Building an Informatics-Savvy Public Health Infrastructure

Priyanka Surio, Director, Data Analytics & Public Health Informatics
Center for Population Health Strategies, ASTHO
VISION
State and territorial health agencies advancing health equity and optimal health for all.

MISSION
To support, equip, and advocate for state and territorial health officials in their work of advancing the public’s health and well-being.
OVERVIEW

• Background
• What is Informatics-Savvy?
  • Workshop activity
• Data Collection & Public Health Reporting
  • Workshop activity
• Resources
ASTHO’s Center for Population Health Strategies (CPHS), a 3 pillar approach to improve population health

- Develop strong and effective leaders
- Improve public health through capacity building/technical assistance
- Advocate for resources/policies

Data Analytics & Public Health Informatics

- Provide support on informatics and analytics to state/territorial health agencies
- Work with our partners to offer resources and guides
What is Informatics-Savvy?
WHAT DOES IT MEAN TO BE “INFORMATICS-SAVVY?”

AND WHAT EXACTLY IS INFORMATICS?
An applied science and discipline

Public health informatics is the science that supports effective use of information and information technology to improve population health outcomes.
Defining Informatics-Savvy

Informatics vision and strategy

Skilled workforce

Well-designed, effectively used systems

Informatics-Savvy Health Department
### Defining Informatics-Savvy, Cont’d.

<table>
<thead>
<tr>
<th>Informatics Vision &amp; Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>- How the agency uses information and IT</td>
</tr>
<tr>
<td>- Organizational approach to interoperability</td>
</tr>
<tr>
<td>- Effective relationship with community partners and IT</td>
</tr>
<tr>
<td>- Policies to ensure confidentiality, security and data integration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skilled Workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Strategies to improve informatics knowledge and skills</td>
</tr>
<tr>
<td>- Informatics unit with agency-wide responsibilities</td>
</tr>
<tr>
<td>- Program managers with knowledge and skills in informatics principles, methods and tools</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Well-designed &amp; effectively used systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Information systems effectively meet the information needs, workflows and practices of staff and programs</td>
</tr>
<tr>
<td>- Interoperable systems</td>
</tr>
<tr>
<td>- Sound project management principles guide IT projects</td>
</tr>
</tbody>
</table>
Why be informatics-savvy?

- Effective use of information and information technology increasingly seen as critical for health departments
- Pressing external drivers
  - Meaningful Use, population health initiatives, demand for more current information
- Pressing internal factors
  - Shrinking budgets and workforces, challenges getting information out of systems for decision making, aging information systems, health department accreditation, central IT absorbing IT staff (and informatics knowledge)
- Informatics now seen as a core science within public health to help meet these demands
<table>
<thead>
<tr>
<th>CMM Level Name</th>
<th>General Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - Absent</td>
<td>No capability is evident; “starting from scratch.”</td>
</tr>
<tr>
<td>1 - Initial</td>
<td>No organized, systematic efforts to build informatics capacity, only ad hoc efforts and isolated, individual heroics.</td>
</tr>
<tr>
<td>2 - Managed</td>
<td>Some organized efforts begun or completed, but not systematically documented or institutionalized.</td>
</tr>
<tr>
<td>3 - Defined</td>
<td>Systematic, ongoing efforts underway, but no overall method to measure progress or to ensure coordination.</td>
</tr>
<tr>
<td>4 - Measured</td>
<td>Systematic, ongoing efforts underway to measure progress and ensure coordination.</td>
</tr>
<tr>
<td>5 - Optimized</td>
<td>Systematic, ongoing efforts underway with quality improvement activities to align results with guiding vision, strategies and performance metrics.</td>
</tr>
</tbody>
</table>
Lessons Learned from Health Agencies

Staff coming together from across the agency to discuss information capabilities and challenges is a rare and valuable undertaking.

Strategies for addressing challenges collaboratively or at the agency level have a more lasting impact.

Staff/programs realize they have more challenges in common than expected.
Data Collection & Public Health Reporting
Workshop Activity

WHAT ARE THE MOST COMMON SOURCES OF SDOH DATA?
WHAT TOOLS OR SYSTEMS ARE IN PLACE TO HELP ADVANCE DATA COLLECTION AND REPORTING ON SDOH DATA?
WHAT ARE THE BIGGEST CHALLENGES IN ACCESSING, COLLECTING, STORING, AND ANALYZING THIS DATA (E.G., LACK OF ACCESS TO SDOH DATA SOURCES, LACK OF STANDARDIZATION)?
WHAT ARE SOME SOLUTIONS TO ADDRESS THESE CHALLENGES?
Nebraska DHHS has developed recommendations for a minimum core data set of health disparities data.
STATE-LEVEL SOCIAL DETERMINANTS OF HEALTH DATA

- State public health agencies have access to many data sources, but may still need data sharing agreements or formal partnerships to gain access to additional SDOH data

- Challenges
  - Training
  - Resources (i.e., templates, datasets, open-source platforms)
  - Lack of standards in SDOH
  - Legal (i.e., data sharing and use agreements, HIPAA compliance)

Data
- Demographics
- Poverty gradient (rural & urban)
- Education (on-time graduation)
- Unemployment rate
- Air quality index
- Walkability index
- Social vulnerability index

Sources
- Environmental Protection Agency
- Bureau of Labor Statistics
- American Housing Survey
- Behavioral Risk Factor Surveillance System
- Census Bureau
- Demographics USA
- Census of Governments
- Medicaid Data
- Emergency Department Data
- Electronic Health Records
- Electronic Lab Reports
- Electronic Case Reporting
- Health Information Exchanges
DATA SHARING: California State Example

ECOSYSTEM OF DATA SHARING STRATEGY

- **Build Partnerships for Data Sharing**
  
  Business processes are used to administer public health programs.

- **Manage Data as an Asset**
  
  Data are tangible assets (e.g., facts, figures, images, and sound) and are managed by public health programs using business processes to form information.

- **Promote Interoperability**
  
  Technology is a tool and service used to make business processes more efficient and manage data more effectively.

- **Share Data in Secured Environments**

PUBLIC HEALTH 2035

- System of Prevention
- Decreasing Healthcare System Dependence
- Improve Health Equity
- Building Healthy Communities
- Data-driven and Outcomes Focused
- Science-based Practice
INFORMATICS-SAVVY TOOLS FOR POPULATION HEALTH MANAGEMENT

• States use informatics and analytics tools on SDOH data to make decisions for population health management and disseminate information to partners, lawmakers, and the public

• Tools
  • Health Opportunity Index
  • ESRI’s ArcGIS (geographic and regional information)
  • Dashboards (Tableau, R-Shiny, Power BI, OASIS)
  • Health Level 7 (HL7) Admission, Discharge, Transfer (ADT) messaging for patient demographic and visit information

Solutions

- Prioritizing health equity (i.e., programming, planning)
- Measures and standard data practices
- Policies (laws and regulations)
- Organizational infrastructure
- Align with State and Community Health Improvement Plans
- Align with State Health Assessments and Accreditation
HEALTH OPPORTUNITY INDEX: Virginia State Example

• VA’s Health Opportunity Index (HOI) has 13 indicators based on 3 criteria
  • Influence on health as expressed in the literature
  • Input from Local Health Districts and other stakeholders
  • Availability of data of consistent quality at the Census Tract level for all Census Tracts in Virginia

• VA develops profile information (community environment, economic opportunity, consumer opportunity, and wellness disparity)

• VA’s use of the data
  • Show that place matters
  • Identify impact of SDOH on statewide health landscape
  • Identify HOI indicators most influential on local health
  • Identify areas and populations vulnerable to adverse health outcomes
  • Build cross-sector collaboration to promote health equity
To communicate what Public Health Informatics is...

FrameWorks Communications Toolkit:
Public Health Informatics

https://frameworksinstitute.org/toolkits/informatics/
To develop a surveillance strategy that aligns with national efforts...

CDC Public Health Surveillance Strategy

https://www.cdc.gov/surveillance/index.html
To connect with peers and share promising practices...

ASTHO Informatics Directors Peer Network (IDPN)

Quarterly Webinars
- Gaining knowledge of innovations, trends, and national priorities
- Sharing promising practices

my.ASTHO Online Forum
- Peer mentorship and information exchange in Discussion Forum
- Resource library

Cross-Sector Engagement & Collaboration
- Input on National Health IT/Informatics Priorities
- Policy development ASTHO Peer Network Engagement
IDPN 2018-19 Strategy

- **Strategic Planning**
  - State development and implementation of health IT/informatics strategic plans

- **Public Health Surveillance Capacity**
  - Informatics-savvy health departments
  - Leadership development
  - Building resources
  - Workforce capacity and development

- **Policies and Processes**
  - Policy and process development
  - ASTHO Population Health and Informatics Policy Committee engagement, priorities, and policy statements

- **Peer Exchange**
  - Online forum for peer exchange and mentorship
  - External engagement with partners

- **ASTHO Technical Assistance**
  - ASTHO TA to states/territories in public health informatics
  - Quarterly webinars
  - National convenings or conferences
  - Learning Community opportunities