Multi-Payer Claims Database (MPCD) for Comparative Effectiveness Research

Andre Chappel, PhD

June 16, 2011
NCVHS Full Committee Meeting
Catalyst

- $1.1 billion investment in CER enterprise funded by American Recovery and Reinvestment Act of 2009
- $400 million allocated to the Office of the Secretary (OS)
- Federal Coordinating Council (FCC) for CER advised Secretary on how to invest allocated funds
- Due to immediate need, FCC recommended OS focus on CER infrastructure development
- HHS identified value of creating a database that would combine claims data from a range of public and private payers
Objectives

• Goal: Build a MPCD to support CER, on a foundation of public and private payer claims data
  – High priority: Privacy and protection of patients
  – Build a comprehensive database to enable research on priority populations, interventions, and conditions
  – CER broadly defined to include both clinical & delivery system research
  – Increase access and usability of the data
  – Engage private sector in CER infrastructure development and research
  – Offer analytic tools for greater functionality
  – Lay the foundation for future enhancements with clinical data
Value-Added

- Incorporating public and private data into one source will enhance the value of claims data for CER
  - Easier to find and obtain relevant data
  - Greater geographic coverage and density
  - Ability to study less common conditions
  - Increased demographic and clinical representativeness
  - Potential linking across payers and time
Project Flow

• Phase 1: Strategic and technical design
  – Strategic plan completed April 29, 2010 by Avalere Health
  – Technical design pilot testing nearing completion
    • Tools to combine data from different sources – Vexcel/Microsoft
    • User interface to create customized data extracts – Thomson Reuters

• Phase 2: Implementation of MPCD – Awarded to Ingenix,
  Start date: January 2011
Phase 2 Overview

• Collaborative effort between ASPE, CMS, Ingenix and other healthcare industry and research leaders

• Database components
  – Hybrid design
    • Centralized warehouse
    • Distributed/federated data network
  – CMS Chronic Condition Warehouse (CCW)
  – Ingenix Normative Health Information Database (NHI)
  – Two additional data sources
Advisory Structure

• Governance Board
  – Members recruited by AcademyHealth
  – Consists of researchers, private payers, providers, consumers, states, and the Federal Government
  – Guide MPCD’s implementation and future sustainability

• HHS Leadership Council
  – Policy leaders and data experts across multiple agencies within HHS
  – Gain insight into potential implementation issues
  – Facilitate collaboration with similar initiatives
# Governance Board

**Voting Members**

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<td>W. David Helms, PhD (Chair)</td>
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## HHS Leadership Council

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<td>Sherry Glied, PhD (Chair)</td>
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<td>Anne Elixhauser, PhD</td>
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<td>Charles Friedman, PhD</td>
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<td>Farzad Mostashari, MD ScM</td>
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<td>Todd Park</td>
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<td>Melissa Robb</td>
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<td>Jean Slutsky, PA MSPH</td>
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Advisory Structure

- Data Stewardship Council (DSC)
  - Will include all data contributors
  - Provide recommendations on technical design and data access
  - Monitor processing of data in MPCD
  - Review and approve data requests

- HHS Expert Panel
  - Researchers within HHS familiar with claims data and CER
  - Utilize and test the system beginning in February 2012
  - Provide feedback on how the system can be improved
Privacy and Security

• Emphasis on privacy and security controls
  – DUAs to address security concerns of data partners
  – Encryption of PII for matching across partners, de-identified data
  – Compliance with FISMA, HIPPA, ARRA, and CMS IT policies
  – Masking of small cells and dates of service
  – Statistician review of de-identification
  – Audit reports for contributors to track data processing
  – Testing data enclave models
Technical Design

- Leverage insights from CMS’ CER project on de-identification

- Distributed vs. centralized datasets
  - Advances in database structure, high-speed computing, and health IT are enabling ways to link across data sources

- Distinction from other federated data network designs such as FDA Sentinel:
  - Analytic queries vs. queries for data extracts
    - Health services researchers have expressed a need to work with data
    - Statistical power
Data Access Model

• Web-based interface

• Three tiers of data access
  – Tier 1: Public usage files (PUFs)
    • Aggregate data
  – Tier 2: Extracts from standard analytic files (SAFs)
    • Limited data set
    • Requests subject to approval of DSC
  – Tier 3: Extracts from full claims files
    • Obtain richer data than what is available in tier 2
    • Request subject to approval of DSC and relevant data contributors
Data Sources

• CMS CCW
  – Medicare FFS and Medicaid

• Ingenix NHI
  – Geographically and demographically distributed commercial claims

• Two additional sources in Stage 1
  – States with all-payer claims databases (APCDs)
  – Commercial data contributors
    • Health plans, data aggregators
Data Sources

• Additional sources beyond Stage 1
  – Pursue additional commercial and public payer data sources
  – Conduct periodic data analysis to determine gaps in coverage
Data Partner Evaluation Criteria

• Restrictions on use of data
• Quantity and coverage of data
• Quality and format of data
• Cost to MPCD for their participation
• Overlap with other partners
Incentives

• Subsidize cost of participation
  – Provide hardware for distributed partners
  – Cover cost of work to prep data
  – Royalties/revenue sharing
  – Limited number of free data extracts
    • Subject to standard approval process
  – Market awareness of contributor data
  – Representation on DSC
  – Public recognition
Key Partners

• AcademyHealth
  – Coordinating Governance Board
  – Supporting outreach to the research community

• National Association of Health Data Organizations (NAHDO)
  – Facilitating state data acquisition

• Buccaneer Computer Systems and Services
  – Hosting MPCD platform
  – CCW data extraction and integration

• University of Washington
  – Participating in database design to ensure value for CER research
  – Will conduct demonstration of CER power and usability of MPCD
Outreach Activities

• Build awareness and demonstrate MPCD utility through:
  – Presentations at selected annual research conferences (e.g., AcademyHealth ARM, NAHDO)
  – Presentations to other agencies (e.g. NCVHS meeting)
  – Publish articles on demonstration analyses and policy applications in selected peer reviewed journals
Future Plans

- Include value-added analytics
  - Episode groupers
  - Risk adjustment
  - Quality metrics
- Incorporate non-claims data
  - Lab results
  - Clinical records
  - Electronic medical records
ASPE Project Team

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