Across sectors, there is strong desire to collaborate on population health measurement, to share data, agree on definitions and metrics, and address social determinants of health. This presentation highlights local efforts to develop a measurement and surveillance infrastructure and aims to foster cross sector collaboration.

We will describe the approach, experiences, successes and challenges across public health and health care to address population health measurement, and discuss the potential for meaningful collaboration. We will also engage in a dialogue about overcoming barriers and ways to continue to advance this work.

**Learning objectives**
1. Review a healthcare system's perspective and challenges related to population health.
2. Describe a four pronged approach to population health measurement implementation.
3. Evaluate ways to meaningfully and sustainably partner with healthcare systems for population health measurement and surveillance.
4. Discuss concrete ways and next steps to partner and advance this work in the metro and in more rural areas.

**Dimpho Orionzi**  
Research Associate, Division of Applied Research, Allina Health

Dimpho Orionzi is a research associate in the Division of Applied Research at Allina Health working on health equity and population health research. The purpose of equity research is to identify and understand disparities through multidisciplinary and community-engaged research and to inform culturally-responsive, evidence-based solutions. Her primary role is managing the development of the health equity agenda and research activities for the Backyard Initiative, a large community health improvement project in South Minneapolis. Before coming to Allina Health, Dimpho graduated from Macalester College in 2009 with a BA in biology as well as community and global health. She also worked as an intern at the Office of Minority and Multicultural Health (OMMH) at the Minnesota Department of Health (MDH), which works to represent minority health issues at the state government. OMMH also houses the Eliminating Health Disparities Initiative (EHDII) grant that supports organizations working towards eliminating key health disparities. While there, she planned conferences around emerging health issues such as genetics and genomics, emergency preparedness and a national conference on health disparities.

**Joan Pennington, MBA**  
System Director, Community Health, HealthEast Care System

Joan Pennington serves as the enterprise-wide leader for the area of population and community health, including health needs assessment, health improvement strategy development and measurement and community benefit. She is responsible for aligning these with system-wide strategies, while integrating into our east metro neighborhoods. Within the division of Community Advancement, she also has operational responsibility for HealthEast Passport, a community-based program with the purpose of keeping people age 50+ active and socially connected through partnerships with local city and other organizations. Passport currently has more than 32,000 members.

Joan earned her bachelor of science degree in nutrition and dietetics from the University of Minnesota and a master’s degree in business administration from the University of St. Thomas in Minneapolis. Joan is currently a member of several community collaborations, including Center for Community Health, a metro-wide collaboration of health plans, hospitals, and public health.
Center for Community Health

Vision: Using data and assessment tools, health plans, hospitals and governmental public health agencies will achieve the Triple Aim of improving the patient experience of care (including satisfaction); improving the health of populations (quality) and reducing the per capita cost of health care.

Mission: To improve the health of our community by engaging across sectors and serving as a catalyst to align the community health assessment process and the development of action plans to impact priority issues and increase organizational effectiveness.
Center for Community Health (CCH) membership

- Anoka County Community Health
- Carver County Public Health
- City of Bloomington, Division of Health
- Dakota County Public Health
- Hennepin County Human Services & Public Health
- Minneapolis Health Department
- St. Paul-Ramsey County Public Health
- Scott County Public Health
- Washington County Public Health & Environment

Hospitals/Health Systems

- Allina Health
- Fairview Health Services
- HealthEast Care System
- HealthPartners Hospitals
- Children’s Hospitals and Clinics
- Hennepin County Medical Center
- Maple Grove Hospital
- North Memorial Medical Center
- Minnesota Hospital Association

Health Plans

- Blue Cross Blue Shield/Blue Plus of MN
- HealthPartners
- Medica
- Metropolitan Health Plan
- PreferredOne
- UCare
- Minnesota Council of Health Plans

Public Health Agencies | Hospitals / Health Plans

Two CCH Work Groups

Assessment Alignment
Co-chairs: Rina McManus, Ramsey County Public Health and Joan Pennington, HealthEast

Collective Action
Co-chairs: Janny Brust, MN Council of Health Plans and Donna Zimmerman, HealthPartners/Regions Hospital
Assessment Alignment Charge

- Design a framework with common language and processes to:
  - Guide members in conducting assessments
  - Allow for aggregate analysis of community health needs and priorities across the Twin Cities 7-county metro region

- Facilitate more effective use of data by:
  - Identifying opportunities for collaborative data collection and analysis
  - Eliminating barriers to data sharing among members

Assessment Alignment Work: Process

Adopted MAPP Framework:

- Developed by National Association for City and County Health Officials (NACCHO)
- Collaborative process to complete a community health assessment and community health improvement plan
Assessment Alignment Work: Data

- Compile a list of “core” indicators that all CCH members will use for community health assessment based on:
  - Healthy People 2020 Leading Health Indicators
  - Healthy Minnesota 2020: Statewide Health Improvement Framework and Chronic Disease and Injury Plan
  - Locally-identified needs
- Identify data sources for each indicator
  - Look at data gaps that could be filled by EHR data

Assessment Alignment Pilot Group

Testing the process at HealthEast
Goals of HealthEast Pilot Project

- Extract data from one health system to test the CCH concepts and develop a format that other health systems could use.
- Review available data sources for core indicators to:
  - Fill gaps in data with EHR data where there is no other source.
  - Confirm existing sources of data (e.g., BMI from survey data) using EHR data.
  - Mine socioeconomic data from EHR.

Why use EHR as a data source?

- Enhance general health surveillance by providing:
  - Data that is based on objective measurement and clinical diagnoses:
    - Current data sources: self-reported survey measures
  - Real-time data allows for faster outcome measurement:
    - Current data sources: lag because surveys are conducted every 3-4 years
  - Analysis of data at more discrete levels:
    - Eg. zip code, race, ethnicity, language, and other social determinants of health
### EHR Data

<table>
<thead>
<tr>
<th>Patient populations</th>
<th>Descriptive data</th>
<th>Clinical data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute Care Hospital Patients</strong></td>
<td>- All patients</td>
<td>From patient records:</td>
</tr>
<tr>
<td>- Subgroups:</td>
<td></td>
<td>- Tobacco use status</td>
</tr>
<tr>
<td>- Patients with readmissions</td>
<td>- Race/ethnicity / primary language</td>
<td>- BMI</td>
</tr>
<tr>
<td>- &lt;30-days (CMS definition)</td>
<td>- Country of birth (US or foreign-born)</td>
<td>- Have &gt; 2 chronic conditions</td>
</tr>
<tr>
<td>- Frequent ER users</td>
<td></td>
<td>- Have diagnosis or concern/risk for chronic disease</td>
</tr>
<tr>
<td><strong>Long-term Acute Care Hospital Patients</strong></td>
<td>- Payor type (private, public, uninsured)</td>
<td>- e.g. A1c, BP, cholesterol</td>
</tr>
<tr>
<td>- All patients</td>
<td></td>
<td>- Have a diagnosed mental illness</td>
</tr>
<tr>
<td><strong>Primary Care Clinic Patients</strong></td>
<td>- Payor type (private, public, uninsured)</td>
<td>- e.g. PHQ9</td>
</tr>
</tbody>
</table>

**Other descriptive data**
- Patient primary & secondary diagnosis
- Patient address for geocoding/mapping
- Homeless using address for shelters or no address
- Enrolled in health care home
- Advanced directive in place

**Economic characteristics**
- NOTE: Public plan enrollment or uninsured will be used as a proxy measure for low-income patients

**Results of HealthEast Pilot**

- Established data definition and “rules” for an initial set of variables that align with population health measures
  - Definition of patients overweight and obese
  - Frequency of ED re-admissions
  - Definition of patients who use tobacco
  - Age categories

- Piloted multiple approaches to identify patients with high health needs
  - Charlson Comorbidity Index (DRG roll-up)
  - 30-day readmissions – inpatient
  - High number of emergency department visits

- Engaged stakeholders in discussion of most meaningful unit of analysis (clinic vs. county vs. zip code)
Example: Obesity

<table>
<thead>
<tr>
<th></th>
<th>Metro</th>
<th>Dakota</th>
<th>Ramsey</th>
<th>Washington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obese</td>
<td>25.1%</td>
<td>25.8%</td>
<td>24.4%</td>
<td>26.0%</td>
</tr>
<tr>
<td>Overweight</td>
<td>36.5%</td>
<td>34.0%</td>
<td>38.5%</td>
<td>35.0%</td>
</tr>
<tr>
<td>Not overweight</td>
<td>38.4%</td>
<td>40.2%</td>
<td>39.3%</td>
<td>39.0%</td>
</tr>
</tbody>
</table>

Source: Metro Adult Health Survey, 2010

<table>
<thead>
<tr>
<th>HealthEast Primary Care patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obese</td>
</tr>
<tr>
<td>Overweight</td>
</tr>
<tr>
<td>Not overweight</td>
</tr>
<tr>
<td>Missing/unknown</td>
</tr>
</tbody>
</table>

Source: HealthEast patient data

*analysis of unique adult patients age 18–74, valid BMI 11–100

Results of HealthEast Pilot

- Mapping was a useful tool in prioritizing geographic areas for primary data collection
- Ongoing work is underway to:
  - Explore availability of other key measures that align with Healthy Minnesota 2020 framework
  - Identify key metrics to review as intervention strategies are implemented
  - Develop community health dashboard using patient clinic data at a zip code level
Example: Mapping BMI by Zip Codes

- Area – East Metro
- BMI definitions
  - Overweight: 25.0 – 29.9
  - Obese >30.0
- Data by zip code and...
  - Age
  - Race/ethnicity
  - Language
Mapping BMI by Zip Code

CCH Assessment Alignment Committee

Next Steps
Next Steps for CCH Assessment Alignment Committee

- Develop standard set health indicators using both patient and publically reported data including:
  - Common definitions
  - Agreed upon data sources
  - Benchmark data

- Build a dashboard of leading and lagging indicators to measure population health

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DRAFT: Core Indicators Based on Healthy People 2020

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Definition</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults who are a healthy weight</td>
<td>Percentage of adults whose self-reported Body Mass Index (BMI) is less than 25</td>
<td>Metro SHAPE</td>
</tr>
<tr>
<td>Adults who are a healthy weight - Clinic EHR</td>
<td>Percentage of adults whose measured Body Mass Index (BMI) is less than 25</td>
<td>Clinic EHR</td>
</tr>
<tr>
<td>Youth who eat the recommended number of fruits and vegetables daily</td>
<td>Percent of 9th-grade students who report consuming at least 5 fruits, fruits, or vegetables the previous day</td>
<td>Minnesota Student Survey</td>
</tr>
<tr>
<td>Youth who meet physical activity guidelines</td>
<td>Percent of 9th-grade students who report exercising or participating in sports which made them sweat or breathe hard for at least 20 minutes at least 3 of the last 7 days</td>
<td>Minnesota Student Survey</td>
</tr>
<tr>
<td>Adults who meet physical activity guidelines</td>
<td>Percent of adults age 18 and older reporting 30 minutes/day of moderate activity 5 or more times per week or 20 minutes/day of vigorous activity 3 or more times per week</td>
<td>Metro SHAPE</td>
</tr>
<tr>
<td>Adolescents who smoke cigarettes</td>
<td>Percent of adolescents who smoked one or more cigarettes, past 30 days</td>
<td>Minnesota Student Survey</td>
</tr>
<tr>
<td>Young adults who smoke</td>
<td>Percent of adults age 18-24 who report that they smoked in the last 30 days</td>
<td>Metro SHAPE</td>
</tr>
<tr>
<td>Adults who are current cigarette smokers</td>
<td>Percent of adults 18 years or older who: 1) have smoked at least 100 cigarettes in their lifetime (C14); or 2) now smoke cigarettes every day or some days (C15)</td>
<td>Metro SHAPE</td>
</tr>
</tbody>
</table>
Thank you!
Heather Britt, Director Division Applied Research, Allina Health
Dimpho Orinzi, Research Associate, Allina Health
Joan Pennington, Director Community Health, HealthEast