Project
Note: This program was just recently brought to our attention, and has not yet been reviewed by USA Swimming or the USA Swimming Foundation

Learning to swim from a qualified instructor is also an essential safety component. Creating a well-informed public on the prevention of drowning and increasing the number of people that know how to swim and respond properly in an emergency situation will lead to safer water for all.

REFERENCES

Centers for Disease Control and Prevention. (2014). Unintentional drowning: Get the facts. Retrieve from: http://www.cdc.gov/HomeandRecreationalSafety/Water-Safety/waterinjuries-factsheet.html

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Gilchrist, J. & Parker, E.M., (2014). Racial/ethnic disparities in fatal unintentional drowning among persons aged ≤29 years – United States, 1999-2010. *Morbidity and Mortality Weekly Report, 63*(19), 421-426.

Montana Department of Natural Resources. (2015). Statistics. Retrieved from: http://www.dnr.state.mn.us/safety/boatwater/statistics.html