Analysis of Preventable Health Care Events Using the Minnesota APCD

3M Value-based Care Conference
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Minnesota Department of Health

MN APCD All Payer Claims Database

Health Economics Program

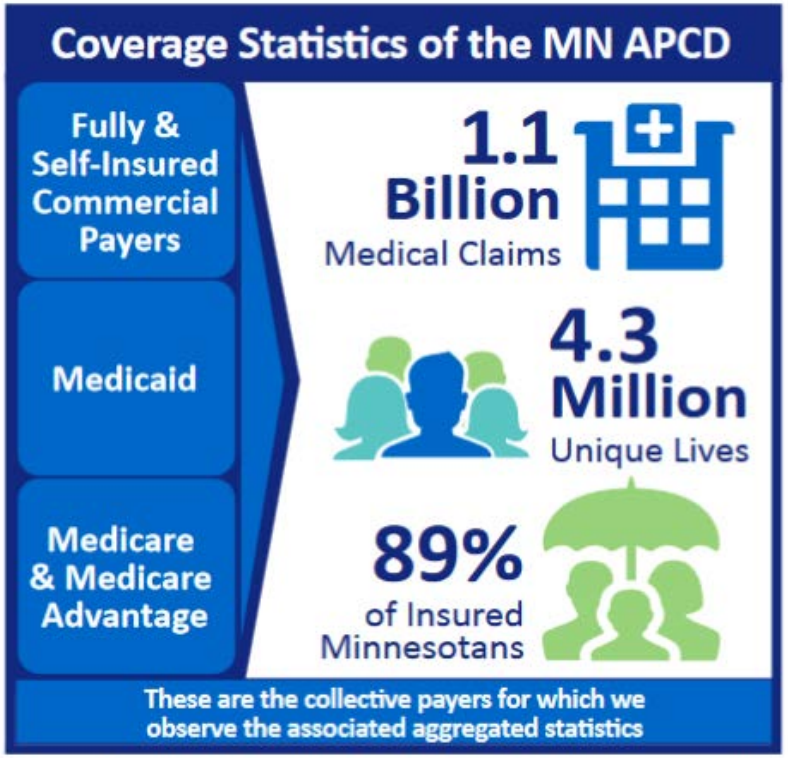
Overview

- Background
  - What is the MN APCD?
  - Origins/current uses
- Analyses of preventable health care events
  - 2014: ED visits, admissions, readmissions
  - 2016: readmissions for heart failure
- Next steps/lessons

Background

What is the MN All Payer Claims Data?

- Large-scale database that systematically collects and integrates claims data from different payers:
  - Enrollment information
  - Medical & pharmacy claims
  - Actual transaction prices
- Geographically rich detail on:
  - Diagnosed health conditions
  - Delivered health care services
- Some important limitations
  - Claims
  - Data thickness
  - Prices in claims … are tricky



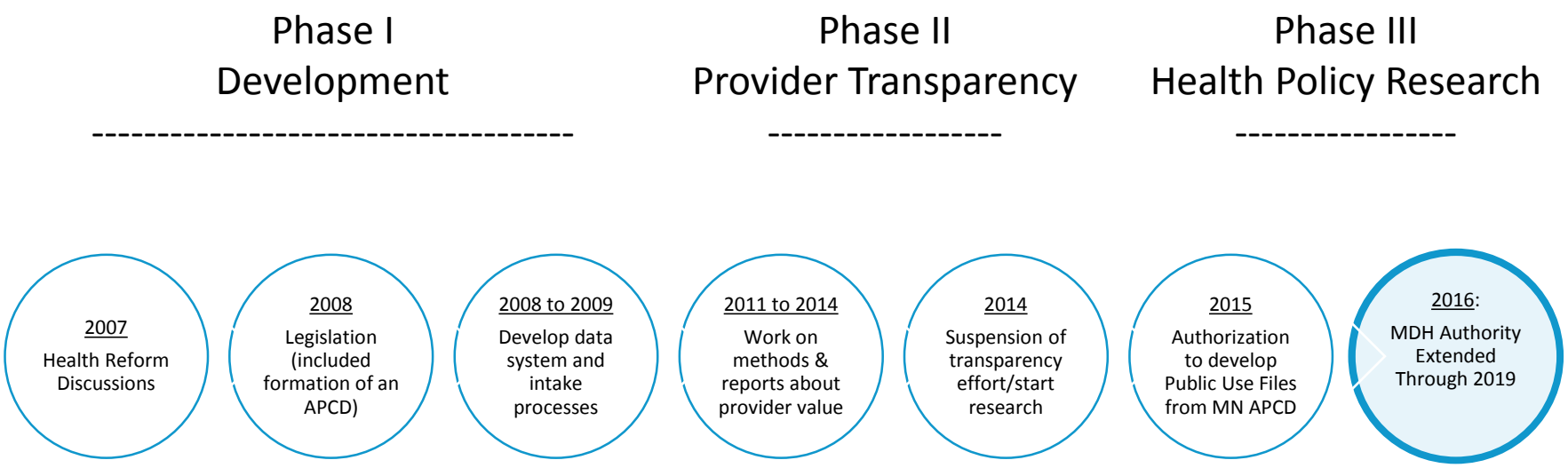
Medical claims cover the period of 2009 through June 2015; unique lives are based on average monthly reports for 2013; insured Minnesotans were estimated using data from the 2013 Minnesota Health Access Survey; and Self-insured Commercial payers include third-party administrators.

Overview of the MN APCD:
http://www.health.state.mn.us/healthreform/allpayer/mnapcdoverview.pdf

Data Composition and Use Context

- Some constraints:
  - Claims for payers not subject to Minnesota laws are currently excluded (Tricare, VA, Workers Compensation, Indian Health Services)
  - Medicare substance abuse data are missing from a certain point forward
  - When patients' contact information differs over time, maintaining linkage can be challenging
  - Data is de-identified
- Claims … are claims:
  - Only what is paid for is coded (dementia, Alzheimer disease)
  - Diagnosed prevalence
  - Some costs that are not service-specific are part of the claim (e.g., education funding)
  - Other costs that are services-specific may not be included in a claim (e.g., withholds, incentive payments)

MN APCD: Origin & Its (Somewhat) Circuitous Path

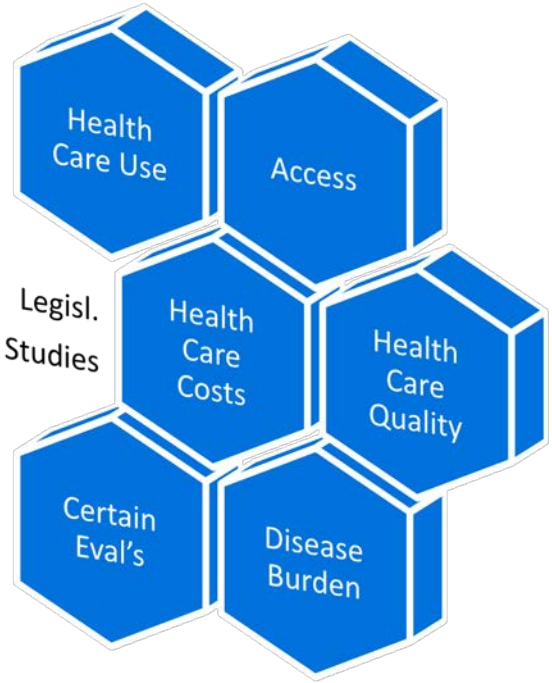


Legislative Focus

- Provider transparency
- Public Health
- Quality measurement
- Delivery system reform
- Payment reform

Permitted Uses of the MN APCD Through 2019

- Access limited to MDH for specific, but broad authorized uses
- Limits on the granularity of published data **(identifying of individual providers not permitted)**
- Public Use File process begun in 2016
  - Three initial files
  - Evolving set of content and vintages of data



Select Current Analyses

- Who delivers chronic pain management services in MN?
- What is the burden of chronic disease in MN (nos & $$)?
- What are the drivers of health care spending in MN's commercial market … price, case mix, volume?
- What factors drive prescription drug spending in the state?
- What is the volume of potentially preventable health care services in MN?
- What is the state of pediatric quality of care and what differences exist across the state?

http://www.health.state.mn.us/healthreform/allpayer/publications.html

Potentially Preventable ED Visits, Admissions & Readmissions

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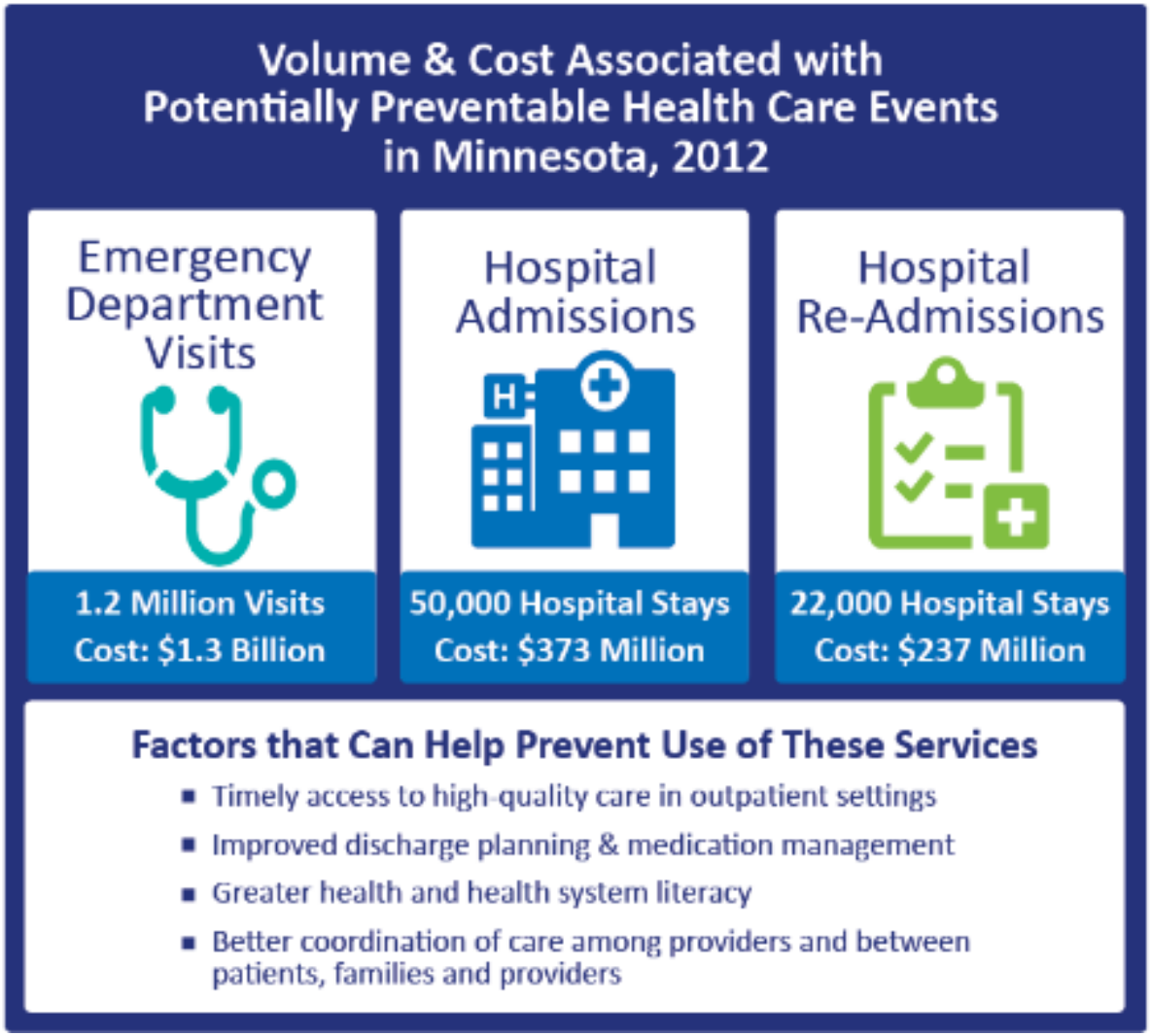
Why Study Preventable Events in MN?

- Health care spending:
  - Consumes a sizable share of the economy (opportunity costs)
  - Growth in health care exceeds growth in wages and the economy
- National research suggests that overuse, underuse and misuse of health care services contributes to sizable:
  - Inefficiencies, and
  - Waste
- Appropriate use of health care services also helps produce:
  - Improvements in quality of care and
  - Improvements in patient experience

Why Study Preventable Events in MN, cont'd

- Identifying overuse, underuse & misuse is complex
- Finding solutions that work universally is difficult
- System change often starts with:
  - Conducting sentinel analysis (describe the scope);
  - Identifying "easy" wins (hot-spotting)
  - Implementing w/certain population groups
- Identifying PPEs allows discussion on how to move care upstream: ensure right care, in right setting, at right time
- For patients: less fragmentation, lower costs, less time lost to hospital, ED, etc.

Potential Preventable Health Care Events



Source: MDH/Health Economics Program "Potentially Preventable Health Care Events in Minnesota," July 2015.; Employed 3M Health Information System PPE Groupers

Major Findings

- PPEs represent a large opportunity in redirecting spending
  - 4.8% of total health care spending
- Public health care programs made up 14 percent of the population but 40 percent of PPEs
- Large share of ED visits were potentially preventable (75 percent
  - 50,000 had 4 or more PPVs
- Not all patients with a potentially preventable event have complex needs:
  - slightly more than half of patients with PPE and close to 40% with PPA had otherwise low health care use
- Heart failure in top 3 for both PPA (12.1%) and PPR (6.6%)

Potentially Preventable Readmissions for Heart Failure

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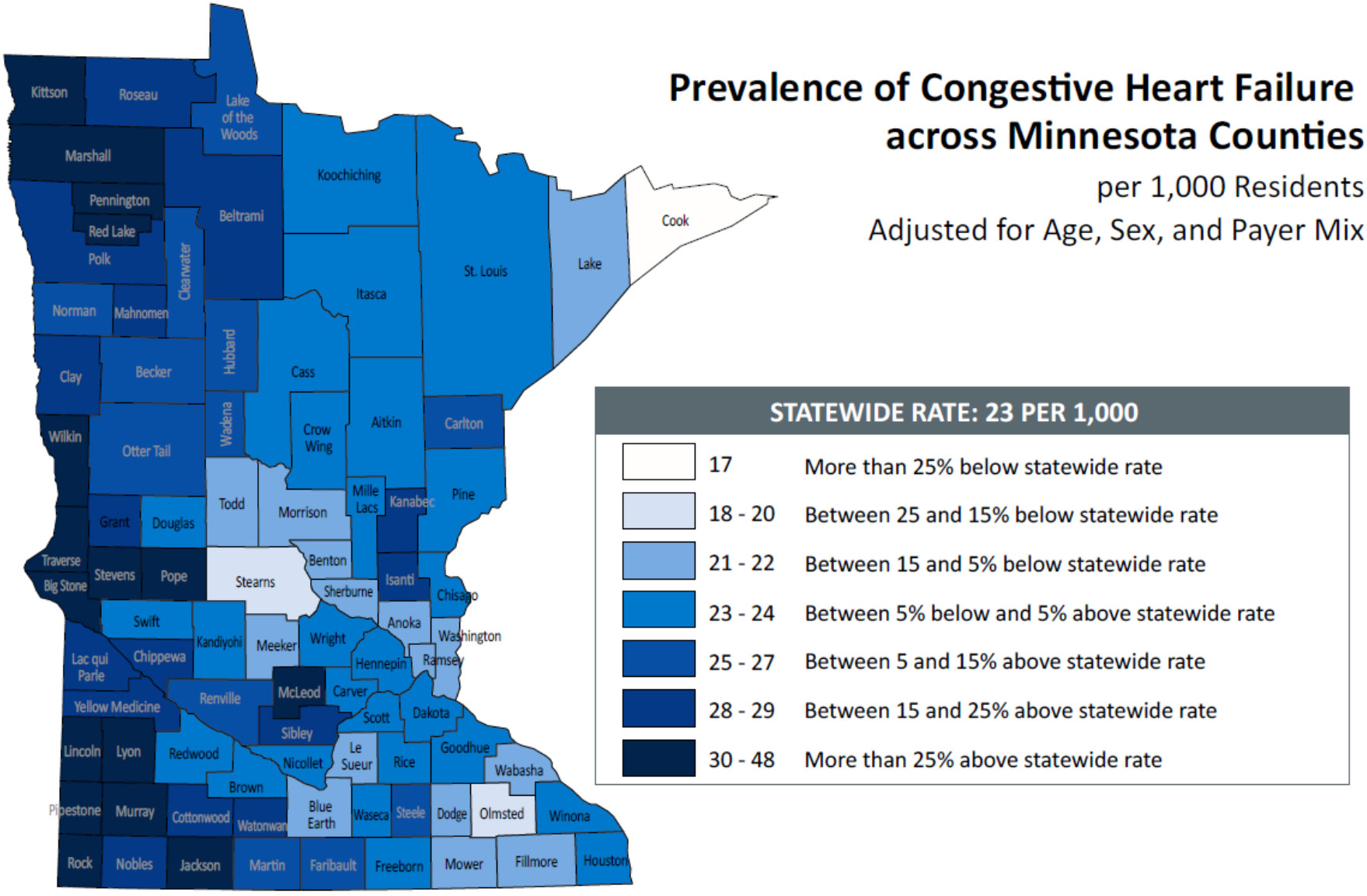
Heart Failure in MN (About 100,000 Residents Affected)

	Rate per 1,000 Minnesotans
Females	25.3
Males	20.9
Children	< 1
Adults under 65 yrs	12.6
Adults 65 yrs and older	101.5
All	23.2

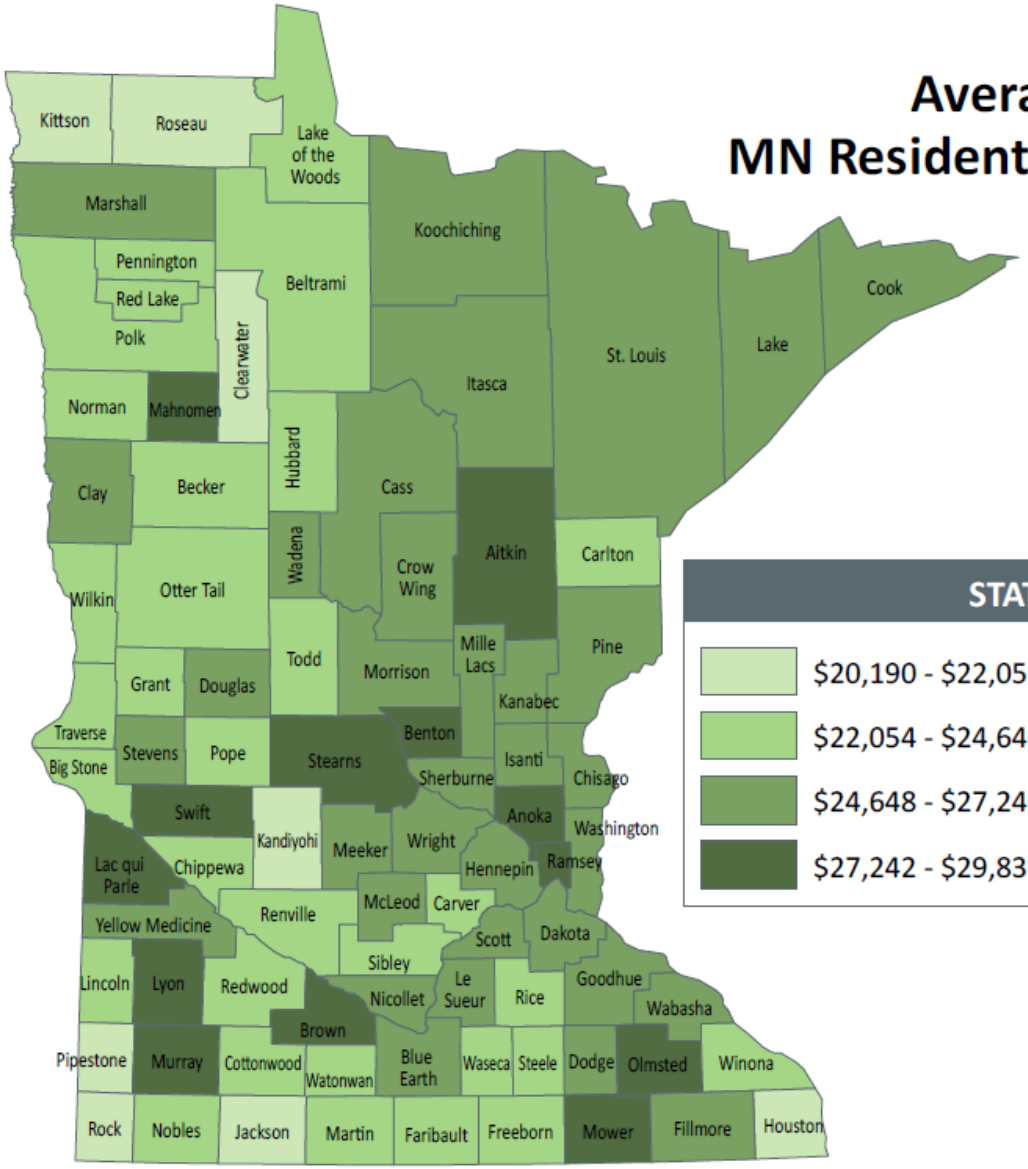
Source: MDH (2016). Chronic Conditions in Minnesota: New Estimates of Prevalence, Cost and Geographic Variation for Insured Minnesotans, 2012



Source: MDH (2016). Chronic Conditions in Minnesota: New Estimates of Prevalence, Cost and Geographic Variation for Insured Minnesotans, 2012

Average Annual Cost of Health Care
MN Residents with Congestive Heart Failure

Adjusted for Age, Sex, and Payer Mix



STATEWIDE AVERAGE: $25,944

$20,190 - $22,053	Between 25 and 15% below statewide average
$22,054 - $24,647	Between 15 and 5% below statewide average
$24,648 - $27,241	Between 5% below and 5% above statewide average
$27,242 - $29,836	Between 5 and 15% above statewide average

Source: MDH (2016). Chronic Conditions in Minnesota: New Estimates of Prevalence, Cost and Geographic Variation for Insured Minnesotans, 2012

Much Study, But Limited Evidence on What Works

Interventions identified by these reviews: Feltner, C, CD Jones, CW Cené, Z-J Zheng, CA Sueta, et al. (2014). Transitional Care Interventions To Prevent Readmissions for People With Heart Failure. Effective Health Care Program - Comparative Effectiveness Review, AHRQ. and Feltner, C, CD Jones, CW Cene, ZJ Zheng, CA Sueta, et al. (2014). "Transitional care interventions to prevent readmissions for persons with heart failure: a systematic review and meta-analysis." Ann Intern Med **160**(11): 774-784.

Study Aims?

- Follow a successful campaign by Reducing Avoidable Readmissions Effectively (RARE)
  - Take advantage of rich data across spectrum of *payers* and *delivery system*
  - Increase our knowledge of what works in preventing PPRs
  - Proof-of-concept for using the MN APCD in other applications to inform care delivery
- Questions:
  - Identify differences in utilization between (1) HF admission followed by a PPR and (2) HF admissions without a PPR
  - Understand risk factors for PPR in patients with a first admission for HF

Metrics: Preliminary Thoughts

- Outcome: admission without PPR / admission with PPR
  - # Admissions, # readmissions
  - # PPR, % HF PPR of all PPR
- Independent Variables:
  - Age, gender,
  - Complexity/SOI, comorbidities/chronic disease burden
  - Admission source, procedures during index admission
  - Discharge to home health/SNF, payer type, insurance type
- Under consideration:
  - SES (income, poverty, education)
  - Clinical characteristics (care coordination, attribution)
  - Delivery system characteristics (location, services, etc.)

Considerations

- Readmission in HF is widely studied, but evidence on what works is sparse
- Risk adjustment discussion has intensified
  - Patient complexity, neighborhood factors
  - Interplay between RA and mortality
  - Need to consider out-of-hospital deaths in the analysis
- Not all relevant factors can be studied w/claims data (e.g., ejection fraction)
- Interaction with observation stays?
- Other relevant data that are not in claims?
- Most effective level of dissemination of information

Lessons

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Lessons from the Use of the MN APCD for Care Transformation

- Without making findings about individual providers, it is tough to affect care practices
  - De-identified data make linkages difficult, but it may matter less for transparency w/lower “t”
  - Transparency about data quality and direct access is important
- Engagement w/stakeholders (clinicians, trade associations, advocacy organizations & media) is essential:
  - To getting the story told - appreciating the value of the findings
  - To gaining expertise and enhance credibility
  - Understanding the politics of data use
- This is complex, time-consuming and incredibly exciting work!

Stefan Gildemeister @StefanG_at_HEP · Apr 26

HEP releases Public Use Files from the MN APCD #APCD @APCDCouncil @NASHPhealth bit.ly/1SxNyjG

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Stefan Gildemeister @StefanG_at_HEP · Feb 27

MDH Commissioner pens article on HEP study about chronic conditions bit.ly /1QmS5od bit.ly/20swqkY

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MN APCD
All-payer Claims Database

Current Uses of the Minnesota All Payer Claims Data Set (MN APCD) - August, 2015

Background

In 2008, MI Departmer claims dat informati services.[1] a system quality. MDH's

chronic conditions and risk factors,[2] with a report due to the Legislature in early 2016.

MN APCD
All Payer Claims Database

Minnesota All Payer Claims Database
State Repository of Health Care Claims Data
MARCH 2016

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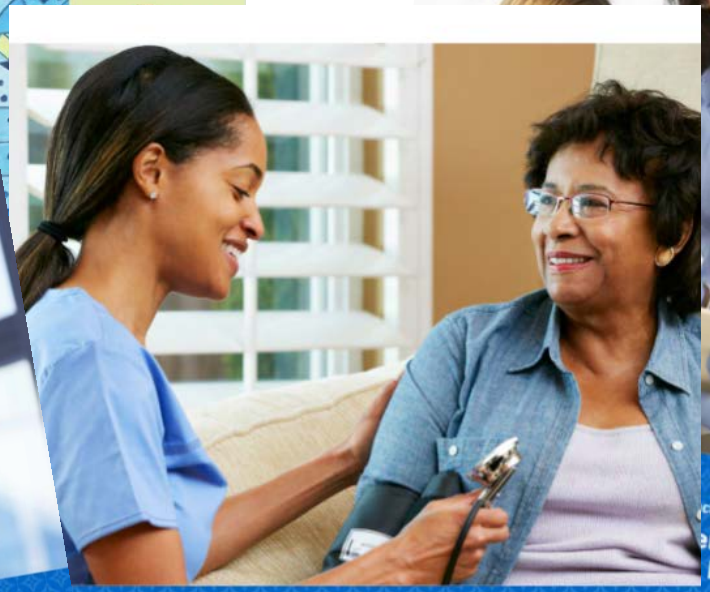

MN APCD
Payer Claims Database

CHRONIC CONDITIONS IN MINNESOTA:
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JANUARY 2016

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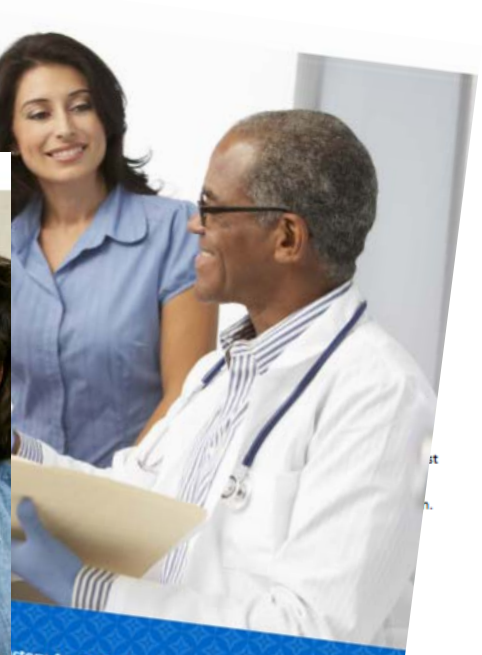

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Contact Information

- MDH – Health Economics Program
  www.health.state.mn.us/healtheconomics
- Minnesota All Payer Claims Data (MN APCD)
  www.health.state.mn.us/healthreform/allpayer/
- Minnesota Health Care Market Statistics
  www.health.state.mn.us/divs/hpsc/hep/chartbook

- Contacts

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