EHR-based Surveillance Learning Community

November 2019 Call

Learning Community Website: www.chronicdisease.org/page/MENDSinfo
Finding your way around Zoom

Meeting controls are at the bottom of the window in the BLACK menu bar.

If you click on PARTICIPANTS in the Black Menu Bar, the Participants Window will appear to the right.

If you click on CHAT, in the Black Menu Bar, the Chat Window will appear to the right (below the Participants Window).

You can also find additional controls by clicking on MORE.
Poll Questions | October Call

Organizations represented in the Community

<table>
<thead>
<tr>
<th>Organization</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Academia</td>
<td>6%</td>
</tr>
<tr>
<td>CDC/other federal agency</td>
<td>4%</td>
</tr>
<tr>
<td>Local HD</td>
<td>4%</td>
</tr>
<tr>
<td>Non-profit</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>4%</td>
</tr>
<tr>
<td>State HD</td>
<td>71%</td>
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Roles represented in the Community

<table>
<thead>
<tr>
<th>Role</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Disease program management</td>
<td>10%</td>
</tr>
<tr>
<td>Chronic Disease program staff (e.g. planners, coordinators, analysts, project managers)</td>
<td>22%</td>
</tr>
<tr>
<td>Epidemiologist</td>
<td>0%</td>
</tr>
<tr>
<td>Health department senior leader</td>
<td>4%</td>
</tr>
<tr>
<td>Informatician</td>
<td>14%</td>
</tr>
<tr>
<td>Other</td>
<td>12%</td>
</tr>
</tbody>
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Today’s Agenda

● Introduction of facilitators
● Building support for EHR-based surveillance for chronic disease
  • Lessons from the field: San Diego
● Critical success factors in surveillance system implementation
  • Tools you can use: stakeholder analysis
● Facilitated Discussion
Introduction of Facilitators

Bill Brand  Kayla Craddock  Emilie Lamb  Emily Kraus
Educational Topic: Building Support for EHR-based Surveillance
Building Support for EHR-based Surveillance

- Internal support within the health department

- External support within healthcare organizations, health information exchanges, payers, providers, and other stakeholders
Why Does EHR-based Surveillance Need Support?

- Surveillance projects/systems are expensive, unpredictable, and often take a long time
- Informatics projects are high risk and have a high failure rate
- Invisible infrastructure
- Hard to measure progress
- Funding is hard to come by and HIGHLY competitive
- Surveillance system projects are usually under funded
- EHR-based surveillance is very different than traditional surveillance techniques, especially for non-technical members of the public health workforce
What Does Support for EHR-based Surveillance Look Like?

- Excitement to use EHR-based chronic disease surveillance data
- Willingness to invest time in learning about how to describe the data accurately
- Enthusiasm to share surveillance data and information about the system with partners and at conferences
- Willingness to transform data into information for various audiences
- Advocacy for resources to support the surveillance system
- Recruitment assistance toward participation in surveillance
What next?
How do we get support?
Building Support for EHR-based Surveillance

Goal: Public health program staff use the EHR-based surveillance data to:

1. target programs to populations and communities experiencing the greatest burden
2. evaluate and demonstrate the impact of interventions (+advocate for more of what's working)

Internal support within the health department
Understanding the Current State of Surveillance in Public Health

• Encouragement to modernize surveillance practices and embrace technology
• Limited resources and guidance to actualize surveillance innovation
• Fragmented landscape of best practices
• Tendency to talk about the surveillance machinery and leave out the why and what happened
Practical Tips for Building Support in Public Health

• **Start small.** Focus on one use case (e.g. demonstration project) for EHR-based surveillance. What 1 problem can you fix?

• **Establish a shared vision and Intentionally manage this change.** This is about getting more data and complementing existing data sources. Acknowledge the limitations of EHR data.

• **Build capacity through learning.** Create opportunities for staff to learn more about EHR data to reduce the overwhelm of technical complexity.
Building Support for EHR-based Surveillance

Goal: Strong participation and interest in EHR-based surveillance efforts from a diverse stakeholder audience based on perceived value.

- Understand the need for more data and how this can improve population health

External support within healthcare organizations, health information exchanges, payers, providers
Understanding the Current State of Health Data

• Incredible demand for health data.
• Health systems and payers receive constant requests for their data.
• Most ideas are very good and many are well funded.
Understanding the Current State of Health Data

• IT leadership’s primary role is operational and focused on care provision, provider support, and security.
• Pushback from providers and systems to collect any more data.
• Organizational and leadership commitment to research, public health, and population health (and what that means) can vary.
• Within funded projects, IT processes and governance (including norms and policies) will vary. Inquire and make no assumptions.
Practical Tips for Building Support Among External Stakeholder

• **Build a strong business case.** What are the benefits *to them* of participation? This should be based in business healthcare terms and not public health values.

• **Use your best elevator pitch.** Describe the project/system clearly and consistently.

• **Align your project with existing efforts.** Is there a project getting started on opioids or high utilizers that needs a reporting data source?

• **Identify and nurture an internal champion.** Internal champions have more success that an unknown entity.
Practical Tips for Building Support Among External Stakeholder

• **Align participation in your project with incentives.** Could a surveillance system be an approved specialized registry?
• **Ask about their past experience with similar data projects.** Past experiences (positive or negative) will impact perceived advantages and barriers.
Questions?
Lessons from the Field: San Diego’s EHR-based Surveillance Demonstration Project
A Cardiovascular Disease Surveillance Project in San Diego County

Deirdre Browner
Senior Epidemiologist
CARDIOVASCULAR DISEASE SURVEILLANCE OVERVIEW

▪ Program Background
▪ Clinical Partners
▪ Basics of Surveillance Model
▪ Next Steps
Since the launch of Live Well San Diego, Healthy Works has secured more than $50 million in external funding to address 3-4-50 in San Diego County.
Be There San Diego and Surveillance

- Staff and partner expertise
- Relationships with healthcare organizations
- Link with existing efforts: Regional Clinical Quality Indicators project
INITIAL EFFORTS
BMI SURVEILLANCE AND CHRONIC DISEASE

BMI (Healthy Weight) Surveillance
• Developed 12 interfaces for BMI data collection through EHRs utilizing an existing Immunization Registry

Chronic Disease Surveillance
• Participation in the Public Health Informatics Institute’s Chronic Disease Surveillance Workshop
• Conceptualization of pilot chronic disease project

Encrypted File Transfer
DATA LIMITATIONS: WHAT’S MISSING?

- No data for early clinical conditions
- Little neighborhood-level data
Early clinical conditions

- NGT
- IFG/IGT
- Type 2 Diabetes

- Estimates of prevalence of prediabetes range from 33 to 42* percent of the adult population
- Two out of five prediabetics will progress to type 2 diabetes in five years

Project Overview

Explore use of clinical data from EHRs for public health surveillance with a focus on early clinical conditions (prediabetes and elevated blood pressure)

**Funding:** leveraging CDC Prevention grant and small project with the Public Health Informatics Institute

**Goal:** Demonstrate utility of EHR data in public health surveillance and develop prototype reports for clinics which link clinical and community data
CARDIOVASCULAR DISEASE SURVEILLANCE DEMONSTRATION PROJECT

SAN DIEGO COUNTY IT NETWORK

Public Health Informatics Institute

TA

Funding

COUNTY OF SAN DIEGO HEALTH AND HUMAN SERVICES AGENCY

Funding

Be There San Diego

Preventing Heart Attacks & Strokes

Funds

EHR Data

Two Federally Qualified Health Centers
WHO HAS ACCESS, WHEN AND HOW:

- Data Use Agreements
- Business Associates Agreement
PILOT DEVELOPMENT INCLUDES:

- Secure SharePoint Site
- Server Space
- Development of Analytics
Infrastructure and Analytics

**Data sharing**: Secure SharePoint site selected as IT solution

**Ingestion Script**: Daily ingestion script replaces address with census tract and creates a new randomized ID via a crypto table

**Analytics**: Testing iterative proportional weighting to determine feasibility to address issues of representativeness
# Revised Data Elements

**Demographics**
- Address*
- Age
- Sex
- Race
- Ethnicity

**Clinic encounter**
- Encounter date
- Smoking
- Pregnancy
- SBP
- DBP
- Weight
- Height

*address geocoded to census tract and stripped from file when transmitted to County

**Medical History**
- Prediabetes
- Diabetes
- Gestational Diabetes
- Elevated blood pressure
- Hypertension
- Heart Disease
- Stroke
- COPD
- Asthma

**Laboratory**
- LDL
- HDL
- Total cholesterol
- HbA1c
- Fasting blood glucose

**Patient identification**
- Patient ID

**requesting date of first diagnosis**
Spatial Data

Demographics
Census Data
American Community Survey
Tapestry Segmentation
Crime
Business
Economics
Education

Food Access
Transportation (includes biking and walking)
Parks
Trails
Libraries
Recreation facilities
SAMPLE ANALYTICS AND VISUALIZATIONS

Co-morbidities map.
Obesity hot spots
Economic Hardship Index in a Story Map.
SAMPLE ANALYTICS AND VISUALIZATIONS
System Development

• Finalize data management tools and analytics
• Test weighting code on BMI data
• Finalize dashboards

Clinic Recruitment

• Approve and sign Data Use Agreements
• Develop queries
• Collaborate with clinics on reports
Sustainability

• Migrate Transmission to San Diego’s Regional Health Information Exchange

• Develop Health Officer Order for regulatory authority

• Explore an Advisory Committee for governance

• Translate to open source tools: Python and R
QUESTIONS?

Deirdre Browner, MPH
deirdre.browner@sdcounty.ca.gov
Educational Topic: Critical Success Factors
Critical Success Factors in surveillance system planning and implementation
Leadership support

Executive sponsorship the single most critical success factor

• Lack of clear and effective executive sponsorship is the #1 cited cause of informatics project failures

Executive sponsor can:

• Ensure needed resources
• Address barriers
• Reach across organizational boundaries
• Lend credibility
• Engage others
Governance & Stakeholder Involvement

Governance = How decisions are made, the people, policies and processes

Governance attributes are determined by the size and nature of the project

Ideally codified in a project charter.
Stakeholder Involvement and Communications

Stakeholders:

- Who is impacted?
- Who has influence?
- Who is interested?
Discussion Questions

• What are the common barriers you all have encountered when building support with internal (public health) stakeholders?

• What facilitators or incentives have been effective to build support with external stakeholders (i.e., healthcare providers and HIEs)?

• What are some critical roles an executive sponsor can play related to EHR-based surveillance planning, implementation, and sustainability?
Housekeeping

• Next meeting: December 17 at 3pm EST
• Educational Topics include:
  • Analysis and Visualization Tools
    • RiskScape - Massachusetts
    • Coverage and Maps - CHORDS in CO

PLEASE COMPLETE THE POST WEBINAR SURVEY!