



Payment accuracy and timeliness in the Minnesota workers' compensation Hospital Outpatient Fee Schedule (HOFS)

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Executive summary

Background

In compliance with a legislative mandate, this report analyzes the accuracy and timeliness of payments from insurers to hospitals under the Minnesota workers' compensation Hospital Outpatient Fee Schedule (HOFS), which took effect Oct. 1, 2018. The statute stipulates that the Workers' Compensation Advisory Council (WCAC) shall, on the basis of the study results, "consider whether there is a minimum 80-percent compliance in timeliness and accuracy of payments" and whether statutory amendments are appropriate, relating, at minimum, to a "maximum ten-percent reduction in payments under HOFS and an increase in indemnity benefits to injured workers."¹

HOFS was enacted in response to continuing concerns over rapid cost increases in the prior system for reimbursing workers' compensation hospital outpatient costs. That system was primarily charge-based,² so payments tended to grow in proportion to hospital charges, which had grown substantially faster than general prices and wages. HOFS, by contrast, uses some of the main features of the Medicare Outpatient Prospective Payment System.

HOFS applies to outpatient visits that involve one or more of some 3,000 major surgical procedures and/or an emergency department (ED) exam. Where at least one of the major procedures occurs, payment is given by an amount listed in a DLI schedule derived in part from Medicare provisions, regardless of other services provided. If an ED exam occurs without a major procedure, payment for the exam is given by the same DLI schedule, although payments are also made, by other mechanisms, for other services rendered. HOFS only applies to Non-Critical Access Hospitals; for Medicare-designated Critical Access Hospitals,³ reimbursement of outpatient services is at 100% of usual and customary charge.

As directed by statute, DLI set the initial HOFS reimbursement rates for "large" and "small" hospitals,⁴ separately, at the levels that would provide the same total payments that existed under the prior system for a common set of services. This resulted in payment rates of 251% and 472% of Medicare, respectively, for large and small hospitals. The HOFS payment schedule is updated annually according to a Medicare hospital cost index, which rises substantially more slowly than hospital charges.

Data request and response

To conduct the analysis, DLI collected data from insurers and Non-Critical-Access Hospitals because data otherwise available was insufficient. DLI sampled HOFS-covered outpatient visits that occurred from Nov. 4 to Dec. 18, 2019.⁵ Identical data elements were requested from insurers and hospitals.⁶ The data request was issued by the DLI commissioner on Feb. 3, 2020, with a response deadline of July 31, 2020,

¹ Minnesota Statutes § 176.1364.

² This means the ASC payments were mostly determined as a percentage of the ASC's usual and customary charge for services provided.

³ Medicare gives this designation to eligible small hospitals at least 35 miles from another hospital.

⁴ These are hospitals with more than 100 licensed beds and those with 100 or fewer licensed beds, respectively.

⁵ The first day of this time period was Nov. 4 because that was a Monday.

⁶ The requested data elements are listed in Appendix A.

to allow six months for reporting entities to compile data.⁷ DLI provided training videos and issued monthly reminders, with a final reminder from the commissioner on Aug. 4 to entities that had not yet responded. Minnesota IT Services @ Labor and Industry created a secure web portal to receive the data. To increase the incentive to report, DLI informed insurers and hospitals that it would publish lists of entities that had and had not provided data. These lists appear in Appendix C and on the DLI website.⁸

The response rates from insurers and self-insurers were 93% and 73%, respectively, giving an 84% rate for the two groups combined (“insurers” in the remainder of this summary). The responding insurers (including self-insurers) represented 96% of total indemnity and medical benefits paid for 2016.⁹ Forty-five of the 50 Non-Critical Access Hospitals that were asked for data, or 90%, responded to the request. These high response rates bode well for the representativeness of the data. Usable sample sizes for analyzing both payment accuracy and timeliness were 1,612 visits in the insurer data and 1,259 visits in the hospital data.¹⁰

Results

For cases where payment was not adjusted by an arrangement with a preferred-provider organization (PPO), DLI analyzed payment accuracy by computing a correct payment amount from the reported data and comparing the actual payment to the computed correct amount. In the insurer and hospital data, exactly correct payment occurred in 55% and 49% of the cases, respectively. With a 5% margin of under-payment error and allowing for over-payment of any amount (since the latter may be acceptable to the hospital), payment of at least 95% of the correct amount occurred 78% of the time as reported by the insurers and 74% as reported by the hospitals. The insurer percentage was not statistically different from the 80% standard set in the statutory report mandate, while the hospital percentage of 74% was statistically less than 80% at the 99% confidence level.¹¹ Under a more stringent standard, the percentage of cases with payment at 100% or more of the correct amount was 69% in the insurer data and 63% in the hospital data, both statistically less than 80% at the 99% confidence level.

DLI also analyzed the reasons for payment errors, by looking at random samples of visits where payment was less than 95% or more than 105% of the correct amount. A wide variety of error reasons were found in these samples. In the visits with under-payment, the most prominent payment errors were —

- limiting payment for a HOFs-scheduled service to the charged amount or 85% of that amount (payment for such a service is supposed to be determined without regard to charge);
- paying for a major procedure in the HOFs schedule according to the fee schedule for professional services rather than the HOFs schedule; and
- not paying for a service that was not denied for causation or reasonableness and necessity.

⁷ The initial data request letter is shown in Appendix B.

⁸ www.dli.mn.gov/about-department/news-and-media/hofs.

⁹ This is based on the semi-annual reports of benefits paid that insurers and self-insurers file with DLI. The percentage refers to 2016 because that was the last year for which these entities reported both indemnity and medical benefits.

¹⁰ These are the numbers of visits where the reported payment did not reflect an adjustment under a contract with a preferred-provider organization (PPO) (and where other inclusion criteria were met). An additional 536 visits in the insurer data and 256 visits in the hospital data had payments that reflected PPO adjustments and therefore could only be used in the payment-timeliness analysis.

¹¹ For a discussion of statistical significance, see p. 9.

In the visits with over-payment, the most common errors were —

- paying the whole bill or some services at charge or 85% of charge;
- paying for services without a reported procedure code; and
- using the (relatively large) small-hospital HOFs rate for a large hospital.

Many other types of errors were found, although in many cases the cause of error could not be determined.

DLI analyzed payment timeliness, for visits with and without PPO payment adjustments, by looking at the time from bill to payment. DLI looked at the percentage of cases where the insurer sent payment within 30 days of receiving the bill, the statutory payment standard. With the hospital data, DLI imputed the date the insurer received the bill as two days after the bill was sent, where it was sent electronically,¹² and otherwise as three days after the bill was sent. Also with the hospital data, DLI imputed the date the insurer sent payment as three days prior to the date the hospital received it, since most payments are made by check sent via regular mail. If the hospital provided additional bill information in response to an insurer request, the date the insurer received complete bill information (insurer data) or the imputed the date the insurer received complete bill information (hospital data) was used as the bill date.

A stark difference emerged between the timeliness results from the insurer and hospital data. In the insurer data, 92% of cases were reported to meet the 30-day standard, while in the hospital data this was true only 67% of the time. Both of these percentages were statistically different from 80% at the 99% confidence level. The reason for the difference is uncertain. As this report was being published, DLI was in the process of matching cases between the insurer and hospital data to determine how much of the difference was attributable to different reporting on the same cases and how much was attributable to different case representation in the two samples.

Finally, using the visits without PPO adjustment to payment, DLI analyzed combined payment accuracy and timeliness — the percentage of visits for which payment was both 100% or more of the DLI-computed correct amount and timely (payment-sent date within 30 days of bill date as described above). In the insurer data, 64% of the cases met this standard, while in the hospital data this was true for only 40% of the cases. Both percentages were statistically less than the 80% standard at the 99% confidence level.

Summary and conclusion

This study finds the following:

- (1) In the insurer and hospital data, exactly correct payment occurred in 55% and 49% of the cases, respectively. The percentage of cases with payment at 100% or more of the correct amount was 69% in the insurer data and 63% in the hospital data. All of these percentages were statistically less than the 80% statutory standard at the 99% confidence level.
- (2) In an examination of cases paid incorrectly, DLI found an abundance of error reasons.

¹² This was to allow for transfers among clearinghouses.

- (3) The insurer and hospital data yielded starkly different results concerning payment timeliness: payment occurred within 30 days of insurer bill-receipt in 92% of cases in the insurer data but only in 67% in the hospital data.
- (4) With respect to combined accuracy (using the standard of the payment being 100% of the correct amount or higher) and timeliness (payment within 30 days of billing), the insurer and hospital data showed 64% and 40% of cases, respectively, meeting both standards simultaneously, both percentages being less than the statutory 80% standard with 99% statistical confidence.

As provided in the statutory report mandate, it is up to the WCAC to consider possible statutory changes in light of these findings. For its part, DLI is considering possible statutory clarifications and enhanced guidance to insurers and hospitals in view of the findings regarding payment error reasons. DLI is also planning to reach out to particular insurers with revealed payment errors to assist them in their understanding of HOFS payment provisions.

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I. Introduction

A. Legislative mandate

The Minnesota Legislature has mandated that the Department of Labor and Industry (DLI), by Jan. 15, 2021, submit a report analyzing payment accuracy and timeliness under Minnesota's new system for reimbursing hospital outpatient facility service costs in workers' compensation. This system, called the Hospital Outpatient Fee Schedule (HOFS), took effect for services provided on or after Oct. 1, 2018. The legislative requirement reads as follows:¹³

"Subd. 6.Study. (a) The commissioner shall conduct a study analyzing the percentage of claims with a service in the HOFS that were paid timely and the percentage of claims paid accurately. The commissioner must report the results of the study and recommendations to the Workers' Compensation Advisory Council and chairs and ranking minority members of the house of representatives and senate committees with jurisdiction over workers' compensation by January 15, 2021.

(b) Based on the results of the study, the WCAC shall consider whether there is a minimum 80 percent compliance in timeliness and accuracy of payments, and additional statutory amendments, including but not limited to:

- (1) a maximum ten percent reduction in payments under the HOFS; and
- (2) an increase in indemnity benefits to injured workers."

This report is prepared and submitted in fulfillment of this requirement.

B. Report outline

The following sections of this report provide background to the study, describe the DLI request to insurers and hospitals to provide the data for the study, give statistics regarding the response to the data request, present study findings, and provide a summary and conclusion. Appendix A lists the data elements requested of insurers and hospitals. Appendix B contains the original data requests from the DLI commissioner along with the overdue notices sent after the original data submission deadline. Appendix C lists the insurers, self-insurers, and hospitals that provided data in response to the request and those that did not. This is in fulfillment of the DLI indication to insurers and hospitals that it would publicly list those entities that did and did not provide data, both in the report and on the department website.¹⁴

¹³ Minn. Stat. § 176.1364.

¹⁴ This information is on the DLI website at <https://www.dli.mn.gov/about-department/news-and-media/hofs>.

II. Background

A. Hospital outpatient facility costs relative to workers' compensation medical and total cost

Hospital outpatient facility services account for a substantial portion of workers' compensation medical cost in Minnesota. For payment years 2017 to 2019 combined, these services made up an estimated 28.0% of workers' compensation medical cost, representing a slight increase from an average of 25.7% for 2012 to 2016.¹⁵ The 28.0% for 2017 to 2019 represented an estimated 9.9% of total workers' compensation system cost for those years.¹⁶

B. Charged-based system prior to HOFS

Before HOFS took effect, Minnesota had a primarily charge-based system for reimbursing hospitals for outpatient facility services under workers' compensation. That system made use of a distinction between "large" and "small" hospitals — those with more than 100 licensed beds and those with 100 or fewer licensed beds, respectively.

Small hospitals were reimbursed for any services provided at 100% of "usual and customary" charge — effectively the charge on the bill unless challenged by the insurer. Large hospitals were reimbursed at 85% of charge for services not covered by the relative-value fee schedule (the same fee schedule used to reimburse professional services such as physician services); for services covered by the relative-value fee schedule, large hospitals were reimbursed at the maximum fee provided by the schedule, not to exceed the amount charged. For these large hospitals, services covered by the relative-value fee schedule would typically be an exam provided by a hospital physician (often in the emergency department), physical therapy or radiology. Services not covered by the fee schedule, and eligible for 85% reimbursement, would include the use of an operating room or recovery room for a surgical procedure.

C. Concern over costs in the charge-based system

Employers and insurers expressed concerns over costs in the charge-based system of reimbursing for hospital outpatient facility services. With all costs for small-hospital outpatient services, and a large portion of cost for large-hospital outpatient services, tied to charges, the bulk of these costs rose in direct proportion to charge increases. According to data from the Minnesota Department of Health, average charges per outpatient registration at Minnesota hospitals rose at an average annual rate of 5.3% from 2008 to 2018.¹⁷ In a finding by the Workers' Compensation Research Institute (WCRI),

¹⁵ Computed by DLI from a 20% sample of the Minnesota workers' compensation Medical Data Call, which the Minnesota Workers' Compensation Insurers Association — Minnesota's workers' compensation data service organization and rating bureau — provides to DLI twice a year. The Medical Call data indicates a decreasing share of inpatient hospital service costs from 2012 to 2019, alongside increasing shares for the costs of outpatient hospital and ambulatory surgical center services.

¹⁶ Estimated as 28.0% x 35.3%, where the latter percentage is the estimated medical-cost share of total workers' compensation system cost for 2018, from Figure 2.8 of DLI's *2018 Minnesota Workers' Compensation System Report*.

¹⁷ Calculated by DLI from data from the Health Care Cost Information System of the Minnesota Department of Health, available at www.health.state.mn.us/data/economics/hccis/data/hospdata.html.

average hospital outpatient facility payments per claim for Minnesota rose by an annual average of 5.3% from 2012 to 2017.¹⁸ In the Minnesota workers' compensation Medical Data Call, average facility charges and payments per hospital outpatient visit rose by annual average rates of 3.9 and 3.6%, respectively, between the periods 2011-2013 and 2016-2018.¹⁹ By contrast, from 2008 to 2018, the Consumer Price Index for Minneapolis and St. Paul rose at an average annual rate of 1.6%²⁰ and the Minnesota statewide average weekly wage used for workers' compensation benefit adjustments²¹ rose at an average annual rate of 2.4%.²²

D. HOFS — the new payment system

Because of these concerns, DLI led negotiations among insurer and hospital representatives that eventually produced agreement on a new payment system passed into law in 2018 and effective for services provided on or after Oct. 1, 2018.²³ The new system, called the Hospital Outpatient Fee Schedule (HOFS), incorporates some provisions of the Medicare Outpatient Prospective Payment System (OPPS). HOFS only includes some OPPS provisions because the insurer and hospital negotiators agreed the new system would be too complicated if all OPPS provisions were included.²⁴

Perhaps the centerpiece of OPPS is that for outpatient visits that involve a major surgery, payment for the overall visit is generally based solely on a scheduled rate for that surgery, regardless of other services (such as labs) performed. In this respect, OPPS is similar to Medicare's Inpatient Prospective Payment System (IPPS) for hospital inpatient services.²⁵ Medicare introduced this concept of bundling payments for all services provided into those for major procedures into OPPS in 2015, and the number of major surgery services affected has increased rapidly since that time.²⁶ HOFS incorporates this OPPS provision. The major surgeries are called "J1" services after the "status indicator" Medicare attaches to these services under OPPS. HOFS also incorporates OPPS payment provisions for emergency department exams — "J2" services according to their Medicare status indicator.

¹⁸ WCRI, CompScope™ Medical Benchmarks for Minnesota, 20th edition, October 2019, p. 14. WCRI also found in the same publication that for treatment, operating, and recovery room services, charges and payments per service grew at 4.4 and 5.0% a year, respectively (p. 20), and that among 36 study states, those including Minnesota with primarily charge-based hospital outpatient fee reimbursement were in company with no-fee-schedule states in having relatively high hospital outpatient payments for surgeries (p. 29). These findings were for claims with more than seven days of lost time.

¹⁹ See note 15. Three-year periods are used here to average out annual fluctuations.

²⁰ Calculated by DLI from data from the U.S. Bureau of Labor Statistics, available at www.bls.gov/cpi/data.htm.

²¹ Minn. Stat. § 176.645.

²² Calculated by DLI from data for non-federal workers from the Minnesota Department of Employment and Economic Development, available at <https://apps.deed.state.mn.us/lmi/qcew/>.

²³ The provisions of the new system are contained in Minn. Stat. § 176.1364.

²⁴ It is worth noting here that the rather complex claims under OPPS (along with some other Medicare payment programs) are processed by Medicare Administrative Contractors — private insurers that have been awarded contracts (for particular geographic jurisdictions) specifically for this purpose.

²⁵ IPPS is sometimes called the "DRG" system because its payments are based on Diagnosis-Related Groups (DRGs). Minnesota follows the DRG system for workers' compensation hospital inpatient payments for non-catastrophic injuries at Non-Critical Access Hospitals, paying 200% of the Medicare rate in these cases (Minn. Stat. § 176.1362).

²⁶ Medicare data indicates there were 219 of these services in 2015, 2,737 by 2017, and 2,979 by 2020. These numbers were calculated from the annual July OPPS "Appendix B" available at www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalOutpatientPPS/Addendum-A-and-Addendum-B-Updates. (OPPS had introduced the "bundling" concept prior to 2015, but only in 2015 did it go to the extent of bundling *all services provided* into the payment for a major surgery.)

HOFS only applies to Non-Critical Access Hospitals. As was true prior to HOFS, Critical Access Hospitals are reimbursed at 100% of charge for all non-denied outpatient services provided to workers' compensation claimants.²⁷

E. HOFS payment rates

HOFS provides that payment for J1 services and for J2 services in visits without a J1 service is based on a schedule of rates established by DLI in accordance with statutory provisions. In visits with J2 services but no J1 service, payment is generally made for other services under other mechanisms such as the relative-value fee schedule or percentage of charge.²⁸ HOFS payment rates for J1 and J2 services follow the OPSS mechanism in that they are equal to a scheduled "payment weight" for the service multiplied by a "conversion factor" that converts the payment weight to a payment rate. In this respect, OPSS and HOFS are analogous to the Minnesota workers' compensation relative-value fee schedule, with the OPSS and HOFS payment weight corresponding to the relative-value unit in the fee schedule.

The HOFS statute required DLI to establish an initial Minnesota conversion factor —and thereby payment rates for J1 and J2 services — that would bring about the same overall payment for HOFS-covered services for the 12-month period just prior to Oct. 1, 2018, as would have been the case under the prior system, separately for large and small hospitals. To carry out this mandate, DLI obtained data samples from the Minnesota Hospital Association and a large workers' compensation insurer. The resulting payment rates were 251% of the Medicare rate for large hospitals and 472% for small hospitals. Since the payment weights are the same in OPSS and HOFS, this means that the initial HOFS conversion factors were 251% and 472% of their Medicare counterparts for large and small hospitals, respectively.

As required by statute, DLI updates the HOFS conversion factors every Oct. 1 according to the most recent annual percent change in the Medicare "market basket index for inpatient hospital services" — a nationwide hospital inpatient cost index.²⁹ The adjustments were approximately 2.5% on both Oct. 1, 2019, and Oct. 1, 2020, substantially less than the annual growth rates of above 5% in charges and payments under the prior system.

The HOFS statute requires DLI to update HOFS at least every three years by incorporating the most recent Medicare schedule of J1 and J2 services with corresponding payment weights. When it does so, DLI must adjust the conversion factors (separately for large and small hospitals) to bring about total payments that are the same under the new and old payment weights for services in both the new and old schedules. This will first occur on Oct. 1, 2021.

²⁷ Critical Access Hospital is a designation given to eligible rural hospitals by Medicare for the purpose of reducing their financial vulnerability and maintaining access to health care. Among other requirements, eligible hospitals must have 25 or fewer acute-care inpatient beds and be located more than 35 miles from another hospital.

²⁸ The relative-value fee schedule sets the maximum fees for paying for workers' compensation professional medical services such as those provided by physicians and other individual providers.

²⁹ The index is available at www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareProgramRatesStats/MarketBasketData.

F. HOFS payment provisions in detail

To understand this report's findings on HOFS payment accuracy, it is necessary to first consider the HOFS payment provisions themselves. Each provision provides an opportunity for errors that can and do occur.

As previously indicated, HOFS only applies to Non-Critical-Access Hospitals, and only to visits that have at least one J1 or J2 service. Because of the provision to hold total payments constant between the prior system and HOFS separately for large and small hospitals, the J1 and J2 payment rates in HOFS are different for large and small hospitals, with the small hospitals having the higher rates.

If an outpatient visit has one or more J1 services, then with one exception the payment for that visit consists entirely of the payments for those services. The exception is for a few categories of implantable devices and durable medical equipment for which Medicare allows cost-based pass-through reimbursement, and for which HOFS provides payment at 85% of usual and customary charge.

Barring this exception, with a single J1 service in the visit, payment for that service, and for the entire visit, is simply the payment rate for the hospital size concerned in the HOFS payment rate schedule.³⁰ If there are multiple J1 services, payment for the J1 service with the highest payment rate is simply that rate, and payment for each additional J1 service is half the rate indicated for that service. Again, the rate depends on hospital size, and no other services provided in the visit are paid.

If no J1 services were provided in the visit, there must be at least one J2 service for HOFS to apply; in this situation, the payment provisions are more involved:

- (1) If the visit includes at least eight hours of observation services (ordered by a physician or dentist), payment is the HOFS rate for those services, depending on hospital size and regardless of charge, and there is no payment for any other services. Otherwise, payment is as follows:
- (2) Payment for any J2 service is the HOFS rate, depending on hospital size and regardless of charge.
- (3) If the service does not have a reported Healthcare Common Procedure Coding System (HCPCS) code, there is no payment for the service.
- (4) If the service is a drug delivered by a reported infusion or injection, there is no separate payment for the drug (payment is packaged into the infusion or injection service).
- (5) For a drug not delivered by infusion or injection, payment is according to the current Medicare Average Sales Price³¹ if it exists for that drug, otherwise at 85% of usual and customary charge.
- (6) For a non-drug service, payment is according to the relative-value fee schedule for professional services if the service is covered thereby, otherwise at 85% of usual and customary charge. It is important here that if a service is *in* the relative-value fee schedule, it is not necessarily *covered* by that schedule. With surgical services, the hospital provides the facility service (for example, nursing services or treatment, operating or recovery room) but generally not the professional service, so correct payment for the hospital is 85% of charge. But with services such as radiology, physical therapy, or injections, the hospital provides the service itself, so the relative-value fee schedule applies.

³⁰ Available on the DLI website at www.dli.mn.gov/business/workers-compensation/work-comp-medical-fee-schedules-hofs.

³¹ Available from the Medicare website at www.cms.gov/medicare/medicare-part-b-drug-average-sales-price/2020-asp-drug-pricing-files.

III. Data request

The required data for DLI to compute HOFs payment accuracy and timeliness was not available from established sources.³² Therefore, DLI requested the data from insurers (including self-insurers) and Non-Critical-Access Hospitals. The request went to both groups because of the possibility that results might differ between the two.

To produce as large and representative data samples as possible, the request went to all workers' compensation insurers and Non-Critical-Access Hospitals in Minnesota. Insurer contact information was obtained from the reporting system for DLI's semi-annual Report of Benefits Paid; hospital contact information was obtained from the Minnesota Department of Health.

For both insurer and hospital reporters, the request pertained to hospital outpatient visits from Nov. 4 to Dec. 18, 2019. DLI chose this period because it was more than year after the inception of HOFs, it would allow sufficient time for payments to occur before the data was due, and it was estimated to provide a sufficient number of sample visits.³³ DLI estimated that there were about 4,600 HOFs-covered outpatient visits during this period, and that under its sampling procedure (described below), there would be potentially 2,800 reportable visits for insurers and 1,600 such visits for hospital reporters. The actual numbers of sample visits were lower. Only part of this was because of response rates less than 100%; the remainder of the reason is uncertain. The actual numbers of sample cases, however, were sufficient to provide statistically reliable results.

Of particular concern in the data request were arrangements involving preferred-provider organizations (PPOs). Employers may contract with PPOs to pay the PPO a lower amount than provided under statute, perhaps in exchange for faster payment.³⁴ If a PPO contract is in place, the statutory payment provisions do not necessarily apply.³⁵

DLI divided the data request into sample visits where the payment reflected an adjustment under a PPO arrangement and those where it did not. The data for visits covered by PPOs was used only to gauge payment timeliness, while the data for visits not covered by PPOs was used to gauge both payment timeliness and accuracy. Consequently, only a limited set of data items were collected for the visits covered by PPOs. Bill-level data was collected for both groups of visits, while service-level data for gauging payment accuracy — such as procedure codes, charges and payments — was collected only for visits not covered by PPOs. The same data items were collected from insurers and hospitals. Appendix A provides a detailed list of data items collected.

As previously mentioned, DLI sampled hospital outpatient visits that occurred from Nov. 4 to Dec. 18, 2019. Reporting entities — insurers and hospitals — were asked to report on all visits that occurred during the sample period, with an option for larger entities to report only on subsamples of

³² In the MWCIA Medical Data Call, there is no billing date, and the provider ID is left to the discretion of the reporting entity, so hospital size cannot be determined.

³³ Also, Nov. 4, 2019 was a Monday.

³⁴ Some PPO arrangements may provide that employers will refer injured workers to a participating PPO provider. However, requiring injured workers to use certain providers is prohibited unless the employer is part of a Certified Managed Care Organization under Minn. Rules, 5221.0430, subparts 1 and 2, and Minn. Rules, 5218.

³⁵ DLI takes no position on whether PPO arrangements comply with requirements in workers' compensation or other state law, such the prohibition of shadow contracting in Minn. Stat. § 62Q.74.

approximately 50 visits each within the PPO and non-PPO categories, to limit their reporting burden.³⁶ Some entities eligible for subsampling chose this option while others chose to report on all of their cases within the report period. For reporting entities that chose the subsampling option, a weighting procedure was used in tabulating results to give full weight to the subsample cases³⁷

The data-reporting vehicle was an Excel spreadsheet created by DLI.³⁸ The spreadsheet was constructed to allow reporting entities to either hand-enter the data or produce a data file electronically and “drop” the results into the data-entry range. DLI produced instructional videos to help reporting entities navigate the inherent complications in the report format. Minnesota IT Services @ Labor and Industry produced an online secure data submission portal for receiving the data. Submitted data files were then transmitted to DLI Research and Statistics for analysis.

The data request was sent to insurers and hospitals via an email letter from the DLI commissioner on Feb. 3, 2020.³⁹ The initial reporting deadline was set at July 31, 2020, to allow six months for entities to complete the request. The request informed insurers and hospitals that DLI would publicly acknowledge those entities that had helped with the project by supplying data. Reminders were sent monthly. The Insurance Federation of Minnesota and the Minnesota Hospital Association assisted by promoting the data request to their members. Four days after the original deadline of July 31, 2020, the commissioner sent an email letter to those entities that had not yet responded, urging them to complete the request and informing them the department would be publishing lists of those entities that had and had not responded, both in the report and on the DLI website.⁴⁰ Several additional responses came in after that letter.

IV. Response to data request

The response to the data request is summarized in Figure 1. The response rates from insurers and self-insurers were 93% and 73%, respectively. The responding insurers and self-insurers represented 98% and 91%, respectively, of total workers’ compensation benefits paid for 2016, as reported to DLI.⁴¹ This indicates that the responding insurers and self-insurers were larger than average. Overall, the response rate from insurers and self-insurers combined — “insurers” in the remainder of this report — was 84%,

³⁶ To accomplish this while ensuring a random selection of cases, the data request asked reporting entities to indicate their total numbers of PPO and non-PPO visits during the report period. If either one was more than 50, a subsample period was established within the overall report period, starting with Nov. 1, determined so as to produce a target sample size of 50 cases. For example, if an insurer indicated 100 non-PPO cases during the overall report period, the subsample period was determined to be half the overall period — Nov. 1 to Nov. 24. On average, the number of subsample cases for this “half” period would be 50, although the actual number might be a bit more or less. Doing the subsampling by means of this adjustment of the reporting dates was to prevent the reporting entities from choosing the cases to report.

³⁷ For example, if an insurer indicated it had 100 non-PPO cases during the overall sample period but only reported on 50 of those cases under the sampling procedure, each of the sample cases would be given a weight of 2.

³⁸ One feature of the spreadsheet was conditional formatting to alert the user to occurrences of invalid or inconsistent data. This certainly played a major role in promoting quality in the reported data.

³⁹ The initial commissioner request letter is in Appendix B.

⁴⁰ The follow-up commissioner letter is contained in Appendix B. Lists of entities that did and did not respond are in Appendix C and on the DLI website at <https://www.dli.mn.gov/about-department/news-and-media/hofs>.

⁴¹ These figures include both indemnity and medical benefits paid. These figures are based on 2016 data because 2016 was the last year for which both indemnity and medical benefits were reported to DLI.

Figure 1

Response rates from insurers and Non-Critical-Access Hospitals [1]

	Insurers [2]		Self-Insurers [2]		Insurers and self-insurers combined [2]		Non-Critical-Access Hospitals [3]	
	Number	Pctg.	Number	Pctg.	Number	Pctg.	Number	Pctg.
Submitting data	276	93%	164	73%	440	84%	45	90%
Not submitting data	22	7%	60	27%	82	16%	5	10%
Total	298	100%	224	100%	522	100%	50	100%

1. Data collected by DLI for samples of HOFs-covered hospital outpatient visits that occurred from Nov. 4 to Dec. 18, 2019.
2. These are insurers and self-insurers that report in the semi-annual DLI Report of Benefits paid.
3. These are Non-Critical-Access Hospitals as listed by the Minnesota Department of Health, excluding Children's Hospitals of St. Paul and Minneapolis, Gillette Children's Specialty Hospital and Regency Hospital.

representing 96% of total benefits paid for 2016. Forty-five of the 50 Non-Critical-Access Hospitals, or 90%, submitted data. These high response rates bode well for the representativeness of the data.

As previously indicated, DLI informed insurers and hospitals in the data request that it would publish the names of entities that provided data for this project and those that did not. Appendix C lists the insurers and hospitals in the two groups. DLI heartily thanks the entities that honored its data request for this mandated report; without the data, the report would have been impossible.

Figure 2 shows usable sample sizes. Some reported hospital visits had to be excluded from the analysis because of the factors indicated in note 2 in the figure.

Figure 2

Usable sample cases [1]

	Number of usable sample visits [2]		
	Without PPO adjustment to payment	With PPO adjustment to payment	Total
Insurers (including self-insurers)	1,612	538	2,150
Hospitals (Non-Critical-Access)	1,259	256	1,515

1. Data collected by DLI for samples of HOFs-covered hospital outpatient visits that occurred from Nov. 4 to Dec. 18, 2019.
2. Not all reported sample visits were usable in the analysis. The usable cases, shown here, exclude those that did not include either a J1 or a J2 service, involved a non-Minnesota workers' compensation claim or a non-Minnesota hospital or had charges or payments that did not add up from the service-specific amounts to the bill total.

V. Findings

This section presents findings regarding HOFs payment accuracy and timeliness. It begins with an analysis of payment accuracy, followed by an analysis of reasons for payment errors where these occurred. Then it presents results concerning payment timeliness and, finally, an analysis of the degree to which payments were both accurate and timely. As noted previously, for insurers and hospitals that reported on a subsample of their total cases for the report period, a weighting procedure was used to give full weight to the samples for those entities.⁴²

A note on statistical significance: At some points in the presentation, results of statistical significance tests are given. DLI conducted statistical significance tests on some of the results using standard techniques. The reason for such a test is to estimate how likely it is that a result could have occurred from random variation in the sample data as opposed to an underlying tendency. For example, if a sample percentage is 70%, we may wish to estimate how likely it is to obtain such a result if the actual (population) percentage is, say, 80% — or, in other words, how likely it is that the difference between the 70 and 80% represents an underlying tendency rather than random variation in the sample data. If, for example, we say that the sample result of 70% is different from 80% at a 95% confidence level, this means it is estimated that if the true percentage is 80%, 95% of the time random sample variation would produce a sample percentage less than 10 percentage points different from 80%. In other words, a difference as large as the 10 percentage points would arise from random variation only 5% of the time.

A. Payment accuracy

To gauge payment accuracy, DLI limited the sample to visits whose payments were not adjusted under a PPO arrangement as reported by the insurer or hospital. This is because payments in PPO arrangements are made under agreements between the insurer and health care provider rather than under the provisions in the workers' compensation statute.

For each hospital outpatient visit not covered by a PPO arrangement, DLI first computed a correct payment amount according to the statutory provisions described in section II-F using the reported data. DLI then compared the actual payment from the data to the computed correct payment by taking the ratio of the actual to the computed amount. Thus, a ratio of 100% means that the actual payment was exactly equal to the correct amount, and ratios less than or more than 100% indicate under- or over-payments, respectively.

Figures 3 and 4 present the results of this analysis as performed on the insurer and hospital data, respectively. The size of each section in the pie charts represents the percentage of visits for which the ratio of the actual payment to the correct payment was in the range indicated by the label for that pie section.

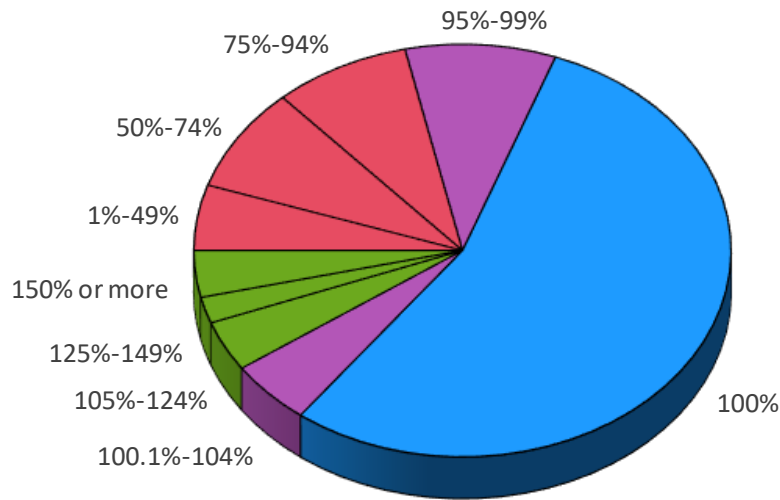
In the two data sets, the percentages of visits with an exactly correct payment were somewhat higher in the insurer data than in the hospital data — 54.7% versus 49.1%. With a 5% margin of error, the percentages from 95% to 105% of the correct amount were 68.7% in the insurer data and 64.5% in the hospital data.

⁴² See note 37.

Figure 3

**Actual insurer payment to hospital as percentage of DLI-computed amount:
insurer data [1]**

Note: The size of each pie section represents the percentage of visits with payment — as a percentage of the DLI-computed amount — in the range indicated by the section label.



Sample size: 1,612

Total actual payments as percentage of total DLI-computed payments: 90.2% [2]

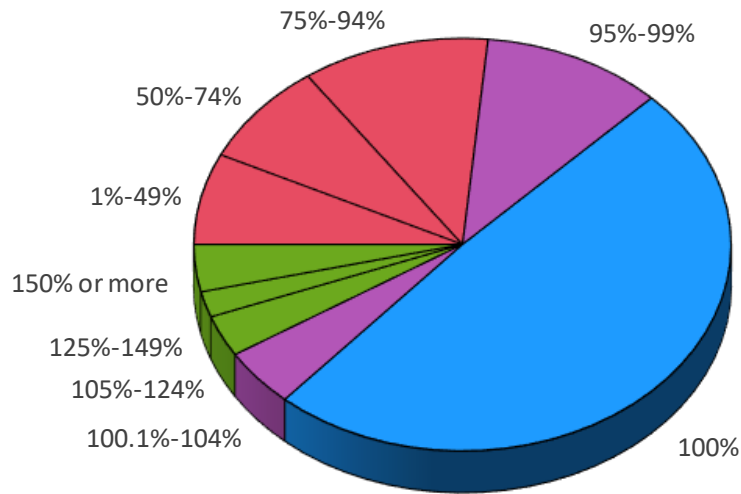
Actual payment as pctg. of DLI-computed payment	Pctg. of visits	Reverse cumulative pctg. [3]	Actual payment as pctg. of DLI-computed payment	Pctg. of visits	Reverse cumulative pctg. [3]
1% to 49%	5.1%	100.0%	100.1% to 104%	5.0%	14.7%
50% to 74%	8.2%	94.9%	105% to 124%	3.9%	9.7%
75% to 94%	8.2%	86.7%	125% to 149%	2.1%	5.7%
95% to 99%	9.1%	78.4% [4]	150% or more	3.7%	3.7%
Exactly 100%	54.7%	69.4% [5]			

1. Computed from a sample of Minnesota workers' compensation hospital outpatient visits that occurred from Nov. 4 to Dec. 18, 2019. The Minnesota Department of Labor and Industry collected the data from Minnesota workers' compensation hospitals.
2. This percentage is statistically different from 100.0% at the 99% confidence level.
3. This is the percentage of cases that are in the payment category concerned or a higher category. For example, the 78.4% for the 95%-to-99% category means that 78.4% of cases had payment of 95% of the DLI-computed amount or more.
4. This percentage is not statistically different from 80.0%.
5. This percentage is statistically different from 80.0% at the 99% confidence level.

Figure 4

**Actual insurer payment to hospital as percentage of DLI-computed amount:
hospital data [1]**

Note: The size of each pie section represents the percentage of visits with payment — as a percentage of the DLI-computed amount — in the range indicated by the section label.



Sample size: 1,259

Total actual payments as percentage of total DLI-computed payments: 98.1% [2]

Actual payment as pctg. of DLI-computed payment	Pctg. of visits	Reverse cumulative pctg. [3]	Actual payment as pctg. of DLI-computed payment	Pctg. of visits	Reverse cumulative pctg. [3]
1% to 49%	7.2%	100.0%	100.1% to 104%	4.6%	13.5%
50% to 74%	8.1%	92.8%	105% to 124%	3.2%	9.0%
75% to 94%	11.3%	84.8%	125% to 149%	2.0%	5.7%
95% to 99%	10.9%	73.5% [4]	150% or more	3.7%	3.7%
Exactly 100%	49.1%	62.6% [4]			

1. Computed from a sample of Minnesota workers' compensation hospital outpatient visits that occurred from Nov. 4 to Dec. 18, 2019. The Minnesota Department of Labor and Industry collected the data from Minnesota workers' compensation insurers.
2. This percentage is statistically different from 100.0% at the 90% confidence level but not at the 95% level.
3. This is the percentage of cases that are in the payment category concerned or a higher category. For example, the 73.5% for the 95%-to-99% category means that 73.5% of cases had payment of 95% of the DLI-computed amount or more.
4. This percentage is statistically different from 80.0% at the 99% confidence level.

Using an exact — 100% — standard for correct payment, the rate of under-payment was 30.6% in the insurer data and 37.4% in the hospital data, while the over-payment rates in the two data sources were 14.7% and 13.5%, respectively. With a 5% margin of error, the under-payment rates were 21.6% and 26.5%, while the over-payment rates were 9.7% and 9.0%, respectively. By either standard, the under-payment rate exceeded the over-payment rate according to both the insurer and the hospital data.

It is also of interest to consider the percentage of visits for which payment was either correct or higher. Under the exact standard, the percentage with correct or higher payment was 69.4% in the insurer data and 62.6% in the hospital data. With a 5% margin of error,⁴³ the percentages of cases at 95% or more of the correct amount were 78.4% and 73.5% according to the two data sources respectively. The 78.4% from the insurer data was not statistically different from 80.0%, while the 73.5% from the hospital data was, at the 99% confidence level. By a somewhat more rigorous standard, the percentage of cases with payment at 98% or more of the correct amount was 72.1% in the insurer data and 66.5% in the hospital data, both statistically less than 80% at the 99% confidence level.⁴⁴

Another measure of overall payment accuracy is the ratio of total actual payments for all visits to total computed correct payments for all visits. This ratio was 90.2% for the insurer data and 98.1% for the hospital data. The insurer-data ratio was statistically different from 100.0% at the 99% confidence level; the hospital-data ratio was statistically different from 100.0% at the 90% confidence level but not at the 95% level.⁴⁵

B. Reasons for payment errors

This section presents an analysis of reasons for under- and over-payment reported in Figures 3 and 4. As with those figures, the present analysis is limited to cases without PPO arrangements.

To conduct the analysis, DLI divided the overall samples into cases reported by insurers and hospitals, cases with under- and over-payment, and cases with and without major surgeries — eight subgroups in all. The groups with under- and over-payment were limited to cases where the ratio of actual to correct payment was less than 95% and greater than 105%, respectively, to focus on cases with significant under- and over-payment. For each of these subgroups, DLI chose a random sample of 50 cases for analysis, or the actual number of cases if less than 50. To conduct the analysis, DLI examined relevant reported data, such as service codes, units of service, charges and payments, as well as information derived from the reported data, such as procedure code status indicators and hospital size. In a majority of cases, it was possible to determine the reasons for the errors the insurers made.

⁴³ This margin of error acknowledges that in some cases where the reported payment was apparently incorrect, the “correct” amount computed by DLI might have been incorrect, and the reported payment correct, because of information not reported to DLI.

⁴⁴ These results are not shown in Figures 3 and 4.

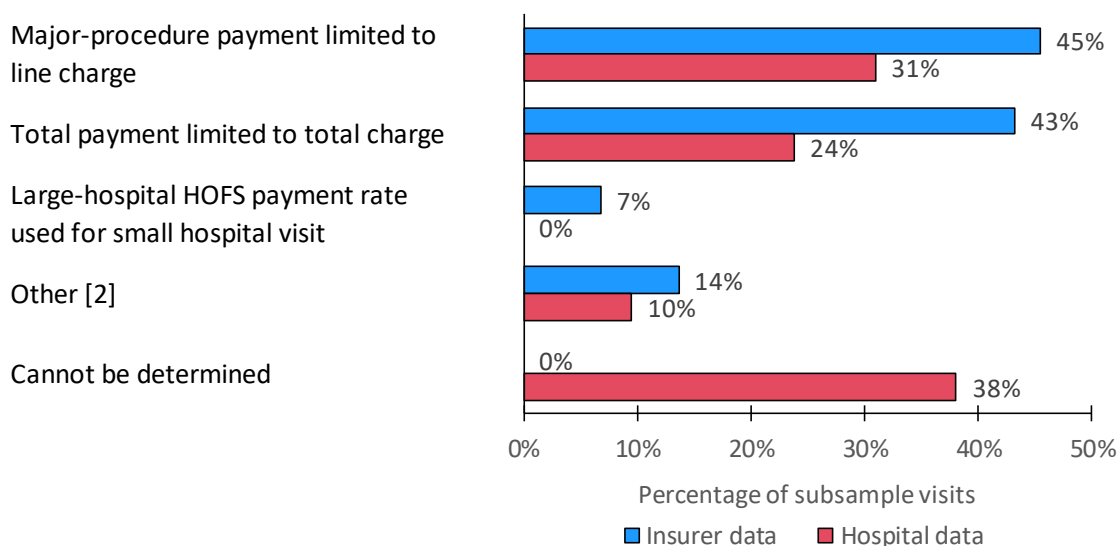
⁴⁵ A curious difference emerges here between different ways of looking at the data. When we look at the percentage of visits with payment ratio (ratio of actual to correct payment) greater than either 95 or 100%, this percentage is higher for the insurer data than the hospital data. However, when we look at the ratio of total actual payments to total correct payments, this is lower in the insurer data. The difference apparently occurs because in the insurer data, there is a tendency for the more costly cases to have lower payment ratios (giving these lower ratios more weight in the overall ratio), while this is not true in the hospital data.

1. Errors in cases with under-payment

Figures 5 and 6 present findings regarding errors where there was under-payment of more than 5% for visits involving major surgery and for those without major surgery, respectively. The visits in Figure 5 all have a major surgery and may or may not also have an emergency department exam; the visits in Figure 6 all have an emergency department exam and not a major surgical procedure.⁴⁶ To follow the discussion of these results, the reader should review the discussion in Section II-F about payment rules

Figure 5

Payment errors where there was underpayment for visits with major procedures, insurer and hospital data [1]



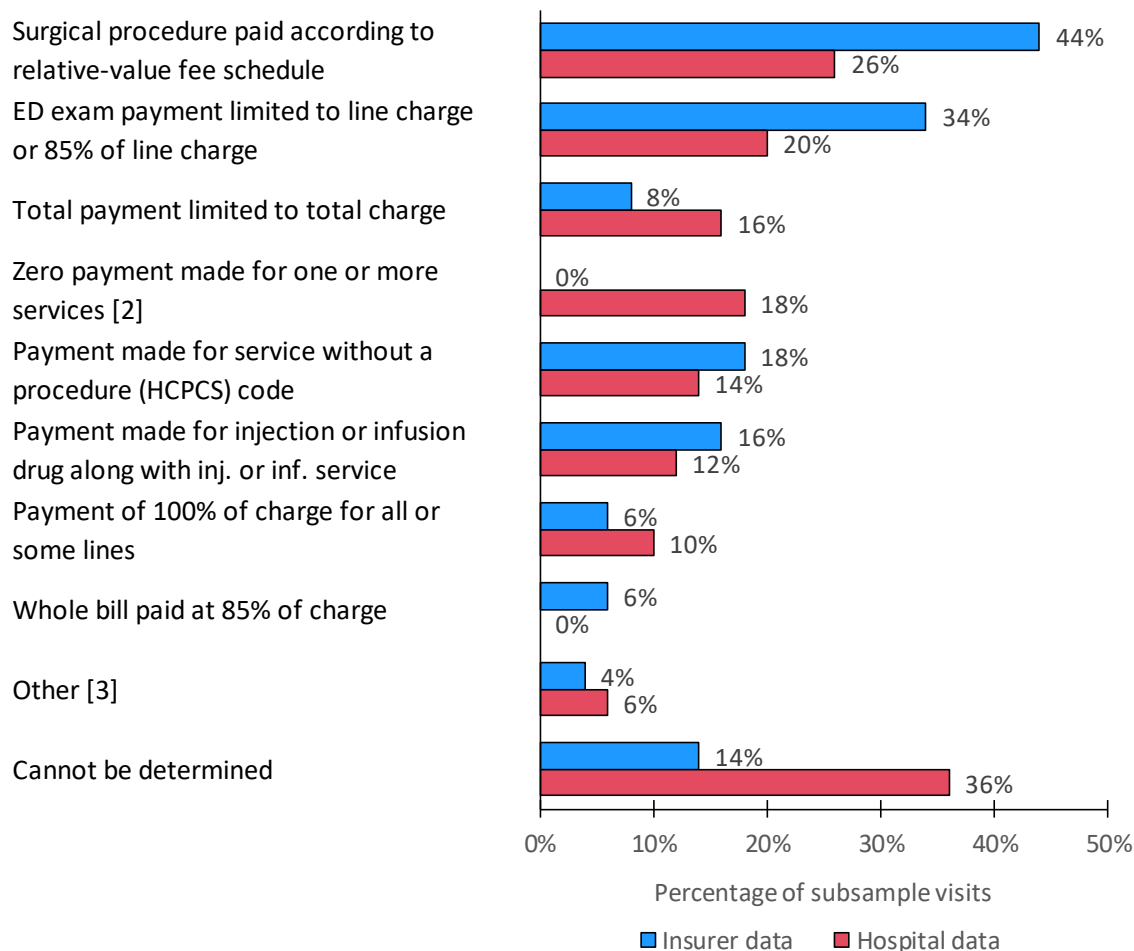
Derived from an analysis of all 44 visits in the insurer sample and all 42 visits in the hospital sample with a major procedure ("J1" service) where the actual payment was less than 95% of the correct amount (computed by DLI), using only visits not covered by PPO arrangements as reported. Percentages add to more than 100% because visits may have more than one type of payment error. Because of the small numbers of cases in the subsamples, these results are merely suggestive.

2. Payment practices here include paying 85% of the HOFS amount for the major procedure, paying 85% of charge or some other amount for services other than the major procedure where the major procedure was paid at charge, paying zero for some services where the total payment was equal to charge for the paid services and paying according to the relative value fee schedule for the major procedure or other service.

⁴⁶ As described in Section II-F, HOFS only applies to visits that include a major surgical procedure as indicated by a service with a "J1" status indicator or an emergency department exam as indicated by a service with a "J2" status indicator.

Figure 6

Payment errors where there was underpayment for visits without major procedures, insurer and hospital data [1]



1. Derived from an analysis of 50 randomly drawn visits from the insurer sample and 50 such visits from the hospital sample with an emergency department exam ("J2" service) but not a major procedure ("J1" service) where the actual payment was less than 95% of the correct amount (computed by DLI), using only visits not covered by PPO arrangements as reported. Percentages add to more than 100% because visits may have more than one type of payment error. Because of the small numbers of cases in the subsamples, these results are merely suggestive.
2. A zero payment for a service is not necessarily an error. However, in the cases concerned, the reporting entity (insurer or hospital) indicated that the service was not denied by reason of primary liability, causation, or reasonableness and necessity, and also indicated a positive number for the units of service for which payment was made. In any event, a zero payment for a service contributes to the actual payment being less than the DLI-computed amount.
3. Payment practices here include paying 42.5% of charge for a procedure or other service where another was paid at 85% of charge, using the prior year's HOFs payment rate for the ED exam, using the prior year's relative value fee schedule and paying half the relative value fee schedule amount.

in cases involving major surgeries and those not. The findings are presented separately for cases with and without major surgeries because the payment rules are different for the two groups and the payment errors are therefore different as well. Note that while the cases concerned in the two figures have under-payment, some of the types of errors indicated would by themselves tend to cause over-payment; the visits concerned have under-payment because errors causing under-payment counteracted those causing over-payment.

For under-payment cases with major surgery (Figure 5), the most common errors were limiting the payment for the major procedure to the line charge for that procedure, limiting the total payment to the total charge on the bill, and using the large-hospital HOFs payment rate for the surgical procedure when the small-hospital rate (larger than the large-hospital rate) should have been used. A variety of other erroneous practices were discovered (see note 2 in Figure 5). Interestingly, in the hospital data, the reason for under-payment could not be determined in 38% of cases, while in the insurer data the reason could be detected in all instances.

A wide variety of payment errors emerged for the under-payment cases without major surgery. As shown in Figure 6, the most common errors for these cases were paying for the surgical procedure according to the relative-value fee schedule (which applies to professional services but not facility services), limiting the payment for the emergency department exam to the line charge or 85% thereof, and limiting the total payment to the total charge on the bill. As with the major-surgery cases, it was impossible to determine the reason for under-payment in a substantial percentage of cases reported by hospitals (36%). In contrast with the major-surgery cases, the reason for under-payment could not be determined in some instances in the insurer data as well (14%).

2. Errors in cases with over-payment

Figures 7 and 8 present findings regarding error reasons where there was over-payment (actual payment greater than 105% of correct amount) for cases with and without major surgery, respectively.

For the cases with major surgery (Figure 7), the most common error was for the insurer to pay the whole bill at 100% or 85% of charge. Second-most-common was for the relatively large small-hospital HOFs payment rate to be used for a large hospital. A variety of other reasons were observed, especially in the hospital data (42%). In substantial percentages of cases (41% and 42% for the insurer and hospital data, respectively), DLI could not determine the reason for over-payment.

For cases without major surgery (Figure 8), a wider variety of payment-error reasons emerged. Most common were paying the whole bill at 100% of charge, paying for the emergency department exam and/or some other services at 100% of charge, paying for services without a reported HCPCS code,⁴⁷ and using the small-hospital HOFs payment rate for a large hospital.

C. Payment timeliness

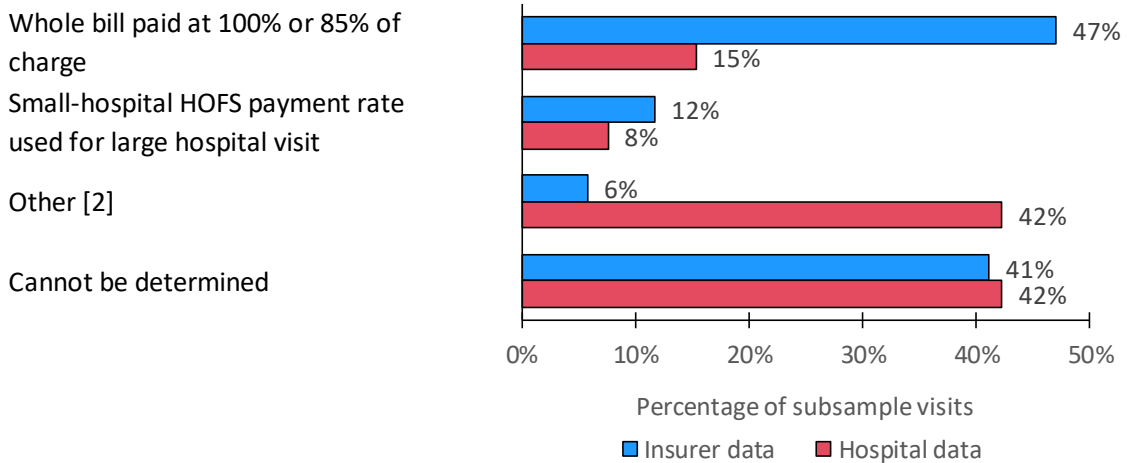
DLI analyzed payment timeliness for visits covered by PPO arrangements and those not. In view of statutory and rule provisions requiring medical bill payments within 30 days of bill receipt, the focus was on the percentage of cases where the time from bill date to payment date was 30 days or less.⁴⁸

⁴⁷ The HCPCS code is the service code under the Healthcare Common Procedure Coding System.

⁴⁸ Minn. Stat. § 176.135, subd.6, Minn. Rules, part 5221.0600, subd. 3.

Figure 7

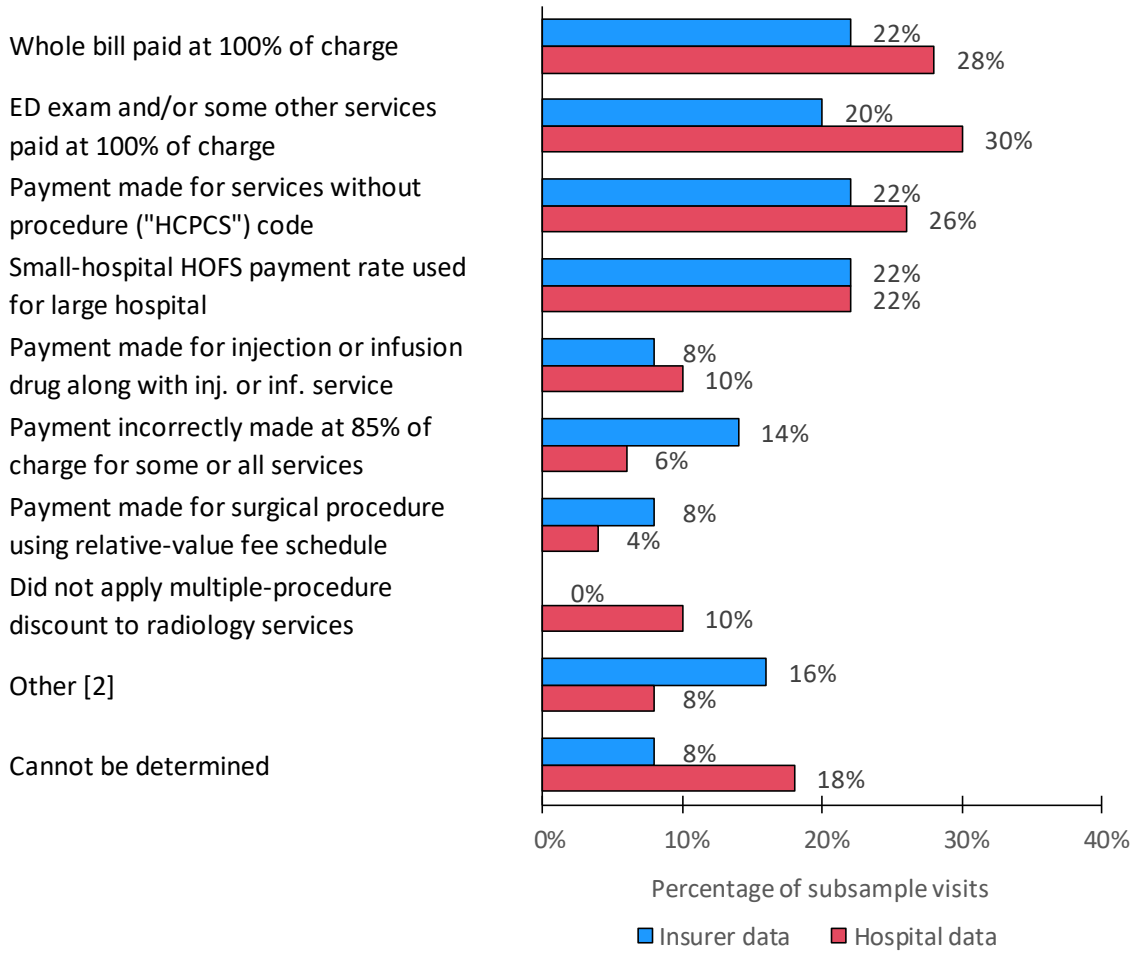
Payment errors where there was overpayment for visits with major procedures, insurer and hospital data [1]



1. Derived from an analysis of all 17 visits in the insurer sample and all 26 visits in the hospital sample with a major procedure ("J1" service) where the actual payment was more than 105 percent of the correct amount (computed by DLI), using only visits not covered by PPO arrangements as reported. Percentages add to more than 100% because visits may have more than one type of payment error. Because of the small numbers of cases in the subsamples, these results are merely suggestive.
2. Payment practices here include paying for a procedure other than a major ("J1") procedure, paying for a service other than a surgical procedure, paying for a service without a procedure code and paying 85% of charge for the major procedure (where this was greater than the HOFS payment).

Figure 8

Payment errors where there was overpayment for visits without major procedures, insurer and hospital data [1]



1. Derived from an analysis of 50 randomly drawn visits from the insurer sample and 50 such visits from the hospital sample with an emergency department exam ("J2" service) but not a major procedure ("J1" service) where the actual payment was more than 105% of the correct amount (computed by DLI), using only visits not covered by PPO arrangements as reported. Percentages add to more than 100% because visits may have more than one type of payment error. Because of the small numbers of cases in the subsamples, these results are merely suggestive.
2. Payment practices here include failing to limit a payment computed under the relative-value fee schedule to the charged amount, using the HOFs payment rate for the prior year, using the relative-value fee schedule for the prior year, paying 42.5% of charge, rather than 85%, for a second procedure, paying more than the HOFs payment rate for the emergency department exam, paying for the wrong number of units of service and paying zero for a service that was not denied.

The 30-day standard applies to the time from the insurer receipt of the bill to the date the insurer sends payment. Thus, in the insurer data, the amount of time to payment was computed as the time from the bill-receipt date to the payment-sent date, both dates being directly available in the data. In the hospital data, the available dates — the dates the hospital was able to report — were the date the bill was sent and the date payment was received. The hospital data indicates that in the vast majority of cases (97.1%), the bill was sent electronically via the 837I format (Figure 9).⁴⁹ The insurance data, however,

Figure 9
Percentage of visits without PPO arrangements whose bills were submitted electronically via the 837I, insurer and hospital data [1]

Bill submitted on 837I?	Insurer data [2]	Hospital data [3]
Yes	71.3%	97.1%
No	14.7%	2.3%
Unsure	13.9%	0.6%
Total	100.0%	100.0%

1. Computed from a sample of Minnesota workers' compensation hospital outpatient visits that occurred from Nov. 4 to Dec. 18, 2019. DLI collected the data from Minnesota workers' compensation insurers and Non-Critical-Access Hospitals. The insurers and hospitals reported the presence or absence of a PPO arrangement for each visit.
2. In the insurer data, the question regarding bill submission on the 837I referred to the receipt of the bill by the insurer.
3. In the hospital data, the question regarding bill submission on the 837I referred to the sending of the bill by the hospital.

indicates a smaller majority of cases (71.3%) where the bill was received electronically. (Anecdotal information indicates that in some cases, the bill is “dropped to paper” by bill clearinghouses on the way from provider to insurer.) With the hospital data, DLI assumed that if the bill was sent electronically, the insurer received it two days after the date sent, allowing for possible transit through clearinghouses,⁵⁰ but if it was not sent electronically (that is, for the cases answered “no” or “unsure” in Figure 9), it was assumed to be received three days after the date sent, allowing for transit via regular mail.

For both the insurer and hospital data, if the hospital sent additional information in response to a request from the insurer, the date this information was received (insurer data) or estimated to be received (hospital data) was used as the bill date. With the hospital data, whether the original bill was or was not sent electronically, the same was assumed to be true for the additional information, so the receipt date was imputed correspondingly as two or three days after the date sent.

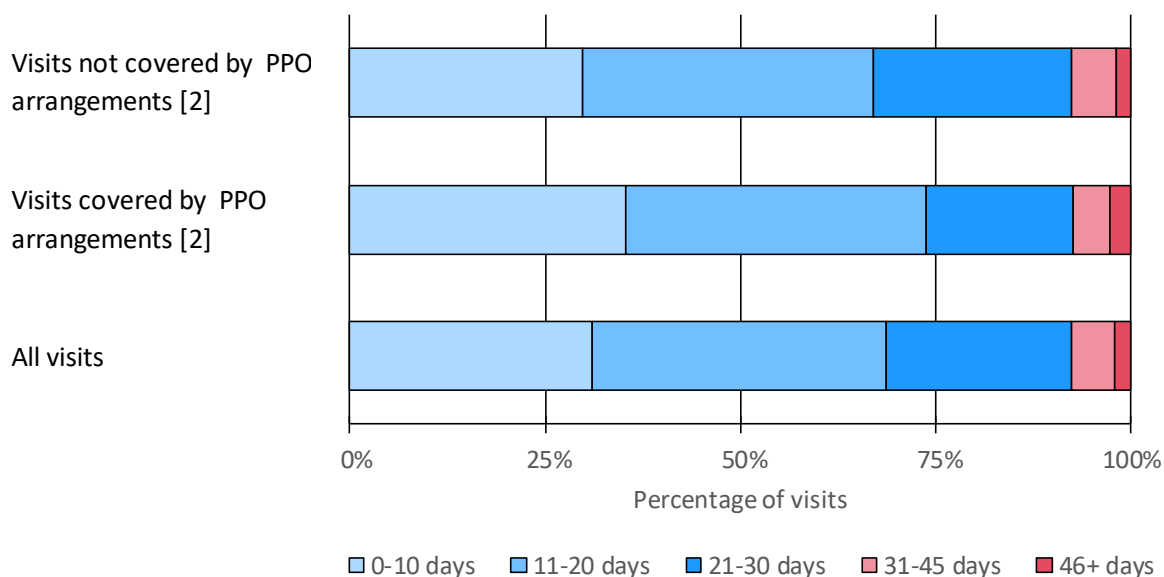
⁴⁹ ASC X12N Implementation Guide, Version 005010X223A2.

⁵⁰ This was based on insights from staff at the Minnesota Department of Health.

Regarding the date the insurer sent payment, DLI understands that most workers' compensation medical payments are sent as a check via regular mail. On this basis, in the hospital data, a payment-sent date was imputed as three days prior to the reported date payment was received. So, with the hospital data, the time from billing to payment was computed as the time from the imputed date the insurer received the bill (assumed to be two days after the date sent if sent electronically, otherwise three days thereafter) to the imputed date the insurer sent payment (assumed to be three days before the hospital received it).

Figures 10 and 11 present findings regarding payment timeliness under the above parameters for visits covered and not covered by PPO arrangements for the insurer and hospital data, respectively. In the

Figure 10
Number of days from receipt of bill to sending of payment:
insurer data [1]

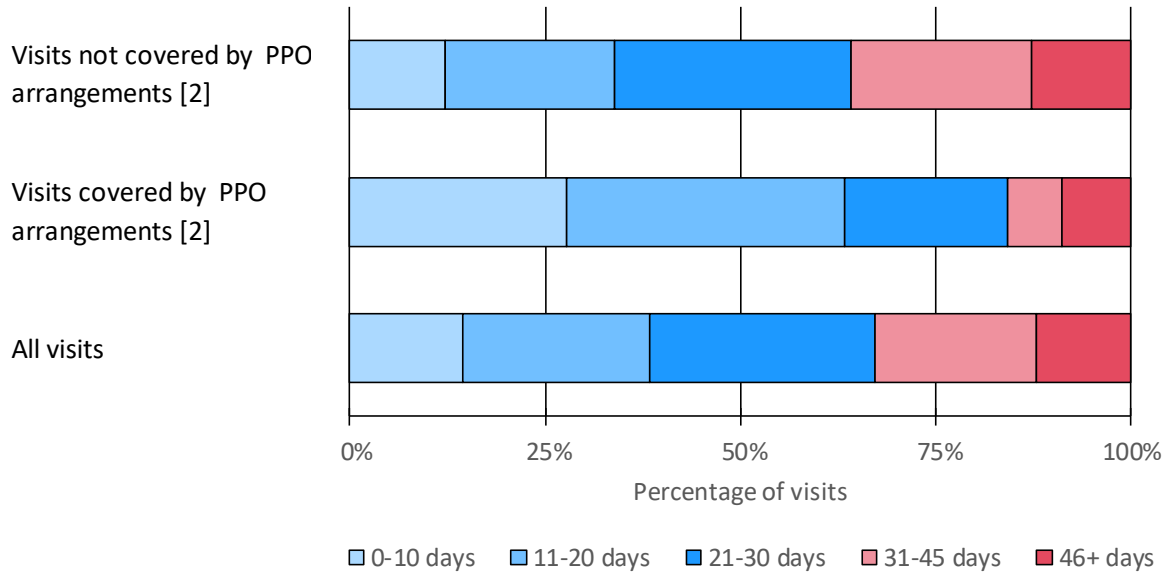


	Visits not covered by PPO arrangements [2]	Visits covered by PPO arrangements [2]	All visits
Median days	15.0	14.0	15.0
Average days	17.3	15.8	16.9
Pctg. of visits with 30 or fewer days	92.3% [3]	92.5% [3]	92.4% [3]
Sample size	1,600	538	2,138

1. Computed from a sample of Minnesota workers' compensation Non-Critical-Access Hospital outpatient visits that occurred from Nov. 4 to Dec. 18, 2019. The Minnesota Department of Labor and Industry collected the data from Minnesota workers' compensation insurers.
2. The insurers reported the presence or absence of a PPO arrangement for each visit.
3. Statistically different from 80.0% at the 99% confidence level.

Figure 11

Number of days from imputed insurer receipt of bill to imputed sending of payment: hospital data [1]



	Visits not covered by PPO arrangements [2]	Visits covered by PPO arrangements [2]	All visits
Median days	26.0	18.0	24.0
Average days	30.2	22.1	28.9
Pctg. of visits with 30 or fewer days	64.2% [3]	84.3% [4]	67.3% [3]
Sample size	1,256	256	1,512

1. Computed from a sample of Minnesota workers' compensation hospital outpatient visits that occurred from Nov. 4 to Dec. 18, 2019. The Minnesota Department of Labor and Industry collected the data from Minnesota Non-Critical-Access Hospitals. To make these results comparable with those from the insurer data, the date the insurer received the bill was imputed as two days after the hospital sent the bill if the bill was sent electronically (to allow for transit through clearinghouses), otherwise as three days after the date sent, and the date the insurer sent payment was imputed as three days prior to the date the hospital received it.
2. The hospitals reported the presence or absence of a PPO arrangement for each visit.
3. Statistically different from 80.0% at the 99% confidence level.
4. Not statistically different from 80.0%.

insurer data (Figure 10), the percentage of visits paid within 30 days is 92.3% and 92.5%, respectively, for visits not covered and covered by PPO arrangements. Both of these percentages are statistically different from 80.0% at the 99% confidence level. The median and average days to payment as indicated by the insurer data range from 14.0 to 17.3 days.

The picture is quite different in the hospital data (Figure 11). As reported by the hospitals, the time from billing to imputed sending of payment (see above discussion and note 1 in the figure) was within 30 days in 64.2 and 84.3% of the cases not covered and covered by PPO arrangements, respectively, and 60.1% for the two groups combined. The percentages were statistically less than 80.0%, at the 99% confidence level, for the visits not covered by PPO arrangements and for all visits combined. The median and average times from billing to imputed sending of payment ranged from 18.0 to 30.2 days for the cases with and without PPO arrangements.⁵¹

D. Payment accuracy and timeliness combined

While payment accuracy and timeliness are of interest as separate questions, there is also interest in the question of to what degree payments are simultaneously accurate and timely. Figure 12 presents findings regarding this question from the insurer and hospital data. For both data sources, the results are presented in a two-by-two grid relating to (1) visits with payment above and below 100% of the correct amount and (2) visits with payment send-date (or imputed send-date for the hospital data) within and outside of 30 days from the billing date. Since these findings partly involve payment accuracy, they involve only the visits not covered by PPO arrangements.

In the pie charts, the blue section represents the visits for which payment both met the 100%+ standard (at least 100% of the DLI-computed correct amount) and was timely (sent within 30 days of the bill date⁵²). A markedly different picture emerges from the hospital data than from the insurer data. The insurer data indicates that 63.9% of the visits had payments that both met the 100+ standard and were timely, while the hospital data indicates far fewer — 39.9%. Both of these percentages are statistically less than 80.0% at the 99% confidence level.

Note that these results depend critically on the payment standard used. If the payment amount were instead measured by a different standard — for example, payment within 5% of the correct amount, payment exactly equal to the correct amount or payment equal to 95% of the correct amount or higher — the resulting percentages of visits with payments meeting both the amount and timeliness standards would be different than shown here. It is noteworthy, however, that even under the more lenient payment amount standard — that payments be 95% or more of the correct amount — the percentage of cases with payments meeting both the amount and timeliness standards is 72.6% in the insurer data and 48.3% in the hospital data, both significantly less than 80.0% at the 99-percent confidence level (not shown in the figure).

The percentages of cases in the other categories also differ between the insurer and hospital data. For example, the percentage of cases neither accurate nor timely was 2.2% in the insurer data but 13.0% in the hospital data.

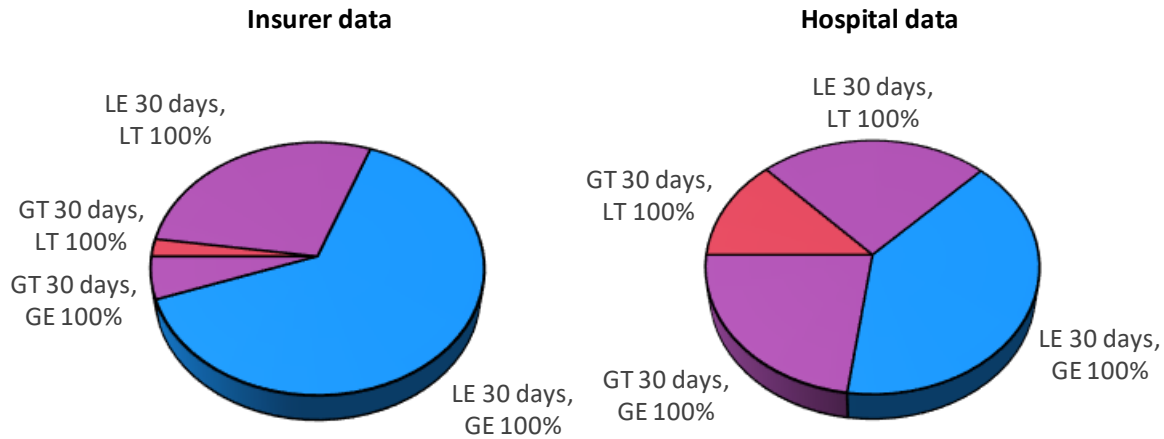
⁵¹ The results from the hospital data, and to a small extent those from the insurer data, suggest a shorter time to payment for PPO cases than for non-PPO cases. This accords with theoretical expectations, which suggest that insurers may be able to pay more quickly under PPO arrangements where the payment provisions are made clear through contractual provisions than under cases without PPO arrangements where the payment provisions in statute are perhaps more complex and challenging to navigate.

⁵² The bill date is modified to be the date additional information was sent if the payer requested such information.

Figure 12

**Payment timing and accuracy for visits not covered by PPO arrangements:
insurer and hospital data [1]**

Note: The size of each pie section represents the percentage of visits with payment timeliness and accuracy in the range indicated by the section label.



Actual payment as percentage of DLI-computed payment	Percentage of visits					
	Insurer data			Hospital data		
	Time from receipt of bill to sending of payment		Total	Time from imputed insurer receipt of bill to imputed sending of payment [2]		Total
	More than 30 days	30 days or less		More than 30 days	30 days or less	
Less than 100%	2.2%	28.4%	30.7%	13.0%	24.3%	37.3%
100% or more	5.4%	63.9% [3]	69.3%	22.8%	39.9% [3]	62.7%
Total	7.7%	92.3%	100.0%	35.8%	64.2%	100.0%
Sample size	1,600			1,256		

1. Computed from a sample of Minnesota workers' compensation hospital outpatient visits that occurred from Nov. 4 to Dec. 18, 2019. The Minnesota Department of Labor and Industry collected the data from Minnesota workers' compensation insurers and Non-Critical-Access Hospitals. The insurers and hospitals reported the presence or absence of a PPO arrangement for each visit.
2. In the hospital data, the date the insurer received the bill was imputed as two days after the hospital sent the bill if the bill was sent electronically (to allow for transit through clearinghouses), otherwise as three days after the date sent, and the date the insurer sent payment was imputed as three days prior to the date the hospital received it.
3. Statistically different from 80.0% at the 99% confidence level.

VI. Summary and conclusion

A. Summary

In compliance with a legislative mandate, this study assessed whether payments under the Minnesota workers' compensation Hospital Outpatient Fee Schedule (HOFS) were accurate and timely. For the study, DLI used data gathered in a special request from insurers and hospitals. DLI assessed payment accuracy by comparing the actual payment to the amount it computed from the data following HOFS provisions. DLI assessed payment timeliness by considering the percentage of payments that were sent within the statutory 30-day limit that applies to workers' compensation medical payments in general.⁵³ A summary of findings appears in Figure 13. The 84% and 90% response rates from the insurers and hospitals bode well for the representativeness of the data.

Both the insurer and hospital data indicate exactly correct payment rates about half the time — 54.7% for the insurer data and 49.1% for the hospital data. Different payment standards were applied to the insurer and hospital data; among these were payment at 95%, 98% and 100% or more of the correct amount. Each of these standards was met more frequently according to the insurer data than according to the hospital data — 69.4% to 78.4% of the time for the insurer data versus 62.6% to 73.5% of the time for the hospital data. All of these percentages, it should be noted, are less than the 80% compliance standard specified in the statute. Total actual payments came to 90.2% of total correct payments in the insurer data and 98.1% in the hospital data.

DLI investigated the reasons for payment errors in random samples of cases from the insurer and hospital data that were under- and over-paid. A large variety of payment errors were found. Significant misunderstanding seems to exist on the part of some insurers regarding the correct application of the HOFS payment provisions.

The insurer and hospital data gave quite different results regarding payment timeliness. The insurer data indicated that 92.4% of payments were sent within the statutorily required 30 days of bill receipt, while the hospital data indicated a much lower 67.3%. The reason for this difference is unclear.⁵⁴ At the time of this report, DLI was in the process of matching cases reported by insurers and hospitals to investigate this discrepancy.

Finally, DLI considered payment accuracy and timeliness simultaneously by examining the percentage of visits for which payment was both at least 100% of the DLI-computed correct amount and timely (sent within 30 days of bill submission). The visits that met both criteria amounted to 63.9% of the total in the insurance data and 39.9% in the hospital data.

B. Comment

This analysis found, among other things, differences in results between the insurer and hospital data. In general, the insurer data suggests that payments are more accurate and, especially, more timely than does the hospital data. Which is to be believed? Should we simply split the difference between the two or give more credence to one or the other?

⁵³ In the hospital data, DLI imputed the payment sent-date as three days prior to the payment-received date.

⁵⁴ See note 11 in Figure 13.

Figure 13**Summary of findings regarding payment timeliness and accuracy:
insurer and hospital data [1]**

	Insurer data [2]	Hospital data
Percentage of entities responding [3]	84%	90%
Total usable sample visits [4]	2,150	1,515
Sample visits not covered by a PPO adjustment [5]	1,612	1,259
Percentage of visits with exactly correct payment [6]	54.7%	49.1%
Percentage of visits with payment at least 95% of the correct amount [7]	78.4%	73.5%
Percentage of visits with payment at least 98% of the correct amount [8]	72.1%	66.5%
Percentage of visits with payment at least 100% of the correct amount [6]	69.4%	62.6%
Total actual payments as percentage of total correct payments [9]	90.2%	98.1%
Percentage of visits with bill submitted electronically (on the 837I format) [10]	71.3%	97.1%
Percentage of visits with payment sent within 30 days of billing [11]	92.4%	67.3%
Percentage of visits with payment at least 100% of the correct amount, sent within 30 days of bill receipt [12]	63.9%	39.9%

1. Computed from a sample of Minnesota workers' compensation hospital outpatient visits that occurred from Nov. 4 to Dec. 18, 2019. The Minnesota Department of Labor and Industry collected the data from Minnesota workers' compensation insurers and Non-Critical-Access Hospitals.
2. Includes insurer and self-insurer data.
3. From Figure 1.
4. From Figure 2. This larger sample was used for analyzing payment timeliness where accuracy was not being considered.
5. From Figure 2. This smaller sample was used for analyzing payment accuracy, either by itself or along with payment timeliness.
6. From Figures 3 and 4. Both percentages are statistically less than 80.0% at the 99% confidence level.
7. From Figures 3 and 4. The insurer percentage is not statistically different from 80.0%; the hospital percentage is, at the 99% confidence level.
8. From text, p. 9. Both percentages are statistically less than 80.0% at the 99% confidence level.
9. From Figures 3 and 4. The insurer percentage is statistically less than 100.0% at the 99% confidence level; the hospital percent is statistically less than 100.0% at only the 90% confidence level.
10. From Figure 9. In the insurer data, 13.5% of the cases were "unsure".
11. From Figures 10 and 11. In the hospital data, a bill-received date was imputed as two days after the date sent if sent electronically, and otherwise as three days thereafter, and a payment-sent date was imputed as three days prior to the date payment was received. Both percentages are statistically different from 80.0% at the 99% confidence level.
12. From Figure 12. In the hospital data, a bill-received date was imputed as two days after the date sent if sent electronically, and otherwise as three days thereafter, and a payment-sent date was imputed as three days prior to the date payment was received. Both percentages are statistically less than 80.0% at the 99% confidence level.

One line of reasoning suggests that it may make sense to give more credibility to the hospital data. This line of reasoning applies because the response rate for the insurers is less than 100% — 84% in particular. Sampling the hospitals is an indirect way of sampling insurers. Specifically, any insurer (or self-insurer) has a chance of showing up in the hospital data in direct proportion to its number of workers' compensation outpatient cases. In other words, sampling the hospitals is a way of drawing a representative sample from insurers (even if not all hospitals are in the sample, which is the case). By contrast, with the insurer sample, there may be differences between the reporting and non-reporting insurers that are unknown but nonetheless there. It could be that insurers that are proactive about learning new payment provisions such as those in HOFS and setting up systems to implement them also tend to be the ones that have the motivation and data-system capability to comply with major data requests such as the one for this study. But although this conjecture seems plausible, it should be borne in mind that while the overall insurer response rate was 84%, the reporting entities, as indicated earlier, accounted for 98% of total benefits paid by insurers and 91% of benefits paid by self-insurers. So there does not seem to be a great deal of room for improving on the representativeness of the insurer sample by going to the hospital sample.

This leaves us, for the most part, simply in a position of not knowing why the different results arose from the two samples. As previously indicated, DLI, at the time of publication of this report, was in the process of matching cases from the insurer and hospital samples to determine what portion of the difference in findings arose from different reporting on the same cases and what portion arose from different cases in the two samples.

C. Conclusion

Whatever may be the reasons for the different findings from the insurer and hospital data, and whichever one of the two may be closer to correct, it remains that against the statutory 80% standard in the study mandate, this study found that payments were not accurate and timely. In particular, the insurer data indicated that payments met the 100%+ standard (at least 100 percent of the correct amount) and the timeliness standard (payment sent within 30 days of bill receipt) in 63.9% of cases, while the hospital data indicated 39.9% (both statistically less than 80%).

As provided in the statutory report mandate, it is up to the WCAC to consider possible statutory changes in light of these findings. For its part, DLI is considering possible statutory clarifications and enhanced guidance to insurers and hospitals in view of the findings regarding sources of payment errors. DLI is also planning to reach out to insurers with revealed payment errors to assist them in their understanding of HOFS payment provisions.

Appendix A

Elements in data request

The following is a list of data elements requested for insurers and hospitals. Depending on the preferences of the responsible entities, data might have been reported by the insurers or hospitals themselves or a by second party such as a parent group or bill reviewer.

Data element	Asked of reporters of insurer data	Asked of reporters of ASC data
Summary data (reported separately for each insurer or ASC for which the reporting entity had reporting responsibility)		
1. Name of insurer or ASC for which reporting	X	X
2. Type of insurer (individual, group, or self)	X	
3. ASC city		X
4. Relationship of submitting entity to insurer or ASC	X	X
5. List of insurer group members	X	
6. Reporting for this insurer or ASC via this submission?	X	X
7. Total number of HOFs-covered visits during report period, with PPO adjustment	X	X
8. Total number of HOFs-covered visits during report period, without PPO adjustment	X	X
9. Reporting on all visits or sample for insurer or ASC?	X	X
10. Sample date window for visits with PPO (computed by report spreadsheet)	X	X
11. Sample date window for visits without PPO (computed by report spreadsheet)	X	X
12. Number of sample visits with PPO (during sample date window)	X	X
13. Number of sample visits without PPO (during sample date window)	X	X
14. Number of visits during report period with neither payment nor full denial as of data submission	X	X
Visit-level data (reported for HOFs-covered visits with and without PPO arrangements)		
1. Insurer name		X
2. ASC name	X	
3. ASC city	X	
4. Patient control number (PCN) [1]	X	X
5. Date of service	X	X

(table continued on next page)

Data element	Asked of reporters of insurer data	Asked of reporters of ASC data
6. Was initial bill, as received by insurer or its representative, or sent by ASC or its representative, submitted on the 837 professional standard electronic transaction?	X	X
7. Date insurer/ASC or its representative received/sent initial bill	X	X
8. Date insurer/ASC or its representative received/sent complete bill information (including any received/sent in response to request after initial bill was received/sent)	X	X
9. Total charges for visit	X	X
10. Total payments to date for visit	X	X
11. Date insurer/ASC or its representative issued/received initial payment (full or partial)	X	X
12. Did ASC or its representative submit to insurer or its representative a request for reconsideration under Minn. Stat. § 176.1365, subd. 3?	X	X
13. Was a dispute over any services in the visit filed with DLI or OAH?	X	X
Service-level data (reported for visits without PPO arrangements only)		
1. HCPCS code billed ("HCPCS" = Healthcare Common Procedure Coding System)	X	X
2. HCPCS code paid	X	X
3. Is the service a drug delivered by infusion or injection?	X	X
4. Units of service billed	X	X
5. Units of service paid	X	X
6. Amount charged for service	X	X
7. Amount paid for service	X	X
8. Was service denied on the basis of primary liability, causation, or reasonableness and necessity?	X	X

1. The Patient Control Number identifies the patient visit, not the patient.

Appendix B

Commissioner request letters

The following is the original data request from the DLI commissioner to insurers and their representatives (e.g., third-party administrators). The letter also includes a simultaneous request for data for another report — on payment accuracy and timelines under the Minnesota workers' compensation Ambulatory Surgical Center Payment System — due on the same date as the HOFs report: Jan. 15, 2021.



February 3, 2020

I am writing to ask you, as a Minnesota workers' compensation insurer, to participate in two data requests. Our agency needs your help to produce two legislatively mandated reports.

The reports concern the Hospital Outpatient Fee Schedule (HOFs) and the Ambulatory Surgical Center Payment System (ASCPS), both of which took effect in Minnesota's worker's compensation system on Oct. 1, 2018. The Minnesota Legislature has tasked our agency with producing reports evaluating these new systems, specifically with respect to timeliness and accuracy of payment.

The data requests pertain to individual claims paid under HOFs and ASCPS. They include those items necessary for assessing payment timeliness and accuracy, such as billing and payment dates, service codes, and payment amounts. Similar data requests will also go to Minnesota non-critical-access hospitals and ambulatory surgical centers.

To help you better report the data to us, we are:

- collecting only the data items necessary for the analysis;
- limiting the sample size;
- providing 837/835/277 references where applicable;
- structuring the Excel report file to allow you to copy in data from a computer-generated file;
- including a feature in the report file to alert you to instances of invalid or inconsistent data;
- providing online training videos; and
- allowing a six-month window for you to compile and submit your data.

Data request

Further details, instructions, reporting templates, instructional videos, and other information to help you get started and complete this data request is at <http://dli.mn.gov/about-department/news-and-media/data-request-insurers-and-self-insurers>.

Please complete the request by July 31, 2020, and transmit your data to DLI via the designated secure website.

All data will be de-identified in the published report.

Questions?

Questions can be directed to David Berry, principal investigator, at david.berry@state.mn.us or 651-284-5208, or Brian Zaidman, co-investigator, at brian.zaidman@state.mn.us or 651-284-5568.

I encourage your full participation in this joint effort to comply with the legislative mandate. I look forward to publicly acknowledging those insurers who have assisted our agency by supplying the requested data.

Thank you.

Sincerely,
Nancy Leppink
Commissioner

The following is the original data request from the commissioner to hospitals.



February 3, 2020

I am writing to ask you, as a Minnesota non-critical-access hospital, to participate in a data request. Our agency needs your help to produce a legislatively mandated report.

As you know, the Hospital Outpatient Fee Schedule (HOFS) took effect in Minnesota's workers' compensation system on Oct. 1, 2018. The Minnesota Legislature has tasked our agency with producing a report that evaluates this new system, specifically "analyzing the percentage of claims with a service in the HOFS that were paid timely and the percentage of claims paid accurately."

The data request pertains to individual claims paid under HOFS. It includes those items necessary for assessing payment timeliness and accuracy, such as billing and payment dates, service codes and payment amounts. A similar data request is also going to Minnesota workers' compensation insurers.

To help you better report the data to us, we are:

- collecting only the data items necessary for the analysis;
- limiting the sample size;
- providing 837/835/277 references where applicable;

- structuring the Excel report file to allow you to copy in data from a computer-generated file;
- including a feature in the report file to alert you to instances of invalid or inconsistent data;
- providing online training videos; and
- allowing a six-month window for you to compile and submit your data.

Data request

Further details, instructions, reporting templates, instructional videos, and other information to help you get started and complete this data request is at <http://dli.mn.gov/about-department/news-and-media/data-request-hospitals>.

Please complete the request by July 31, 2020, and transmit your data to DLI via the designated secure website. All data will be de-identified in the published report.

Questions?

Questions can be directed to David Berry, principal investigator, at david.berry@state.mn.us or 651-284-5208, or Brian Zaidman, co-investigator, at brian.zaidman@state.mn.us or 651-284-5568.

I encourage your full participation in this joint effort to comply with the legislative mandate. I look forward to publicly acknowledging those hospitals who have assisted our agency by supplying the requested data.

Thank you.

Sincerely,
Nancy Leppink
Commissioner

The following overdue notice was sent from the commissioner via GovDelivery on Aug. 4, 2020, to those insurers and representatives (e.g., third-party administrators) that had not yet supplied data for the HOFS and ASCPS reports.



August 4, 2020

Greetings,

I am writing to urge you to complete two data requests from the Minnesota Department of Labor and Industry that are now overdue from your company.

Six months ago I invited your participation in these data requests to enable DLI to comply with a legislative mandate to produce two reports. The reports are to analyze payment accuracy and timeliness under the Hospital Outpatient Fee Schedule and the Ambulatory Surgical Center Payment System in Minnesota workers' compensation. The data requests and report forms are at <http://dli.mn.gov/about-department/news-and-media/data-request-insurers-and-self-insurers>.

In mandating the reports, the Legislature acted on its expectation that the two new payment systems, which took effect Oct. 1, 2018, would operate as specified in statute, and on its knowledge that their successful operation was of concern to the insurance industry. The Legislature expects that information in the reports will inform workers' compensation policy, and therefore regards it as important for DLI to hear from as many entities in your industry as possible in producing the reports.

I urge you to join other members of your industry in supplying data for these reports, to make them – and the policy that flows out of them – reflective of your experience and not just that of others.

The deadline for supplying the data was Jul. 31. However, I understand that work assignments and priorities may have changed because of the pandemic. Therefore, I am allowing some extra time for you to prepare your data. I am establishing a final deadline of Aug. 31 for submitting data to DLI.

We need to hear from your company even if you don't have data that meets the collection criteria. We need the data in a timely manner as we work to prepare the reports. After Aug. 31, we will be indicating on the DLI website those insurers and self-insurers that have provided us with the requested data and those for which data is missing. This information will also be included in the reports to the Legislature as it is important for the Legislature to understand the data upon which the reports are based.

I hope to be able to include your company in the list of those that have supplied data to support the report findings. Thank you in advance for your efforts in providing DLI with this data.

Kind regards,

Nancy Leppink
Commissioner

The following overdue notice was sent from the DLI commissioner via GovDelivery on Aug. 4, 2020 to those Non-Critical-Access Hospitals that had not yet supplied data for the HOFS report.



August 4, 2020

Greetings,

I am writing to urge you to complete a data request from the Minnesota Department of Labor and Industry that is now overdue from your hospital.

Six months ago I invited your participation in this data request to enable DLI to comply with a legislative mandate to produce a report analyzing payment accuracy and timeliness under the Hospital Outpatient Fee Schedule in Minnesota workers' compensation. The data request and report form are at <http://dli.mn.gov/about-department/news-and-media/data-request-hospitals>.

In mandating the report, the Legislature acted on its expectation that the new payment system, which took effect Oct. 1, 2018, would operate as specified in statute, and on its knowledge that its successful operation was of concern to the hospital industry. The Legislature expects that information in the report will inform workers' compensation policy, and therefore regards it as important for DLI to hear from as many hospitals as possible in producing the report.

I urge you to join other hospitals in supplying data for this report, to make it – and the policy that flows out of it – reflective of your experience and not just that of other hospitals.

The deadline for supplying the data was Jul. 31. However, I understand that work assignments and priorities may have changed because of the pandemic. Therefore, I am allowing some extra time for you to prepare your data. I am establishing a final deadline of Aug. 31 for submitting data to DLI.

We need to hear from your hospital even if you don't have data that meets the collection criteria. We need the data in a timely manner as we work to prepare the report. After Aug. 31, we will be indicating on the DLI website those hospitals that have provided us with the requested data and those for which data is missing. This information will also be included in the report to the Legislature as it is important for the Legislature to understand the data upon which the report is based.

I hope to be able to include your hospital in the list of those that have supplied data to support the report findings. Thank you in advance for your efforts in providing DLI with this data.

Kind regards,

Nancy Leppink
Commissioner

Appendix C

Insurers and Non-Critical Access Hospitals that did and did not supply data

Insurers, self-insurers, and Non-Critical-Access Hospitals that supplied data for the study

The following Minnesota workers' compensation insurers, self-insurers and Non-Critical-Access Hospitals supplied data for this study. DLI heartily thanks these entities for their demonstrated commitment to data-driven public policy.

Insurers that supplied data

Accident Fund General Insurance Company
Accident Fund Insurance Co Of America
Accident Fund National Insurance Company
Ace American Ins Co
Ace Fire Underwriters Ins
Ace Property & Cas Ins Co
Acig Insurance Company
Acuity A Mutual Insurance Company
Addison Ins Co
Aig Property Casualty Company
Allmerica Financial Benefit
Allstate Insurance Co
Amco Ins Co
Amer Cas Co
Amer Compensation Ins Co
Amer Fire & Cas Co
Amer Guarantee & Liab Ins
Amer Home Assurance Co
Amer Policyholders Liq Tr
Amer States Ins Co
Amer Zurich Ins Co
American Alternative Ins
American Economy Insurance Co
American Family Mutual Ins Co
American Insurance Company
American Interstate Insurance Company
American Select Insurance Company
Amerisure Insurance Company
Amerisure Mutual Ins Co
Amerisure Partners Insurance Company
Amguard Insurance Company
Arch Insurance Company
Argonaut Ins Co

Arrowood Indemnity Company
Associated Indemnity Co
Assurance Co Of America
Atlantic Specialty Ins Co C/O Onebeacon Ins Group
Auto Owners Ins Co
Bankers Standard Ins Co
Berkley National Insurance Company
Berkley Regional Ins Co
Berkshire Hathaway Homestate Ins Company
Bitco General Insurance Corporation
Bitco National Insurance Company
Bloomington Compensation Insurance Company
Brotherhood Mutual Insurance Company
Carolina Casualty Ins Co
Century Indemnity Co
Charter Oak Fire Ins Co
Cherokee Insurance Company
Chubb Indemnity Ins Co
Church Mutual Ins Co
Cincinnati Casualty Co
Cincinnati Indemnity Co
Cincinnati Ins Co
Citizens Insurance Company Of America
Commerce & Industry Ins Co
Continental Cas Co
Continental Indemnity Company
Continental Ins Co
Continental Western Insurance Company
Crum & Forster Indemnity Company
Dakota Truck Underwriters
Depositors Insurance Company
Diamond Insurance Company
Discover Property & Cas Ins Co
Eastguard Insurance Company
Electric Ins Co
Emcasco Ins Co
Employers Assurance Company
Employers Compensation Insurance Company
Employers Ins Co Wausau
Employers Mutual Cas Co
Employers Preferred Insurance Company
Everest National Ins Co
Farm Bureau Property & Casualty Insurance Co
Farmers Ins Exchange
Farmington Cas Co
Farmland Mutual Insurance Co
Federal Ins Co
Federated Mutual Ins Co

Federated Rural Elec Ins
Federated Service Ins Co
Fidelity & Deposit Of Md
Fidelity & Guaranty Ins
Fidelity & Guaranty Und
Firemans Fund Ins Co
Firemens Insurance Company Of Washington Dc
First Dakota Indemnity Company
First Liberty Ins Corp
First Nonprofit Insurance Co
Firstcomp Insurance Company
Florists Mutual Ins Co
Foremost Insurance Company
Forest Products Ins Exch
General Cas Co Of Wi
General Casualty Insurance Company
General Insurance Company Of America
Granite State Ins Co
Great American Alliance Ins Co
Great American Assurance Co
Great American Ins Co New York
Great American Insurance Company
Great Divide Insurance Company
Great West Cas Co
Greenwich Insurance Company
Grinnell Mutl Reins Co
Guideone Mutual Ins Co
Hanover American Insurance Company (The)
Hanover Ins Group
Harleysville Insurance Co
Harleysville Lake States Ins Co
Harleysville Preferred Insurance Company
Harleysville Worcester Insurance Company
Hartford Accident & Indemnity Co
Hartford Casualty Ins Co
Hartford Fire Ins Co
Hartford Ins Co Of The Midwest
Hartford Underwriters Insurance Co
Hawkeye-Security Ins Co
Hdi Global Insurance Company
Healthcare Ins Reciprocal
Highlands Ins Co
Illinois Casualty Company
Illinois Natl Ins Co
Indemnity Ins Of N Amer
Ins Co Of North Amer
Insurance Co Of Pa
Integrity Mutual Ins Co

Liberty Ins Corp
Liberty Mutual Fire Ins
Liberty Mutual Ins Co
Lm Ins Corp
Lumber Mutual Ins Co
Mada Insurance Exchange
Maryland Cas Co
Massachusetts Bay Ins Co
Memic Indemnity Company
Meridian Security Ins Co
Michigan Millers Mutual Insurance Company
Mid Century Ins Co
Middlesex Insurance Company
Midwest Employers Casualty Company
Midwest Family Mutual Ins
Midwest Insurance Company
Midwestern Indemnity Co
Milbank Ins Co
Milford
Mitsui Sumitomo Insurance Company Of America
Mn Assigned Risk Berkley Risk Admin Co Llc
Mn Assigned Risk Dca
Mn Assigned Risk Ohms
Mn Assigned Risk Rtw
Mn Assigned Risk Sfm Risk Solutions
Mn Assigned Risk St Paul Cos
Mn Assigned Risk Wausau
Motorists Commercial Mutual Ins Company
National American Insurance Co.
National Casualty Company
National Indemnity Company Of Mid America
National Interstate Ins Co
National Liability & Fire Insurance Company
National Surety Corporation
Nationwide Agribusiness Insurance Co.
Nationwide Mutual Fire Insurance Co.
Nationwide Mutual Ins Co
Natl Fire Ins Of Hartford
Natl Union Fire Ins Co
New Hampshire Ins Co
Norguard Insurance Company
North Pointe Insurance Company
North River Ins Co
Northern Ins Co Of Ny
Northwestern Natl Cas Co
Northwestern Natl Ins Co
Nova Casualty Company
Obi National Insurance Co C/O Onebeacon Ins Group

Ohio Cas Ins Co
Ohio Farmers Ins Co
Ohio Security Ins Co
Old Republic General Insurance Corp
Old Republic Ins Co
Owners Ins Co
Pacific Employers Ins Co
Pacific Indemnity Co
Patriot General Insurance Company
Peerless Indemnity Ins Co
Peerless Ins Co
Penn Millers Insurance Company
Pharmacists Mutl Ins Co
Phoenix Ins Co
Pioneer Specialty Insurance Company
Plaza Insurance Company
Praetorian Insurance Company
Preferred Professional Ins Co
Property & Casualty Ins Co Of Hartford
Protective Ins Co
Qbe Insurance Corporation
Ram Mutual Ins Co
Redwood Fire And Casualty Insurance Company
Regent Ins Co
Riverport Insurance Company
Safeco Ins Co Of Amer
Safety Natl Cas Corp
Security National Insurance Company
Selective Ins Co Of Amer
Selective Ins Co Of Sc
Selective Ins Co Of Se
Sentinel Insurance Company
Sentry Casualty Company
Sentry Insurance A Mutual Company
Sentry Select Insurance Company
Sfm Mutual Insurance Company
Sfm Safe Insurance Company
Sfm Select Insurance Company
Sompo America Insurance Company
St Paul Fire & Marine Ins
St Paul Guardian Ins Co
St Paul Mercury Ins Co
St Paul Protective Ins Co
Standard Fire Ins Co
Star Ins Co
Starnet Insurance Company
Starr Indemnity & Liability Company
State Auto Prop & Cas

State Automobile Mutl Ins
State Farm Fire & Cas Co
State Farm General Ins Co
Stonington Insurance Co
Technology Insurance Company
The Netherlands Ins Co
Tig Insurance Co
Tnus Insurance Company
Trans Pacific Ins Co
Transguard Insurance Company Of America Inc
Transport Ins Co
Transportation Ins Co
Travelers Cas & Surety Co
Travelers Casualty Insurance Co Of America
Travelers Indemnity Amer
Travelers Indemnity Co
Travelers Indemnity Of Ct
Travelers Property Casualty Co Of America
Tri State Ins Co Of Mn
Triangle Insurance Company Inc
Triumphe Casualty Company
Truck Ins Exchange
Twin City Fire Ins Co
Union Insurance Company Of Providence
United Fire & Cas Co
United Wisconsin Ins Co
Univ Underwriters Ins Co
Us Fidelity & Guaranty
Us Fire Ins Co
Utica Mutual Ins Co
Valiant Ins Co
Valley Forge Ins Co
Vanliner Ins Co
Vigilant Ins Co
Virginia Surety Company
Wausau Business Ins Co
Wausau Underwriters Ins
Wesco Insurance Company
West Amer Ins Co
West Bend Mutual Insurance Company
Western Agricultural Insurance Company
Western Natl Assur Co
Western Natl Mutl Ins Co
Westfield Ins Co
Westfield National Ins Co
Westport Ins Corp
XI Insurance America, Inc.
XI Specialty Insurance Company

Zenith Insurance Co
Zurich Amer Ins Co Of Il
Zurich American Ins Co

Self-insurers that supplied data

ABF Freight System
Access Insurance Assoc
Adc Telecommunications C/O Commscope Holding Comp
Ag Processing Inc
Ak Steel Corp
Allete Inc
Allina Health System
American Crystal Sugar
Amherst Wilder Foundation
Anoka County
Arcelormittal Minorca Mine Inc
Archer Daniels Midland Co
Arctic Cat Inc
Atek Management Company
Atlas Staffing Inc % Berkley Risk Admin Co Llc
Benedictine Group
Berkley Risk Administrators Co Llc
Bermo Inc
Blandin Paper Co C/O Aon Global Risk
Bloomington City Of
Blue Cross/Blue Shield
Builders & Contractors Workers Comp Fund
Care Providers Workers Compensation Fund
Cargill, Incorporated
Carl Bolander & Sons Co
Carleton College
Centerpoint Energy
Childrens Hospitals And Clinics Of Minnesota
Chs Inc
City Of Duluth
City Of Stillwater % Berkley Risk Admin Co Llc
Coca-Cola Refreshments Usa, Inc
Cold Spring Granite Co
Collectively Bargained Contractors Wc Fund
Conagra Brands Inc
Construction Services Grp
Crystal Cabinet Works
Cummins Inc
Dairy Farmers Of America Inc
Dairy Farmers Of America, Inc (Miga)
Dakota County
Dayco Products, Llc
Diocese Of Winona - Rochester

Doherty Staffing Solutions
Eaton Corp
Ecumen Group Self Insurance Association
Eep Workers Comp Fund
Electric Insurance Co/Ge Wells Food
Elim Care Inc
Essentia Health
Fabcon Inc
Fairmont Foods Of Minn In
Fairview Health Services
Fedex Corp/Federal Express Corporation
Fedex Freight Inc
Ford Motor Company Workers' Compensation Dept.
Forest Products Commercial Self Ins Group
Frandsen Corporation
Gopher Resource, Llc
Grand Itasca Clinic And Hospital
Greater Minnesota Self Insurance Fund
Hancock Concrete Products, Llc
Hanson Pipe & Precast, Inc.
Health Care Select Group Self Insurance Fund
Healtheast
Healthpartners Inc
Hibbing Taconite
Honeywell International
Hormel Foods Corporation
International Paper Co
Isd 0011 Anoka % Sfm Risk Solutions
Isd 535 Rochester
Itasca County
J & R Schugel Holdings Inc % Berkley Risk Admin Co
Kmart Corporation
Knight Transportation Inc
Kolberg Pioneer Inc
Lamb Weston/Rdo Frozen A Mn Genl Partnership
Land O Lakes Inc
League Of Mn Cities Ins
Life-Science Innovations, Llc
Lupient Grp Self Ins Fund
Lutheran Social Services Of Mn
Macys Inc
Marvin Lumber & Cedar Co
Mayo Clinic
Medtronic Inc
Metal Matic
Metro Airports Commission
Metropolitan Council
Midwest Safety Group S I

Miners Incorporated
Minn Assoc Of Townships
Minn Health Care Assoc
Minn Manufacturers Assoc
Minn Soft Drink Assoc
Minneapolis Building Commission
Minneapolis City Of
Minnesota Masonic Charities
Mn Counties Intergovernmental Trust
Mpls. Park & Recreation Board
Nabisco Inc C/O Mondelez Global Llc
Natl Supermarkets Inc
Nonprofit Insurance Trust
Nordstrom Inc
North Central Group S I
North Memorial Hlth Care
Northern Tool & Equipment
Otter Tail Corporation
Plymouth City Of
Polaris Industries Inc.
Potlatch Land & Lumber Llc
Presbyterian Homes Of Mn
Pro Employ Ease, Inc
Quadrangle Grp Self Insur
R.D. Offutt Farms Co
Ramsey County Hr Work Comp Division
Range Regional Health Svc
Rci Minnesota
Red Wing Shoe Company Inc
Richfield City Of
Ridgeview Medical Center
Riverview Healthcare Assc
Roadway Express Inc., C/O Yrc Worldwide Inc.
Rochester City Of
Rosemount Aerospace Inc
Rosemount Inc
Ryder Services Corp C/O Aon Global Risk Consulting
Scherer Brothers Lumber Company
Sears Roebuck & Co
Sfm Risk Solutions - Archdiocese Of St Paul & Mpls
Sfm-Risk Solutions (Farmers Union Industries)
Shafer Contracting Co Inc
Smead Manufacturing Co
Southern Mn Beet Sugar Co
Southern Mn Beet Sugar Co Miga
St Louis County
St Paul City Of
State Of Minn Risk Management Division/Worker Comp

Target Corp Target Direct
Target Corporation Target Stores
Taylor Corporation
The Boldt Company
The Builders Group
The Davey Tree Expert Co
The Dial Corp For Armour
The Sherwin-Williams Company
The Thro Co
The Toro Company
The Work Connection
Trifac Workers Comp Fund
Tyson Foods Inc
Ulland Brothers Inc % Berkley Risk Admin Co Llc
Umi Company Inc
United States Steel Corporation
Univ Of Mn Risk Mgmt Ins
University Of St Thomas
Upper Lakes Foods, Inc.
Virginia Reg Med Ctr
Wayne Transports Inc
Wells Concrete Product Co., C/O Ccmsi
Winona Health
Xcel Energy Inc
Yrc Worldwide Inc

Non-Critical-Access Hospitals that supplied data

Abbott Northwestern Hospital, Minneapolis
Buffalo Hospital, Buffalo
Cambridge Medical Center, Cambridge
District One Hospital, Faribault
Douglas County Hospital, Alexandria
Essentia Health Duluth, Duluth
Essentia Health St. Joseph's Medical Center, Brainerd
Essentia Health St. Mary's Detroit Lakes, Detroit Lakes
Essentia Health St. Mary's Medical Center, Duluth
Essentia Health Virginia, Virginia
Fairview Lakes Medical Center, Wyoming
Fairview Northland Regional Hospital, Princeton
Fairview Ridges Hospital, Burnsville
Fairview Southdale Hospital, Edina
Grand Itasca Clinic and Hospital, Grand Rapids
HealthEast Bethesda Hospital, St. Paul
HealthEast St. John's Hospital, Maplewood
HealthEast St. Joseph's Hospital, St. Paul
HealthEast Woodwinds Hospital, Woodbury
Hutchinson Health, Hutchinson

Lake Region Healthcare, Fergus Falls
Lakeview Memorial Hospital, Stillwater
Mayo Clinic Health System, Red Wing
Mayo Clinic Health System, Albert Lea
Mayo Clinic Health System, Fairmont
Mayo Clinic Health System, Mankato
Mayo Clinic Hospital, Rochester
Mercy Hospital, Coon Rapids
Northfield City Hospital, Northfield
Owatonna Hospital, Owatonna
Park Nicollet Methodist Hospital, Saint Louis Park
Phillips Eye Institute, Minneapolis
Regina Hospital, Hastings
Regions Hospital, St. Paul
Rice Memorial Hospital, Willmar
Ridgeview Medical Center, Waconia
Sanford Bemidji Medical Center, Bemidji
Sanford Worthington Medical Center, Worthington
St Luke's Hospital, Duluth
St. Cloud Hospital, St. Cloud
St. Francis Regional Medical Center, Shakopee
United Hospital, St. Paul
University Medical Center — Mesabi, Hibbing
University of Minnesota Medical Center, Minneapolis
Winona Health Services, Winona

Insurers, self-insurers, and Non-Critical-Access Hospitals that did not supply data for the study

The following Minnesota workers' compensation insurers, self-insurers and Non-Critical-Access Hospitals did not supply data for this study.

Insurers that did not supply data

Acceptance Ind Ins Co
American Mining Insurance Company Inc
American National Property And Casualty Company
American Physicians Assurance Corporation
Austin Mutual Insurance Company
Bedivere Insurance Company C/O Onebeacon Ins Group
Employers Fire Ins Co C/O Onebeacon Ins Group
Genesis Ins Co
Insurance Co Of The West
Iowa Mutual Ins Co
Lamorak Insurance Company C/O Onebeacon Ins Group
Mha Insurance Company (*did not receive the request by DLI error*)
Pennsylvania Manufacturers' Association Ins Co
Sea Bright Insurance Company

Secura Ins Co (submitted unusable data)
Secura Supreme Ins Co (submitted unusable data)
Spring Valley Mutual Insurance Company
State National Insurance Company
T H E Insurance Company
Tower Insurance Company Of New York
Union Insurance Company
Work First Casualty Company

Self-insurers that did not supply data

Admiral Merchants Motor Freight C/O Ahamnn Martin
Ae Goetze/Federal-Mogul
Alliant Techsystems Inc
Anderson Trucking Service Inc
Badger Equipment Co
Board Of Water Commission
Browning Ferris Ind Inc - C/O Republic Services
Butler Brothers I/C
Centurylink/Qwest Corporation
Ceridian
Citigroup Inc
Conwed Corp
Covenant Ministries Of Benevolence
Dana Incorporated
Del Monte Foods
E. I. Du Pont De Nemours And Company
Ecowater Systems
Evangelical Lutheran Good Samaritan Society
Exon Mobil Corporation
Fmc Co C/O Aon Global Risk Consulting
Gillette Childrens Hosp
Graco Inc
Grede Llc
Hennepin County
Hpi Ramsey
Hutchinson Technology Inc
Interstate Power & Light Company
Isd 0625 St Paul
J C Penney Corporation Inc
Jennie O Turkey Stores Inc
Knife River Corporation North Central
Kraft Amer Fruit & Prod C/O Mondelez International
Lear Corporation
Louisiana Pacific Corp (*did not receive the request by DLI error*)
Lunda Construction Compan
M A Hanna Company I/C
Minn Rural Elect Wc Trust

Minnesota Energy Resources Corporation
Minnesota Vikings / Mcombs Enterprises
Navistar, Inc.
Nestle Purina Petcare Company
Officemax Incorporated
Olmsted County
Park Nicollet Health Serv
Parker Hannifin Corp
Peopleready, Inc.
Poly America Inc
Post Consumer Brands Company
Rexam Beverage Can Americas
Special School Dist 0001
Stan Koch & Sons Trucking, Inc. *(did not receive request by DLI error)*
The Gillette Co % Procter & Gamble Company
Three Rivers Park District
Transportation Leasing Co
Vr Us Holdings Inc
West Central Turkey
Westinghouse Elec % Cbs Corporation
Weyerhaeuser Co
Whirlpool Corp
White Castle System Inc

Non-Critical-Access Hospitals that did not supply data

Hennepin County Medical Center, Minneapolis
Maple Grove Hospital, Maple Grove
North Memorial Medical Center, Robbinsdale
Olmsted Medical Center, Rochester
Regency Hospital of Minneapolis, Golden Valley