

Health Trends Across Communities in Minnesota (HTAC-MN):

a Statewide Dashboard Leveraging the OMOP CDM to Monitor the Prevalence of Health Conditions

OHDSI Community Call
November 26, 2024

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on behalf of the Minnesota EHR Consortium

HTAC-MN is funded through a Minnesota Public Health
Infrastructure Grant from the Minnesota Department of Health.





MN EHR Consortium

- Formed in March 2020 to address gaps in COVID-19 data sharing and communication
- 11 largest health systems in Minnesota
- >90% of residents in MN, all regions of state
- Federated data model - OMOP CDM (v5.3) adoption across all health systems from 2022-2023
- Health Trends Across Communities in Minnesota (HTAC-MN) began in 2023
 - Goal: Build a comprehensive statewide dashboard to support public health surveillance, inform community health assessments, and promote health equity



The HTAC-MN Dashboard

- Published in March 2024
- Prevalence estimates for 30+ health conditions
- Denominator: anyone w/visit in prior 3 yrs
 - 2022: 5.4M+ people (~93% of MN population)
- Prevalence: anyone w/dx in prior 5 yrs

Demographics

- Home
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- Demographics**
- Prevalence
- Geography
- Special population demographics
- Special population prevalence

Year
 2020
 2021
 2022
 2023

Ctrl + click to filter across multiple graphs.

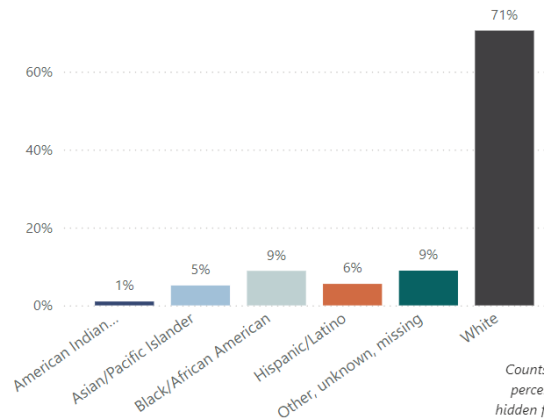
Reset page

This page shows Minnesota-wide demographics (among all patients included in the dashboard) to provide a baseline for comparison.

Total population count

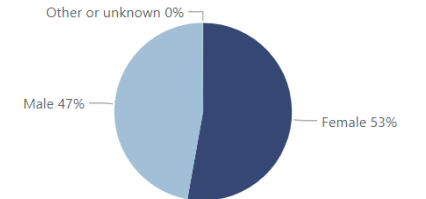
5,437,100

Population by race/ethnicity (percent)

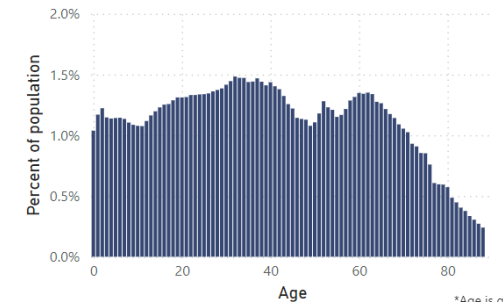


Counts are rounded to the nearest 10 and percentage bars for counts under 15 are hidden for data privacy. These counts are still included in total estimates.

Sex



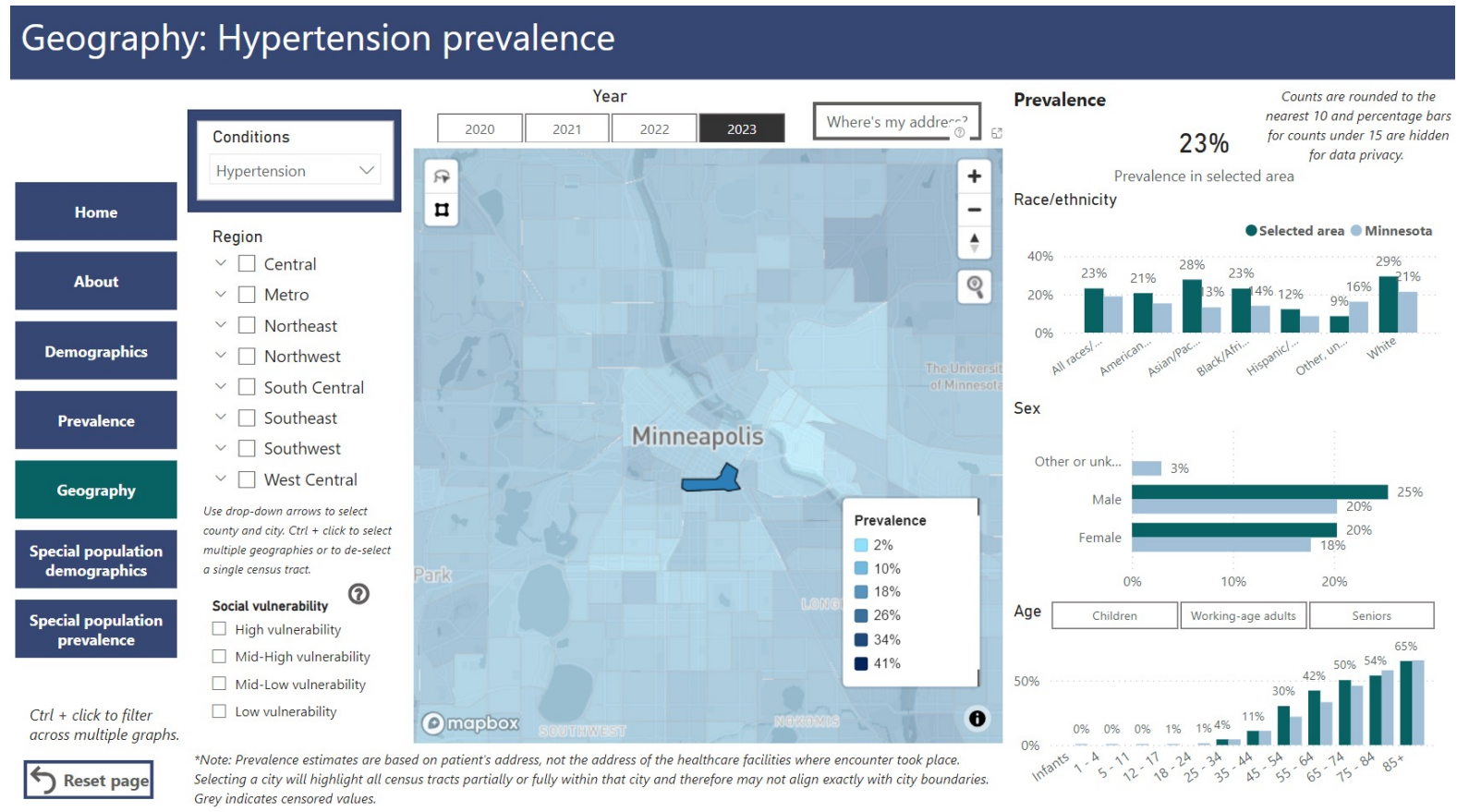
Age distribution of population



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The HTAC-MN Dashboard

- Race/ethnicity, age, sex
- State → census tract
- Data for 2020-2023
- Timely – refreshed annually
 - 2024 data available in March 2025



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Selecting and defining health conditions

1. Identified and prioritized health conditions for dashboard:

- Public health significance
- Potential for action
- Lack of/limitations of existing data
- Emerging conditions
- Alignment with current public health priorities
- Detailed EHR data could support assessment work



2. Selected health conditions:

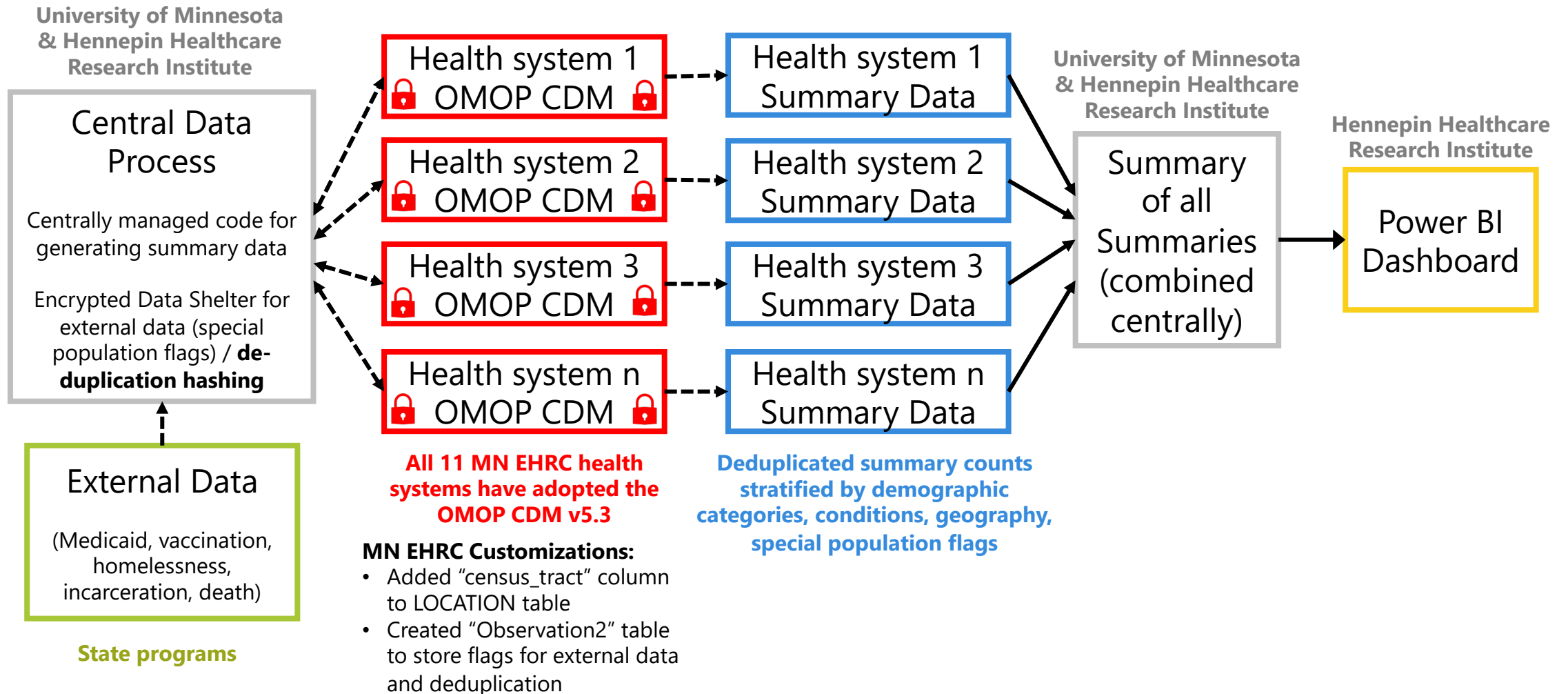
Chronic Conditions <ul style="list-style-type: none"> • Asthma • COPD • Chronic kidney disease • Diabetes, Type 2 • Heart failure • Hyperlipidemia • Hypertension • Ischemic heart disease • Obesity • Peripheral vascular disease 	Mental Health <ul style="list-style-type: none"> • Anxiety • Bipolar disorder • Depression • PTSD • Psychotic disorders • Suicidal ideation or recent attempt
Substance Use <ul style="list-style-type: none"> • Alcohol • Cannabis • Cocaine • Hallucinogens • Inhalants • Opioids • Psychostimulants • Sedatives 	Maternal & Child Health <ul style="list-style-type: none"> • Obstetrical deliveries • Severe maternal morbidity • Maternal opioid use
	Other <ul style="list-style-type: none"> • Acute myocardial infarction • Firearm injury • Lung cancer • Stroke



3. Developed standardized OMOP concept sets for each condition:

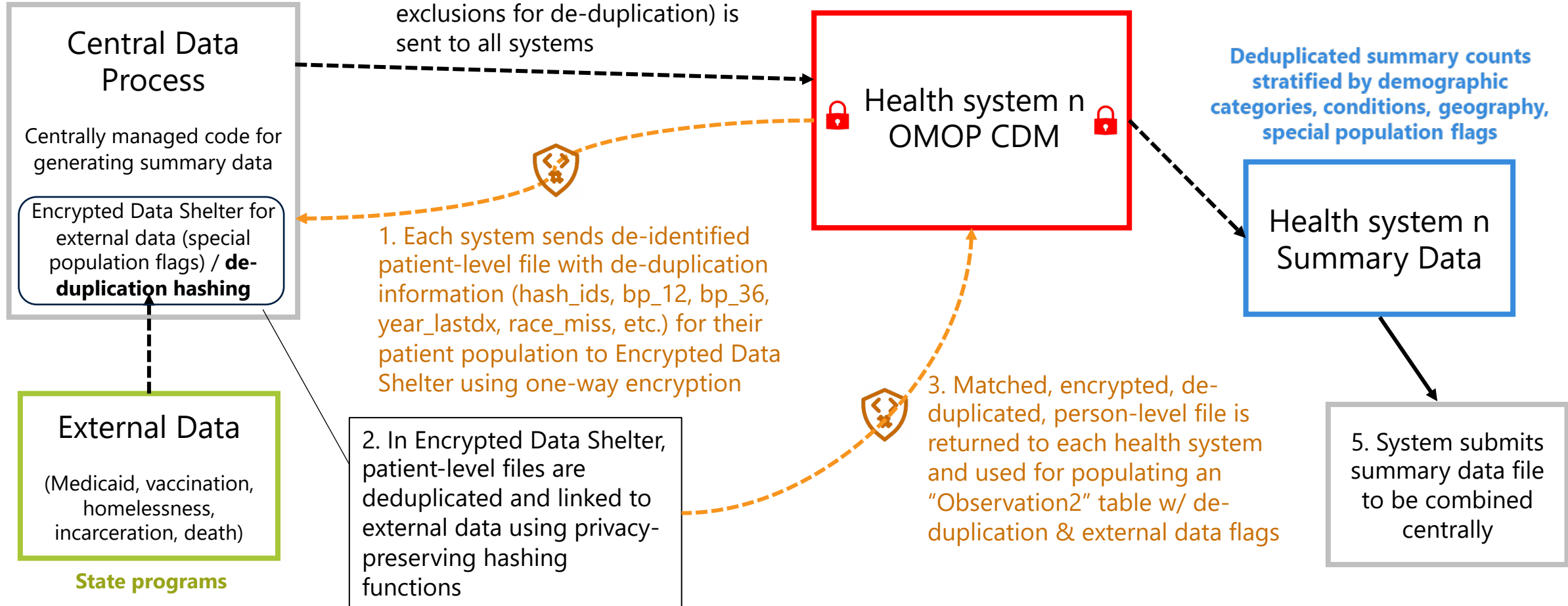
- Mapped existing ICD-10-CM diagnostic code sets to OMOP concepts (incl. SNOMED & ICD concepts)
- Accounts for metadata across MN EHR Consortium health systems
- Reviewed by clinicians
- Centrally managed
- Each condition is defined uniformly across all health systems

HTAC-MN Data Infrastructure



Data flow – health system perspective

University of Minnesota
& Hennepin Healthcare
Research Institute



Conclusion and next steps

- The HTAC-MN Dashboard demonstrates how the OMOP CDM can facilitate sharing summary EHR data across an entire state to monitor community health
- Next steps:
 - Adding conditions/indicators for 2025
 - Updating/refining existing concept sets
 - Manuscripts
- Currently funded through June 2026



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