



MN APCD

All Payer Claims Database

Current Uses of the Minnesota All Payer Claims Database (MN APCD)

OCTOBER 2017

Background

In 2008, Minnesota law required the Minnesota Department of Health (MDH) to develop a health care claims data system that incorporates health care use information and costs for all major payers of health care services.¹ This data system was initially intended to help increase the transparency of health care provider costs and quality. In 2014, the Minnesota Legislature redirected use of this MN APCD to the following specific purposes:

1. Evaluation of the performance of the Health Care Homes program;
2. Study of hospital readmission rates and trends, in collaboration with the Reducing Avoidable Readmissions Effectively (RARE) campaign;
3. Analysis of variations in health care costs, quality, utilization, and illness burden based on geographical areas or populations;

4. Evaluation of the State Innovation Model (SIM) testing grant received by the Departments of Health and Human Services;
5. Analysis of chronic pain management procedures—a one-time study; and
6. Assessment of the feasibility of state-based risk adjustment in the individual and small group health insurance markets.

In 2015, the Legislature directed MDH to use the MN APCD to study trends in health care spending for certain chronic diseases and risk factors, and to compile public use files of aggregated data from the MN APCD.²



¹ Laws of Minnesota for 2008, Chapter 358, Article 4: www.health.state.mn.us/healthreform/legislation/sf3780article4.pdf

² Laws of Minnesota, 89th Legislature, 2015 Regular Session, Chapter 71—S.F. No. 1458, Article 8, Section 9: www.revisor.mn.gov/laws/?id=71&year=2015&type=0

Published Studies

MDH has published findings from several studies that used the MN APCD.³ These studies address important health care topics that impact Minnesotans in many ways and include:

- **Low-Value Health Services:** a study of the volume and cost impact of health care services that, in specific situations, may be clinically ineffective or unwarranted.
- **Pharmaceutical Spending and Use:** an overview of pharmaceutical spending and use trends in Minnesota from 2009 to 2013 that includes pharmaceutical data from both the retail and medical settings.
- **State-Based Risk Adjustment and Feasibility:** a legislative report that investigates the feasibility of a state-based, relative to a federal-based, risk adjustment model for Minnesota's individual and small group markets.
- **Chronic Conditions:** a description of chronic disease prevalence and spending for Minnesota residents with health insurance in 2012.
- **Potentially Preventable Health Care Events:** a report that details the volume and cost of these events in 2012 as a baseline for future research.
- **Chronic Pain Procedures:** a legislative report that examines the provision of chronic pain management services in Minnesota from 2010 through 2012.

Studies Underway

MDH is currently conducting a number of additional studies under the legislative directives described above. These studies are all designed to help policymakers, providers, employers, public health organizations, health plans, and other stakeholders better identify opportunities to improve health care delivery and payment in Minnesota. These studies include:

- **Concentration of Health Care Spending:** an analysis of care for a small population that accounts for a large part of total health care spending. It considers whether care delivery changes could reduce some of the costs associated with this population.
- **Heart Failure Potentially Preventable Readmissions:** a study that examines heart failure hospital admissions and readmissions to determine whether readmissions may relate to certain patient or care setting characteristics.
- **Price Variation:** an analysis of variation in transaction prices for select frequent health care procedures to understand how much market control exists in Minnesota health care.
- **Pharmaceutical Spending and Use:** a continuing series of analyses that cover pharmaceutical spending and use by therapeutic drug class; brand, generic, and specialty categories; channels of distribution and payment; provider types; and geographic measures. This work also examines antibiotic and opioid use patterns.
- **Hepatitis C Treatment:** a study that examines Hepatitis C disease management, treatment, and cost.
- **Lung Cancer Screening:** an analysis of low-dose computed tomography (LDCT) use, adoption, and cost, as a lung cancer screening procedure.

³ Publications are available here: www.health.state.mn.us/healthreform/allpayer/publications.html

- **Pediatric Health Care Use:** a geographic look at pediatric health care use, including service measures and use of pharmaceuticals to treat attention deficit hyperactivity disorder (ADHD) and behavioral health conditions.
- **State Innovation Model (SIM) Evaluation:** studies that aim to measure the impact of SIM on care practices and health outcomes compared to conventional care model outcomes.
- **Specific Health Indicators Spending:** a legislative study to report on the costs associated with certain chronic diseases and risk factors.
- **Insurance Rate Review:** a consideration of whether health care claims can be used to enhance the insurance effective rate review process—conducted by the Minnesota Department of Commerce—to review and approve insurance rate changes.
- **High-Risk Pool:** an actuarial analysis of the coverage transition impact for individuals who moved from the 2013 state high-risk pool to other types of coverage.
- **Epidemiological Studies:** a series of studies, including for traumatic brain injury treatments, hospitalization patterns for diabetes, cancer care patterns and costs, and hypertension treatments.

Issue briefs, reports, and summary tables from these analyses will be available online: www.health.state.mn.us/healthreform/allpayer/publications.html

MN APCD Public Use Files

In 2016, MDH developed and released the first Minnesota Public Use Files (PUFs), derived solely from the MN APCD.⁴ These files continue to be available at no cost. PUFs are aggregated at a high level to ensure that individual patients, providers, and payers cannot be

re-identified. The PUFs are based on health care claims from calendar year 2013, and are aggregated by 3-digit ZIP codes and three age groups (less than 18, 18-64, and over 64 years). Three separate PUFs are available, based on their primary variables, as follows:

- **Health Care Services:** provides the volume of health care services used at the service code level.
- **Primary Diagnoses:** contains a distribution of primary diagnoses.
- **Health Care Utilization:** includes common types of health care service use among major categories.

The MN APCD PUF Workgroup reconvened in January, 2017 to hear an update on the use of the PUFs, learn about user feedback, and provide recommendations to MDH for the development of the next set of PUFs.

Currently, MDH is updating the first set of files along their existing structure with data through 2014 and 2015. We anticipate making available additional files with different design, aggregation and focus by the end of 2017.



⁴ More information is available online here: www.health.state.mn.us/healthreform/allpayer/publicusefiles/index.html

Data Quality

An important area of MDH's efforts associated with the MN APCD concerns studying and documenting data quality, with a focus on data accuracy, consistency, and reliability. This is particularly important work for two reasons: First, a complete understanding of data quality is key to continuously improving data over time, and this is paired with the development of new logic checks and data intake procedures. Second, when making PUFs available for independent research in the community, it is essential that researchers have a full understanding of data quality to guide the development of research studies and make appropriate statistical adjustments to the data.

As part of each MDH study, we are assessing data quality and looking for potential improvement opportunities.⁵ In addition to this ongoing work, MDH is using several strategies to assess and document data quality in the MN APCD.

All submitted claims and enrollment data are subjected to rigorous quality checks, including confirmation of

alignment with submission guidelines. No data are accepted until they have passed quality review and tests to confirm that no patient identifiers are included.

Once the data have been preliminarily accepted, our vendor conducts a secondary data quality review that consists of hundreds of logic checks. They assess how the data compare with previously submitted values and accepted claim norms, confirm that conditions or procedures associated with members of a particular sex are consistent with expectations, and that data cell fill rate targets are met.

Reports detailing these results are available privately to each data submitter. In addition, MDH receives detailed summary data with each analytical data extract that is produced.

In fall 2017, MDH expects to deliver a first annual public-facing data monitoring report. This report will contain a summary of data validation processes and a dashboard with key metrics to assess the robustness of the data.

⁵ For example, the study to assess the feasibility of conducting state-based risk adjustment in the individual and small group markets of Minnesota, performed by Milliman's New York offices, includes detailed displays of data quality for data used in the analysis. It also includes several recommendations for how to enhance the processes of data intake and cleaning.

For further information about the MN APCD:

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