

# Data sources to measure progress towards MCH outcomes

MCAH Fall Seminar

Debra Kane

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Iowa Department of Public Health

## Presentation objectives

- Describe data sources that measure progress towards MCH outcomes
  - Pregnancy Risk Assessment Monitoring System
  - Data Resource Center for Child and Adolescent Health
  - Iowa Prenatal Care Survey
  - Medicaid paid claims
  - Iowa Hospital Discharge Data
  - Census data
  - Iowa vital statistics
    - Births, deaths, fetal deaths

# Pregnancy Risk Assessment Monitoring System (PRAMS)

## What is PRAMS?

- Sponsored by the Centers for Disease Control and Prevention (CDC)
- Established in 1987 to establish and maintain a surveillance system for maternal behaviors and experiences
  - State level primary data collection
- Designed to complement vital records/birth certificate
  - Sample generated from birth certificate
    - Oversample for high risk groups
  - Resident births that occurred in Iowa
- Data collection method
  - Mailings
  - Telephone call if no response to mailed questionnaire

## How do we use PRAMS data?

- Title V National Performance Measure
  - NPM 5:
    - A) Percent of infants placed to sleep on their backs
    - B) Percent of infants placed to sleep on a separate approved sleep surface
    - C) Percent of infants placed to sleep without soft objects or loose bedding
  - NPM 13.1:
    - Percent of women who had a preventive dental visit during pregnancy
- Iowa PRAMS data books
- Iowa PRAMS infographics

## PRAMS - Strengths and Limitations

### **Strengths**

- Standardized data collection and methods
- Questions tested for validity
- Linked to birth certificate
- Reports state population estimates
- Trusted data source
- Captures post-partum experiences
- Compare to other states

### **Limitations**

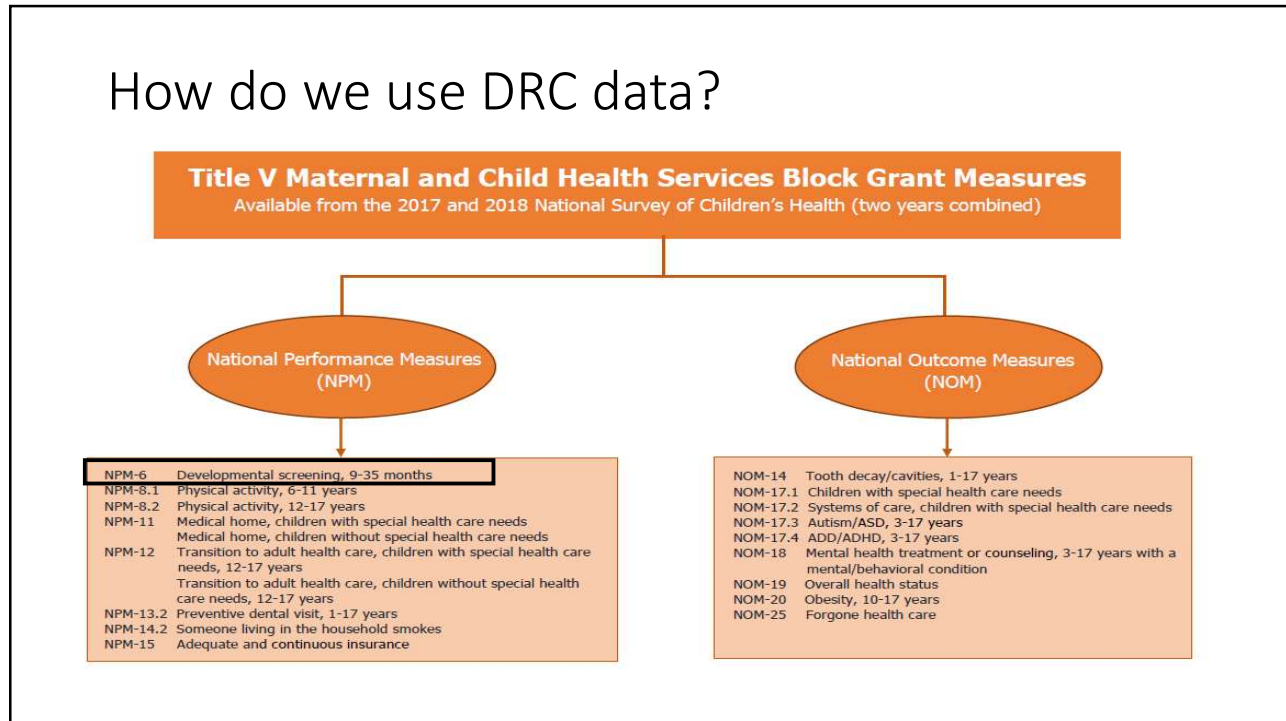
- Unable to quickly change variables to respond to emerging issues
- Limited to state level reports
- Response rates dropping in Iowa and nationally
  - Lower among those at risk for adverse birth outcomes

# Data Resource Center for Child and Adolescent Health (DRC)

## What is the DRC?

- Established in 2003 to expedite and support effective data use from National Survey of Children's Health (NSCH)
- Assist with NSCH design, development, documentation, and public dissemination of data findings, datasets, and codebooks
- Collects data about children's health and well-being
  - including physical and mental health, access to and quality of health care, and the child's family, neighborhood, school, and social context
- Sample selection
  - Households are randomly selected to identify those with children under 18 years of age
  - One child randomly selected from each household

## How do we use DRC data?



## DRC - Strengths and Limitations

### Strengths

- Standardized data collection and methods
- Questions tested for validity
- Reports state population estimates
- Report national performance measures
- Trusted data source
- Compare to other states

### Limitations

- Unable to quickly change variables to respond to emerging issues
- Limited to state level reports
- Low response rates
  - Lower among those at risk for adverse health outcomes

# Iowa Prenatal Care Survey (known as Barriers)

## What is Iowa's Prenatal Care Survey?

- Established in 1991 through a Robert Wood Johnson grant
- Currently funded by IDPH and administered by the UNI – Center for Behavioral Research
- Sample selection
  - All women at who deliver at an Iowa hospital are invited to participate
  - Questionnaire distributed to women prior to hospital discharge
  - Hospital level response rates range from 20% to over 100%
  - Nearly 50% of birth cohort responds

## How do we use Barriers data?

- Annual county level reports
- Monitor trends
  - Unintended pregnancies
  - Travel time to prenatal care visits
  - Travel time to delivery hospital
- Provide hospital level data to Iowa's Statewide Perinatal Program
  - Flu shots
  - Education during prenatal care visits
  - Hospital level breastfeeding support and education

## Barriers - Strengths and Limitations

### **Strengths**

- Ability to response to emerging issues
- Large population response (50%)
- Longevity
- County and hospital level data available
- Available in a timely manner

### **Limitations**

- Measures responses at delivery
  - Intention to breastfeed
  - Intention to place baby back to sleep
- Lower response rates those at increased risk for adverse outcomes
- Dramatic rate response differences at the hospital level

# Medicaid paid claims

## What are Medicaid paid claims?

- Data source based on services reimbursed by Medicaid
- Includes numerous data files
  - Institutional
  - Outpatient
  - Pharmacy
  - Eligibility
- Key variables
  - Diagnostic and procedure codes
  - Provider information
  - Program information
  - Dates of service



## How do we use Medicaid paid claims?

- Link to the birth certificate to determine Medicaid reimbursed births and deliveries
  - Linkage more valid and reliable method to determine Medicaid status
  - [Examine birth outcomes and access to care by Medicaid status and demographics](#)
  - Submit core MCH measure to CMS using linked data file
- [Calculate contraceptive care measures](#)
  - Endorsed by the [National Quality Forum](#) in 2016
    - First contraceptive measures ever!
  - Measures
    - The proportion of women who obtain most/moderately effective contraceptive methods overall and postpartum
    - The proportion of women who obtain long-acting reversible contraceptive methods overall and postpartum

## Paid Claims - Strengths and Limitations

### Strengths

- Represents paid service vs. anticipated payment
- Captures CPT, procedure and diagnoses codes
  - Contraceptive performance measures
- Individual (client) level data

### Limitations

- Administrative data
- Not designed for surveillance or research
  - Gestational diabetes
- Medicaid only
  - What about private insurance data
- Difficult to link to providers
- Hospital level variation

# Iowa Hospital Discharge Data (IPOP)

## What is Iowa Hospital Discharge Data (IPOP)?

- Iowa hospital discharge data are collected by the Iowa Hospital Association on behalf of IDPH in accordance with Iowa Code section 135.166.
  - The IDPH may use these data to conduct public health surveillance and evaluate public health surveillance programs
- Includes numerous data files
  - Hospital
  - Outpatient
- Key variables
  - Diagnostic and procedure codes
  - Hospital level data
  - Demographics

## How do we use IPOP data?

- To calculate severe maternal morbidity (SMM)
  - The [Centers for Disease Control and Prevention \(CDC\) identifies severe maternal morbidity](#) based on hospital discharge data and selected International Classification of Diseases (ICD) diagnosis and procedure codes.
  - Can examine SMM by demographics, hospital, length of stay
- To calculate [newborn abstinence syndrome](#)
- To calculate [maternal opioid use disorder](#)

## IPOP - Strengths and Limitations

### Strengths

- Can calculate key MCH outcomes
  - SMM and NAS
- “Clean” data base
  - Data dictionary
  - Consistent data collection
- Detailed diagnosis and procedure information

### Limitations

- Does not capture out of state or home births
- Administrative data
- Not designed for surveillance or research
- Hospital level variation
- CPT codes not available
- Limited availability

# Census data

## What is [Census Data](#)?

- Complete count of the U.S. population
  - Every 10 years since 1790
    - First census was conducted by people on horseback
  - Primary purpose to assign members to the House of Representatives
    - Iowa lost a seat based on the 2010 census
  - Housing characteristics collected beginning in 1940
- Why is it important?
  - Apportionment (noted above)
  - Redistricting
  - Money to states and municipalities
  - Planning
  - Emergency response
  - Base for Federal Surveys

## How do we use census data?

- Population level denominators
  - Teen pregnancy rates
  - County level for the population of women of reproductive age
  - STI rates
- [Iowa Public Health Tracking System](#)
  - Numerous rates reported
  - US Census population estimates
    - Downloadable tables
- [State Data Center](#)
  - State, County, and City quick facts
  - Other special reports

## Census data - Strengths and Limitations

### Strengths

- Technically
  - Complete count of all residing in the US and its territories
- Census Bureau provides annual updates to population estimates
  - Published July 1 (2019 estimates published 07.01.20)
- Additional questions asked of 17% of population

### Limitations

- Who is not getting counted?
  - Current events
- Expensive
- Labor intensive
- Done only every 10 years
  - Annual estimates less accurate the further from the collection year

# Iowa vital statistics

Births, deaths, fetal deaths

## What are [Iowa Vital Statistics](#)?

- State health departments per State code
  - [Chapter 144](#) – terms defined
- Live births, fetal deaths, infant deaths, termination pregnancy
  - Submit directly to state registrar
  - Need to be filed within a certain time period
- Birth and death data submitted to [National Center for Health Statistics](#)
  - Submitted by April 1 annually
- Programs use via [Data Sharing Agreement](#)
- Researchers use via Research Agreement

## How do we use Iowa Vital Statistics?

- Birth certificate data
  - Provided data to support the Title V annual report
    - Deliveries and births by demographic characteristics
  - Provide data to support community level needs assessments
    - County level and a community based organizations
  - [Examine birth outcomes and access to care by Medicaid status and demographics](#)
  - Provide hospital level data to Iowa's Statewide Perinatal Program
    - Birth outcomes, infant transfers, non-medically indicated early term deliveries
  - Provide data for Iowa's Maternal Quality Collaborative
    - Method of delivery (c-section vs. vaginal), demographics, and items listed above

## Vital records - Strengths and Limitations

### Strengths

- Standard form and variables
- Registers 99% of events
- Timely (electronic submission)
  - Provisional data available
- High validity and reliability of key variables
  - Demographics and birth outcomes
- "Clean" data set
  - Little missing data (<2%)

### Limitations

- Occurrences to residents out of state
  - PNC access and initiation
- Unknown validity and reliability for medical conditions and maternal history
- Self-reported variables
- Linked birth-death records

Questions?

Thank-you

Contact information  
Debbie.kane@idph.iowa.gov