Linking Pregnancy Risk Assessment Monitoring System (PRAMS) and Medicaid Data: Preliminary Findings

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Outline

- Background
- Methods
- Preliminary results
- Conclusions
- Future possibilities
Background

• The Office of Health Informatics links records across four data systems to create the Linked Birth Outcomes Surveillance System (LBOSS).

• The intended uses of the LBOSS are:
  – To examine respondents’ perceptions and experiences of services by patterns of eligibility and by the nature and timing of actual services received.
  – To assess validity and reliability of public health, clinical, and administrative measures across systems.
Background: Preliminary Analysis

Purpose

• Explore and demonstrate the potential utility of the linkages created by the LBOSS.

• Describe the prenatal experiences, barriers, and services received by mothers eligible for full Medicaid benefits during the prenatal period.

• Make recommendations to Medicaid about improvements in messaging with patients and providers.
## Data Sources for the LBOSS

<table>
<thead>
<tr>
<th>Source</th>
<th>Available data</th>
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</thead>
<tbody>
<tr>
<td><strong>VR</strong></td>
<td>Vital Records (1989--present)</td>
</tr>
<tr>
<td></td>
<td>Statewide birth registration information that includes: clinical and health behavior data about prenatal visits, mother's health, smoking status, pregnancy complications, delivery, program participation (Medicaid and WIC), race/ethnicity.</td>
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<tr>
<td><strong>MA</strong></td>
<td>Medicaid Infant and Mother Eligibility and Claims Files (1989--present)</td>
</tr>
<tr>
<td></td>
<td>Medicaid eligibility data and prenatal, delivery, and postnatal care related claims for mothers and infants that include: HMO enrollment, diagnosis, provider, number and type of visits, and prescription drug information.</td>
</tr>
<tr>
<td><strong>INPT</strong></td>
<td>Inpatient Hospital Discharge Data (1989--present)</td>
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<tr>
<td></td>
<td>Statewide inpatient hospital discharge information that includes: diagnoses, dates, demographics and charges. Records can be linked to other hospital stays and emergency department visits for same patient.</td>
</tr>
<tr>
<td><strong>PRAMS</strong></td>
<td>Pregnancy Risk Assessment Monitoring System (2009--2011)</td>
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<tr>
<td></td>
<td>Survey data system that includes information on mothers' perceptions and experiences of their social and physical environments, health conditions, health behaviors, and health care before, during, and shortly after pregnancy.</td>
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</tbody>
</table>
Methods: Matching

Iterative deterministic matching across systems

Vital Records (birth, death data)

- PRAMS annual weighted datasets
- Medicaid Infant claims and eligibility files
- Medicaid Mother claims and eligibility files
- Newborn hospital inpatient discharge data

A sample of new mothers get a survey about their pregnancy, birth experience, and baby.
Methods: Preliminary Analysis

• Data sources:
  – PRAMS weighted data set 2009–2011
  – Medicaid eligibility files matched to PRAMS mothers from 6 months before pregnancy through 6 months after delivery

• Population:
  – Those with Medicaid eligibility at some point during the first trimester and continuously through the rest of pregnancy

• Linkage and weighted analysis performed with SAS 9.4
Results

• Approximately 75,000 women giving live birth in 2009–2011 were enrolled in Medicaid at some point during the first trimester, then continuously throughout pregnancy.

• This group constitutes nearly 40% of the 2009–2011 Wisconsin birth population (n=206,932).
Results: Prenatal Care

- Eighty-two percent of Medicaid moms received prenatal care (PNC) in first trimester.
- Of those who had PNC at any point, 11.9% did not receive care as early as they wanted.
- The most commonly cited barriers to early care were:
  - Didn’t know they were pregnant: 42%
  - Couldn’t get an appointment: 36%
  - Doctor wouldn’t start care as early as wanted: 28%
  - Didn’t have enough money for an appointment: 25%
Results: Services Needed and Received by Medicaid Mothers

- Food assistance: 40.0% needed, 5.0% received
- Counseling information for family and personal problems: 15.0% needed, 0.0% received
- Help to quit smoking: 10.0% needed, 0.0% received
- Help to reduce violence: 5.0% needed, 0.0% received

Weighted n values:
- Food assistance: 30,000
- Counseling information: 9,500
- Help to quit smoking: 4,500
- Help to reduce violence: 1,000
Conclusions

• This linkage could provide important information to the Wisconsin Medicaid program.

• There may be misperceptions among the Medicaid population about costs associated with prenatal care that may keep members from accessing care as early as wanted.

• There may be gaps in receipt of needed services among the Medicaid population. Only half of women who reported needing counseling and smoking cessation services reported receiving them.
Future Directions

• Further assessments of quality and perceptions of clinical care
• Validity and reliability studies of elements common across systems for which there is a gold standard
• Predictive modeling of adverse health outcomes
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