Data Use in Public Health: Challenges, Successes and New Opportunities

Iowa Governor’s Conference on Public Health
April 14, 2015
Learning Objectives

• Locate and utilize local data for assessment, planning, policy and budgeting efforts
• Understand challenges and barriers of locating and using local data
• Learn about the inpatient and outpatient hospital dataset as a data source and how the data can be analyzed at the state and local level
USE OF PUBLIC HEALTH DATA
Comprehensive County Health Assessment

- Public Health Essential Service: Monitor Health
- Accreditation: Public Health Accreditation Board Standards and Measures Domain 1
# Social Determinants of Health

## Economic Stability
- Poverty
- Employment Status
- Access to Employment
- Housing Stability (e.g., homelessness, foreclosure)

## Education
- High School Graduation Rates
- School Policies that Support Health Promotion
- School Environments that are Safe and Conducive to Learning
- Enrollment in Higher Education

## Social and Community Context
- Family Structure
- Social Cohesion
- Perceptions of Discrimination and Equity
- Civic Participation
- Incarceration/Institutionalization

## Health and Health Care
- Access to Health services—including clinical and preventive care
- Access to Primary Care—including community-based health promotion and wellness programs
- Health Technology

## Neighborhood and Built Environment
- Quality of Housing
- Crime and Violence
- Environmental Conditions
- Access to Healthy Foods

---

Image source: Healthy People 2020
Social Determinants of Health

- U.S. Census American Fact Finder: [http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml](http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml)
How data can be used

• Data driven decision making
• Resource prioritization
• Program development
• Strategic planning
• Policy and program analysis
• Community Health Needs Assessment
CHALLENGES
Locating data

- **Many** different data sources to locate indicators – can be overwhelming
- Some indicators are not collected at the county level or sub-county level
- Timeliness
Indicators

• Not readily available
  – Injury
  – Adequacy of Prenatal Care Index

• Not available at all
  – Violence: Elder and intimate partner abuse
  – Mental health

• Numbers are too small
  – Rare events or small population
SUCCESSES AND READILY AVAILABLE DATA
Iowa Public Health Tracking Portal

• Merger of the former Data Warehouse and the Environmental Public Health Tracking Network

• Interactive data access website
  – Generate graphs, charts and maps
  – County and state level data
  – Public vs secure access

• Latest data available is 2013
  https://pht.idph.state.ia.us/Pages/default.aspx
Iowa Public Health Tracking Portal

• Current topic areas
  – Birth outcomes
  – Asthma hospitalizations and emergency department visits
  – Heart attack hospitalizations
  – Carbon monoxide hospitalizations, emergency department visits, and mortality
  – Heat illness hospitalizations and emergency department visits
  – Cancer incidence and mortality
  – Birth defect prevalence
  – Child lead poisoning burden
  – Ozone and fine particulates in outdoor air
  – Contaminant levels in public water systems
Iowa Health Fact Book

- Collaboration between The University of Iowa College of Public Health and the Iowa Department of Public Health
- County compared to state data
- Data available for a wide variety of topics
- Latest publication 2013

http://www.public-health.uiowa.edu/FACTBOOK/2013/menu.htm
Iowa Kids Count

- Provides health, education, welfare and economic data on 20 indicators of child and family well-being
- Both county and state level data
- Annual Publication

http://www.cfpciowa.org/en/data/kids_count/
Eyes Open Iowa

- Provides an Adolescent Health Fact Sheet for each county in Iowa
- Fact sheets include data on teen births, sexually transmitted diseases, and other adolescent sexual health indicators and influences
- Annual publication

http://www.eyesopeniowa.org/data/
Iowa Youth Survey

• Survey grades 6, 8 and 11 attending Iowa public and private schools
• County and state data available (reports pre-generated)
• Conducted every 2 years
• Topics covered include:
  – Demographic characteristics (9)
  – Things I have tried or done and Things that have happened to me (64)
  – My beliefs and attitudes (18)
  – Peer questions (11)
  – School questions (63)
  – Family questions (20)
  – Community questions (26)

http://www.iowayouthsurvey.iowa.gov/
Barriers to Prenatal Care

• All mothers delivering at maternity hospitals in Iowa
• State and county data available
• Annual data from 2010-2013
• Topics covered: behaviors during pregnancy, barriers to prenatal or delivery care during their pregnancy

https://www.idph.state.ia.us/hpcdp/prenatal_care_barriers.asp
Other county data repositories

• CHNA.org
  www.CHNA.org

• Community Health Status Indicators (CHSI)
  http://wwwn.cdc.gov/communityhealth

• County Health Rankings
  http://www.countyhealthrankings.org/
NEW OPPORTUNITIES
Inpatient and Outpatient Hospital Discharge Data

• Information is collected by the Iowa Hospital Association and shared with IDPH once per year

• We have reliable, robust datasets from 2003-2013

Each year there are about:

– 320,000 hospitalizations
– 1.5 million emergency department visits
– 3.5 million additional outpatient hospital visits

• Lowest geographic level available is county of residence
Inpatient and Outpatient Hospitalization Discharge Data

• Limitations
  – Count of hospitalization events
  – Do not get out of state data for Iowa residents
  – No street addresses or census tract data

• New Uses (released in March 2015)
  – Increased availability of this information in the County Health Snapshots
  – Created a new tool to identify top causes of hospitalizations and emergency department visits by age group, county and year released

• Future Uses
  – Mental Health Codes starting in 2014
  – More dashboards on Iowa Public Health Tracking Portal
Iowa Public Health Tracking

• New Topic Areas for 2015-2016
  - Oral Health Hosp. and ED visits
  - Population Demographics
  - Climate and Health
  - Private Drinking Water Quality
  - COPD Hosp. and ED visits
  - Radon
County Health Snapshot Report

- Provide an overview of key health indicators in eight topic areas
- County and state data comparison
- Most recent year available is 2013
- Two Versions
  - Multi-year, single county
  - Multi-county, single year
County Health Snapshot Reports

• Added 35 new indicators
• New Subject Area Reports
  – Chronic Disease
  – Demographics
  – Environmental Health
  – Infectious Disease
  – Injury Prevention
  – Medicaid
  – Oral Health
  – Reproductive Outcomes

<table>
<thead>
<tr>
<th>Measure</th>
<th>County</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth Rate (per 1,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009-2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adair</td>
<td>9.77</td>
<td>12.89</td>
</tr>
<tr>
<td>Adams</td>
<td>12.77</td>
<td>12.89</td>
</tr>
<tr>
<td>Allamakee</td>
<td>12.34</td>
<td>12.89</td>
</tr>
<tr>
<td><strong>2009-2013 Total</strong></td>
<td><strong>11.62</strong></td>
<td><strong>12.89</strong></td>
</tr>
<tr>
<td>Teen Birth Rate - Ages 15-19 (per 1,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009-2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adair</td>
<td>16.57</td>
<td>27.00</td>
</tr>
<tr>
<td>Adams</td>
<td>24.46</td>
<td>27.00</td>
</tr>
<tr>
<td>Allamakee</td>
<td>33.21</td>
<td>27.00</td>
</tr>
<tr>
<td><strong>2009-2013 Total</strong></td>
<td><strong>24.75</strong></td>
<td><strong>27.00</strong></td>
</tr>
</tbody>
</table>
Top Causes Reports

- Three versions
  - Top 10 causes of hospitalizations
  - Top 10 causes of emergency department visits
  - Top 5 causes of mortality
- Select a single county and a single year

### Top 10 County Emergency Room Visits by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>County</th>
<th>Rank</th>
<th>0-18 Years</th>
<th>19-64 Years</th>
<th>65+ Years</th>
<th>All Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cause</td>
<td>#</td>
<td>Cause</td>
<td>#</td>
</tr>
<tr>
<td>2013</td>
<td>Polk</td>
<td>1</td>
<td>Injuries</td>
<td>7857</td>
<td>Injuries</td>
<td>13561</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Symptoms; Signs; &amp; Ill- 5688 Defined Conditions; Factors Influencing Health Care</td>
<td></td>
<td>Symptoms; Signs; &amp; Ill- 9711 Defined Conditions; Factors Influencing Health Care</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>Polk</td>
<td>2</td>
<td>Respiratory Infections</td>
<td>4780</td>
<td>Other Musculoskeletal System &amp; Connective Tissue Diseases</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Heart Disease</td>
<td>1767</td>
</tr>
<tr>
<td>2013</td>
<td>Polk</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Data Sharing Agreements (DSA)

• An option for local jurisdictions to gain access to confidential data for their jurisdiction
  – Vital records (birth and death files)
  – BRFSS datasets
  – Inpatient/outpatient hospital discharge

• Restrictions to ensure confidentiality and security of data

• Examples:
  – Linn County Health Department
  – Iowa Child and Family Policy Center
  – Eyes Open Iowa
  – University of Iowa
DSA Process

• Requestor must complete an application
• The application is reviewed by IDPH
  – Data owner of the requested dataset(s)
  – Assistant Attorney General
  – Contract Administration
• DSA is signed by both parties
• Data release by SFTP site

Application available:
http://www.idph.state.ia.us/PublicHealthData/Requests.aspx
Questions and Contact Information

Kaitlin Emrich, Linn County Public Health
Kaitlin.emrich@linncounty.org
319-892-6020

Caitlin Lueck, Iowa Department of Public Health
Caitlin.Lueck@idph.iowa.gov
515-725-1204