

## Introduction

Prescription drugs offer important treatment options to providers and patients for addressing acute and chronic conditions. And, although many innovative prescription drugs confer substantial clinical and economic benefits to patients, the steady increase in prescription drug spending has resulted in greater interest by policy makers and other stakeholders in Minnesota and nationwide to better understand the underlying trend in the market for prescriptions.

As they consider key policy questions related to prescription drug coverage and purchasing strategies, stakeholders – including legislators, public and private purchasers, employers, pharmacy benefit managers, and consumers – historically have had limited information on Minnesota-specific spending trends and cost drivers across the entire spectrum of drug spending. Given the complexity of the prescription drug market and the overall scarcity of detailed data about it, prescription drug spending reports are often limited to assessments of spending in retail pharmacy settings, with little detail available on spending for prescription drugs in medical settings such as physicians' offices, hospital outpatient clinics, and other health care facilities.<sup>1</sup> Drug spending and use in these medical settings has been increasing substantially in recent years, contributing to growth in overall health care spending. Yet details about this trend, particularly at the state level, are not generally available.

This issue brief is the first in a series of policy briefs offering insights to address this information gap. It draws on research conducted in partnership between the Health Economics Program at the Minnesota Department of Health and a research team at the *PRIME* Institute at the University of Minnesota.

This issue brief presents high-level information on pharmaceutical spending and use in Minnesota from 2009 to 2013 using the Minnesota All Payer Claims Database (MN APCD), a state repository of health care transactions derived from health providers' billing records.<sup>2</sup>

Future issue briefs will further explore spending for and use of prescription drugs in Minnesota by:

- Groupings of drugs by their functions (therapeutic category);
- Whether they are brand, generic, or specialty drugs;
- Channels of distribution and payment;
- Groupings of type of prescribing providers; and
- Variations in spending, use, and cost by geographic location.

## Key Findings

- Spending in 2013 on all prescription drugs for Minnesotans with insurance coverage captured in the MN APCD was about \$7.4 billion.
- Prescription drugs spending in pharmacy and medical claims accounted for approximately 20 percent of total health care consumption that year.
- Between 2009 and 2013, prescription drug spending rose 20.6 percent, with medical claims accounting for more than one-half (55.1 percent) of this growth.
- The greater role of medical claims in drug spending, relative to pharmacy claims, is due to higher cost-per-claim (more than 200 percent) and faster year-over-year growth (23.5 percentage points between 2009 and 2013).
- Across the five-year study period, Minnesotans with insurance coverage had, on average, 12 pharmacy claims and 3 medical claims per year for prescription drugs.

## Background

The prescription drug market in the United States is a complex mix of contact points for consumers, most of whom obtain their prescription drugs using health insurance coverage. This analysis relies on data that are generated in the process of prescribing and paying for covered medications, otherwise known as health insurance claims.

Prescription drugs are typically covered as part of a pharmacy benefit and may be obtained at retail and other pharmacy settings such as community pharmacies, long term care pharmacies, mail order pharmacies, specialty pharmacies, and clinic pharmacies. This issue brief will describe these prescriptions as *pharmacy claims*. Prescriptions dispensed through these pharmacy settings are included in most national market reports of prescription drug spending and use.<sup>3</sup>

Increasingly, however, consumers are administered prescription drugs in a range of health care settings such as physicians' offices, hospital outpatient clinics, emergency departments, urgent care facilities, dialysis clinics, outpatient surgery centers, home health providers, or home infusion centers. These locations administer prescription drugs and related services – generally as a single dose of a drug while the patient is in the office – through an insured medical benefit. This report will describe those drugs as *medical claims*.

As noted, because prescription drug data on medical claims are not as easily accessible as pharmacy claims, national market reports typically focus only on the retail sector, limiting our understanding of prescription drug trends to an incomplete picture.<sup>4</sup>

In the form of the Minnesota All Payer Claims Database (MN APCD), Minnesota aggregates both pharmacy *and* medical

drug claims for residents in the state in one place. This has created a rich data resource for studies on prescription drug spending and use across the market and over time, with the opportunity to fill critical information gaps.<sup>5</sup>

## Pharmaceutical Spending and Use in Minnesota

Prescription drug spending for Minnesota residents totaled \$33.4 billion in the five-year period from 2009 to 2013. There were 369.6 million claims (both pharmacy and medical) for prescription drugs provided to Minnesota residents during this period. The average cost per claim over the study period was \$90.44.

Overall spending on prescription drugs rose from \$6.1 billion in 2009 to \$7.4 billion in 2013, an increase of 20.6 percent (Figure 1). More than one-half (55.0 percent) of this spending growth was driven by medical claims for prescription drugs in health care settings like physicians' offices and hospital outpatient clinics, even though medical claims accounted for only about one-fifth (19.2 percent) of all drug claims.

Prescription drug spending in medical claims grew from 31.8 percent to 35.8 percent of overall prescription drug spending between 2009 and 2013.

Medical claim spending on drugs increased nearly three times as much as spending on pharmacy claims from 2009 to 2013. In 2013, drug spending on pharmacy claims totaled \$4.7 billion—a 13.5 percent increase since 2009. In 2013, medical claims for drugs totaled \$2.6 billion—a 35.5 percent jump from 2009. This rapid and substantial spending growth for drugs covered as a medical claim has drawn increased attention of payers and policy makers.



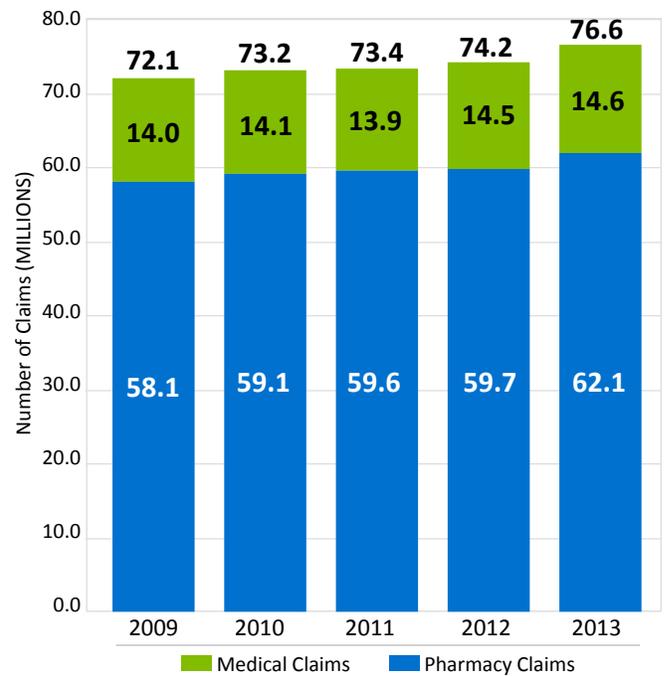
**Figure 1:**  
**Prescription Drug Spending in Minnesota by Claim Type**



The faster growth in spending for medical claims across various health care settings is largely due to the nature and price of prescription drugs used in each setting. Pharmacy claims for prescription drugs represent “traditional prescription drugs” (e.g., drugs taken on a routine basis for a chronic condition or for a short term infection or pain). More than 80 percent of these pharmacy claims are for lower-priced generics.

In contrast, the medical claims for prescription drugs administered in health care settings are often for a single dose of a drug that is administered while the patient is in the doctor’s office or clinic. These medical claims for drugs are often for newer and higher-cost drugs that are administered by injection and usually for patented medications which do not have lower cost generic alternatives available in the market. A large number of drugs delivered in medical claims are used for the treatment of cancer, multiple sclerosis, rheumatoid arthritis and autoimmune diseases.

**Figure 2:**  
**Prescription Drug Claims in Minnesota by Claim Type**



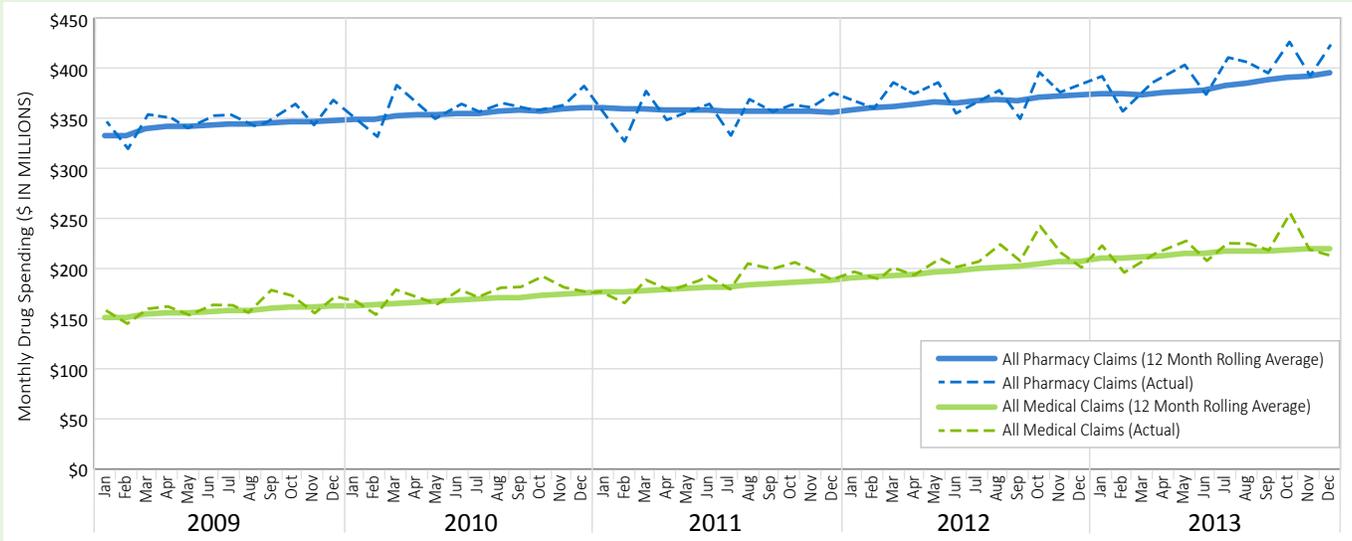
As shown in Figure 2, the total number of drug claims prescribed to Minnesota insured residents rose from 72.1 million in 2009 to 76.6 million in 2013. This represents fairly modest growth—overall about 6.3 percent over five years.

The number of pharmacy claims for prescription drugs delivered through various pharmacy settings between 2009 and 2013 rose from 58.1 million to 62.1 million (6.7 percent), as shown in Figure 2. Medical claims for drugs administered in health care settings increased from 14.0 million to 14.6 million (4.3 percent).

Prescription drug use per person per year, as measured by the number of claims, remained fairly unchanged over this period. On average, Minnesotans had about 12 pharmacy claims and 3 medical claims for prescription drugs per year.

Monthly trends in spending and volume, as shown in Figures 3 and 4, offer a sense of seasonality in the prescription drug market. Generally, it presents steady growth over time. For example, drug spending from

**FIGURE 3: Monthly Spending on Prescription Drugs in Minnesota by Claim Type**



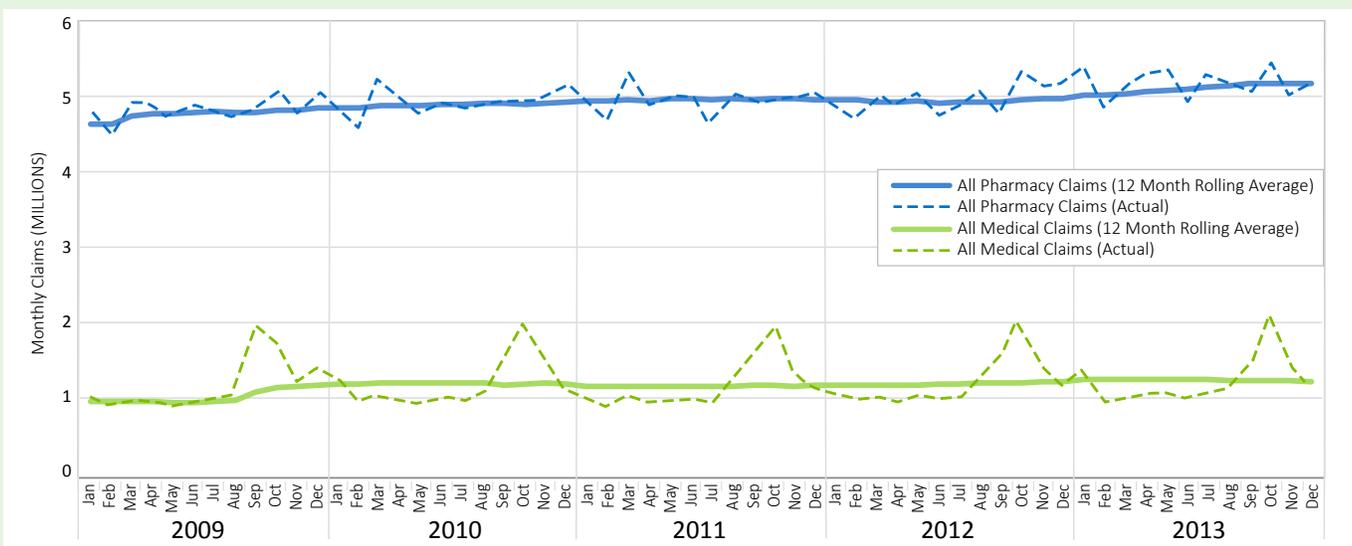
pharmacy settings (analyzed as a rolling average to smooth month-to-month variations) rose from \$333 million in January 2009 to nearly \$395 million in December 2013, an 18.7 percent increase (Figure 3). Monthly drug spending in medical settings rose more sharply from \$152 million in January 2009 to \$220 million in December 2013, an increase of about 45 percent.

Growth in the number of claims across the study period was more modest, as shown in Figure 4. The number of pharmacy claims rose by 8.6 percent between 2009 and 2013; medical claims for prescription drugs over the same period rose about 10 percent.

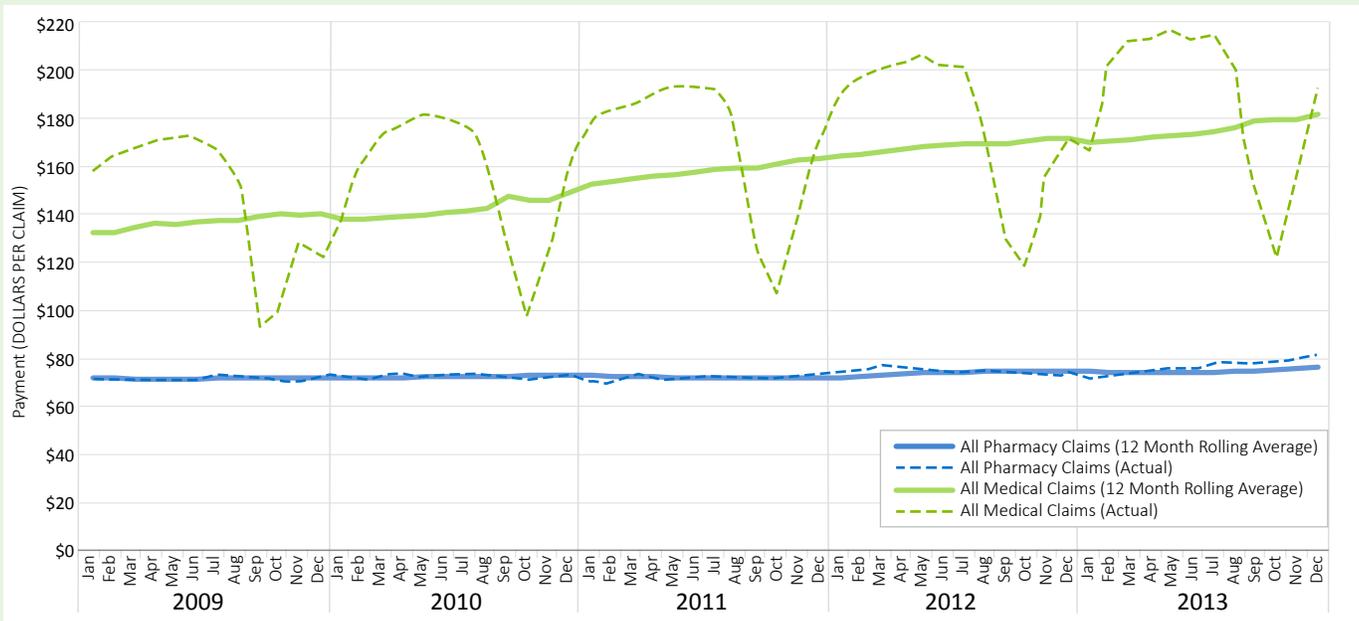
The spikes in the number of medical claims per month in the fall of each year, shown in Figure 4, are due primarily to vaccinations for influenza and other vaccinations for school-aged children. Their relatively low cost per claim, compared to other medical benefit administered drugs, is illustrated particularly clearly in Figure 5.

Analysis of the average cost per drug claim by type of claim (Figure 5) shows the average cost for medical claims to be substantially higher than for pharmacy claims. In 2013, the average cost per claim was \$181.41 and \$76.37, respectively.<sup>6</sup>

**FIGURE 4: Monthly Claims for Prescription Drugs in Minnesota by Claim Type**



**FIGURE 5: Average Cost per Drug Claim in Minnesota by Claim Type**



The average cost per pharmacy claim rose about 6.4 percent from approximately \$71.78 per prescription in 2009. This relatively slow rise was due in part to newly available generic drugs in this time period. For example, the generic equivalents for some very high volume brand name drugs—such as Lipitor, Plavix and Viagra—became available during this time period.<sup>7</sup>

The cost per medical claim rose at a substantially higher rate (36.8 percent). During the five-year analysis period, the average cost per medical claim rose from \$132.64 per claim to \$181.41 per claim.

### Prescription Drug Spending as a Share of Total Health Care

As noted, prescription drug spending in national reporting is often limited to retail drug spending, or spending on prescription drugs in pharmacy claims. As a share of total spending, retail drug spending has been estimated nationally between 9.7 percent and 10.3 percent over the last few years (2010 to 2014), with Minnesota data generally tracking this trend. The inclusion of spending on prescription drugs administered in medical settings (and paid through medical claims) contributes significantly to the share of health care costs devoted to prescription medications.

We estimate that prescription drug spending in medical claims (covering people with health insurance), accounts for approximately 7.2 percent of total health care spending, raising the share of total health care spending – health consumption expenditure in the federal vernacular – attributable to prescription drugs to about 20.1 percent. This suggests that prescription drugs in all settings (both pharmacy and medical claims) account for a much larger share of health spending than is usually reported. A more precise population-wide estimate for Minnesota would take into account the degree to which drug rebates may have reduced the cost to the end payer, if at all. One would also account for spending of persons without health insurance coverage or for those covered by certain federal programs such as the Veterans Administration and the Indian Health Service.



## Conclusions

This issue brief presents the first comprehensive analysis of drug spending and use for Minnesotans with health insurance by assessing prescription drugs obtained in pharmacy settings (e.g., community and long term care pharmacies) and medical and other health care settings (e.g., physicians' offices, hospital outpatient clinics, and dialysis clinics).

While the growing importance of prescription drug spending as a driver of health care costs is widely understood, these findings demonstrate that this dynamic is being driven much more by increases in costs for prescription drugs than by an increase in the number of prescriptions. Spending on prescription drugs in Minnesota is rising at a rate much higher than growth in the number of prescriptions (20.6 percent vs 6.3 percent).

Furthermore, the five-year growth rate (13.4 percent) in the average cost of a prescription drug claim indicates a shift toward more expensive prescription drugs, including drugs delivered through the medical benefit.

The findings also demonstrate the increasing role that medical settings play in the total cost of prescription drug spending in Minnesota, something that has until now not been extensively studied. In aggregate, prescription drugs delivered in these settings accounted for \$2.6 billion dollars—35.8 percent of prescription drug spending in 2013, despite representing just 19.0 percent of all drug claims.

In conclusion, these Minnesota-specific results highlight the importance of accounting for all sources of prescription drug spending when considering policy levers to address rising costs, access to insurance coverage, or care outcomes. A focus only on pharmacy settings gives a partial, and potentially misleading, picture of drug spending and use trends. Drugs processed as a medical claim play an increasing role in Minnesota's total prescription drug spending and use. This trend is largely ignored in most trend reports and policy discussions.

## Notes on Study Methods

This analysis was conducted using MN APCD data for the claim years 2009 to 2013. The data are de-identified, meaning that personal identifying information has been



removed. Because some claims for health care services or prescription drugs may be submitted by several of the reporting entities required to submit claim records to the MN APCD, the claim records have been reviewed to identify and remove duplicate claims.

Some types of health transactions are not included in the MN APCD, either because state law does not authorize their collection or because of data submission concerns. The following categories of data are not captured:

- Care provided to non-Minnesota residents or paid for by the Indian Health Service, Veterans Affairs, Workers' Compensation, Tricare, or the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS);
- Care provided to the uninsured;
- Medicare services for the fee-for-service population with substance abuse conditions;
- Care paid for by health plans with annual medical claims less than \$3 million or pharmacy claims less than \$300,000 for residents of Minnesota.

Because of these exclusions the estimates of prescription drug spending included in this issue brief represent a low estimate of spending for prescription drugs for residents of the state of Minnesota. In addition, the estimates are limited to prescription drug services for which health insurance payers provided payment. For a number of personal reasons an individual may choose to obtain prescription drugs outside of health insurance benefits, and the costs for these prescription drugs are not included.

This analysis does not explicitly account for rebates that may be paid by pharmaceutical manufacturers to various health care payers, pharmacy benefit management firms (PBMs) or others. However, the data do include actual transaction costs paid by employers, health insurers, and consumers. The influence of coupons from pharmaceutical manufacturers upon drug spending is not itemized in this analysis. While coupons may appear to lower out-of-pocket costs to consumers, they may actually increase costs to employers, health insurers, or government, and premiums to consumers.<sup>8</sup>

Prescription drug events were identified using two of the MN APCD claims files:

- All claims contained in the pharmacy claims file were identified using National Drug Code (NDC) numbers combined with a generic product indicator (GPI) code (from MediSpan);
- All claims lines contained in the medical claims file were identified using codes from Level II of the Healthcare Common Procedure Coding System (HCPCS), including J-codes and other related codes.

Some persons acquiring prescription drugs may incur additional costs such as delivery, mailing, or shipping charges; these indirect costs are not included in the estimates presented in this issue brief.

## NOTES

<sup>1</sup> For example, annual estimates of Minnesota health care spending developed by the Minnesota Department of Health, only consider pharmacy claims through retail pharmacy settings in the pharmaceutical spending category. Drug spending in medical settings such as physicians' offices and hospital inpatient and outpatient settings is attributed to those categories and not to drugs. [www.health.state.mn.us/divs/hpsc/hep/publications/costs/healthspending2016.pdf](http://www.health.state.mn.us/divs/hpsc/hep/publications/costs/healthspending2016.pdf).

<sup>2</sup> Additional information about the MN APCD is available online at: [www.health.state.mn.us/healthreform/allpayer](http://www.health.state.mn.us/healthreform/allpayer).

<sup>3</sup> Pharmacy claims can cover a single "course of treatment," for example the period for which antibiotics are prescribed, or take the form of a 30, 60, or 90-day supply in the case of a cholesterol-lowering drug, with additional claims generated for follow-up supplies.

<sup>4</sup> The National Health Expenditure Accounts (NHEA) "estimates include only retail prescription drug spending (drug spending at outlets that directly serve patients); non-retail prescription drug spending (spending by medical providers for drugs they provide directly to patients) is classified under the spending category corresponding to the provider purchasing the drugs, such as hospital spending or physician services spending. Thus, most estimates of prescription drug spending in the United States omit the non-retail portion of drug spending and present an incomplete picture of the total cost associated with prescription drugs." [Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, Observations on Trends in Prescription Drug Spending, ASPE Issue Brief, March 8, 2016, page 2.]

<sup>5</sup> Additional information about the MN APCD is available online at [www.health.state.mn.us/healthreform/allpayer](http://www.health.state.mn.us/healthreform/allpayer).

<sup>6</sup> This gap is more substantial when one considers the typical quantity of drug per claim. As noted, one medical claim for a prescription drug is typically for administration of a single dose of a medication while in the doctor's office. In contrast, a pharmacy claim for a prescription drug is typically for a one-month (30-day supply) of medication and may even be for as much as a 90-day supply of medication. When adjusted for the days-supply, a medical claim appears to cost about \$180 per day while a pharmacy claim costs around \$2 per day.

<sup>7</sup> These brand names represent registered trademarks.

<sup>8</sup> Dafny L, Ody C and Schmitt M. When Discounts Raise Costs: The Effect of Copay Coupons on Generic Utilization, National Bureau of Economic Research, Working Paper Series No. w22745, Date Posted: Oct. 17, 2016.



### For further information about the MN APCD:

Online: [www.health.state.mn.us/healthreform/allpayer/index.html](http://www.health.state.mn.us/healthreform/allpayer/index.html)

Email: [health.apcd@state.mn.us](mailto:health.apcd@state.mn.us)



Minnesota Department of Health | Health Economics Program  
85 E. 7th Place, Suite 220, Saint Paul, MN 55101  
(651) 201-3550 | [www.health.state.mn.us/health/economics](http://www.health.state.mn.us/health/economics)