Minnesota All Payer Claims Database Analyses and Rural Health Issues

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What is the MN APCD?

• Large scale data system that collects & integrates data from the process of paying for health care
  • Enrollment
  • Medical and Rx claims
  • Actual transaction prices

• Geographically rich detail for nearly all Minnesotans
  • Diagnosed conditions
  • Treatment (procedures/drugs) delivered
  • Servicing provider/type

http://www.health.state.mn.us/healthreform/allpayer/index.html
The MN APCD Contains Only De-identified Information

**What is in the data?**
- Age at service date
- Patient 5-digit ZIP code
- Gender
- Diagnosis code & service procedure
- Data of patients
- Cost of service, including patient share
- Information on servicing/billing provider
- Health insurance payer

**What is NOT in the data?**
- Patient name
- Date of birth
- Social security number
- Patient Address
- Test results
- Race/ethnicity
- Detail on income
- Clinical data from electronic records
Permitted Uses of the MN APCD

• MN Legislature limited access to the MN APCD to MDH

• In 2014, policy makers authorized data for research:
  • On certain evaluation studies, an
  • A number of specific, identified categories

• In 2016, MN Legislature directed the development of Public Use Files

• Throughout, MN Legislature directed research for a number specific research studies
MN APCD Currently Supports Thirty Projects Plus A Number of Public Use Files

<table>
<thead>
<tr>
<th>Health Care Spending</th>
<th>System Efficiency &amp; Waste</th>
<th>Health Care Quality</th>
<th>Disease Epidemiology</th>
<th>Health Care Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>• HEP (5 projects)</td>
<td>• HEP (4 projects)</td>
<td>• HEP (3 projects)</td>
<td>• HPCD (5 projects)</td>
<td>• HEP (5 projects)</td>
</tr>
<tr>
<td>• HEP/HPCD/OSHII (1 project)</td>
<td>• HCH (1 project)</td>
<td>• CFH (1 project)</td>
<td>• IDECP (1 project)</td>
<td>• SIM (2)</td>
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<tr>
<td>• OSHII (1 project)</td>
<td>• HEP/HPCD (1 project)</td>
<td>• OSHII (1 project)</td>
<td></td>
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</tr>
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</table>

Goals & Priorities for the MN APCD ... to date

Engage providers in a conversation about quality improvement

Support community with statewide benchmarks derived from the MN APCD

Inform Minnesotans about challenges in delivering health care

Demonstrate the research value of the MN APCD
A Few Select Examples of Analyses
MN APCD Analyses with Direct Relevance to Rural Health

- Completed analyses:
  - Chronic pain management services, by region (2015)
  - Burden of chronic disease, by county (2016)
- Analyses underway/forthcoming:
  - Patterns in opioid use in Minnesota, 2010 to 2015
  - Access to services, e.g. travel distance to cancer care
  - Variation of health care use and quality among children
  - Telemedicine use and distribution
- MN APCD and RFI

Additional detail available online at: http://www.health.state.mn.us/healthreform/allpayer/publications.html
Pediatric Health Care Use, 2013/2014

Results – Emergency Room Visits
(per 1,000 children)

- Statewide rate: 279.8
- More than threefold variation across counties
- High utilization in northern counties

Results – Antipsychotic Medications

- Fill rate per 100 children
- Statewide fill rate: 6.1

Results – Head CT Scans
(per 1,000 children)

- Statewide rate: 9.8
- Radiation from one CT scan greater than 200 chest X-rays

Variation – Common Services

- Each dot represents one of Minnesota’s 87 counties
- Ratio of 1.0 indicates a rate the same as statewide rate
- Ratio of 2.0 indicates a rate twice the statewide rate
- Ratio of 0.5 indicates a rate half the statewide rate

Variation – Prescription Fills

- Each dot represents one of Minnesota’s 87 counties
- Ratio of 1.0 indicates a rate the same as statewide rate
- Ratio of 2.0 indicates a rate twice the statewide rate
- Ratio of 0.5 indicates a rate half the statewide rate

Study of Telemedicine Service Use (preliminary results from MN APCD)
Telemedicine: Background (1)

• Telemedicine has the potential to:
  • Increase patients’ access to care, particularly for underserved areas/provider types
  • Reduce health care spending
  • Change the competitive dynamics in areas by adding out-of-area providers

• But, telemedicine could also induce ‘new’ health care use

Distant In-network providers

- County A, MSA
- County B, Rural
• Minnesota Telemedicine Act (2015) and SF1353 Requirements for Telemedicine Practice (2017)
  • Requires parity of coverage and payment for services provided in-person and via telemedicine
  • Expanded provider types
  • Establishes requirements for the practice of telemedicine

• Bipartisan Budget Act of 2018 includes expansion of Medicare coverage for telemedicine services
  • Medicare Advantage
  • ACOs
  • Telesstroke
  • At-home dialysis
Main Analysis Aims:

• Descriptive analysis of telemedicine utilization and spending across coverage type
• Geographic variation in use and spending (pre/post policy changes)
• Longitudinal trends in use and spending (pre/post policy changes)
• Provide landscape of telemedicine use to researchers, providers, policymakers ...lay the foundation for future work in this area

• Analytic Extensions
  • Examine potential for telemedicine services to replace in-person services
  • What characteristics are associated with being a telemedicine user or telemedicine provider?
  • Potential for telemedicine to change insurer bargaining power
Volume of Telemedicine Encounters
(preliminary results)

Source: MDH/Health Economics Program analysis of the MN APCD; preliminary results.
Telemedicine Provider Types, 2015
(preliminary results)

- Family Medicine: 51%
- Psychiatry/Mental Health: 31%
- Sleep Medicine: 1%
- Gerontology: 2%
- Nephrology: 3%
- Other: 12%
- Psychiatry: 31%

Source: MDH/Health Economics Program analysis of the MN APCD; preliminary results. Provider types are determined by the National Uniform Claim Committee provider taxonomy code file. These findings are based on professional claims only.
Demographic Characteristics of Telemedicine Users, 2015 (1) (preliminary results)

**Gender**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of telemedicine visits per 1000 covered persons*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>18.2</td>
</tr>
<tr>
<td>Male</td>
<td>9.1</td>
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</tbody>
</table>

**Age**

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of telemedicine visits per 1000 covered persons*</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;19</td>
<td>6.5</td>
</tr>
<tr>
<td>19-44</td>
<td>24.9</td>
</tr>
<tr>
<td>45-64</td>
<td>16.7</td>
</tr>
<tr>
<td>&gt;65</td>
<td>6.2</td>
</tr>
</tbody>
</table>

*With at least 1 or more Evaluation and Management visit in 2015

Source: MDH/Health Economics Program analysis of the MN APCD; preliminary results.
Demographic Characteristics of Telemedicine Users, 2015 (2)
(preliminary results)

**Coverage Type**

<table>
<thead>
<tr>
<th>Coverage Type</th>
<th>Number of telemedicine visits per 1000 covered persons*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>18.4</td>
</tr>
<tr>
<td>Medicaid</td>
<td>10.9</td>
</tr>
<tr>
<td>Medicare</td>
<td>5.7</td>
</tr>
</tbody>
</table>

**Rurality of County of Residence**

<table>
<thead>
<tr>
<th>Rurality of County</th>
<th>Number of telemedicine visits per 1000 covered persons*</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;25%</td>
<td>14.5</td>
</tr>
<tr>
<td>25-49%</td>
<td>14.0</td>
</tr>
<tr>
<td>50-74%</td>
<td>12.4</td>
</tr>
<tr>
<td>&gt;75%</td>
<td>14.8</td>
</tr>
</tbody>
</table>

*With at least 1 or more Evaluation and Management visit in 2015

Source: MDH/Health Economics Program analysis of the MN APCD; preliminary results.
Thank you!

MN APCD homepage: [www.health.state.mn.us/healthreform/allpayer](http://www.health.state.mn.us/healthreform/allpayer)

MN APCD-generated PUFs: [www.health.state.mn.us/healthreform/allpayer/publicusefiles](http://www.health.state.mn.us/healthreform/allpayer/publicusefiles)

MN APCD publications: [www.health.state.mn.us/healthreform/allpayer/publications.html](http://www.health.state.mn.us/healthreform/allpayer/publications.html)

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HEP homepage: [www.health.state.mn.us/healtheconomics](http://www.health.state.mn.us/healtheconomics)

MN Health Care Market Slides: [www.health.state.mn.us/divs/hpsc/hec/chartbook](http://www.health.state.mn.us/divs/hpsc/hec/chartbook)
**Addendum: Terminology/Scope**

**Telehealth:** to support clinical care, patient and professional health-related education, public health administration

**Telemedicine:** to deliver clinical diagnosis and monitoring. Includes both patient to provider and provider to provider communication