APCD Management: Best Practices in Data Quality Assurance

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Presenters: Nitesh Patel & Adrien Ndikumwami

Background and Objective: The recent trend for states to collect claims data from the full range of payers was driven by the need to use data for health policy analysis, understanding of expenditures and utilization, monitoring of condition prevalence, price transparency, etc. One of the most overlooked functional areas related to claims data collection is data quality. Often, an assessment is done too late when the data have already been collected and are ready to be consumed, creating a resubmission burden for both the payer and the state. The objective of this presentation is to offer a total or end-to-end data quality approach that helps at the outset in defining, automating, reporting, and continuously improving data quality methods.

Methods: Ensuring the quality, and hence analytic utility, of claims data collected from many different sources and payers requires a systematic approach augmented with subject matter expert analysis. Based on 15 years of collecting data for Maryland's APCD, we have assessed and will describe the most common sources of data quality issues, the measures and tools used to detect the issues, and the techniques used to prevent these issues at the source. Our methods for data quality checks involve four phases: 1) basic data format validation, 2) data element validation, 3) consistency checks, including between related fields, in the distribution of certain fields, and in trends of numeric fields like financial fields, and 4) data completeness review.

Findings: The most common sources of data errors are unclear data specifications from the state, misinterpretation of the specifications, incorrect mapping of fields, lack of understanding of the specification, and programming errors. Data usually have issues related to one or many of the above types of errors. Knowing how these errors are introduced at the source helps us to create tools that are appropriate to detect these issues. One common mistake is to validate each data element in isolation, rather than viewing all data elements as inter-related. Data quality needs to go beyond and view data from a data analytics and usability angle. Communicating with payers plays an essential role in understanding the data quality and nuances.

Significance: Our data quality experience has revealed four effective mechanisms to improve data quality: 1) good data collection specifications, 2) payer engagement and effective feedback throughout the data collection process, 3) an automated process to quickly detect data quality issues upon submission, and 4) continuous improvement via updated specifications and data quality business rules. As the healthcare environment evolves, all stakeholders need to maintain open communications in order to adjust for changing delivery, practice, and reimbursement strategies to help ensure continuous data quality.

Using an "Incremental-Source Transition" Approach to Expedite APCD-based Public Reporting

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Presenter: Kevin McAvey

All-Payer Claims Databases (APCDs) offer enormous promise for monitoring health care access, costs, and utilization. However, their size, complexity, and composition - slightly different submissions from dozens of payers - present states with unique challenges for checking data accuracy and completeness prior to analysis and reporting. Massachusetts' Center for

Health Information and Analysis (CHIA) adopted an "incremental source-transition" approach in order to expedite reliable APCD-based reporting, while still allowing for continual payer-data submission improvements.

In 2014, CHIA set out to report statewide commercial health insurance enrollment from its Massachusetts All-Payer Claims Database (MA APCD). To accomplish this goal, CHIA first requested "control totals" from payers: affirmed counts of each payer's primary, medical Massachusetts membership. CHIA then worked closely with each payer to develop appropriate logic to recreate these control totals using its MA APCD files. Where differences were identified, CHIA and payer staff worked in partnership to determine the cause of the divergence, and when necessary, to develop solutions to fix code and/or to resubmit files. Using this approach, CHIA was able to end direct payer reporting for nearly half of the state's private commercial payers for its first "Enrollment Trends" report in early 2015.

Using an "incremental source-transition" method allowed CHIA to release MA APCD-based reporting in a timely manner without sacrificing data quality or payer relationships. Without the need for a complete APCD transition prior to publication, payer and CHIA staff time and effort were able to be more effectively prioritized and evenly distributed. Through a constant and respectful dialogue, CHIA was not only able to better understand payers' resource limitations (and plan accordingly), but was also able to develop products that could be of the greatest use for these key data providers and users. This acknowledgement and investment in developing these relationships - and CHIA's ability to deliver on its promises - fostered greater trust in CHIA's larger MA APCD reporting goals, and supported the development of a nascent, but critical payer feedback loop, which continues to improve the accuracy and completeness of its MA APCD files. CHIA is currently leveraging this process to develop its medical and pharmacy claims reporting datasets and products.

E-Health Data Repositories to Support Population Health

Authors: Bree Allen, MPH; Karen Soderberg, MS; and Martin LaVenture, PhD, MPH, FACMI – Minnesota Department of Health

Presenter: Karen Soderberg

Hospitals and clinics in Minnesota have near-universal adoption of electronic health record (EHR) systems, which suggests that nearly every patient in the state has an electronic health record. This study examines the potential to optimize data from EHR systems to support comprehensive and timely public health surveillance, such as infectious and chronic disease prevalence, as well as community health needs assessments. We sought to examine this potential by assessing how health organizations in the state are using clinical data repositories, and how reports or data from these repositories can accurately reflect population health. To address the question we: 1) Reviewed e-health survey data submitted by Minnesota's 145 hospitals and 1400 clinics; 2) conducted an extensive review of the literature; and 3) conducted structured key informant interviews among several types of health organizations to assess how they manage their data repositories. We defined a data repository as a database and a set of functions that consolidate data from clinical and other data sources and present a unified view of a single person.

The assessment data show that 72% of Minnesota's hospitals maintain a clinical data repository to support patient care management, population health, and/or research. This includes all of the major health systems in the state, but also small and critical access hospitals. From the key informant interviews we learned that that health organizations have widely varying resources and capabilities to manage a repository. Some health systems have highly sophisticated processes and systems in

place for a broad range of data uses, while others don't have any internal informatics support and use data only for required reporting.

Based on this information we developed a framework that is intended to represent capabilities and services that can apply to a broad range of health settings including large health systems, local public health, non-hospital provider groups, and critical access hospitals. The framework describes three components to support data acquisition, data management, and data use, with overarching considerations for leadership, decision making and governance. The framework also supports continuous improvement using feedback loops for data quality improvement and health practice improvement.

The framework meets two important needs. It provides a standard construct to measure the capabilities and capacity of all health organizations in the state. Secondly, it provides a foundation for developing guidance for health organizations to build capacity for managing a repository using best practices established by mature organizations. This presentation will describe the project goals and example use cases, describe the conceptual framework, and present available data from the Minnesota e-Health Profile of health information technology use among hospitals, clinics, and local public health agencies, as well as the Minnesota All Payer Claims Database. We will also discuss challenges in using these data to support individual and population health.

Combining All-Payer Claims with Clinical Data

Authors: Mary Kate Mohlman, PhD, MS – Health Services Researcher, Vermont Blueprint for Health; Craig Jones, MD – Director, Vermont Blueprint for Health; Karl Finison, MS – Director of Analytic Development, Onpoint Health Data; Melanie Pinette, MEM – Health Data Analyst

Presenter: Mary Kate Mohlman, PhD, MS – Health Services Researcher, Vermont Blueprint for Health

Objective: The Vermont Blueprint for Health is a nationally recognized patient-centered medical home program for its advances in primary care and systemic healthcare transformation. A key way the Blueprint serves Vermont's evolving healthcare system is through its evaluation and analytic capabilities. This health services research component of the Blueprint encompasses all of the program's data collection, data quality assurance, data merging, measurement, analysis, performance reporting, and self- and system-evaluation work. As a neutral, state-based service, the Blueprint has unique access to data from a variety of sources, making the reports it produces for practices and communities and, specifically, their respective high-needs populations, effective in guiding continuous quality improvement activities within a variety of healthcare organizations and across a spectrum of medical and social services.

Methods: The Blueprint's health systems research division is uniquely positioned as a kind of nexus of the state of Vermont's health data resources. Essential utilities behind the program's evaluation and analytic capabilities is its access to the Blueprint Clinical Registry (formerly DocSite) and the statewide all-payer claims database (known as the Vermont Health Care Uniform Reporting and Evaluation System (VHCURES)). The program has demonstrated the effectiveness of merging clinical data with the VHCURES all-payer claims data by producing comprehensive and meaningful reports.

Findings: Over the past year, the Blueprint, with the assistance of Onpoint Health Data, has been working on a number of multi-source data projects aimed at evaluating the current landscape of healthcare in Vermont and the progress made in quality of care, utilization, and cost of services. In response to an upward trend in opioid abuse and adverse outcomes, for example, a recent study conducted by the Blueprint, published in the Journal of Substance Abuse Treatment, tested the state's intent in investing in statewide expansion of a medication-assisted therapy (MAT) program delivered in a network of community

practices and specialized treatment centers (known as the Hub & Spoke Program) by assessing the utilization and medical service expenditures for those receiving MAT compared to those receiving substance abuse treatment without medication. In another study, the Blueprint sought to understand how statewide data infrastructure can inform preventive care and reduce medical expenditures for people with diabetes by evaluating impacts of comorbidities on total cost of care. The production and use of all-payer claims and clinical data is threaded throughout the Blueprint program and essential to its performance measurement and evaluation and reporting services. The Blueprint also evaluates the overall impact of their medical home model on an annual basis. This annual report compares expenditures, utilization, and quality outcomes for patients attributed to practices participating in the all-payer medical home program to patients attributed to non-participating practices in an effort evaluate the added value of belonging to a patient-centered medical home.

Significance: With the linked claims and clinical data more powerful than either data set alone, the multi-source data evaluation and reporting conducted by the Blueprint play a critical role in health systems improvement in the state of Vermont. Clinical- and claims-based measurements are packaged in dashboards for practices and their clinicians to use to collaborate on addressing root causes that could help reverse some of the key drivers of spending growth and poor health and healthcare quality. All in all, the Blueprint is using and disseminating meaningful data to drive transformative, sustainable changes in healthcare systems across local communities.

Development of Quality Measures and Practice Evaluation Using Claims Data

Author: Kristin Paulson, JD, MPH

Presenter: Kristin Paulson, JD, MPH

Objective: Illustrate how claims data can fill gaps in what can be reported from electronic health records (EHR) and health information exchanges (HIE), and create claims-based proxies for clinical quality measures to capture and report on trends in utilization at the practice level.

As part of Colorado's State Innovation Model (SIM) project, the Center for Improving Value in Health Care (CIVHC) used the Colorado All Payer Claims Database to develop more than 20 claims-based proxies for clinical quality measures in order to track provider adherence to standards of care for a variety of health issues. These quality measures addressed issues ranging from chronic conditions like diabetes and asthma to behavioral health concerns such as anxiety and depression. These measures provide a quality measure baseline and will be used post-intervention to evaluate the impact of Colorado's SIM initiative on population health and care delivery.

Methodology: Throughout the creation process outlined below, CIVHC evaluated each measure against national data sources to ensure alignment and credibility.

- Extensively researched each measure using on-line sources such as NQF, Clinical Quality Measure Value Sets, Agency for Healthcare Research & Quality, and others.
- Surveyed national benchmarks and validated measure methodologies for practical definitions of claims-based measures including National Quality Forum, Healthcare Effectiveness Data and Information Set, and Centers for Medicare & Medicaid Services.
- Finalized high-level specifications (numerator/denominator) for each measure.
- Translated non-claims-based coding conventions like LIONC to claims-based elements.
- Finalized the technical specification sheets for programming into the database.
- CIVHC Analytics team coded claims-based measured to specification.
- Used national benchmarks and historical clinical and other non-claims data to evaluate reasonableness of results.

Findings: CIVHC's findings have implications for state and practice-level reporting and evaluation, policy development and evaluation, and population health.

- Many of the claims-based measures align very closely with national benchmarks for quality measures, many of which are based on clinical data.
    - Those that do not align likely point to gaps and inconsistencies in coding at the provider and clinic level.
- The claims-based measures reflect a population health approach to practice evaluation, giving providers a view of their population from a utilization standpoint, rather than an individual outcome perspective.
- Claims-based quality measures also support current trend towards patient/panel population evaluation.
    - Example: Investigating how many diabetic patients are actually coming in for all recommended preventive checks (A1C, foot exam, lipid panel), instead of measuring how well those that do come in are controlled.

Significance: Due to incompatible EHR systems, immature HIEs, and inconsistencies in measure reporting and collection, clinical quality measures are very challenging to collect on a large scale. However, using claims from Colorado's All Payer Claims Database, CIVHC is able to report consistently across providers, practices, and systems. Additionally, claim-based measures allow for apples to apples reporting between all payer types - commercial, Medicaid, and Medicare - enabling providers to see and address their patient population as a whole for the first time.

Risk Adjustment of Quality Measures using Medical Claims Data

Authors: Lewin Group (contractor to Minnesota Department of Human Service) & Kevan Edwards PhD, Minnesota Department of Human Services (Research Director, Research and Data Analysis Program)

Presenter: Kevan Edwards

The Minnesota Department of Human Services along with its contractor The Lewin Group, developed a risk adjustment methodology to enhance the use of quality measures and enable more accurate comparison between managed care organizations (MCOs). This presentation summarizes the overall effectiveness of the risk adjustment methodology and the impact on the State's Medicaid population.

Table 1 summarizes the subset of quality measures selected for examination in this project while Table 2 summarizes patient characteristics included in the risk adjustment. The risk adjustment models included six clinical and six sociodemographic characteristics. Clinical factors include a member's overall health risk, developmental disability, Medicaid eligible due to disability, frailty, mental health conditions, or identified as having a substance abuse issue. The sociodemographic factors include a member's age, gender, education, language, race/ethnicity, and residence in the metro area.

Health risk and age were consistently influential factors. The remaining characteristics had mixed and generally less impactful results. Sociodemographic characteristics periodically had larger influence on select quality measure suggesting sociodemographic characteristics should be considered when risk adjusting of quality measures. The results also suggest targeted clinical characteristics that might not be fully captured in a health risk measure could also be considered when exploring risk adjustment.

Table 1. Selected quality measures.

Category and Acronym	Description
Preventive Women's Health	
BCS-AD	Breast cancer screening
CCS-AD	Cervical cancer screening
CHL-AD	Chlamydia screening in women
Chronic	
MPM-AD-R1	Annual monitoring for enrollees on angiotensin converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB)
MPM-AD-R2	Annual monitoring for enrollees on digoxin
MPM-AD-R3	Annual monitoring for enrollees on diuretics
MPM-AD-R4	Annual monitoring for enrollees on anticonvulsants
HA1C-AD	Comprehensive diabetes care: Hemoglobin A1c testing

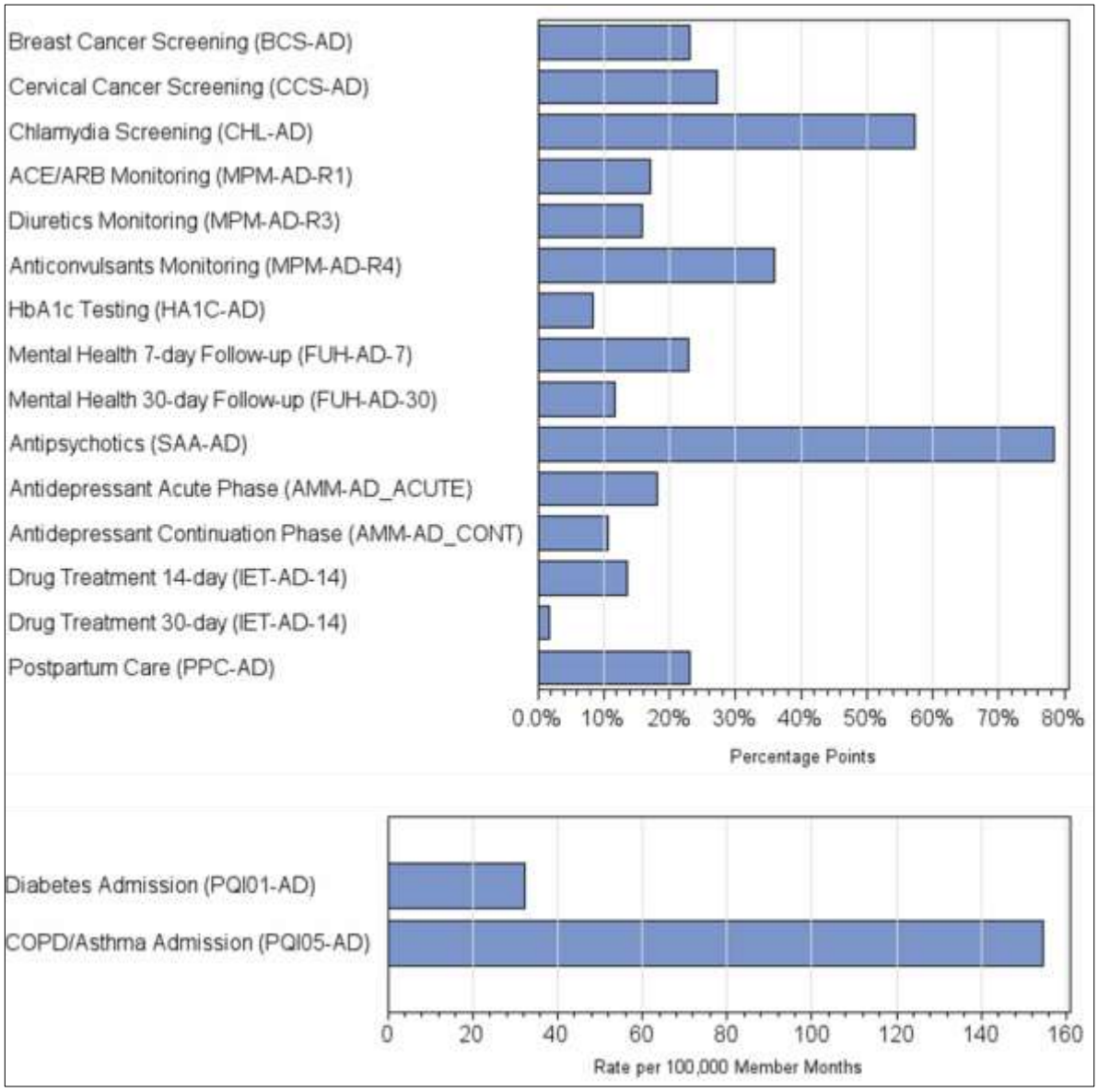
Mental Health	
FUH-AD-7	Follow-up after hospitalization for mental illness (7-day)
FUH-AD-30	Follow-up after hospitalization for mental illness (30-day)
SAA-AD	Adherence to antipsychotics for individuals with schizophrenia
AMM-AD_acute	Antidepressant medication management (acute phase)
AMM-AD_cont	Antidepressant medication management (continuation phase)
Behavioral	
IET-AD-14	Initiation and engagement of alcohol and drug dependence treatment (14-day)
IET-AD-30	Initiation and engagement of alcohol and drug dependence treatment (30-day)
Chronic Hospitalization	
PQI01-AD	Diabetes short-term complications admission rate
PQI05-AD	Chronic obstructive pulmonary disease (COPD) or asthma in older adults admission rate
PQI08-AD	Heart failure admission rate
Treatment	
PPC-AD	Postpartum care rate

Table 2. Summary of variables used in risk adjustment.

Variables
Clinical Characteristics
Developmental Disability
Disability
Frailty
Mental Health
Resource Utilization Bands (RUB) (i.e., Health Risk)
Substance Abuse
Sociodemographic Characteristics
Age Education Gender Language
Metropolitan County
Race / Ethnicity

The work is important because (1) MCOs commonly have different mixes of patients across the characteristics that influence these quality measures and (2) these patient- related attributes are beyond the control of MCOs. Not accounting for these patient- related differences could result in imperfect comparisons of MCO performance. This risk adjustment approach can allow for more accurate comparisons of MCOs and is potentially useful for other states seeking to evaluate quality measure results across payers or providers.

Figure 1. Aggregate impact of risk adjustment across MCOs, by quality measure.



Note: These values are the absolute value of the difference between the adjusted and unadjusted rates summed across the MCOs.

Risk Adjustment and Value-based Purchasing for Vulnerable Populations

Authors: Daniel Gilden, President, JEN Associates; Orna Intrator, PhD, Professor, University of Rochester Medical Center

Presenter: Daniel Gilden

The CMS Hierarchical Condition Coefficient (HCC) continues to be the primary vehicle for developing risk-adjusted capitated payments in the Medicare program. However, the HCC system was designed for payment prediction for Medicare beneficiaries; as such, it focuses on predicting acute care payments. For programs serving vulnerable populations dually eligible Medicare and Medicaid enrollees, the HCC does not address the primary drivers of Medicaid or other payers' expenditures—long-term supports and services (LTSS) for elders and adults with disabilities. To develop successful payment incentives for integrated care initiatives, new ways of targeting service dollars to high risk individuals are needed.

Functional and cognitive impairments are the key factors leading to a need for LTSS regardless of setting, but these factors are not collected in medical claims or enrollment data for Medicare, Medicaid or commercial insurance. Even when assessment data are captured, it is difficult to use these data for risk adjustment because: 1) the measures are not captured in uniform ways across programs and states, and 2) information about functional and cognitive impairment is only collected at the time an individual is assessed for a specific LTSS program. Therefore, at any point in time, the majority of the population does not have a record of their functional/cognitive status.

For these reasons, JEN Associates developed a risk scoring algorithm that could be applied to frail elders and other high risk populations with disabilities to predict future use of long-term supports & services (LTSS). To facilitate consistent use across states, JEN developed an algorithm that could be derived exclusively from diagnostic information in claims data. Subsequent analyses determined that, in addition to predicting LTSS use, the JEN Frailty Index (JFI) also predicted hospitalization, re-hospitalization within 30 days, mortality and total payments for elders and adults with disabilities. When JEN deployed the JFI in analyses of the shared savings model for the CMS Independence at Home initiative, what originally had appeared to be a short-term loss proved to be a substantial savings to Medicare once appropriate risk adjustment was applied.

The Veterans Health Administration compared the effectiveness of the JFI with data on functional and cognitive ability from the National Long-Term Care Survey. The results confirmed that the JFI was nearly equivalent to the ADL/IADL data in predicting LTSS use. VHA has since deployed the JEN Frailty Index (JFI) as a replacement for their internal risk adjusters for patient triage and outreach for advanced primary care benefits.

Combining Pharmacy, Blood Ordering, and Laboratory Data to Increase Accountability

Authors: Samuel Hohmann, PhD, Analytics Research Director; Jaie Lavoie, PharmD, MHIS, Fellow; and Arati Kurani, PharmD, Pharmacy Informaticist – Center for Advanced Analytics, Vizient

Presenters: Samuel Hohmann and Jaie Lavoie

Objective: Illustrate the utility of incorporating line item detail (LID) and laboratory results into performance improvement dashboards. Expanded datasets that include pharmacy and blood ordering (from line item detail) and laboratory results (from laboratory information systems) can be combined to increase accountability in the delivery of coagulation management and transfusion therapy in hospital settings.

Methods: Using LID and laboratory results data submitted to Vizient's clinical database/resource manager (CDB/RM) participants, a dashboard for laboratory coagulation and transfusion management was constructed of several graphical representations of a hospital's coagulation and transfusion management performance. Strategies for managing a patient's coagulation status may have different effects. Tranexamic acid (TXA) administration can facilitate reducing blood loss while overly aggressive anticoagulation may lead to additional blood transfusions. The extent of blood use may thus be driven by the proportion of patients receiving TXA as well as the proportion of patients that had an overdose of anticoagulant.

The dashboard might include the following charts:

1. Relationship between Hgb and decision to transfuse: Comparison of proportions of patients with hemoglobin (Hgb) levels greater than 9 g/dL, between 7 and 9 g/dL, and less than 7 g/dL – hospital vs. statewide average or vs. top 10% or vs. top quartile, for example
2. Case mix: Display of clinical service lines with the most transfusions where Hgb was greater than 9 g/dL
3. TXA use: Comparison of proportion of transfused cases receiving TXA prior to transfusion – hospital vs. appropriate comparison
4. Rescue activities: Comparison of heparin and warfarin supratherapeutic use
    a. proportions of cases with Aptt greater than 90 receiving additional heparin, requiring protamine, and requiring transfusion – hospital and appropriate comparisons
    b. proportions of cases with % INR greater than 5 receiving additional warfarin, Vitamin K, FFP, and a transfusion – hospital and appropriate comparisons

Findings: Using line item detail and laboratory results data submitted to Vizient by database participants, we found that there was variability in hospitals' unadjusted transfusion practices across patient populations as well as within patients whose laboratory results suggested a transfusion might not have been necessary. Some hospitals had a smaller proportion of patients receiving TXA. While a similar proportion of patients received anticoagulant medications in response to critically abnormal lab findings, some hospitals used acute reversal agents as well as administered transfusions in these patients more often.

Significance: Expanded datasets that include pharmacy and blood ordering (from LID) and laboratory results (from laboratory information systems) can be combined to increase accountability for coagulation management and transfusion therapy in hospital settings. Hospitals' blood transfusion practices in specific clinical areas can be guided by patient laboratory results. Specifically, there is variability in hospitals' unadjusted transfusion practices across patient populations as well as within patients whose laboratory results would suggest a transfusion may not be necessary. Potentially, blood use that may be driven by excessive anticoagulation administration can be addressed with review of not only blood administration practices but also TXA administration practices.

Healthcare Exchanges, Utilization, and Adverse Selection

Author: Matthew Panhans, PhD Candidate at Duke University

Presenter: Matthew Panhans

The new Health Insurance Marketplaces or "Exchanges" established in 2014 are a cornerstone of the Affordable Care Act (ACA). In addition to increasing insurance market competition and making options transparent to consumers, the Exchanges were also the vehicle through which individuals could receive premium subsidies. Early evidence and anecdotes suggest that these market segments have been higher cost than insurers expected. Understanding why will be important to the long-term sustainability of these markets; this study shows how insights provided by an All-Payer Claims Database (APCD) can inform policy on this question.

This study uses Colorado's newly available APCD to document patterns of healthcare utilization and expenditures in the non-group insurance market in 2014, including plans offered through the state-run exchange. The analysis shows that individuals who were newly insured in 2014 had higher utilization. The rate of outpatient visits for newly enrolled individuals is about 11% higher than for those in the employer-sponsored market, and 15% higher than previously insured individuals. Reflecting these patterns of utilization, individuals in the non-group market had 15% higher medical expenditures compared to the non-group market. There is also geographic variation in these measures, indicating that market characteristics can lead to varying outcomes across Colorado.

Though these differences may decrease over time, a further question raised is to what degree adverse selection in the non-group market is driving the differences in utilization. If those who enrolled in new ACA-complaint plans in 2014 tended to be relatively high-risk, insurers may need to raise premiums to cover their costs. Rising premiums in turn exacerbate adverse selection, as the low-risk individuals leave the market, further increasing average costs.

In order to glean insights into whether adverse selection may be present, a second part of this study compares the average expenditures of individuals living just on either side of rating area boundaries. These individuals would be in the same local healthcare market, but may face very different premiums for the same insurance plans because of the rating area design. The analysis indicates that as premiums increase, the average costs of the insured pool of the non-group market increase as well. This suggests adverse selection could be at work, where because the relatively healthy individuals drop out of the market as premiums rise, average costs to insurers increase as a result.

Having a broad view of the Colorado's health insurance markets as part of the APCD offers unique insights into the functioning of the insurance markets. Though adverse selection was detected, certain policies could help to mitigate those effects and improve the Exchange's overall risk pool. For example, it was expected that more employers would drop their plans and send workers to the Exchanges for coverage. This indicates that steps to incentivize employers to use the Exchanges, such as implementing the postponed "Cadillac" tax on generous employer-sponsored plans, could help. Additionally, steeper penalties for remaining uninsured or allowing insurers more flexibility in the Exchanges offerings could help to enroll relatively healthy individuals so as to improve the Exchange risk pool.

Leveraging Emergency Room Data to Guide the Post-Acute Management of Patients Undergoing Joint Replacement

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Presenter: Susan Nedza, MD, MBA

Objective: To identify post-acute emergency department utilization, diagnoses and disposition in Medicare patients undergoing total joint replacement surgery.

Methods: This was a retrospective case study of Medicare beneficiaries eligible for FFS coverage using CMS MEDPAR* and outpatient research identifiable (RIF) data for the state of Texas, 2011-2012. Cases we qualified when an index claim was coded as MS-DRG 466-470 and eligbility was confirmed for 90 days after the hospital discharge.

Findings: 49,105 cases met inclusion criteria. Of the 48,834 patients discharged live from the hospital, 8820 had at least one ED visit within 90 days of discharge (ED visit rate of 22.6% for patients undergoing THR, 15.3% undergoing TKR.) 40% of ED visits did not occur at the facility where their initial procedure occurred. The readmission rate was 45.1% for THR and 30.3% in TKR. The ED discharge diagnosis varied between the two populations with injury and trauma being the most frequent diagnosis in THR and cardiopulmonary in TKR.

Significance: Analysis of claims data can inform policy makers and participants in mandatory or voluntary joint replacement bundled payments about ED utilization and identify opportunities to proactively manage conditions that lead to ED visits in the post-acute period.

Monitoring Trends in Prescription Drug Utilization and Spending

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Presenter: Stephen W. Schondelmeyer, PhD

Objective: Prescription drug utilization and spending continue to be subjects of concern to policy makers, health insurers, health care providers and consumers nationwide. Prescription drug spending reports are generally limited to assessment of spending from the retail pharmacy perspective with little attention paid to the additional expenditure for prescription drugs administered in provider offices and other nontraditional facilities. The purpose of this analysis was to provide an assessment of utilization and expenditures for prescription drugs from both retail and medical sources for residents of the State of Minnesota.

Methods: The Minnesota All Payer Claims Database (MN APCD) was the data source. The MN APCD was created by the MN legislature in 2008 to assist in addressing questions related to health care public policy. Data records from the years 2009

to 2013, representing up to 85% of MN residents, were included in the analysis. (Exclusions include care paid for by: the Indian Health Service, Veterans Affairs, Workers' Compensation, Tricare, the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), and health care companies with annual medical claims less than $3 million and/or pharmacy claims less than $300,000, and uninsured persons). Because multiple data sources could submit the same claims information, duplicate claims were excluded using de-duplication methods designed for this study. Prescription drugs were identified from the pharmacy claims file using National Drug Codes (NDC) appearing on the claims and combined with generic product indicators (GPI); prescription drugs were identified from the medical claims file using the Healthcare Common Procedure Coding System (HCPCS) and then combined with GPI codes. Costs were the actual total dollar amount paid (3rd party payment + patient payment incurred as a copayment or co-insurance) as reported on the claim (not adjusted for inflation).

Findings: The number of prescription drug claims from both retail and non-traditional medical sources, for residents of Minnesota totaled 380.4 million during the five-year analysis period, rising from 74.5 million in 2009 to 78.5 million in 2013, representing modest growth overall of about 5.3 percent. This translates to 12-13 prescription drug claims per Minnesota resident per year. Spending on prescription drugs rose from $6.3 billion in 2009 to $7.5 billion in 2013, a 19 percent increase; spending from retail pharmacies grew 13.7 percent over the five-year period, while spending for prescription drugs from non-traditional settings rose 29.4 percent.

Significance: The rise in number of claims and the accompanying rise in spending for prescription drugs from non-traditional settings reflect the increasing volume of drugs used for treatment of cancers, multiple sclerosis, rheumatoid arthritis and autoimmune diseases. Currently representing slightly more than 1/3 of the drug spend, this source of prescription drug utilization and spending will continue rising as new molecular entities are approved and provided through these settings.

Using Claims Data to Find $800 Million in Savings

Author: Center for Improving Value in Health Care (CIVHC)

Presenter: Tracey D. Campbell

Objective: Illustrate how claims data can be used to analyze consumer behavior and identify areas where consumer engagement and education could lead to lower costs for individuals and the population as a whole.

Methods: Using diagnosis codes for potentially preventable emergency department (ED) visits published by the Washington Health Alliance, CIVHC analyzed commercial claims data from the Colorado All Payer Claims Database (CO APCD) to isolate the most common potentially avoidable ED visits occurring in the state. ED costs for non-emergent services were then compared to costs associated with the same services at outpatient facilities to estimate the potential cost savings to individuals. Using data reported by Colorado Hospital Association member hospitals regarding the number of ED visits in the state annually, combined with Colorado Health Access Survey (CHAS) information estimating the percentage of total ED visits in Colorado occurring for non-emergency reasons, CIVHC was also able to identify potential cost savings across the entire state.

Findings: Analysis of 2014 commercial health insurance claims in the CO APCD suggests that Colorado could save an average of $1,150 per visit - equating to over $800 million per year in annual savings if patients used a clinic or doctor's office for non-emergent care.

A total of five non-emergent conditions were analyzed to show the cost differential between ED and outpatient care. For example, the analysis identified that the common cold costs nearly $600 more to treat at the ED than in a doctor's office.

Similarly, going to the ED for back pain costs over $1,200 more than in an office setting, and being seen in the ED for a sore throat costs almost $900 more.

Significance: Claims data is invaluable for breaking down utilization of services and understanding how consumers use the health care system and the subsequent impact of their decisions on cost of care. Information provided by claims data can also help employers, brokers, providers, facilities, and public health advocates design situation-specific interventions including patient education, targeted benefit products, enhanced coordination among providers and caregivers, and increased access to outpatient offices and clinics at night and on the weekends.