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Big Data: Medical Claims Data for Translational Research: Medicaid

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Big Data: Medical Claims Data for Translational Research

Medicaid

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Overview

- Description of Medicaid datasets
- Most commonly used variables on each datasets
- Examples of translational analyses using Medicaid
Eligible Populations

- In Massachusetts, Medicaid and CHIP programs are combined under one “roof” (MassHealth)

- Groups with incomes below 133% of Federal Poverty Level
  - Adults (employed or not)
  - Children
  - Disabled adults
  - Pregnant women
  - HIV+ individuals
  - Dept of Mental Health clients
  - Senior citizens (also eligible for Medicare)
  - Women with breast/cervical cancer
  - People in need of long-term care
Individual-level data

The available Medicaid data (MAX files) include:

- Personal summary
- Other therapy claims
- Inpatient claims
- Prescription claims
- Long-term care claims
- Provider characteristics
- Medicare-Medicaid linked enrollee
- Mini MAX
Personal Summary

- Available from Fiscal Year 1999 to 2009 (~ 3 year lag)
- One record per person in system for at least one day
- Contents:
  - Demographics
  - Eligibility category and Zip code
  - Maintenance assistance status
  - Monthly enrollment status
  - Utilization summary
  - Open and close reasons
  - Program
  - Mortality information
Other Therapy Claims Data

Contents:
- Physician services
- Lab/radiology
- Clinic/ambulatory care
- Home health
- Hospice
- Durable medical equipment
Inpatient Claims Data

- Contents:
  - Admission information
  - Diagnoses
  - Procedures
  - DRG (Diagnosis-Related Group)
  - Revenue codes
  - Discharge status
  - Length of stay
Prescription Drug Claims Data

Contents:
- Date of prescription/fill
- Provider
- NDC code
- New/refill
- Days supply
- Drug class/therapeutic class
- OTC indicator
Other Therapy Claims Data

- Contents:
  - Diagnoses
  - Procedures
  - Dates of start/end of service
  - Medicare payment information (for dual elig)
  - Provider
Long-term Care Data File

- Nursing facilities
- Independent care facilities
- Independent psychiatric facilities
- Adult foster care
- Home health care
- Hospice
Long-term Care Long-Term Data File

- Contents:
  - Date of admission and dates of service
  - Institution and type
  - Days by type of institution
Mini-MAX

- 5% cross-sectional national sample of Medicaid data
- Summary of data for each patient in sample, including characteristics, diagnoses, and utilization
- Oversample small states and select subgroups to increase stability of estimates
Types of Projects

- Utilization studies for disparities research:
  - Homeless
  - Recent immigrants
  - Disabled (physically/mentally)

- Effect of policy changes (state or federal) on utilization (and prescribing) patterns

- Utilization of different service types for low-income families
Types of Projects (Cont.)

- Utilization of services for patients with particular diagnoses (e.g., diabetes, asthma, substance abuse)

- Cost of new vs. old treatments/medications

- Adverse events from treatments – Phase IV / surveillance studies?

- Utilization of cancer screening services – and outcomes
Although many patients/individuals will come and go in the Medicaid program, some subgroups (such as the disabled, homeless, or those with substance abuse problems) are traceable across time – so that it is possible to follow longitudinal treatment patterns (and cost) across multiple years.

- Have to be careful of biases, such as a cohort effect, but could provide beneficial information.
How to get started

- Contact Robin Clark or Wen-Chieh Lin at CHPR to discuss idea of project and how to frame it in the context of Medicaid data

- Contact RESDAC (www.resdac.org) about Medicaid data availability, cost, and requirements to receive data

- RESDAC (Research Data Assistance Center) is gateway to CMS data – forms, procedures, advice, costs
Cautions

- After RESDAC acceptance (may require one or more revisions to data request), can take several months to receive data

- Data files can be quite large and would be best to utilize UMMS Regulatory Environment (Linux servers) to store/analyze data

- Three layers of privacy: research identifiable files, limited data sets, and public access files
Thanks!!

Questions?