Module 1: Introduction

DAP TOOLKIT MODULE I: INTRODUCTION TO HEALTH EQUITY AND POPULATION HEALTH

Cook County Department of Public Health & University of Chicago

Data Ambassador Program (DAP)

Module 1: Introduction to Health Equity & Population Health

Module 1 Contents:

Module 1 Learning Objectives:

1. Define Health Equity & it's relationship to Epidemiology
2. Define the role of community in achieving health equity
3. Use examples of population health data to understand health patterns
4. Understand how data informs decision-making in community health

What is the Data Ambassador Program?

Welcome to Module 1 of the Data Ambassadors Program. The Data Ambassadors Program (DAP) provides the opportunity for community partners to gain foundational data literacy skills and reduce barriers to accessing population health data on the Cook County Health Atlas.

Developed as a partnership between Cook County Department of Public Health, Metopio, and University of Illinois-Chicago, the Cook County Health Atlas (https://cookcountyhealthatlas.org/) offers a wealth of information and sophisticated tools to visualize data. The DAP is intended to help provide users with the baseline knowledge needed to effectively access and utilize many components of the Cook County Health Atlas.

Skills you can gain from the Data Ambassador Program Include:

5. Identifying what types of *health indicators* are available on the Cook County Health Atlas
6. How to navigate the Cook County Health Atlas website and various functions
7. How to interpret the data available on the Cook County Health Atlas.

Introduction to Module 1

Module 1 of the Data Ambassador Program is an 'Introduction to Health Equity and Population Health'

Why did we start with this module?

We selected this module to kick off the Data Ambassador Program, as we want to lay a foundation of the connection between the work that many of our local Community Based Organizations, local researchers, students, and community members are engaged with through providing resources and services to improve health and *health equity* within your communities. By providing targeted, local access to care, health resources, and support to Cook County residents, you work directly to improve health outcomes among the population. Today we will discuss the connections that exist between Health Equity and Population Health data, and how these concepts can be used to serve our targeted communities.

Module 1.1

Module 1.1: What is Health Equity?

Equity is defined in Merriam Webster as "fairness or justice in the way people are treated" or "freedom from disparities in the way people of different races, genders, etc. are treated" [1]

According to the World Health Organization "Equity" is important to health because there are "unfair, avoidable or remediable differences among groups of people whether those groups are defined socially, economically, demographically, or geographically or by other dimensions of inequality" [2]

WHO adds that, "Structural determinants (political, legal, and economic) with social norms and institutional processes shape the distribution of power and resources determined by the conditions in which people are born, grow, live, work, play and age." [2]

Esteemed researcher, physician, Epidemiologist and educator, Dr. Camara Jones' work is centered around *Social Determinants of Health*, and the impact that social inequities such as poverty and racial discrimination have on our population's health outcomes. She notes that there are a few action steps required to apply health equity work: [3]

- Learning directly from community about their challenges & needs
- Understand the importance of history
- Viewing systems and structures as modifiable

- Break down barriers to opportunity
- Build bridges to opportunity

CAMARA JONES

MD, MPH, PhD

Citations: 1) https://www.merriam-webster.com/dictionary/equity, 2) https://www.who.int/health-topics/health-equity , 3) Jones, Camara P et al. “Strategies for Achieving Health Equity, https://pmc.ncbi.nlm.nih.gov/articles/PMC6604784/

Module 1.2

Module 1.2: Applying Health Equity to Public Health Action

What is the role of Community-Based Organizations to address health equity?

- Trusted messengers in communities
- The bridge between data and lived experience
- Drivers of community-led change
- What is the importance of free public access to community data?

What is the importance of free public access to community data?

- Community advocates can use data to inform & tell community stories
- Community data can be referenced to strengthen the need for improved access to resources

Community data can be referenced to strengthen the need for improved access to resources

- Community Data & Storytelling
- Combine data with lived experiences
- Use community mapping, participatory methods
- Storytelling builds trust and engagement

Module 1.3

Module 1.3: How does Health Equity relate to Epidemiology?

Epidemiology is the study of health and disease conditions in defined populations.

- Epidemiologists track disease patterns, causes, and effects.
- Epidemiology methods support health decision making and policy. [4]

Epidemiology intersects with Health Equity when researchers aim to better understand differences in conditions of the environment that may contribute to different health outcomes between different population groups.

Populations can be grouped and/or identified in various ways. When we target populations to assist with their health outcomes we may group them by:

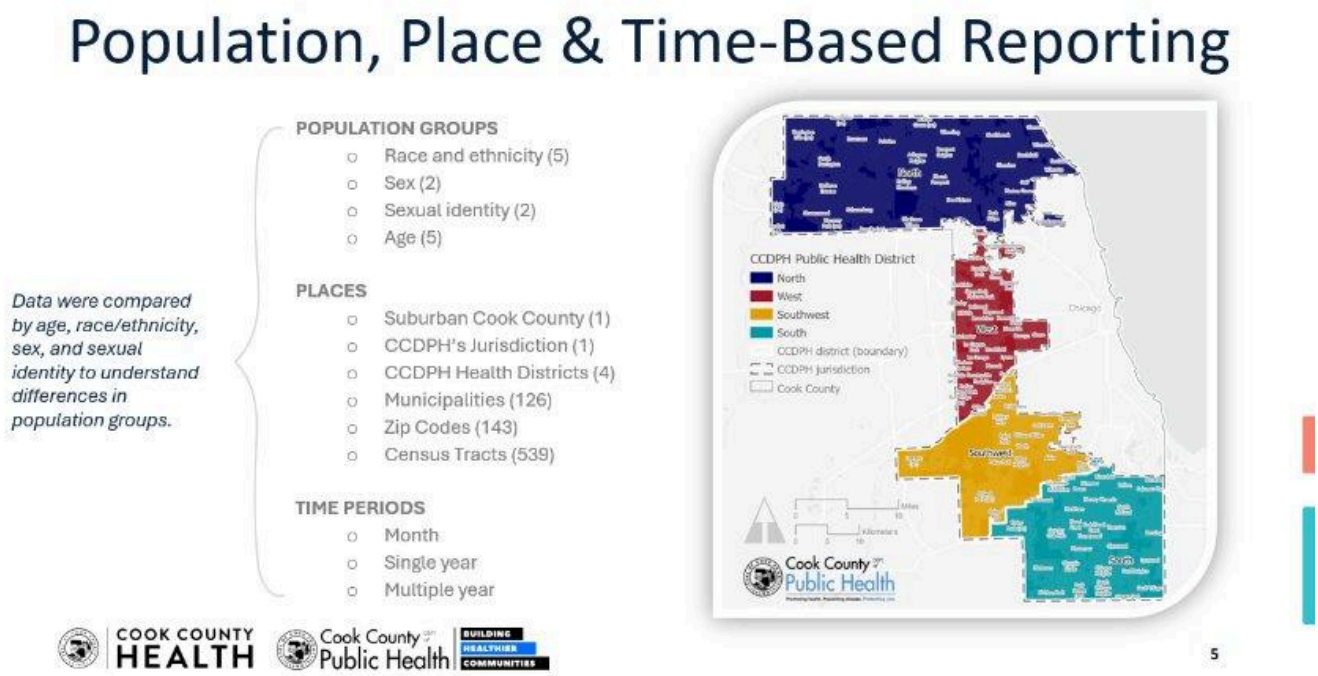
- Their country
- A city population
- Whether or not they experience homelessness
- The annual income of their family
- If they live in a rural area or an urban area
- Their age
- Their *sex* or *gender*
- Their neighborhood
- The race, ethnicity, or cultural they identify with

Social determinants of health **(SDoH)** are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.

Healthy People 2030 is a national initiative that identifies the goals of health improvement that our nation aims to achieve. (https://odphp.health.gov/healthypeople) One of the Healthy People 2030 goals is to acknowledge Social Determinants of Health theory by creating "Creat[ing] social, physical, and economic environments that promote attaining the full potential for health and well-being for all."

Therefore by identifying groups that may experience different health outcomes based on their population grouping, we can target that group for improvement.

We can observe some of these trends using the Cook County Health Atlas:

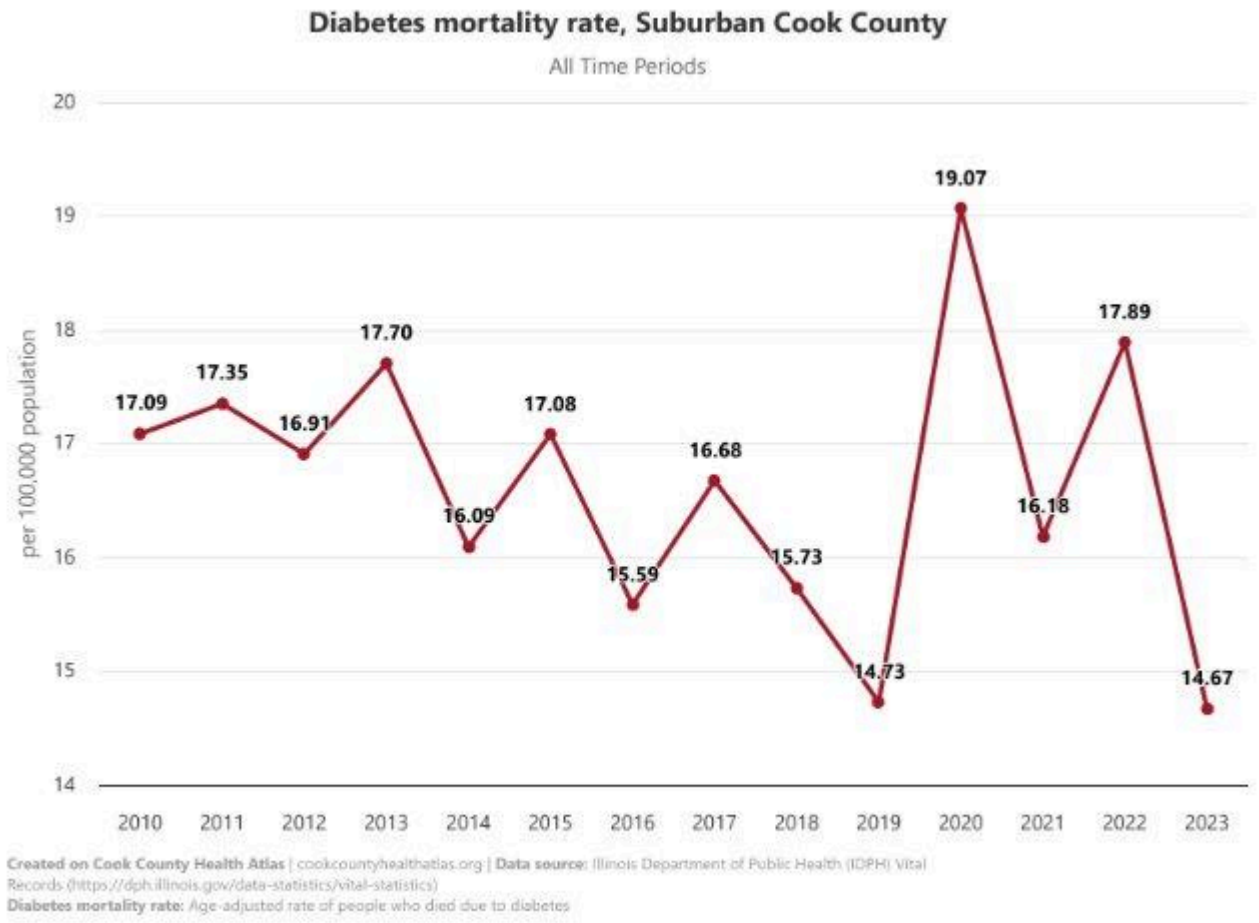


Citations: 4) Frérot, Mathilde et al. "What is epidemiology? Changing definitions of epidemiology 1978-2017", https://pmc.ncbi.nlm.nih.gov/articles/PMC6287859/

Activity 1.1

Activity 1.1: Case Study - Using Cook County Health Atlas Data to Identify or Measure an Issue in Community

Example 1: *Diabetes Mortality* Rate, Line Chart in SCC full population



This is a line graph of Diabetes Mortality rate in Suburban Cook County from 2010-2023. (https://cookcountyhealthatlas.org/indicators/JG8JNTF?topic=diabetes-mortality-rate)

Activity Question: What are your immediate observations about this graph?

[For example: Is there a steady rate of Diabetes related deaths from 2010-2023? What year did we observe the highest rate of Diabetes related Death?]

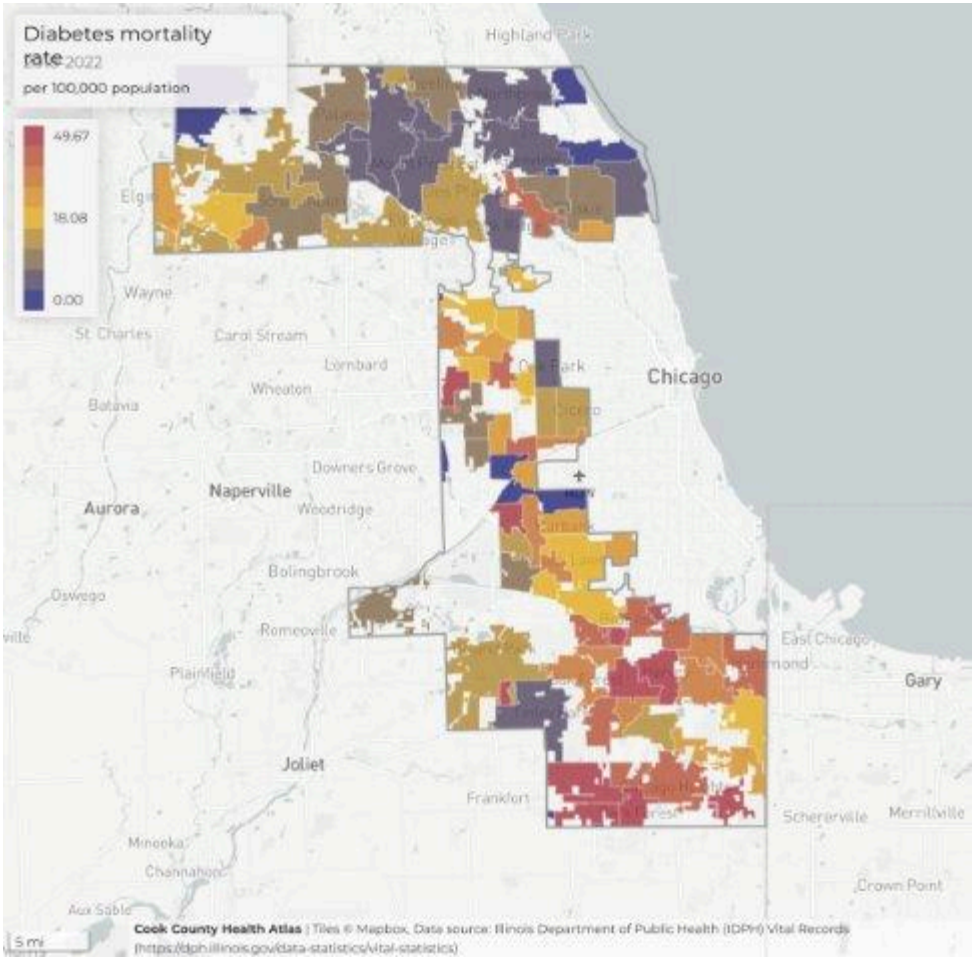
Example 2: Comparing Suburban Cook County (local *prevalence*) to state and national prevalence?

- For comparison:
    - The US Diabetes Mortality rate from 2021-2023 was 15.8%. (CDC)
    - The Illinois Diabetes Mortality Rate from 2021 was 21.8%. (CDC)
    - Suburban Cook County Diabetes Mortality Rate in 2021 was 16.18%

Activity Question: Based on these comparisons, what would you say about the current rate of Diabetes Mortality in Suburban Cook County?

[For example is the rate among the full Suburban Cook County Diabetes Mortality rate low, high, or normal compared to the other locations? If it is different from the other locations, how would that inform our decision to act on this as a public health priority?]

Example 3: Diabetes Mortality Rate, Map of SCC full population



(To view a clearer image please visit the Cook County Health Atlas: https://cookcountyhealthatlas.org/indicators/JG8JNTF?tab=map)

- Map displays the age-adjusted diabetes mortality rate by suburban Cook County municipality.

Activity Question: Fill in the blank using the map and map legend

- Rates range between _____ and ____ per 100,000 population between 2018 and 2022.
- Cities with rates in the upper quintile are largely clustered in the _____ and _____ areas of suburban Cook County..

For solution, please see Appendix: Activity 1.1, Example 3 Activity Solution

Activity 1.1 Reflection: In this activity we explored Diabetes Mortality Rate outcomes in Suburban Cook County. To reflect on your own community and conditions of interest please consider:

What problems and/or health conditions are you interested in understanding about the community you live in or represent through your own organization/interest?

Module 1.4

Module 1.4: What is Population Health Data?

Population health refers to the health outcomes of a group of individuals, as well as how those outcomes are distributed within the group.

Population health data is the systematic collection and analysis of health data for a specific group of people.

Data Sources - There are various places data can come from:

- Surveys
- Case Reporting (Hospital, Coroner)
- Data Limitations - There are many limitations to the data we collect
- Data "lag" & timing
- Patient privacy protection
- "*Generalizability*" of surveys, rates

Use of Population Health Data on the Cook County Health Atlas

How does Population Health Data inform decision-making?

For example: Epidemiologists can use population health data to generate knowledge that can be directly applied to public health practice, policy-making, and intervention strategies.

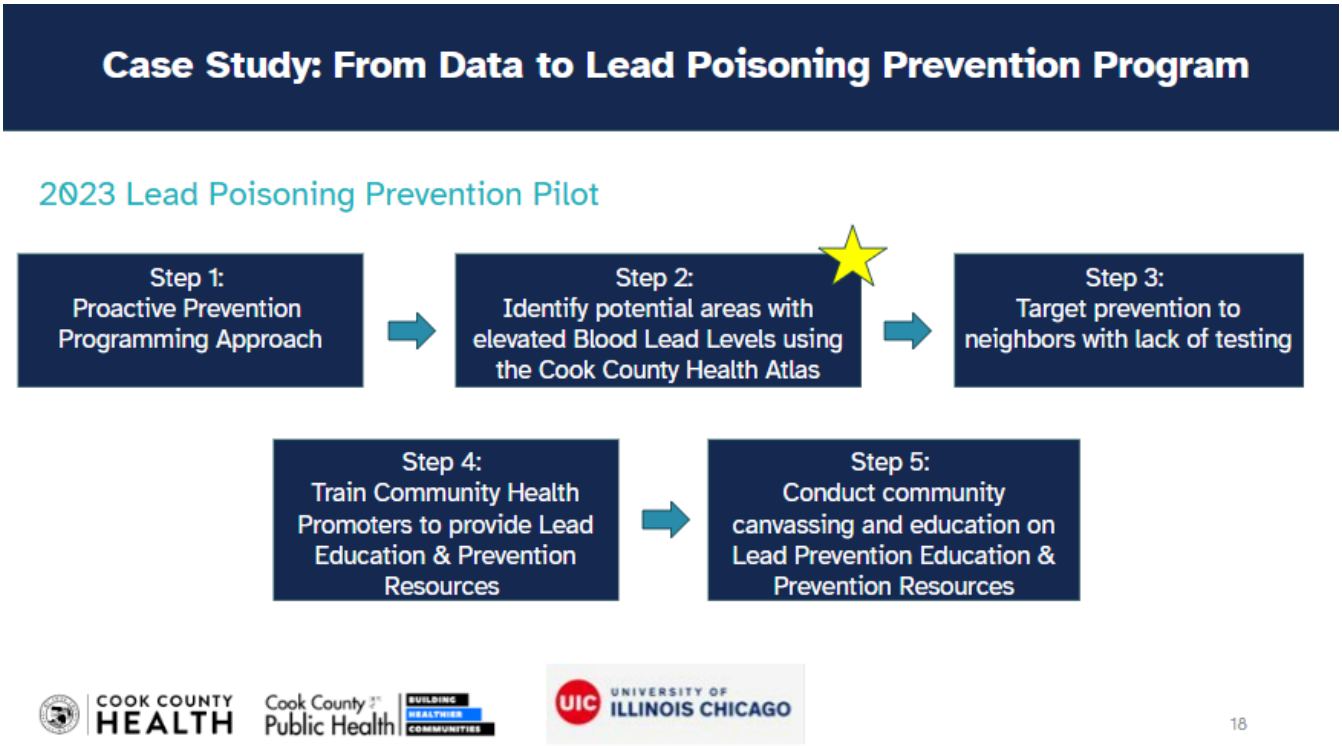
Module 1.4 Reflection: How can population health data inform the communities you serve, or the organizations you serve with?

Please write your response in space below.

Activity 1.2

Activity 1.2: Case Study - From Data to Lead Poisoning Prevention Program

For Activity 1.2, we will guide you through a step-by-step case study example of Cook County Health Atlas data being utilized to inform the development of a Community Canvassing *pilot* for our Lead Poisoning Prevention Program conducted by our department from 2023-2024.



Step 1. Prior to 2018, Cook County Department of Public Health's (CCDPH) Lead Poisoning Prevention team responded "*Reactive*[ly]" to case reports of elevated blood levels reported by healthcare providers to Illinois Department of Public Health, among children under 6 years old in suburban Cook County. However, with the expansion of the Lead Poisoning Prevention and Healthy Homes Program, we were able to take more of a Proactive Approach. These Illinois Department of Public Health reports were then assigned to our county, CCDPH, to provide follow-up and lead hazard assessments in homes of children with elevated blood lead levels. In 2023, the Lead Program team proposed a community-based education and outreach pilot initiative.

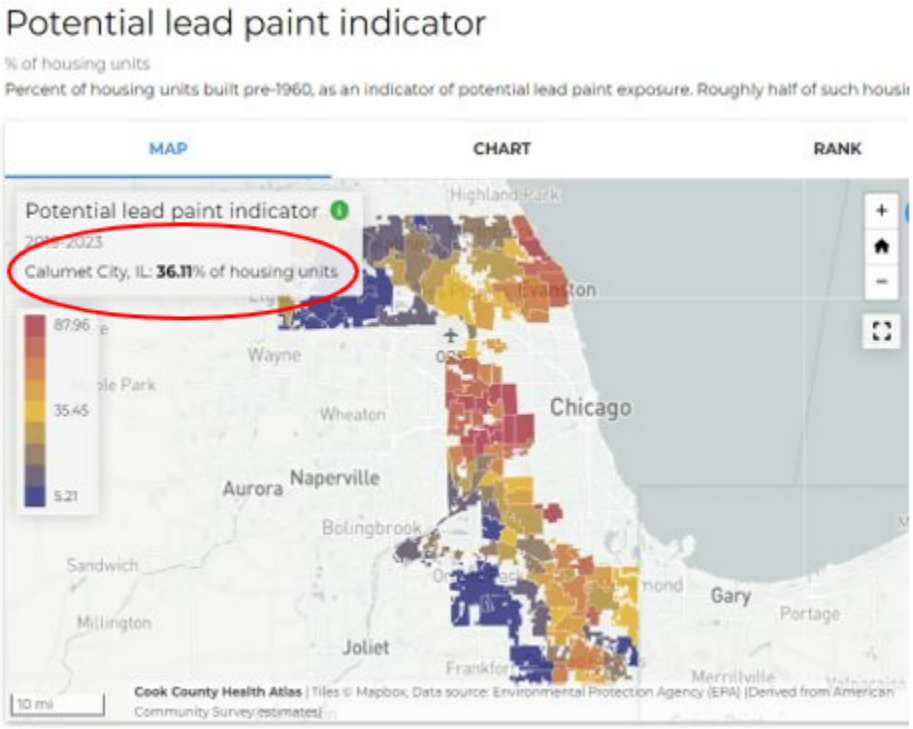
Step 1: Proactive Prevention Programming Approach

- CCDPH Lead Program decided to move away from "Reactive" programming that responded to cases of elevated blood lead levels identified among children in SCC and moved into "Proactive" programming to improve prevention education and access in the community.

Step 2. Using the Cook County Health Atlas and assistance from Cook County Department of Public Health's Epidemiology Unit team, the Lead Poisoning Prevention team decided to select Calumet City as an area of interest. Data from the Cook County Health Atlas highlighted an opportunity for prevention efforts.

Step 2: Identify potential areas with elevated Blood Lead Levels using the Cook County Health Atlas

- The map highlight shows that in Calumet City, 36.11% of housing usings were built pre-1960, which is used as indicator that there is a potential for lead exposure.
- Example of data interpretation: "More than a third of Calumet City homes at risk for lead hazards."



(To explore the “Potential Lead Paint Indicator on the Cook County Health Atlas, https://cookcountyhealthatlas.org/indicators/LDP?tab=map)

Step 3: Using additional information provided by CCDPH’s Epidemiology Unit, the Lead Poisoning Prevention team was able to identify neighborhood and *street-level* areas in Calumet City lack of Blood Lead Level testing reported to the state (Illinois Department of Public Health) level. The team determined that this low testing area in a higher-risk city (in Step 2) was a good place to pilot their prevention programming strategy.

Step 4: Prior to implementing the Canvassing Pilot, five CCDPH Community Health Promoters (CHPs) were provided training from the Health Educator leading this charge entitled Lead Poisoning Prevention 101. During this training the CHPs learned about lead poisoning prevention and important context needed for community canvassing in Calumet City.

Step 4:
Train Community Health Promoters to provide Lead Education & Prevention Resources

Step 5: The trained Community Health Promoters split up to conduct community canvassing in several neighborhood block areas in Calumet City, particularly focused on blocks with lower rates of Blood Lead Level testing. During canvassing efforts, the Community Health Promoters went door-to-door, educating residents about potential risks to look out (i.e., signs of lead paint exposure) and opportunities to seek lead-paint remediation through the Lead Poisoning Prevention Program. Informational door hangers in English & Spanish were left for residents.

Step 5:
Conduct community canvassing and education on Lead Prevention Education & Prevention Resources

The Lead Poisoning Prevention Pilot reached over 300 homes with information on lead poisoning prevention and strategy. In their efforts to implement more preventative practices for residents, the Lead Poisoning Prevention team was able to leverage information from the Cook County Health Atlas and the Epidemiology Unit so that CCDPH's Community Health Promoters could provide effective and informed outreach. With this, the vision for a prevention-based program was brought to life.

Lead Door-to-Door Canvassing – Overall Impact

Pilot in Sept 2023; "Canvassing 2.0" in May 2024

- Homes Reached: 313
- Doors Answered: 107
- Materials Left: 206
- Community Event: 50 Residents

Activity 1.2 Reflection

Please use the space below to reflect on the following questions:

- Overall reflections from the case study example....
- What did you think about this initiative?
- Do you think this type of project implementation would be possible at your organization? (What challenges could come with this?)

*If you have any interest in contacting CCDPH's Epidemiology Unit for more information on the Cook County Health Atlas or a data request, please fill out our data request form. We are happy to work with you!

Link to CCDPH Epidemiology Unit's External Data Request Form: https://cookcountypublichealth.org/epidemiology-data-reports/external-data-request-form/

Congratulations, you have finished Module 1!

Please keep reading for the Module 1 Appendix & **Module 2: Navigating the Cook County Health Atlas.**

Module 1: Appendix

Module 1 Appendix:

Key Terms List

- *Health Indicators* - A measurable characteristic that describes: 1) the health of a population (e.g., life expectancy, mortality, disease incidence or prevalence, or other health states); 2) determinants of health (e.g., health behaviors, health risk factors, physical environments, and socioeconomic environments); 3) health care access, cost, quality, and use. [5]
- *Health Equity* - Health equity is the state in which everyone has a fair and just opportunity to attain their highest level of health. Achieving this requires focused and ongoing societal efforts to address historical and contemporary injustices; overcome economic, social, and other obstacles to health and healthcare; and eliminate preventable health disparities. [6]
- *Social Determinants of Health (SDoH)* - Social determinants of health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. [7]
- *Epidemiology* - Epidemiology is the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems. [8]
- *Gender* - Gender interacts with but is different from sex, which refers to the different biological and physiological characteristics of females, males and intersex persons, such as chromosomes, hormones and reproductive organs. Gender and sex are related to but different from gender identity. Gender identity refers to a person's deeply felt, internal and individual experience of gender, which may or may not correspond to the person's physiology or designated sex at birth. [9]
- *Prevalence* - The number of cases of a disease, number of infected people, or number of people with some other attribute present during a particular interval of time. It is often expressed as a rate (for example, the prevalence of diabetes per 1,000 people during a year). [10]
- *Generalizability* - How research results can apply to people who were not part of the study. (for example, good generalizability means research results can be broadly applied to a large number of people who are similar in some way)

- *Pilot Program* - A pilot study is defined as “A small-scale test of the methods and procedures to be used on a larger scale”. The goal of pilot work is not to test hypotheses about the effects of an intervention, but rather, to assess the feasibility/acceptability of an approach to be used in a larger scale study. [11]
- *Reactive vs. Proactive Programming* -Reactive programming is when individuals seek or receive treatment or Public Health education and resources after receiving a condition diagnosis. Proactive programming seeks to identify vulnerable or at-risk individuals and to provide treatment or Public Health education and resources prior to disease development or diagnosis. [12]
- *Preventative Programming* -Disease prevention, understood as specific, population-based and individual-based interventions for primary and secondary (early detection) prevention, aiming to minimize the burden of diseases and associated risk factors. [13]

Appendix: Activity 1.1, Example 3 Activity Solution

Activity Question: Fill in the blank using the map and map legend

- Rates range between _____ and ____ per 100,000 population between 2018 and 2022.
- Cities with rates in the upper quintile are largely clustered in the _____ and _____ areas of suburban Cook County..

Module 1 Survey

After use of the Module 1 Toolkit, please respond to the post-survey form for Module 1: Add link.

Have unanswered Questions? Request a Post-Module TA Meeting

After Module 1, if you still have lingering questions, please request a post-module TA meeting using this form:

Module 1 Citations

Citations: 5) https://www.cdc.gov/nchs/ppt/nchs2012/li-18_churchill.pdf , 6) https://www.cdc.gov/health-disparities-hiv-std-tb-hepatitis/about/index.html , 7) https://odphp.health.gov/healthypeople/priority-areas/social-determinants-health, 8) https://archive.cdc.gov/www_cdc_gov/csels/dsepd/ss1978/lesson1/section1.html, 9) https://www.who.int/health-topics/gender#tab=tab_1 ,10) https://www.cdc.gov/nchs/hus/sources-definitions/prevalence.htm, 11) https://www.nccih.nih.gov/grants/pilot-studies-common-uses-and-misuses , 12) https://www.chicagobooth.edu/review/how-proactive-healthcare-can-save-costs, 13) https://www.emro.who.int/about-who/public-health-functions/health-promotion-disease-prevention.html