

Big City Mouse and Small City Mouse

Addressing Pandemic-Driven Community Needs with
Data, Analytics, and Collaboration
in Seattle, WA, and Trenton, NJ

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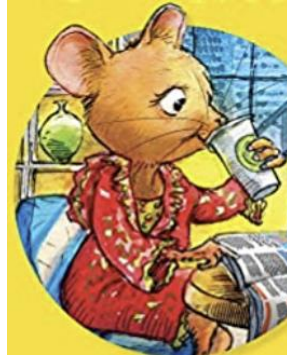


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www.kingcounty.gov/covid/impacts



King County

Session objectives

- Understand the timeline and impetus to begin monitoring and evaluation of the COVID-19 mitigation efforts in King County, WA
- Describe the local application of the M&E framework, including new data acquisition and community involvement



Overview

King County context – prior to pandemic

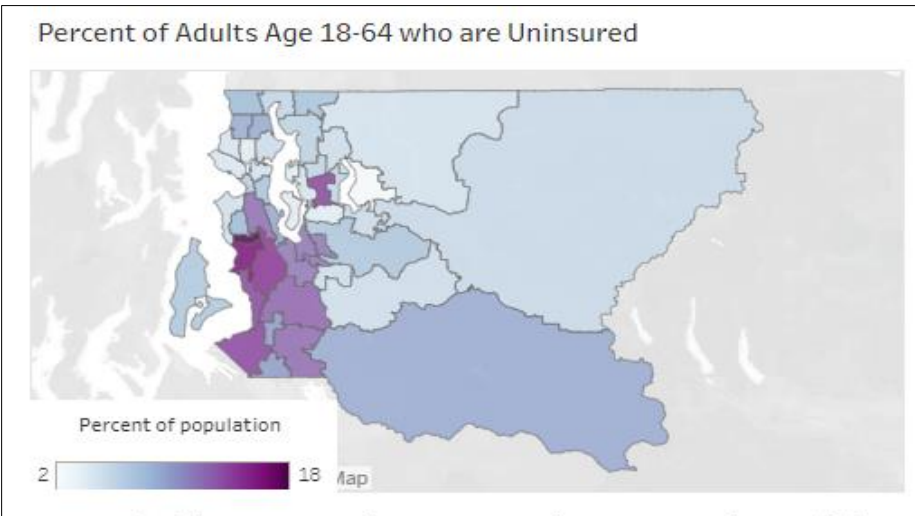


Population: 2.2 million people; largest county in WA, bigger population than 15 states; 39 incorporated cities. Seattle is the largest with 710,000 residents

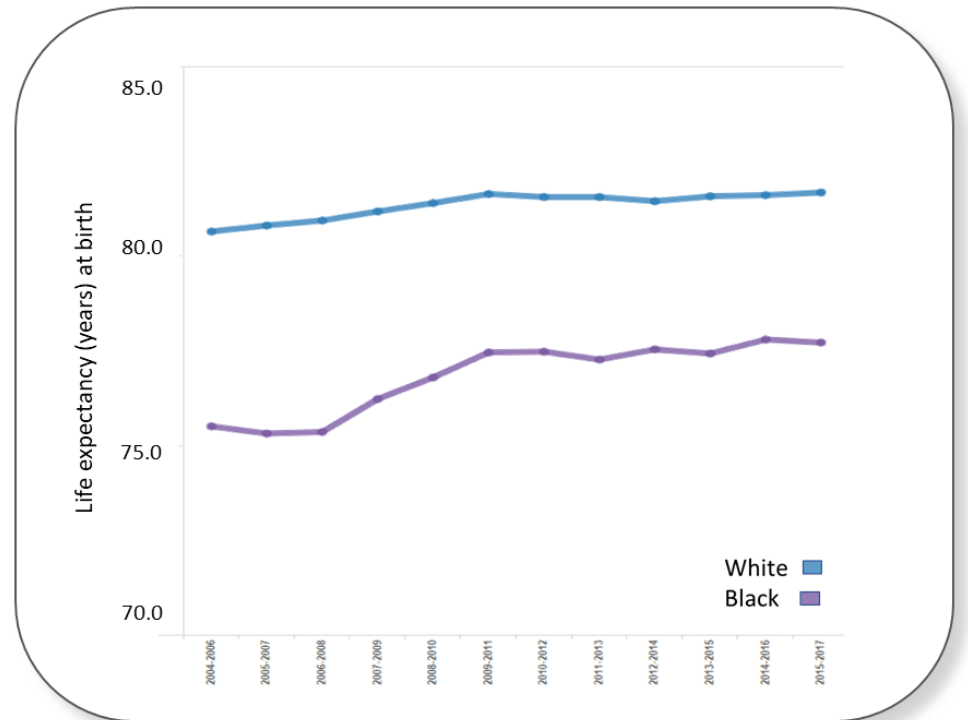


Median home price (Q2 2020): \$742,950
Median rent, 2BR (Q1, 2020): \$2,243

Median household income (2019): \$102,486
25% make less than \$50,000
9.0% of persons in poverty
Increasing # of homeless



“A Tale of Two Counties”



- In King County, Black adult life expectancy is 78 years - **4 years less** - than white adult life expectancy of 82 years.

Equity and community involvement as a framework

King County **INVESTS...**



Upstream,
where needs
are greatest,



in
**community
partnerships,**



and in
employees,



with **transparent
and accountable
leadership.**

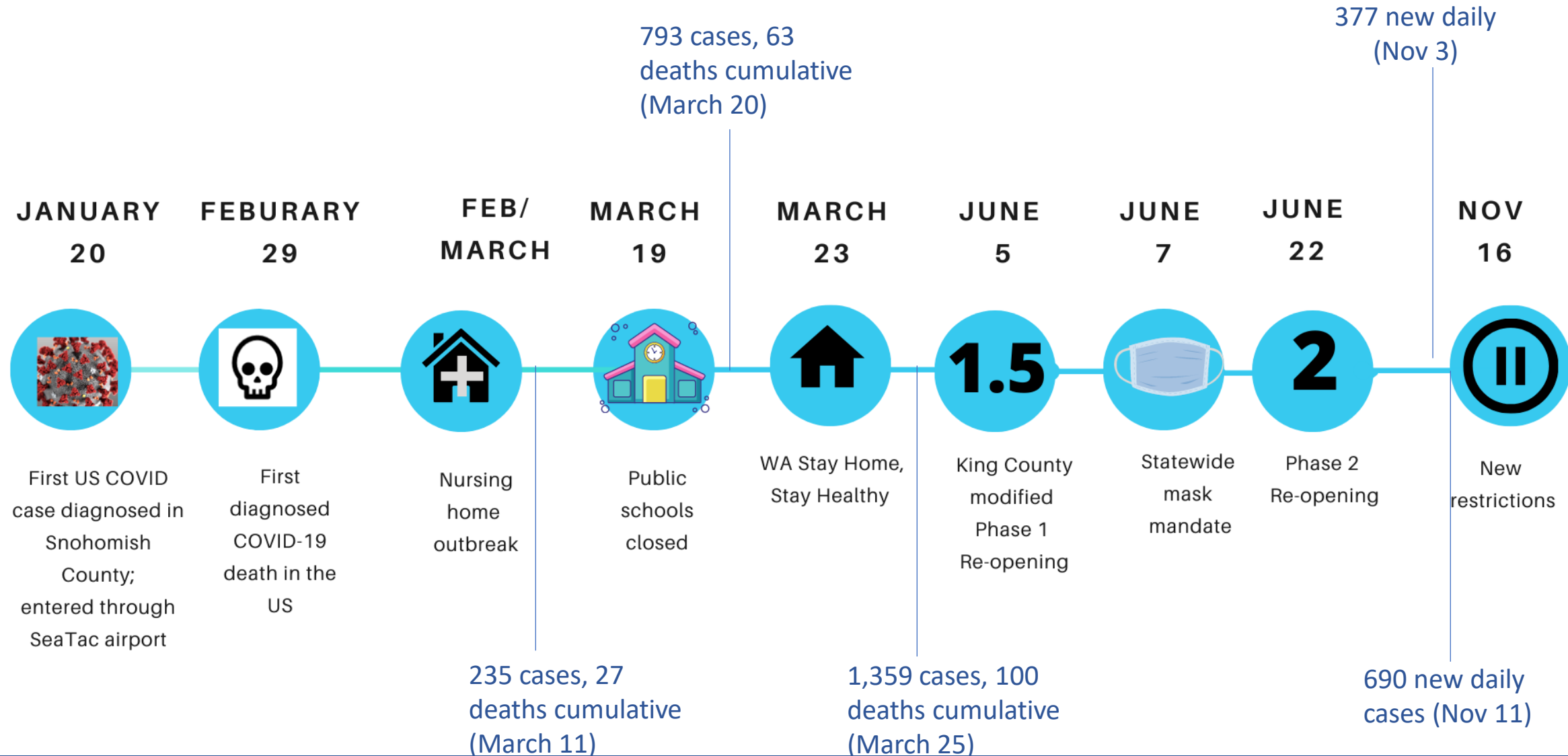
Community collaboration is essential to achieve equity across social determinants of health.

On June 11, Dow Constantine (King County Executive) and Patty Hayes (Public Health director) declared racism to be a public health crisis.



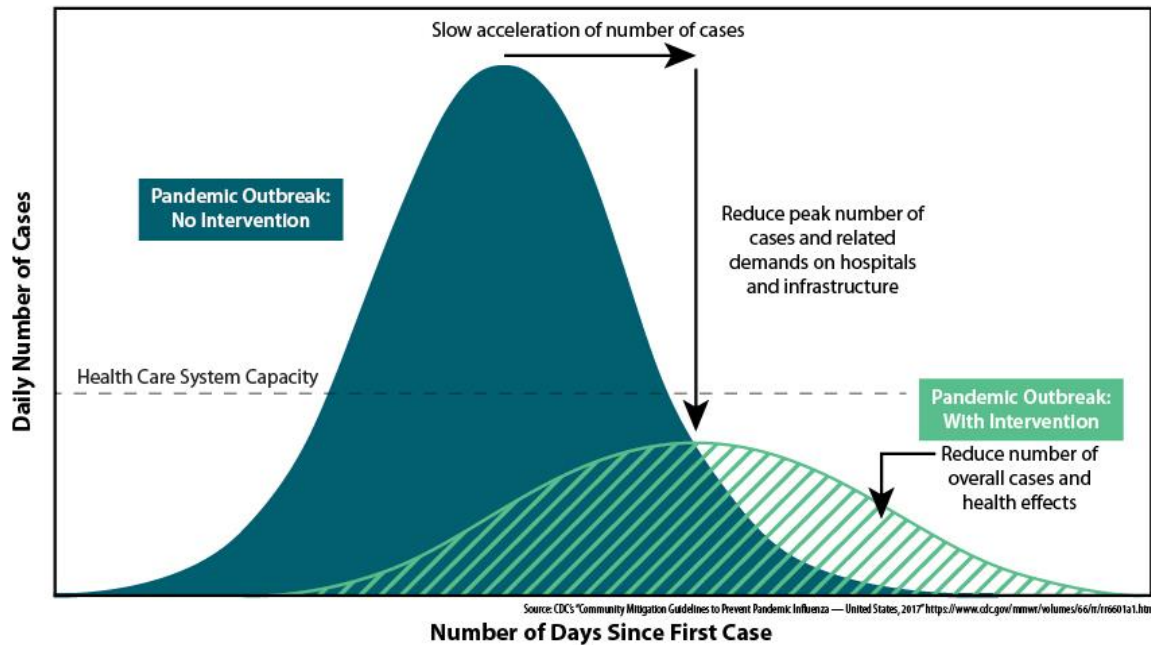
COVID-19

Experiences and monitoring in King County, WA



COVID-19 in King County: a timeline

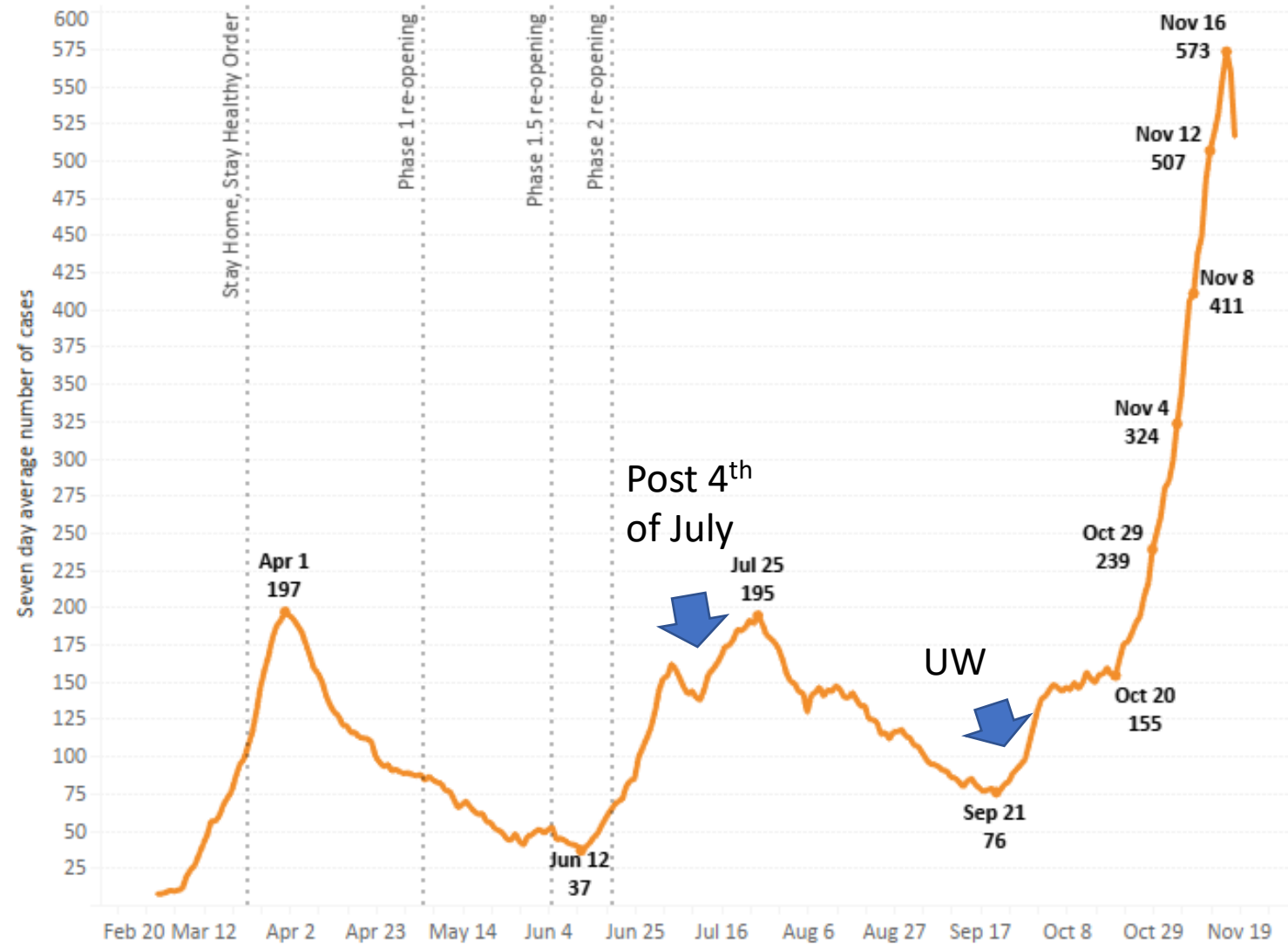
What are community mitigation strategies?



Community mitigation strategies, or non-pharmaceutical interventions, are **actions** that **individuals** and **communities** can take to slow the spread of infectious diseases

COVID-19 Trajectory in King County

Seven-day moving average number of new cases reported by date of test result



Moving average calculates the number of new cases reported, on average, for the past seven days. An increasing trend implies that the daily incidence is rising over the past week. The most recent seven day average is labeled.

Assessment, Policy Development & Evaluation: Shifting to a COVID-19 Response

- Community health assessment and evaluation standard datasets – birth, death, hospitalization, cancer registry, Behavioral Risk Factor Surveillance System (BRFSS), school surveys, American Community Survey (ACS) data, Medicaid, etc.
- These data sets were not timely enough to see emerging needs; more rapid and regular data were needed
- Needed to pivot work and partnerships to follow a different monitoring and evaluation framework based on literature from previous pandemic and disaster response
- Equity is a primary focus; community buy-in is important

Economic, Social & Overall Health Impacts of COVID-19

Purpose

- Monitor social, economic, and overall health impacts of non-pharmaceutical COVID-19 mitigation efforts over a two-year period

Rapid cycle Information sharing

- Brief reports, blog posts, & infographics to share findings
- Compare to a previously established baseline
- Data shared with community prior to release
- Dashboards with more details and regular updates of new data
- Share out dashboard updates

Primary audience

- Policy-makers, leadership and community to help inform planning and resource allocation

Briefs and infographic answer key questions

- What changes are communities experiencing during the pandemic?
- How do experiences differ by race, place, age and other population groups?

Topics and Datasets

- Used publicly available data where possible
- Leveraged relationships to develop data sharing agreements; many new data sources and data sets
- Tracking policy changes related to social mitigation of COVID-19 as a contextual factor to understand changes
- Community buy-in and validation also essential part of review process
- More real-time data and analysis than our unit has previously typically provided so required templating and developing uniform approaches
- Checklists for analysis, quality assurance, visualizations, data release

Started with large buckets to monitor and evaluate

Domain	Topics
Economic	Employment Traffic mobility Housing status Financial security
Social	Food security Family violence Child education and child care
Health (non-COVID-19)	Behavioral health Physical health/life expectancy Access to care

DATA SOURCES used for the project thus far

Economic

- Unemployment claims
 - Employment Security Division
- 211 (social services calls)
- Mobility data
 - Washington State department of Transportation road counts
 - Safegraph data
 - Crash data
- Financial (TBD):
 - [Opportunity Insights](#)
 - FEMA data (TBD)
 - Department of Commerce (TBD)

Social

- Food security
 - Supplemental Nutrition Assistance Program
 - Census Pulse Survey
 - Local needs assessment (in process)
 - WIC enrollment
- Domestic violence
 - Court data
 - Call data
 - Syndromic surveillance
 - Police call data (not county wide)
- Child/Elder Maltreatment
 - Report data (CPS/APS)
 - Syndromic surveillance
 - Court data
- Access to internet and technology
 - American Community Survey
 - Local survey
- Community Recovery-Oriented Needs Assessment (CORONA) (in process)

Health

- Access to care
 - Number enrolled in Medicaid
 - Demographics of new enrollees
- Mental and behavioral health
 - Calls to behavioral health crisis line
 - Syndromic surveillance
 - Emergency Medical Services calls
 - Census Pulse Survey
 - Local needs assessment (coming soon)
- Excess deaths (coming soon)
 - Death certificate data
- Overdose deaths
 - Medical examiner data
- Community Recovery-Oriented Needs Assessment (CORONA) (in process)



Last updated: 11/16/2020

Key Economic, Social, and Overall Health Impacts in King County

[Click on any box below for more detailed information](#)

Economic	Social	Health					
<p>Unemployment</p> <p>529,000+ new unemployment claims filed by King County residents from March 1 to November 7, 2020</p>	<p>Food Insecurity</p> <p>↑ 17,800 more King County households received Basic Food assistance in September than January 2020, a 18.2% increase</p>	<p>Healthcare</p> <p>↑ 27,300 more King County residents were enrolled in Medicaid in August 2020 than in January 2020</p>					
<p>Housing</p> <p>58% of calls to 2-1-1 hotline requested housing-related assistance from August 12-September 8, 2020</p>	<p>Food Insecurity</p> <p>9% of adults in King, Pierce, and Snohomish Counties did not have enough food to eat between June 4 - June 30, 2020</p>	<p>Behavioral Health</p> <p>↑ 13% increase in calls to behavioral health crisis line in September 2020 compared to 2019</p>					
<p>Traffic</p> <p>↓ -25% decrease in local highway traffic on November 15, 2020 compared to 2019</p>	<p>Family Violence</p> <p>↑ 3% increase in calls from King County residents to the National Domestic Violence Hotline in September compared to January 2020</p>	<p>Mental Health and Suicide</p> <p>16% of middle and high school youth made a plan to attempt suicide in the past year before COVID-19</p>					
<p>Key Dates:</p> <table border="0"> <tr> <td>March 15, 2020 Schools, entertainment, bars, restaurants closed</td> <td>March 23, 2020 Stay Home, Stay Healthy order; businesses closed</td> <td>May 5, 2020 Phase 1 of Safe Start plan to reopen WA State</td> <td>June 5, 2020 King County enters Modified Phase 1 of Safe Start Plan</td> <td>June 19, 2020 King County enters Phase 2 of Safe Start Plan</td> </tr> </table>			March 15, 2020 Schools, entertainment, bars, restaurants closed	March 23, 2020 Stay Home, Stay Healthy order; businesses closed	May 5, 2020 Phase 1 of Safe Start plan to reopen WA State	June 5, 2020 King County enters Modified Phase 1 of Safe Start Plan	June 19, 2020 King County enters Phase 2 of Safe Start Plan
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Landing page: Key indicators dashboard

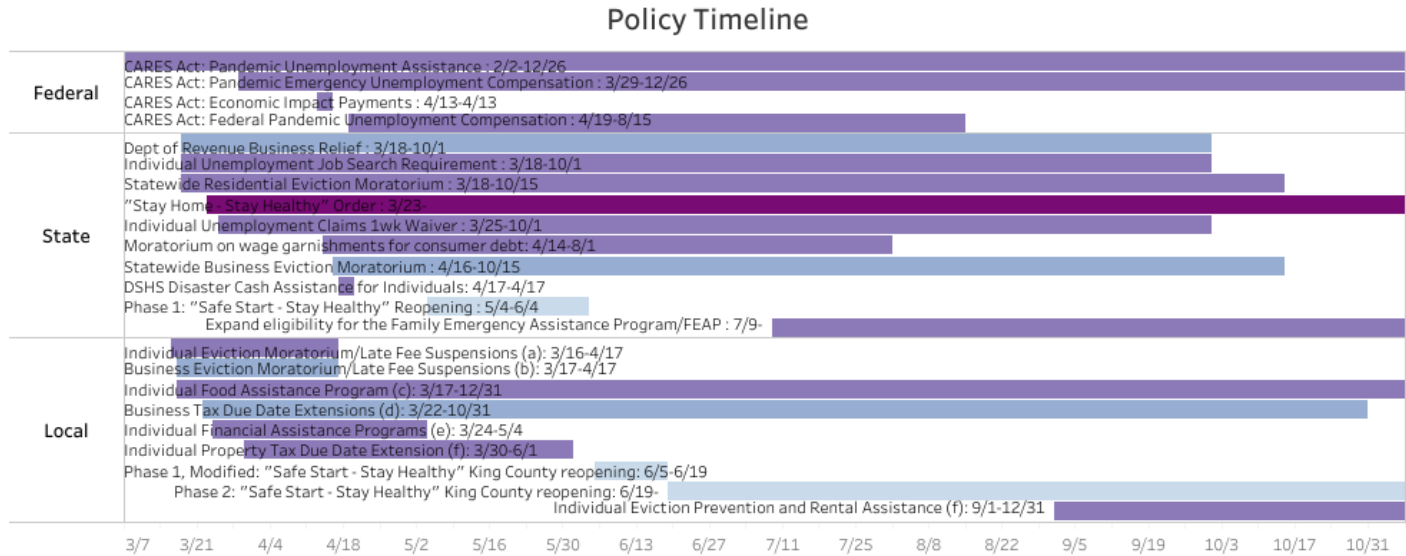
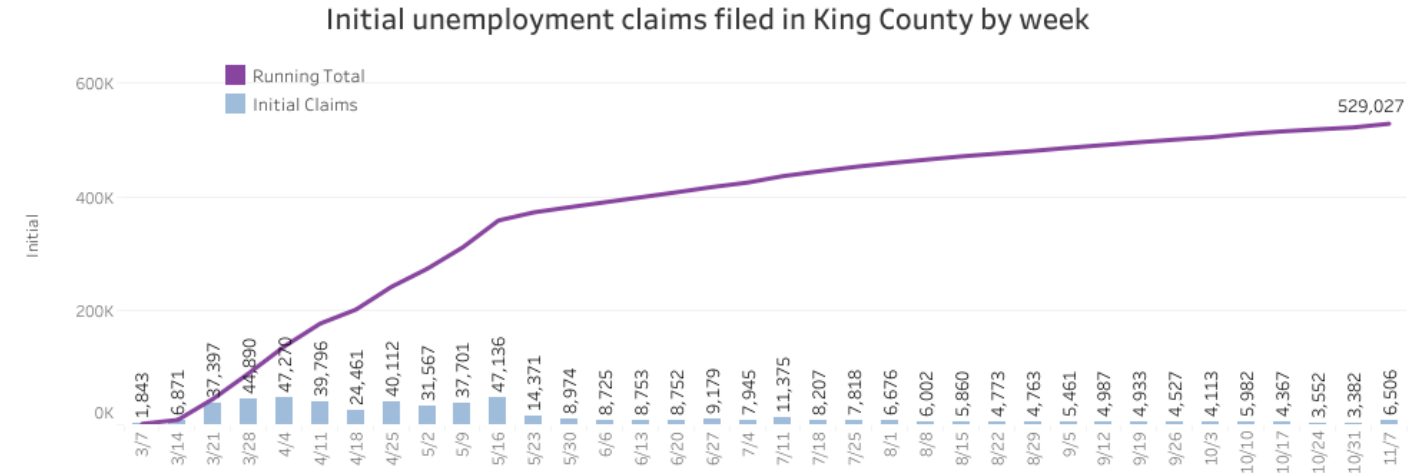
Economic

Monitoring in King County, WA

Unemployment

King County residents filed **529,027** new unemployment claims from March 1 - November 7, 2020

- Data from WA State Employment Security Department
- Initial and continued employment claims
 - By ZIP code
 - By Industry & occupation
 - By Demographics
- Mirrors some of the geographic trends we were seeing pre-pandemic
- Initially updated weekly; moved to bi-weekly. With new COVID restrictions in place, will refresh more frequently
- Required a DSA



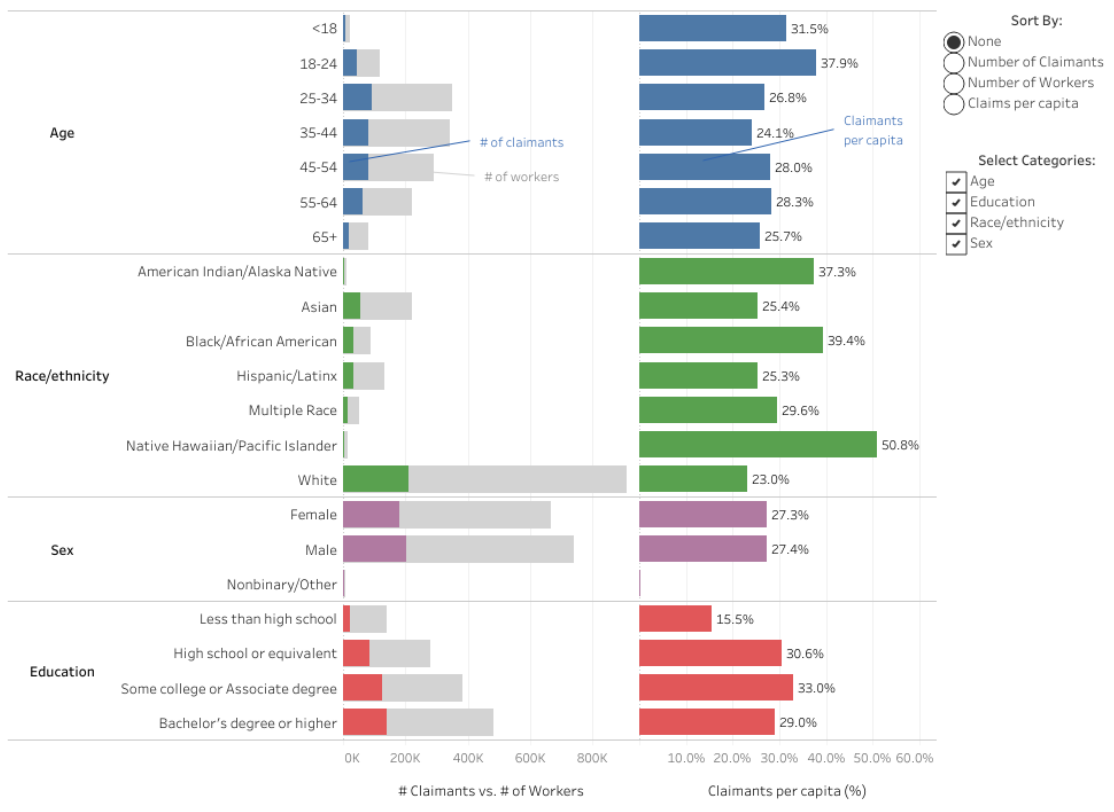
- Disease Mitigation
 - Individual Support
 - Business Support
 - Business Opening
- a) Auburn, Federal Way, Issaquah, Redmond, Seattle, Shoreline
 - b) Seattle, Kirkland, Redmond
 - c) King County, Bellevue, Des Moines, Kirkland, Seattle, Shoreline, Woodinville
 - d) Bellevue, Burien, Des Moines, Issaquah, Mercer Island, Seattle, Shoreline, Snoqualmie
 - e) King County, Bellevue, Covington, Issaquah, Kirkland, Seattle, Shoreline, Woodinville
 - f) King County

NOTE: Washington's unemployment system is investigating the extent of fraudulent claims submitted. Thus the number of unemployment claims reported here may change in the future. Even after excluding thousands of fraudulent claims, a dramatic increase in claims followed the start of community mitigation efforts: <https://www.seattletimes.com/business/economy/washington-adds-more-than-145000-weekly-jobless-claims-as-coronavirus-crisis-ling->

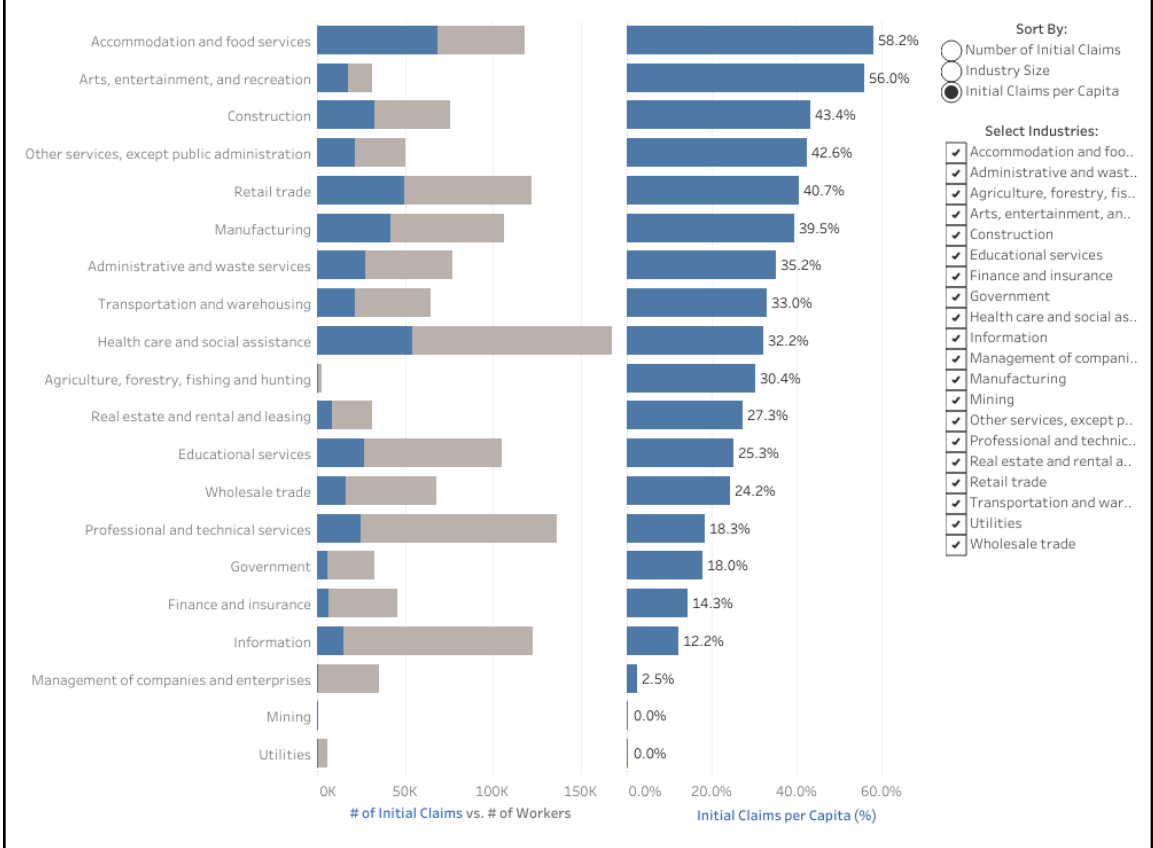
Unemployment

- Estimated claims per capita by industry, occupation, and demographics using data from Census Quarterly Workforce Indicators
- Communities of color are experiencing unemployment at disproportionate rates
- Hardest hit sectors (like Accommodation and food services) tend to be low wage and have wage disparities by race and gender, exacerbating the economic impact

King County workers filing initial claims per capita by age, sex, race/ethnicity, and education, March 8 - November 7, 2020

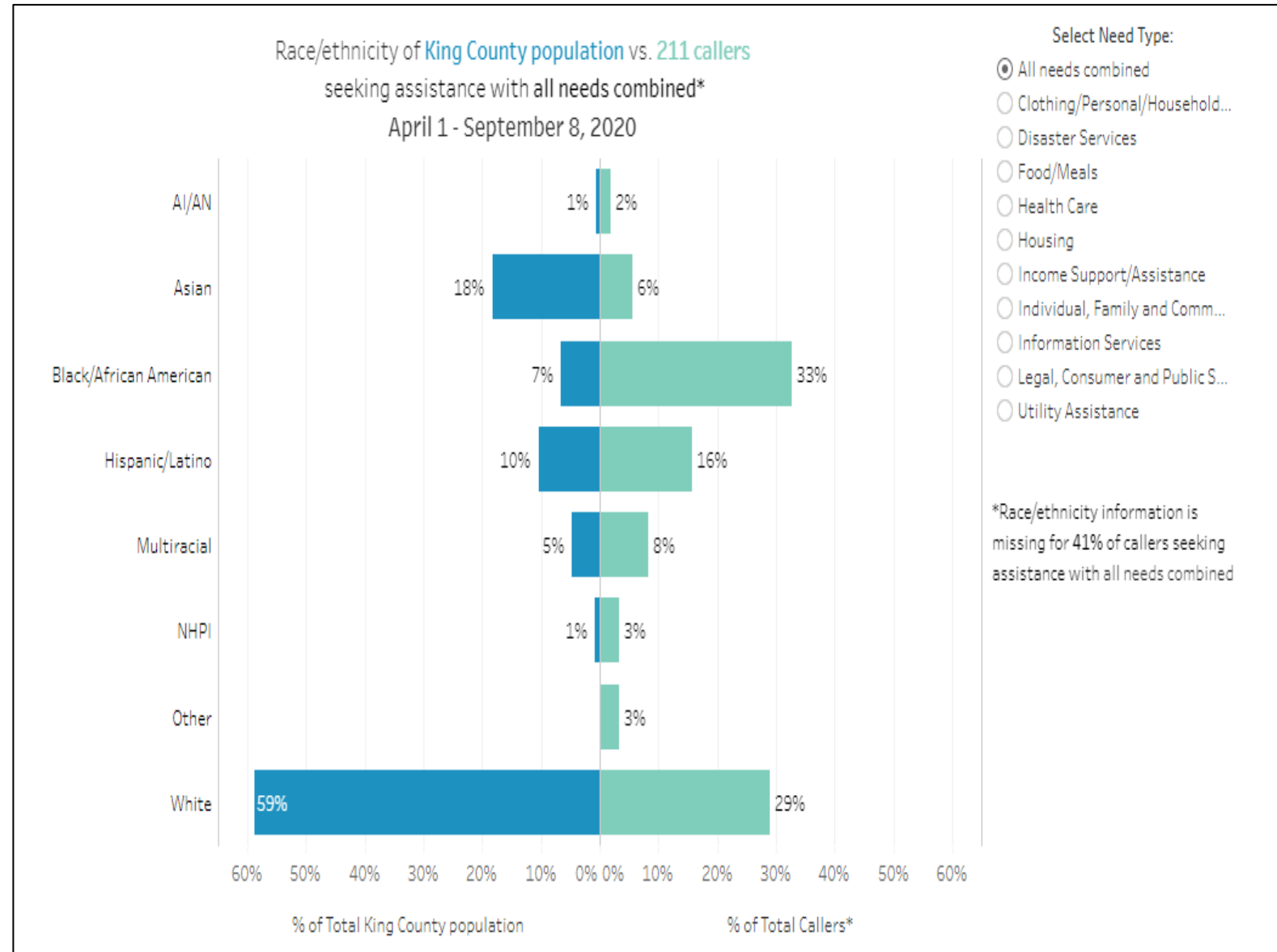


Number of Initial Claims Filed per Capita by Industry, March 1 - November 7, 2020



Crisis Connections 2-1-1

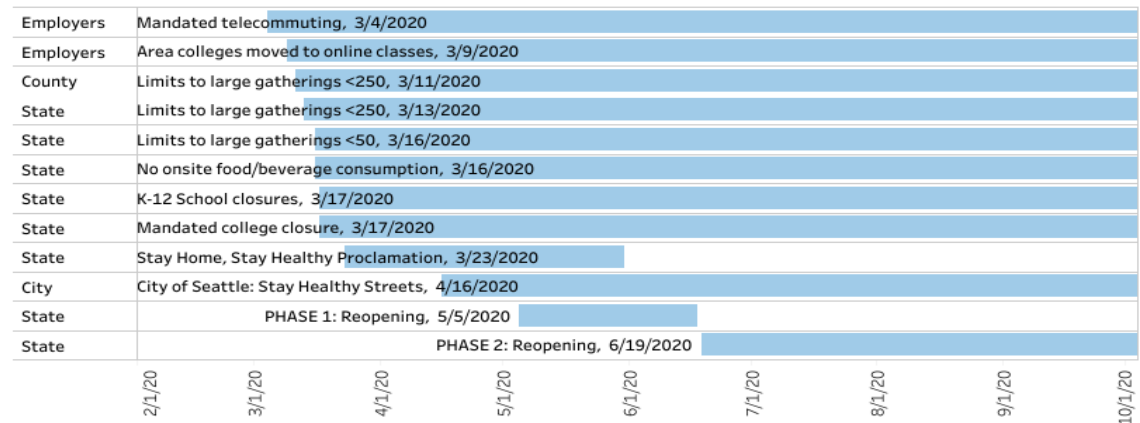
- King County's Crisis Connections operates a 2-1-1 line.
 - This is a service that provides referrals to King County residents with critical social service needs.
 - This service is nationally available.
 - As of 2019, 2-1-1 is available to 94.6% of the US population.
- Looking at the number of calls for various services can help us understand for what needs residents are seeking assistance.
- Housing and food were the two main areas of concern for 211 callers since April.
- Updated monthly
- Required a DSA



Transportation

- Immediately after the March 23, 2020 “Stay Home, Stay Healthy” order, highway traffic volumes across King County fell to its lowest point on March 27th: a 56% decline in usual weekday and a 67% decline in usual weekend volume.
- Since early April, highway traffic, including toll trips, has been increasing steadily on all routes.
- As of early October, only at 17% below the previous year.
- Also looking at crash data to measure # of wrecks, fatal and non-fatal
- Does not require a DSA

Daily traffic percentage change from 2019, King County



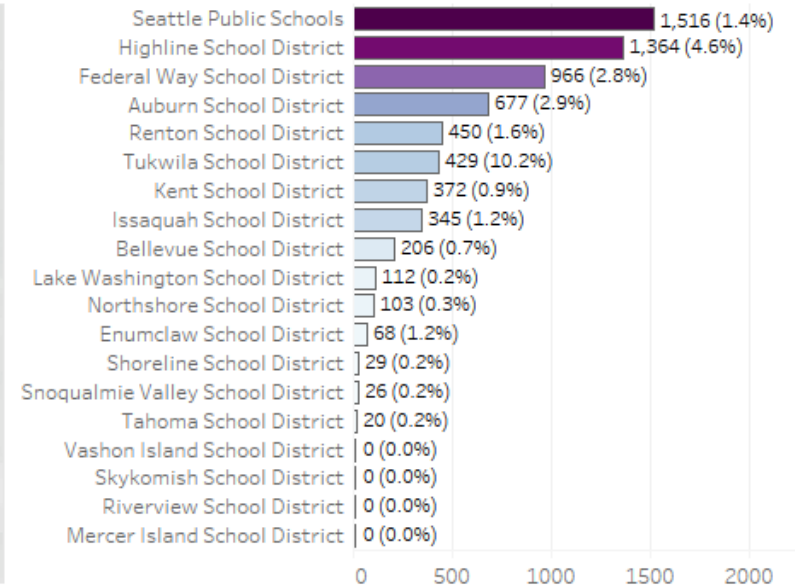
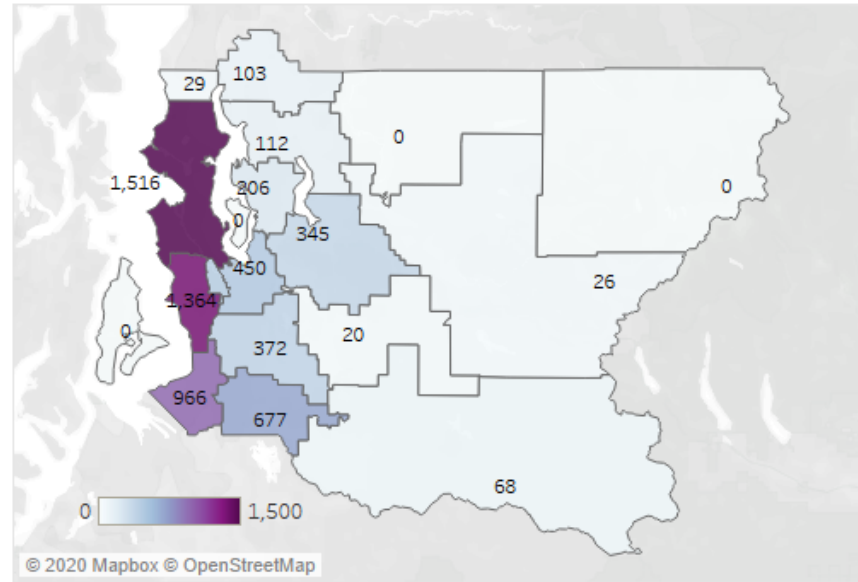
Social

Monitoring in King County, WA

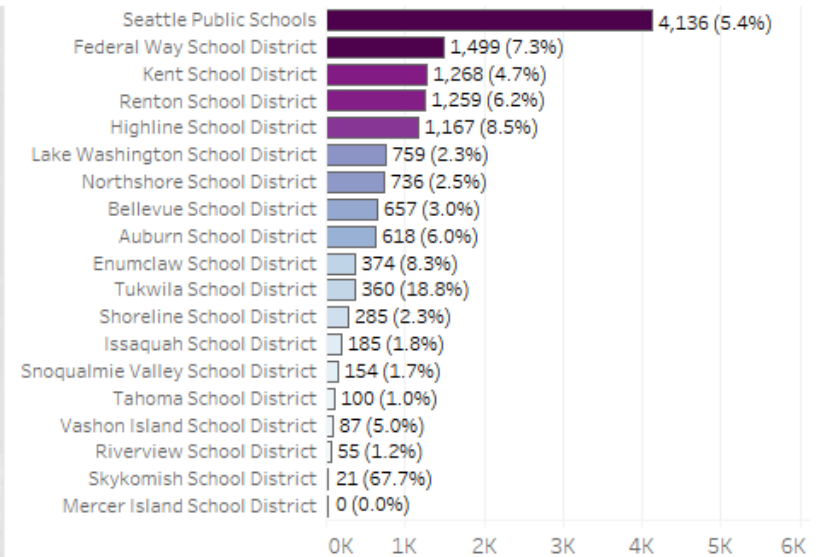
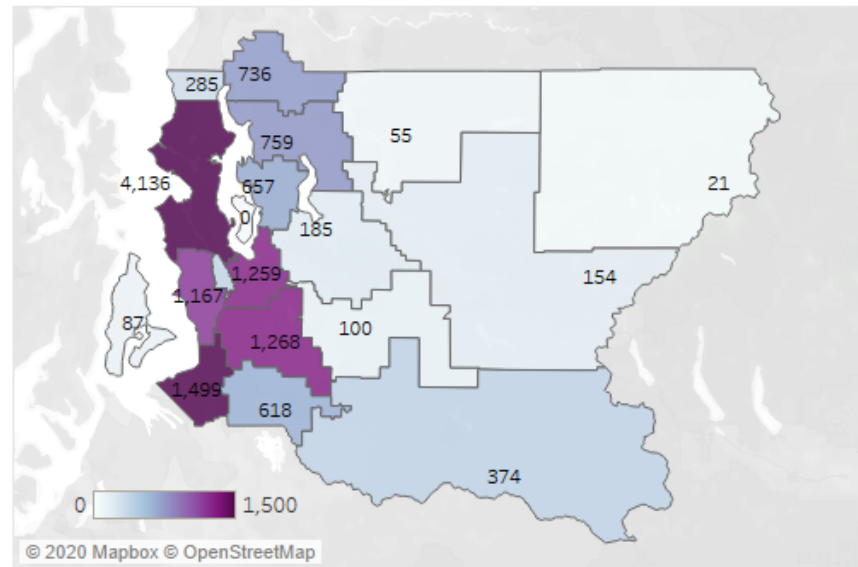
Access to technology varies by school district

- About 6,700 children do not have access to a computer in their home
- Another 14,600 have no internet access (13,700 children) or have a dial-up connection (840 children).
- Almost 1 out of every 5 households with incomes under 200% of the Federal Poverty Level lack internet access.
- Census data available to all

Number of children with no computer



Number of children with computer but no internet

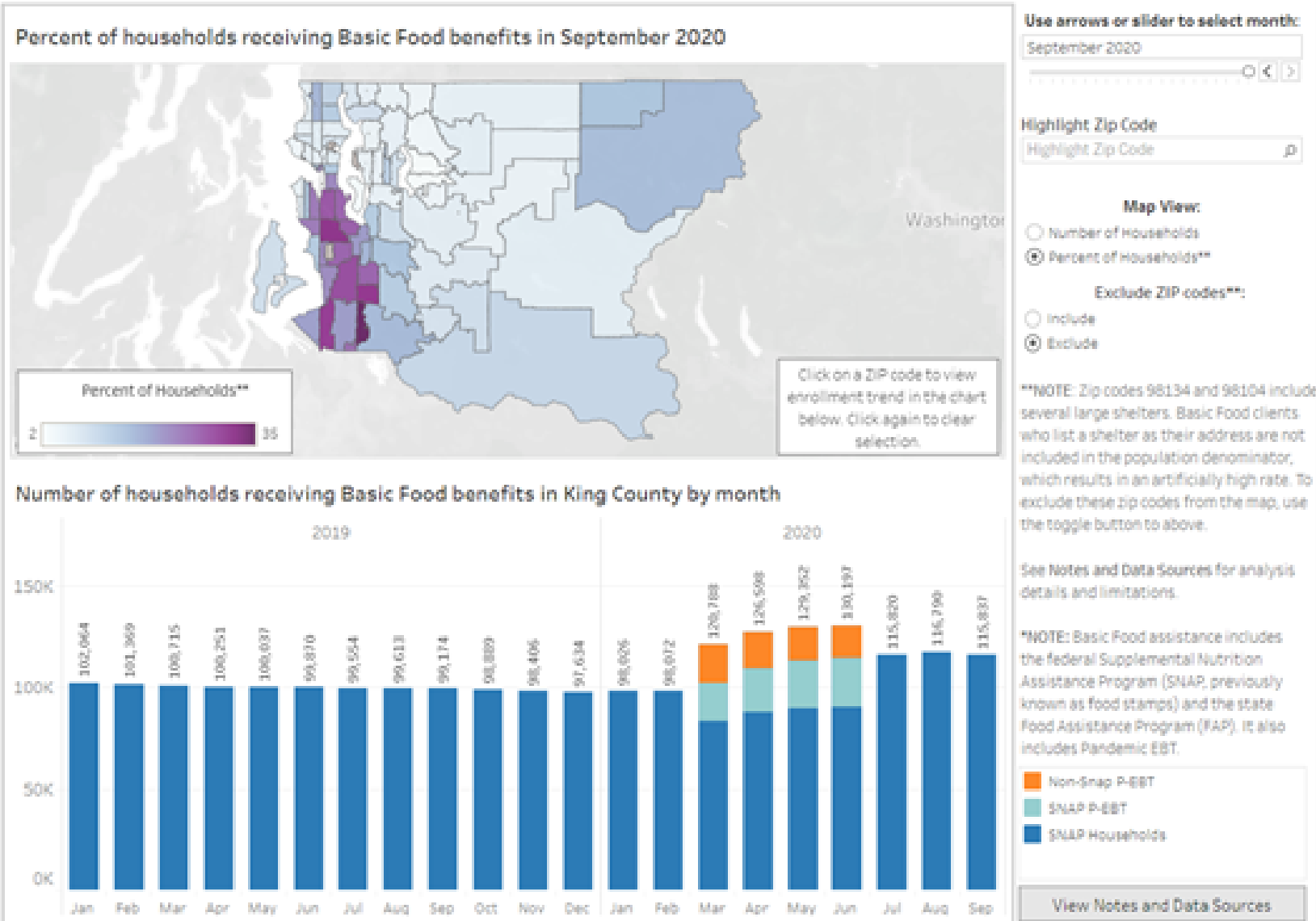


Food insecurity

- 18% increase in households receiving SNAP (basic food) benefits from January to September 2020
- WIC enrollment increased 7% in April compared to January 2020
- Food needs second most common reason for social service assistance among 211 crisis calls in Spring 2020
- Tri-countywide, food insufficiency doubled spring-summer 2020
 - 4.7% → 8.7% (about 268,000 adults)
- Data sharing already in place

115,837 households received Basic Food assistance in King County in September 2020*

Last Updated: 10/9/2020

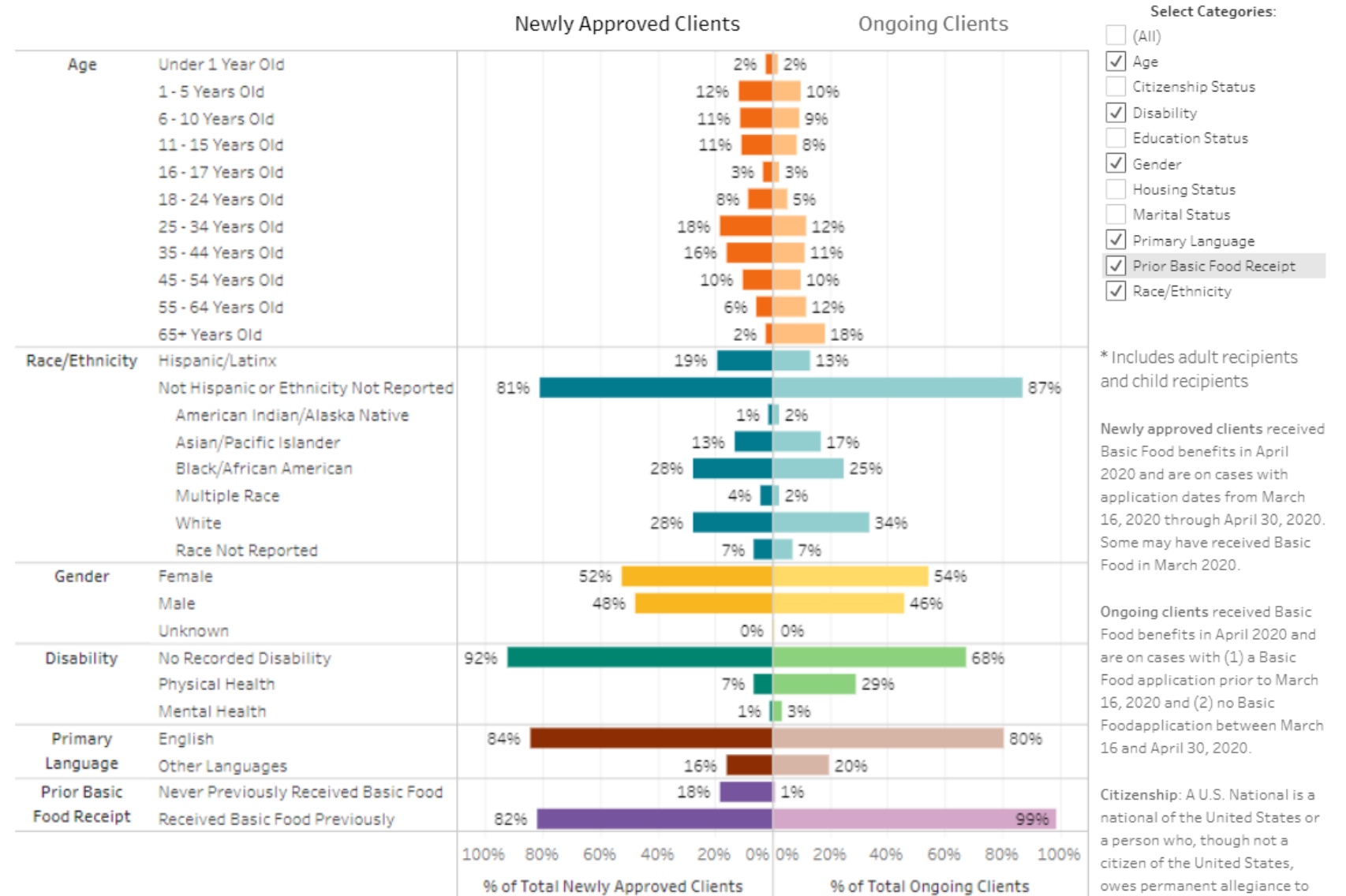


Food insecurity

- Clients newly approved for SNAP since March 2020 are:
 - Younger (children, young adults)
 - More likely to be Hispanic/Latinx or Black
 - Less likely to have a physical or mental disability
 - More likely to speak English as a primary language
- 18% of newly approved clients had never received SNAP previously

<https://www.census.gov/programs-surveys/household-pulse-survey.html>

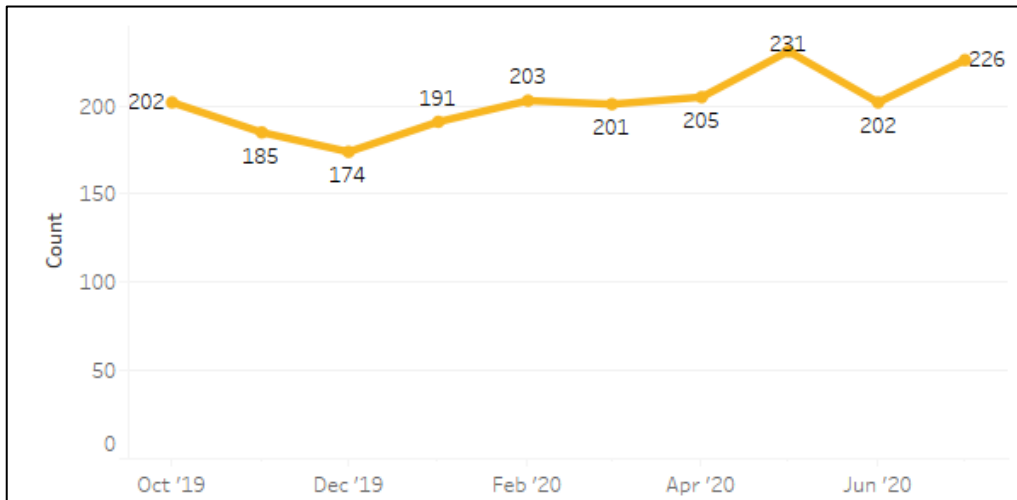
Comparing demographic profiles of newly approved and ongoing Basic Food clients in King County*



Domestic violence (DV)

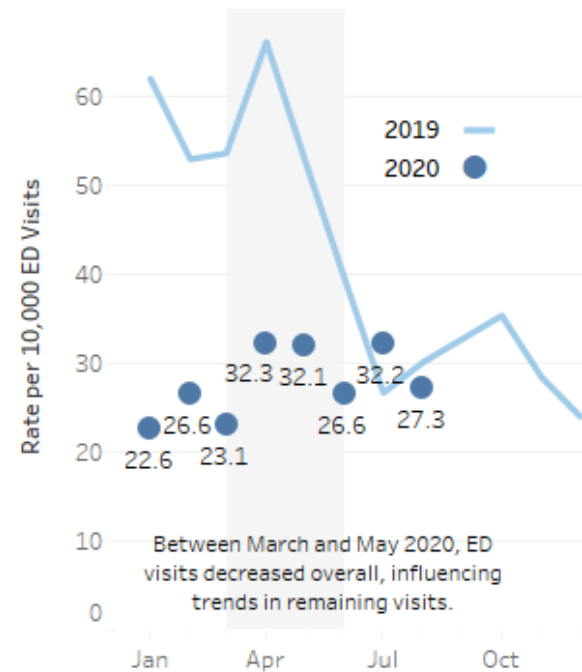
- Syndromic surveillance used for Emergency Department visits; ED visits related to DV declined at the start of the pandemic
 - Returned to comparable rates as of June 2020
- Required DSA

King County calls to national Domestic Violence Hotline



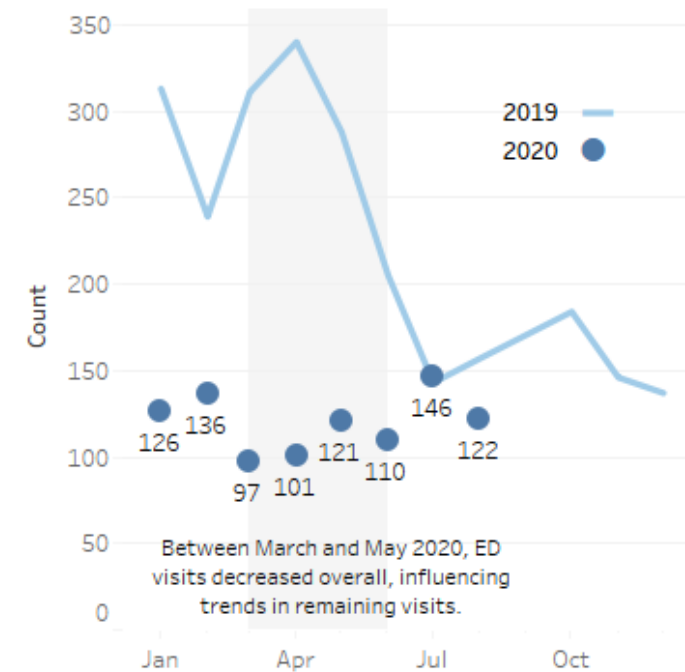
Data Source: National Domestic Violence Hotline

Figure 1a: Rate per 10,000 ED Visits



Data source: Washington State Department of Health Rapid Health Information NetwOrk (RHINO).

Figure 1b: Count of ED Visits

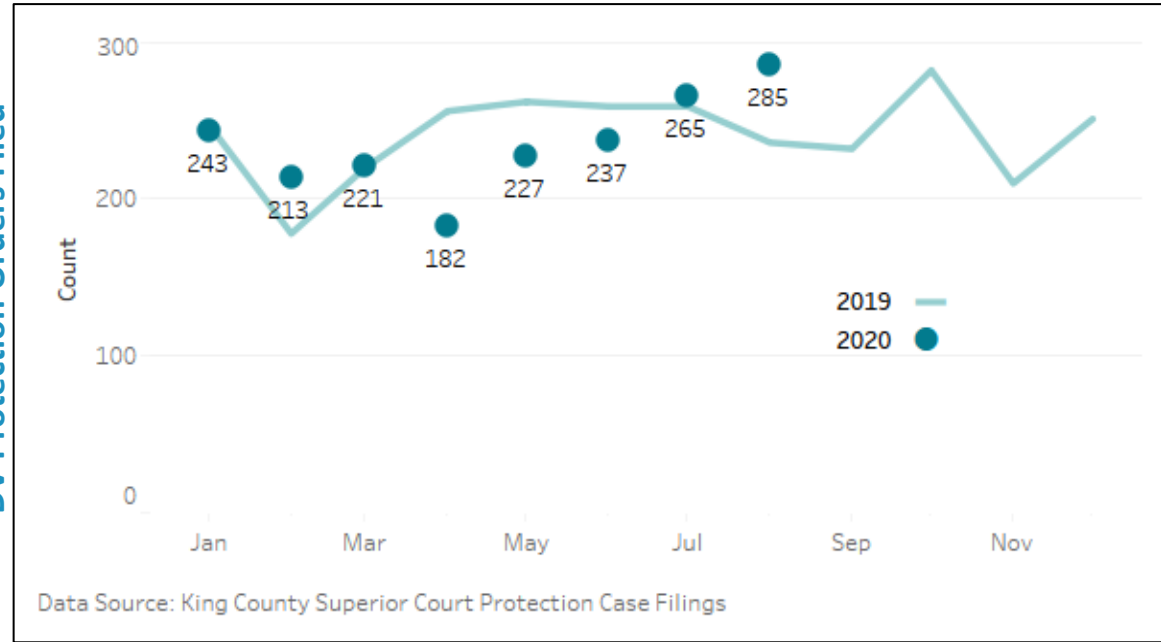


- Call volumes are similar to previous years.
- Requires a DSA

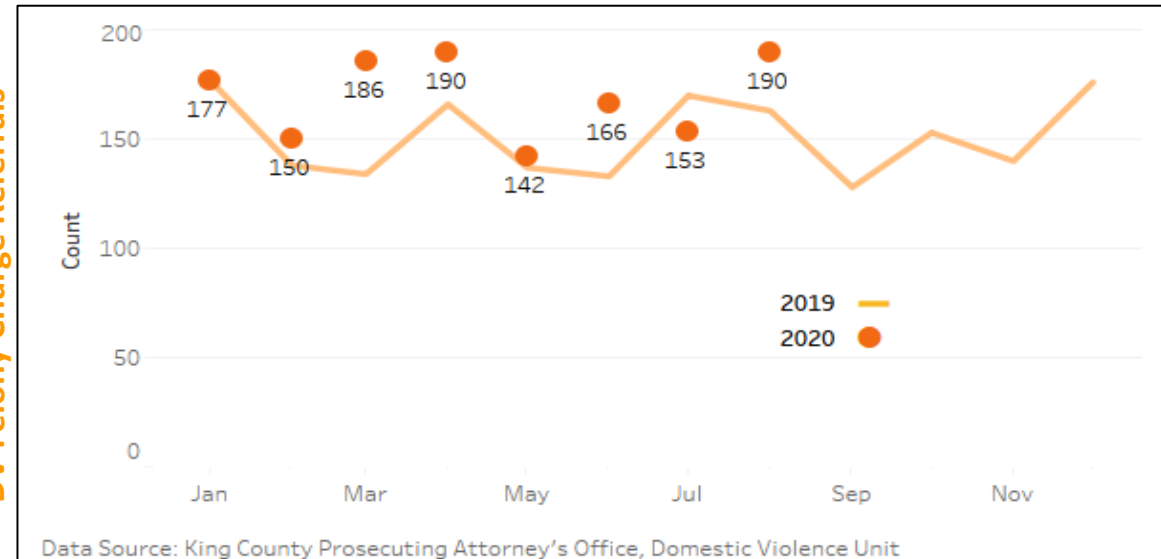
Domestic violence protection order and felony referrals

- Initially protection orders filed were lower as courts were closed
- Modified protocols to allow for remote/email/electronic filings
- Since April 2020, the number of DV protection order filings has been increasing
- Number of felony referrals in April and August 2020 are the highest number in the past five years
- Did not require a DSA: leveraged relationships for aggregated data

DV Protection Orders Filed



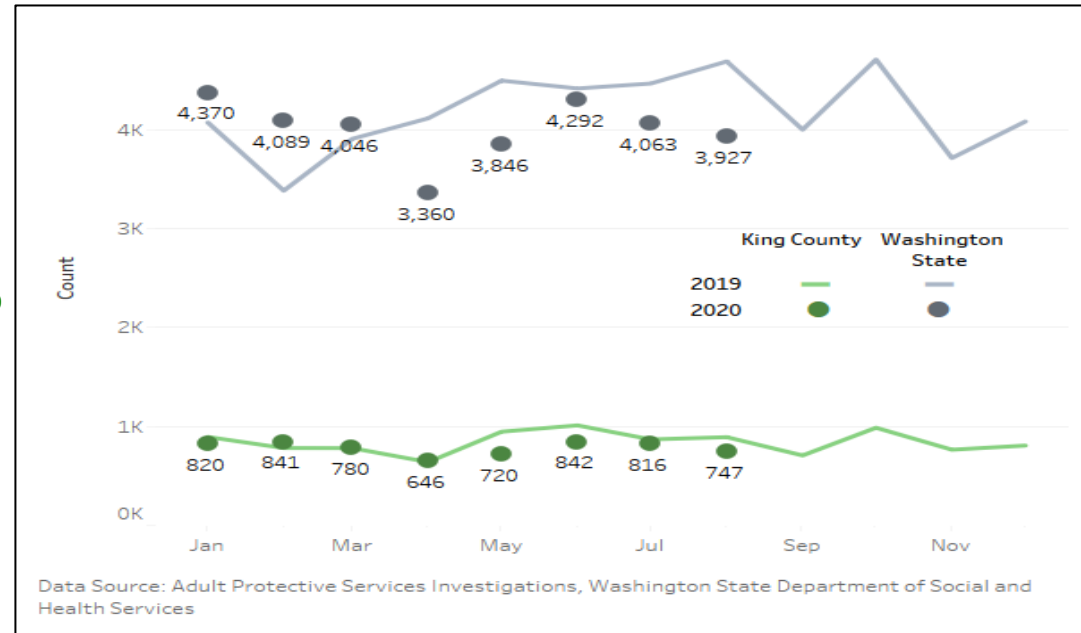
DV Felony Charge Referrals



Adult protection service investigations and protection orders

- In May and June 2020, the number of KC investigations was significantly lower than in the same months in 2019
- Fewer protection orders filed per month in 2020 (data not shown)
- Did not require a data sharing agreement; leveraged relationships for aggregated data

Adult Protective Service Investigations



Physical and Behavioral Health

Monitoring in King County, WA

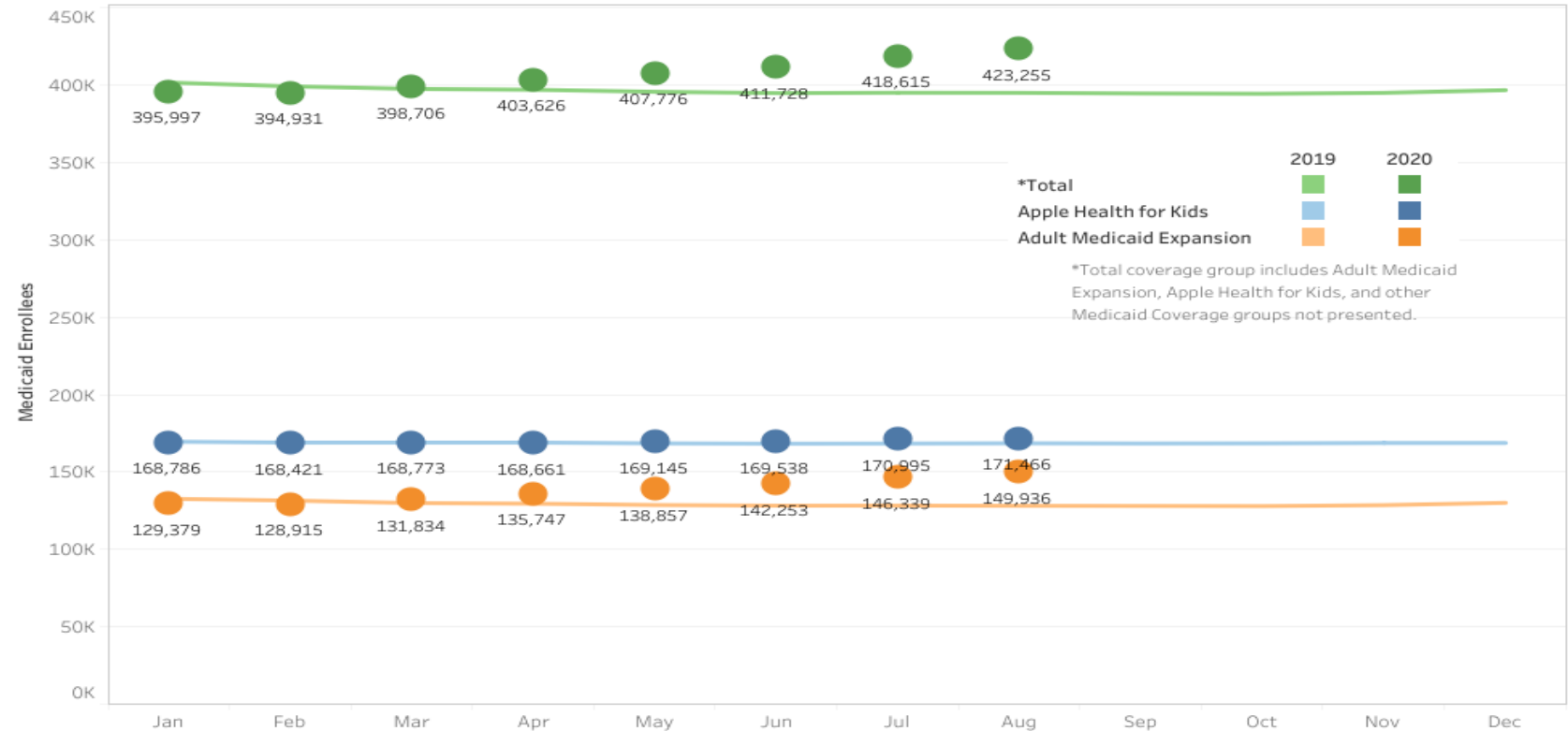
Physical health: Medicaid

- WA state is a Medicaid expansion state.
- Pre-pandemic, Medicaid enrollment mirrored other King County geographic trends.
- Seeing a slow increase in total Medicaid enrollment since February 2020, mostly in the adult population
- Required a DSA; DSA was already in-place but needed to modify use case for this purpose

There were **423,255** people enrolled in Medicaid in King County in August 2020



Last Updated: 10/20/2020



Notes: Enrollment counts and percentages may differ from official HCA enrollment data given differences in how PHSKC identifies member characteristics, including King County residence, gender, race/ethnicity, and language.

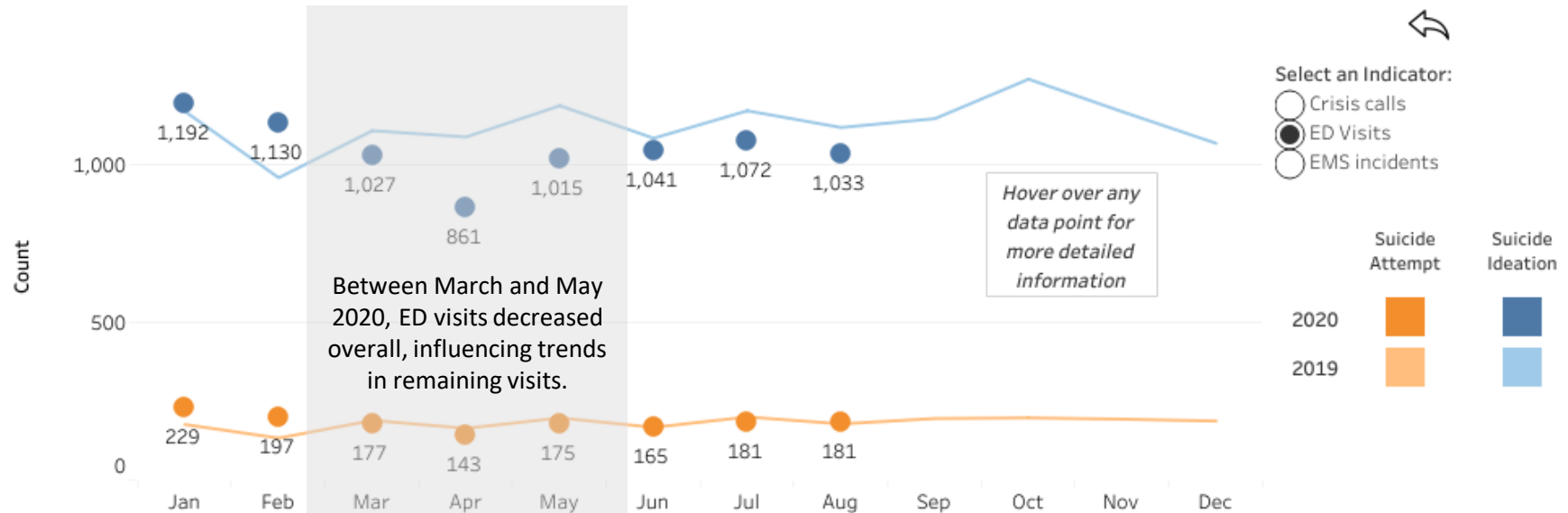
Data Source: Medicaid claims data, WA State Health Care Authority (HCA). This data product has not yet been reviewed or approved by HCA.
Prepared by: Public Health-Seattle & King County; Assessment, Policy Development & Evaluation Unit

Behavioral health: ED visits for suicide attempt and ideation

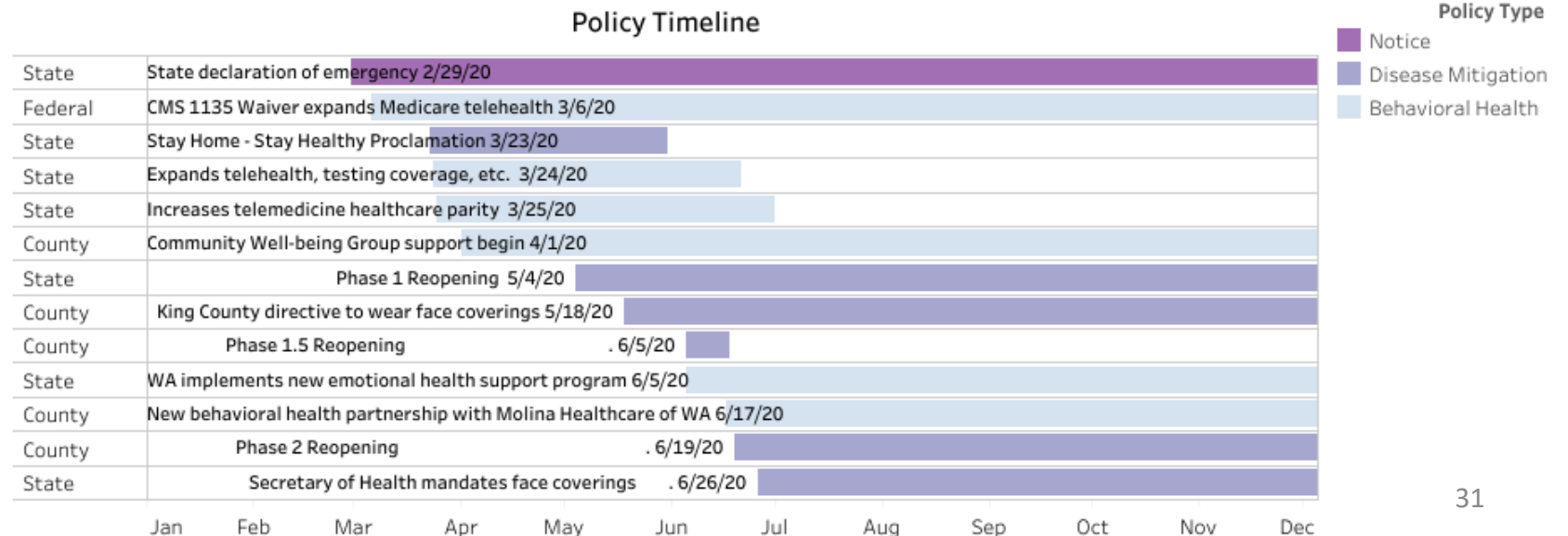
- ED visits for any reason, including suicide ideation, declined March-May 2020 but since May 2020, returned toward 2019 volume
- Suicide attempt ED visit numbers are similar to 2019
- Also looking at behavioral health crisis calls

Emergency department (ED) visits for suicide attempt and suicide ideation by month among King County residents, 2020 vs. 2019

Last updated: 9/25/2020



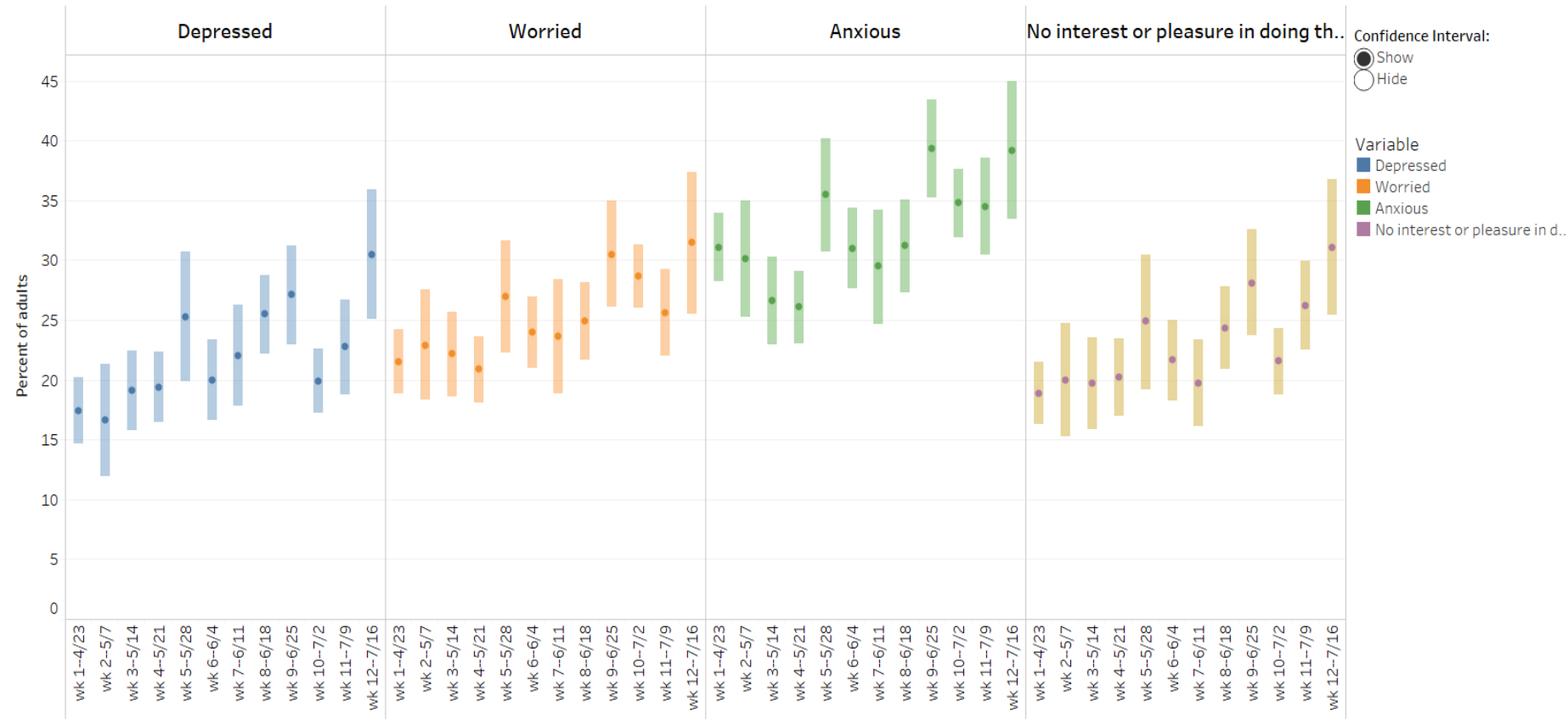
Data source: Washington State Department of Health Rapid Health Information NetwOrk (RHINO). ED visit data for residents ages 10 and older are preliminary and subject to change as data are added, updated, and validated over time.



Mental health

- The Census has a Pulse Survey related to COVID-19; currently in Phase II of data collection
- Showed an increase over time in depression, worried, anxious, and little interest or pleasure in doing things
- Very marked disparities by:
 - Income
 - Education
 - Recent or expected job loss
 - Age
- Data available to all

Percent of adults experiencing the following feelings for more than half the week, by survey week, Seattle/Tacoma/Bellevue MSA, April 23 - July 21, 2020



90% CI = 90% confidence interval (see Notes and Sources tab)
Data source: Census Household Pulse Survey



Across the different indicators, we are seeing significant impacts to the King County population



The effects of mitigation do not appear to be equally shared across geography or demographic groups



King County released money via community RFPs to address some of these issues; components are part of recovery planning



Continued monitoring is necessary, along with policy surveillance to move towards evaluation of what was most useful



Missing context from the community in terms of qualitative voice

Summary of data

Trenton, NJ



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Agenda

- 1. Introduce Trenton and Trenton Health Team**
- 2. Analytics for Two Key Initiatives**
 - A. Covid-19 Surveillance**
 - B. Food Insecurity**

TRENTON

A SNAPSHOT

NEW JERSEY'S CAPITAL features accessible mass transit, nearby colleges and universities, historic and cultural sites and a beautiful waterfront. Trenton also faces challenges, including lack of economic opportunity. On several key metrics, Trenton falls below the state average.



RESIDENTS' TOP TEN REASONS TO LOVE TRENTON

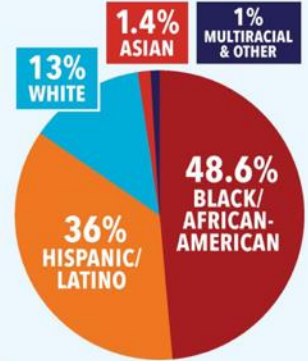
- ANNUAL EVENTS
- PUBLIC TRANSPORTATION
- LOW COST SERVICES
- GOOD HEALTH CARE
- FAITH-BASED SPACES
- FRESH PRODUCE
- EDUCATION OPPORTUNITIES
- PUBLIC SCHOOLS
- AFFORDABLE HOUSING
- SENSE OF BELONGING

BASED ON A TRENTON HEALTH TEAM SURVEY OF MORE THAN 1,445 RESIDENTS ACROSS THE CITY.

TRENTON IS A DIVERSE AND RESILIENT CITY with engaged and proud residents working together to improve health and well-being in their community.

NEW JERSEY MEDIAN ANNUAL INCOME	TRENTON MEDIAN ANNUAL INCOME
\$82,517	\$46,166

TRENTON'S DIVERSE POPULATION



NEW JERSEY TRENTON

% LIVING BELOW POVERTY LINE	10.7	23.1
UNEMPLOYMENT RATE (%)	6.4	11.9
% WHO HOLD BACHELOR'S DEGREE (25+)	23.5	10.8
% WHO SPEAK LANGUAGE OTHER THAN ENGLISH	31	35
% WHO RENT HOMES	36	63
CHILDHOOD OBESITY RATE (%)	14.7	28
TEEN PREGNANCY RATE (<17, PER 1,000)	5.8	30.5
% LIVING WITH ADULT DIABETES	11	13
% LIVING WITH ADULT ASTHMA	8.2	10.8

SOURCE:
Health Indicators and 2019 Community Health Needs & Assets Assessment
www.trentonhealthteam.org



Introducing Trenton Health Team

The Trenton Health Team (THT) is an innovative multi-sector partnership dedicated to the health and well-being of the greater Trenton community.

- Founded as a partnership to address healthcare indicators, utilization, access, and collaboration
- Community Advisory Board – 100+ organizations; priority-focused subcommittees
- Community Health Needs Assessments and Improvement Plans
- Health Information Exchange – millions of records, thousands of providers
- Medicaid MCO Pilot led to Regional Health Hub structure
- Doubled in size and budget over past two years
- New strategic approach and vision released in 2019

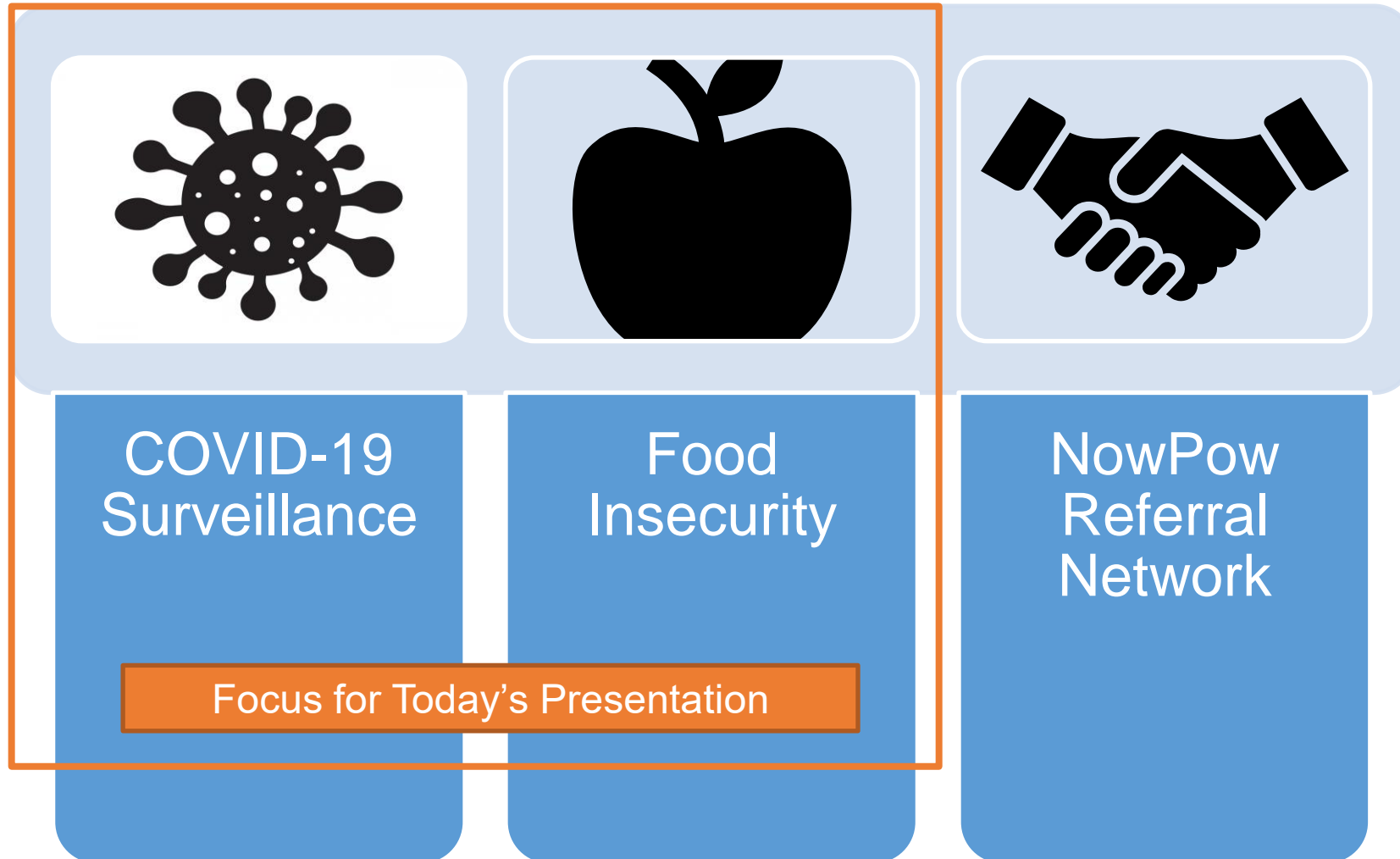
A dedicated Analytics and Insights function was launched in April 2020

Our 2019 Strategic Vision

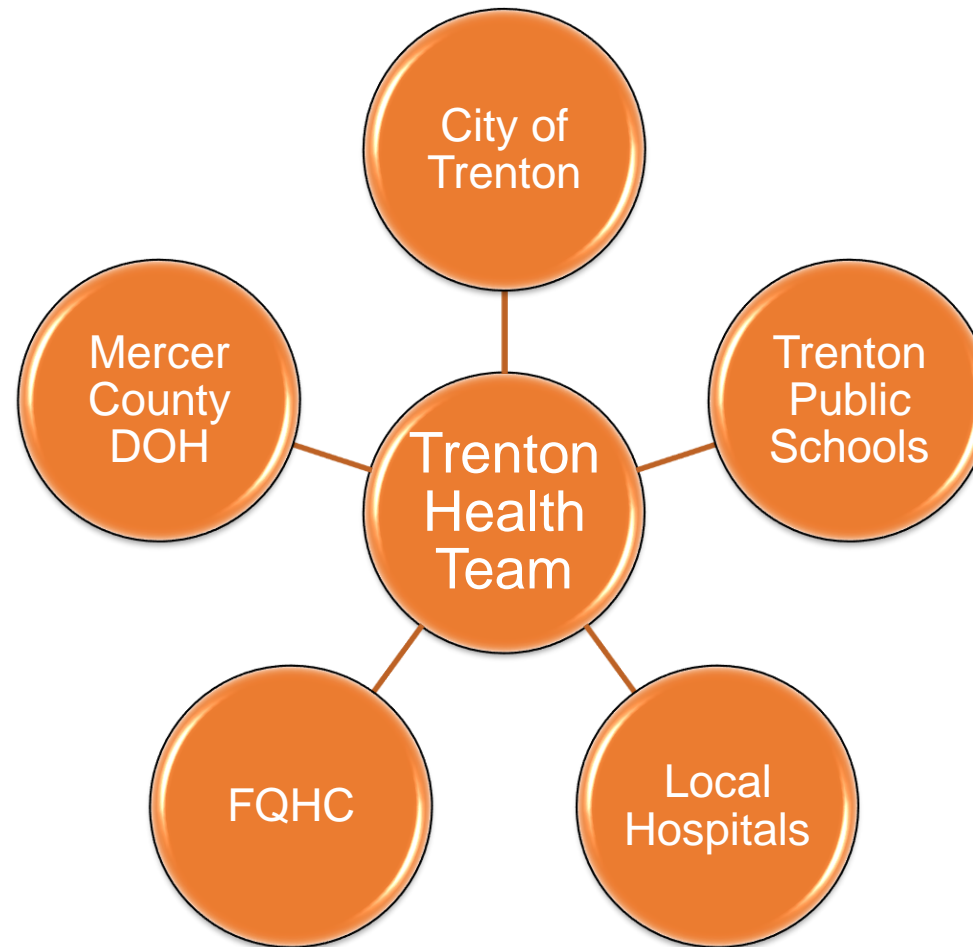
Healthy Environment Growing Economy Public Spaces
A Strong, Vibrant, Proud Community Effective Education
Healthy Food Improved Safety Quality Healthcare



Key Initiatives



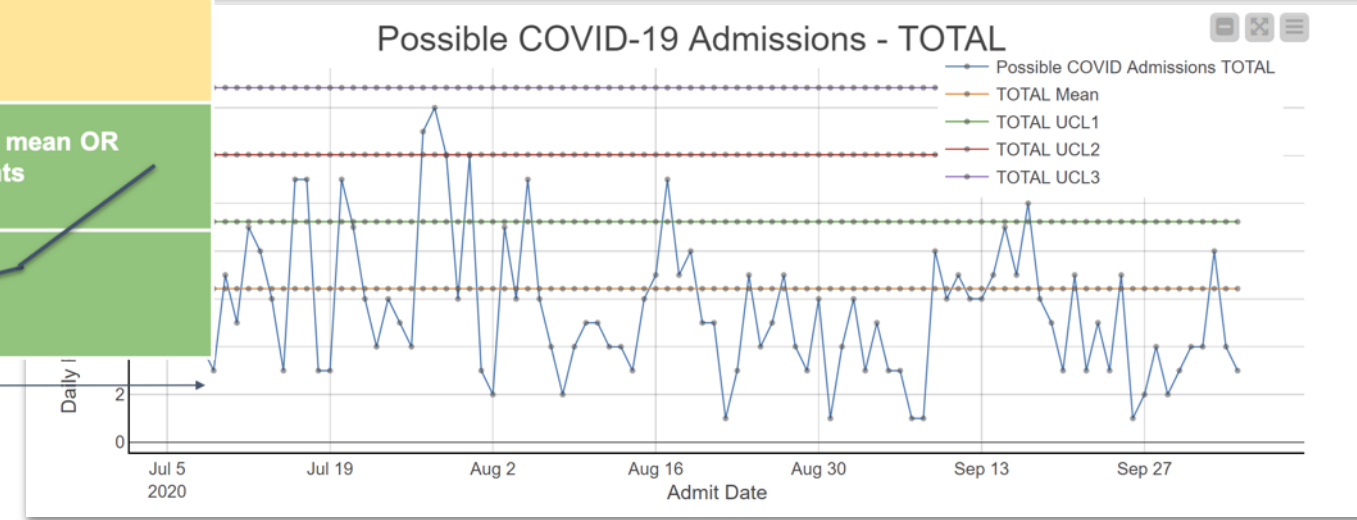
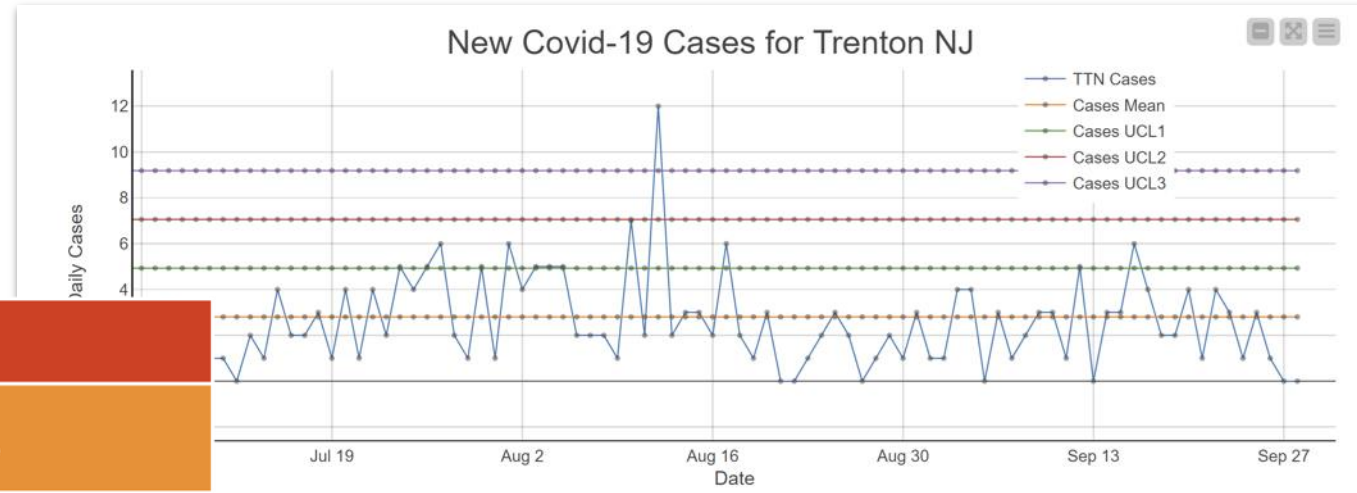
COVID-19 Surveillance



1. Surge Detection
2. Decision Support
3. Communications

Surveillance

How can we use data on new cases, hospital admissions, and ED visits to detect that a possible surge is imminent?



Three Sigma Limit (Upper Control Limit)	1. One point in this zone
Two Sigma Limit	2. Two of three points in this zone
One Sigma Limit	3. Four of five points in this zone
Mean	4. Eight consecutive points above mean OR 5. Six consecutive increasing points

Admit Date

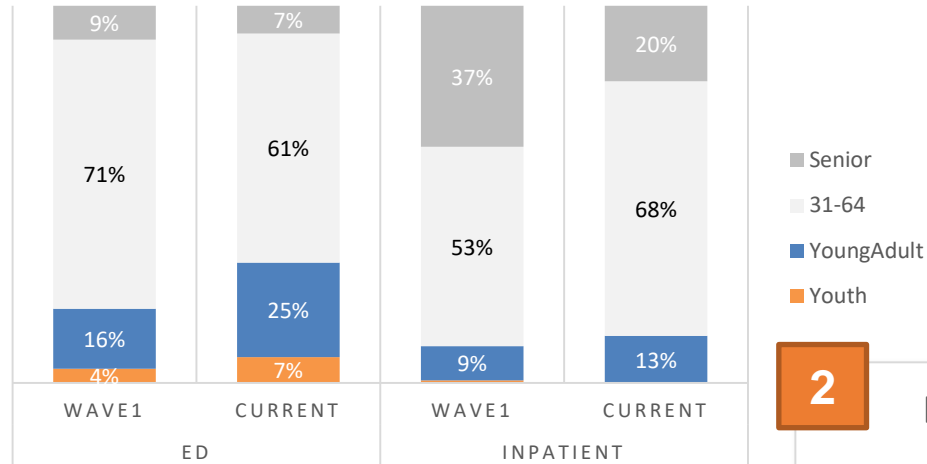
Data Source: Trenton HIE



Decision Support

1

DISTRIBUTION BY AGE GROUP

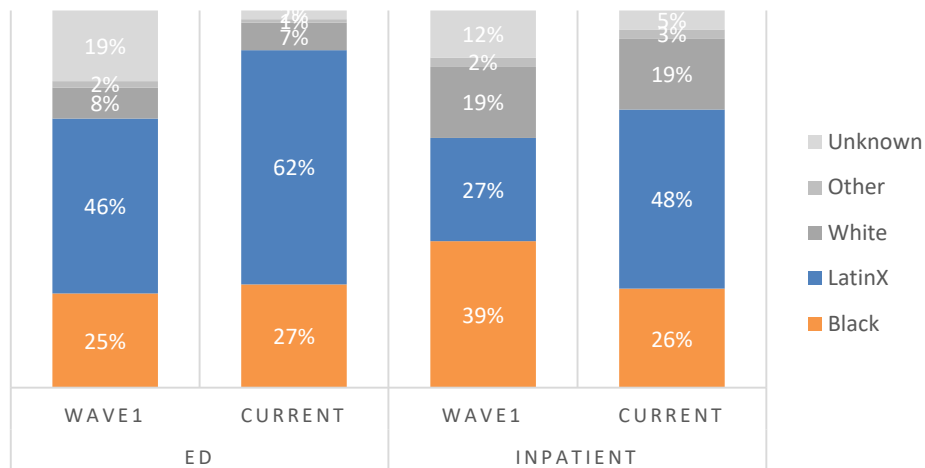


Where and who are the hardest hit in the second wave?

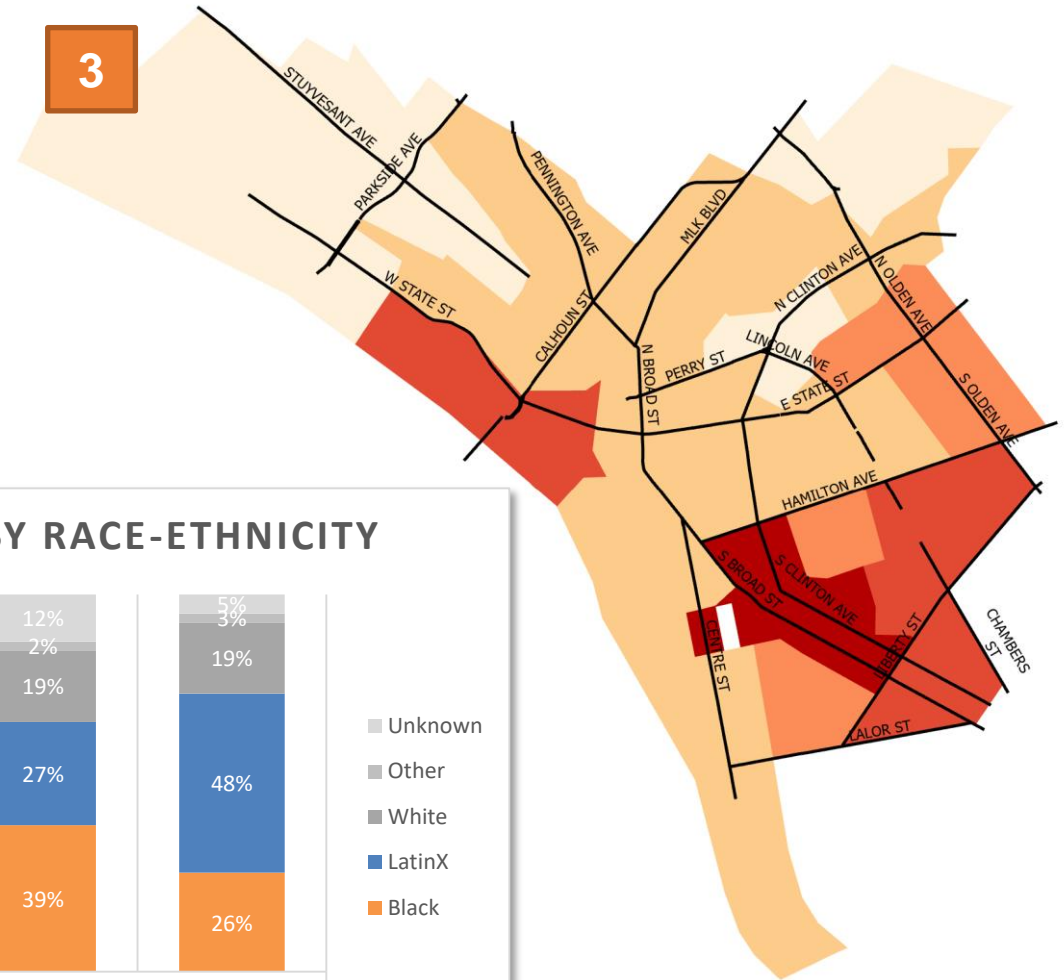
Data Source: Trenton HIE

2

DISTRIBUTION BY RACE-ETHNICITY



3



Communications

How do we make our case with data to effectively get the word out to the community?

Trenton Health Team
@TrentonHealth

Trenton COVID-19 infections rates EXCEED state and county levels; we are doubling infections every week. #StopTheSpread #MaskUpTrenton

Where we are compared to New Jersey and Mercer County

Trenton COVID-19 Infections per 100,000 Population

Trenton 41.3
Statewide 28.3
Mercer County 27.0

Graph depicts 7-day average of confirmed cases; Data Source: Mercer County COVID-19 Dashboard
Data as of 11/10/2020

The rate per 100k has been roughly **doubling** each week over the past 3 weeks

Date	Rate per 100k	Change relative to 7-days ago
11/10/2020	41.3	2.0x
11/3/2020	20.5	1.7x
10/27/2020	11.8	2.1x
10/20/2020	5.6	

1



El coronavirus está aquí y puede ser letal. Mantenga a su familia, sus vecinos y a usted mismo seguros. Quédese en casa si puede. Póngase una mascarilla al salir de la casa. Manténgase a 6 pies de distancia de los demás.

Translate Tweet

Infecciones de COVID-19 en Trenton por cada 100,000 habitantes

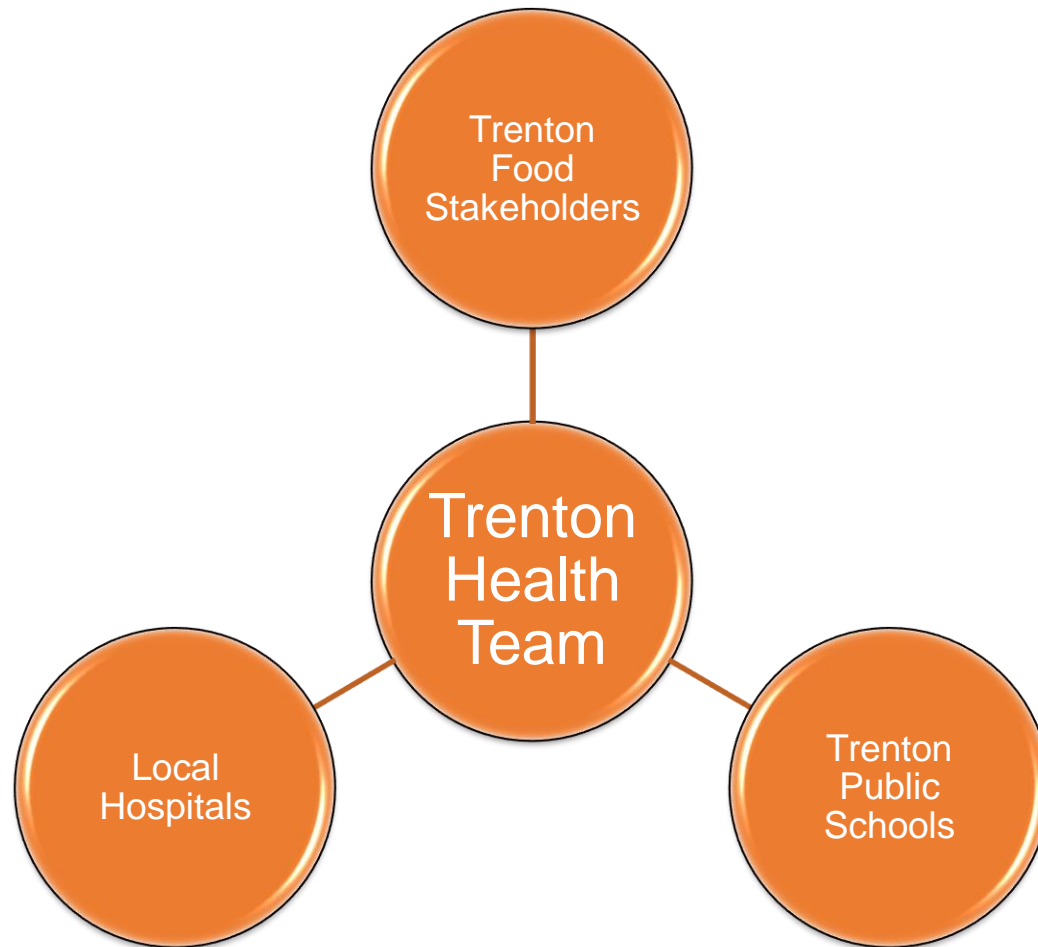
1.ra ola
Ola actual

5/2/20

ola actual al 14 de noviembre de 2020

El gráfico representa el promedio de 7 días de casos confirmados
Fuente de datos: Panel de información sobre COVID-19 en NJ del condado Mercer

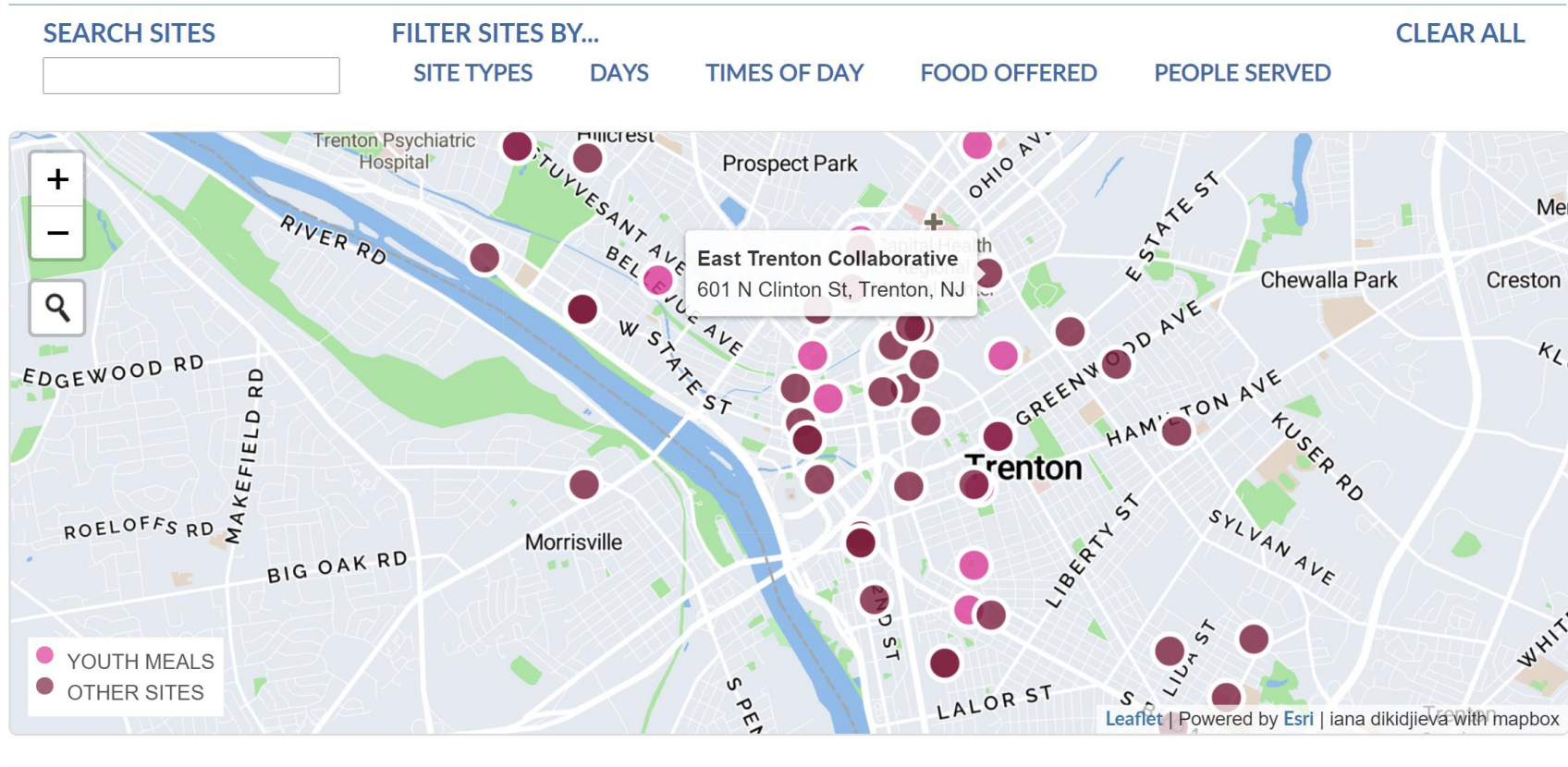
Food Insecurity



1. Food Access
2. Strategic Planning
3. Food Needs Survey

Food Access

How do we get those who need the food ... to the free food?



www.trentonhealthteam.org/food

Summer Meal Site - CYO South Broad Street
 920 South Broad Street, Trenton, NJ 08611

YOUTH MEALS

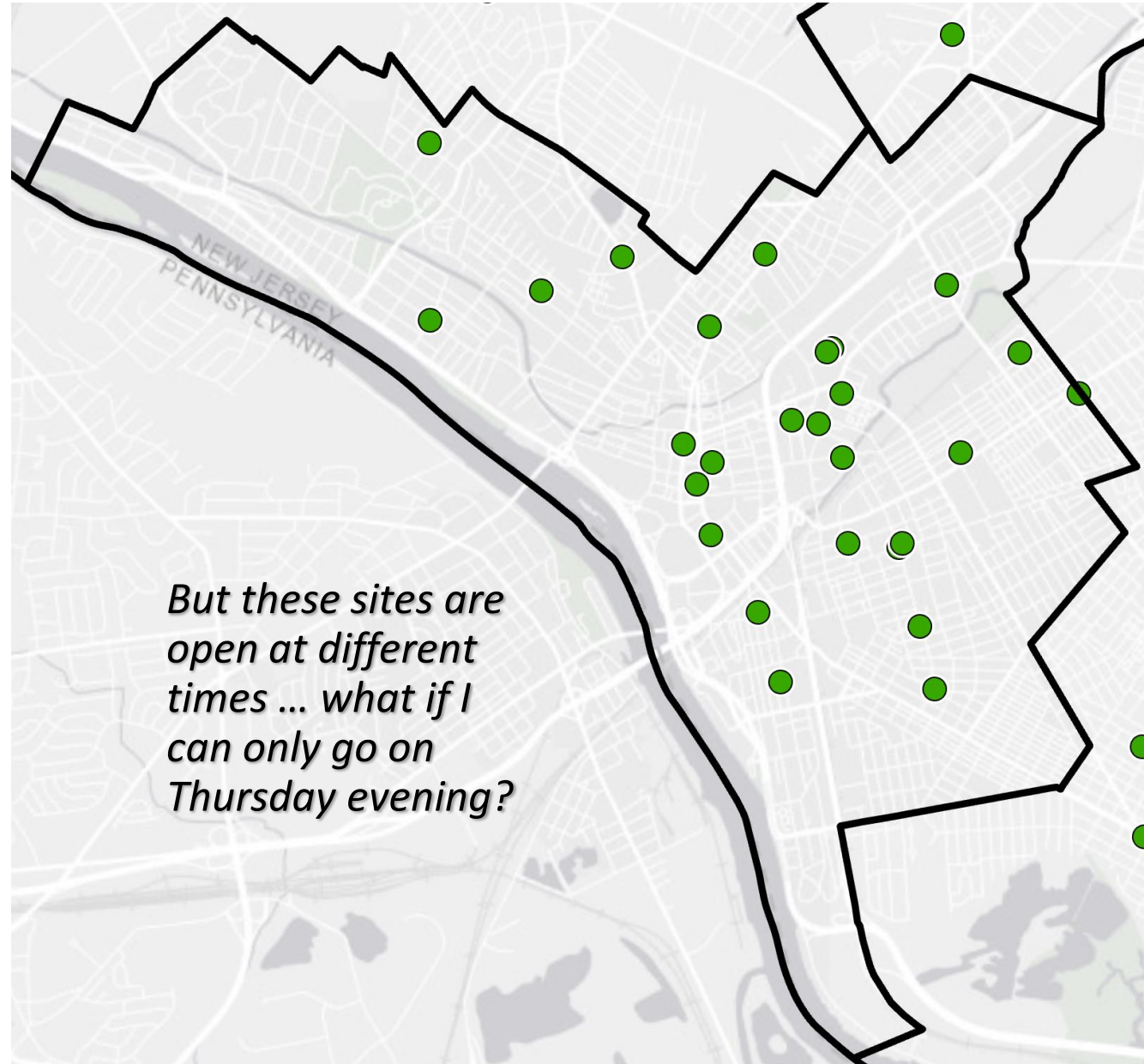
Site contact: 609-599-9622, Ext. 202 (Contact: Khadijah McQueen, Food Access Director)

Monday through Friday, Breakfast & Lunch, 12pm-2pm. For kids 18 and under only.

Strategic Planning

Where should we locate new free food resources in the City?

Or, more specifically, where do we have lack of availability and high likelihood of demand?



Strategic Planning

Where should we locate new free food resources in the City?



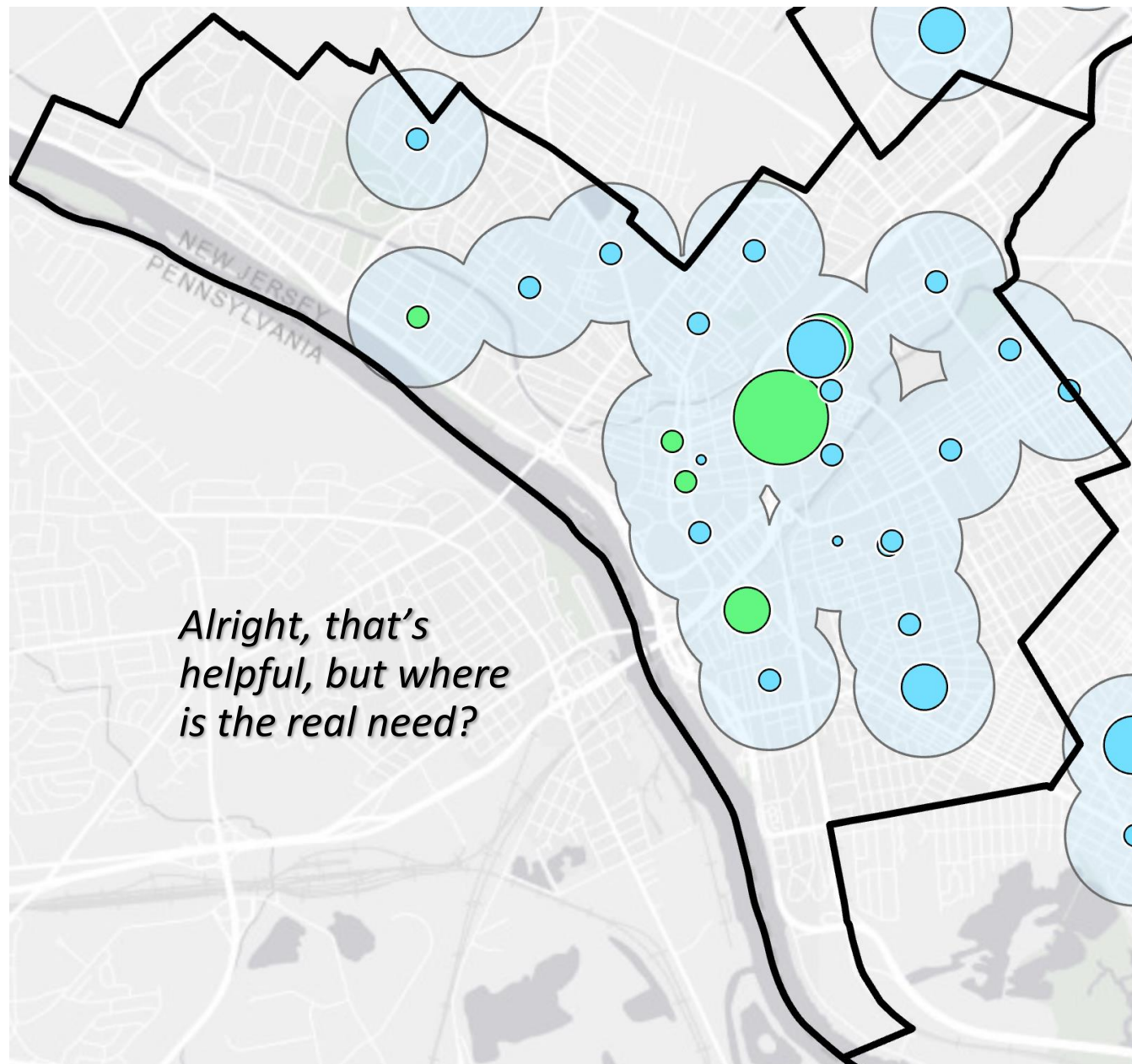
Strategic Planning

Where should we locate new free food resources in the City?



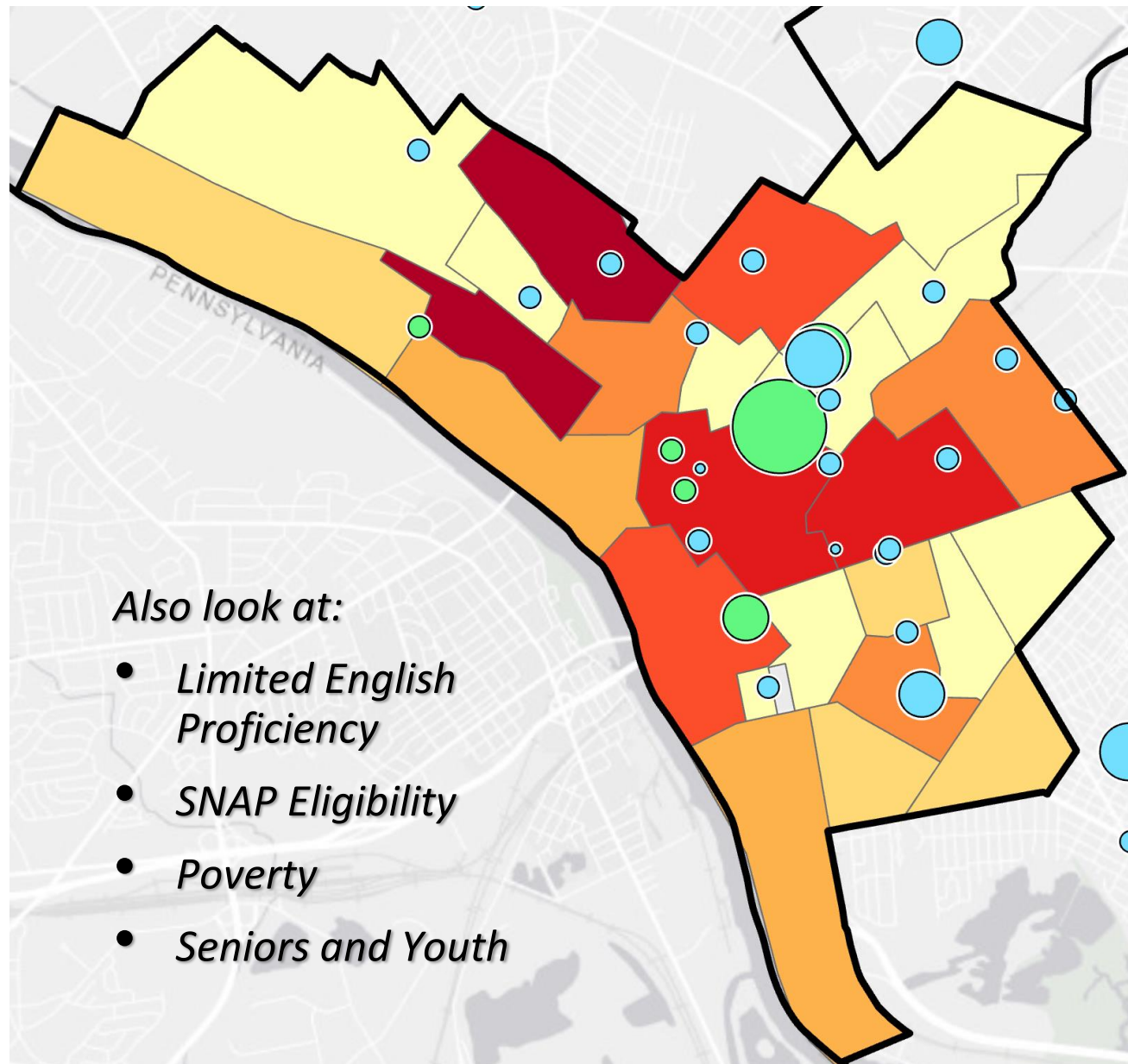
Strategic Planning

Where should we locate new free food resources in the City?



Strategic Planning

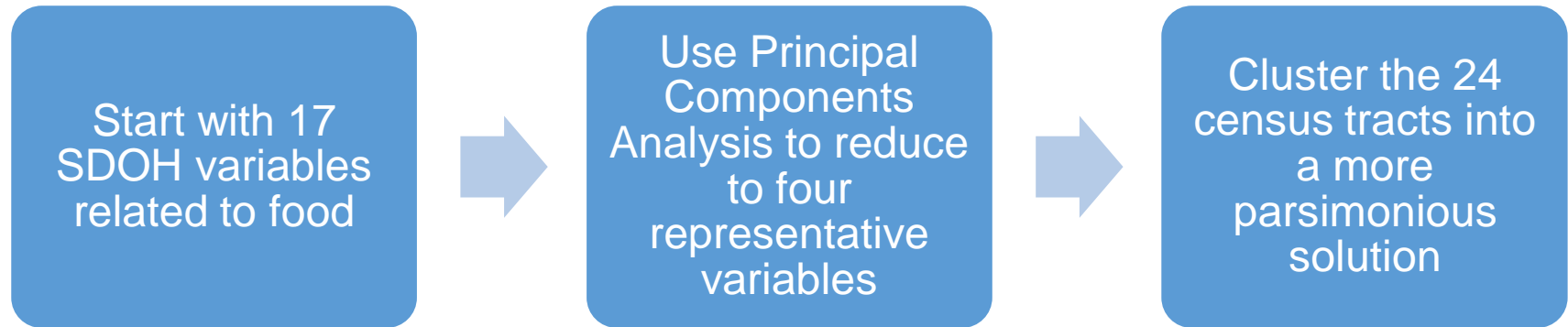
Where should we locate new free food resources in the City?



Data Source: CDC Social Vulnerability Index

Free Food Survey

How do we ensure coverage on our Free Food Survey without having to manage representative samples in 24 census tracts?

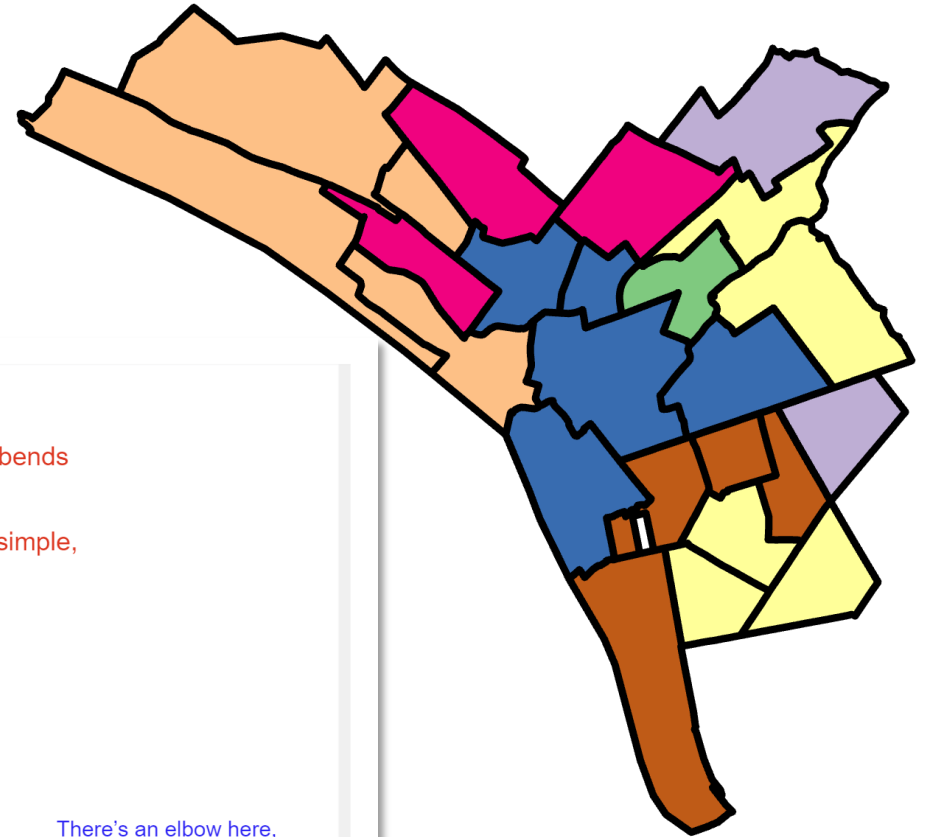


1. SNAP Eligibility
2. No Vehicle
3. Limited English Proficiency
4. Single Parent

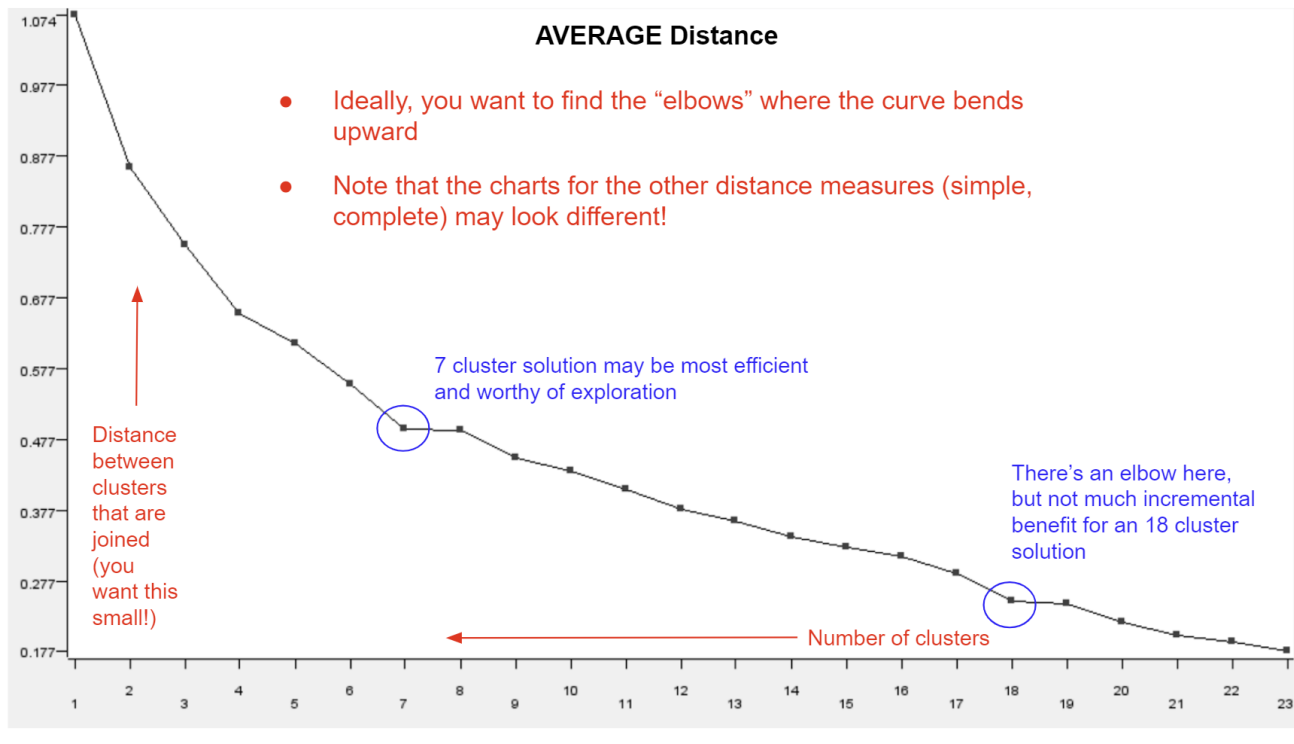
Free Food Survey

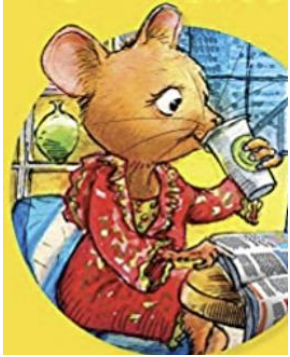
How do we ensure coverage on our Free Food Survey without having to manage representative samples in 24 census tracts?

Seven Cluster Solution!



Hierarchical Clustering





Lessons Learned



1. Context is crucial! Our stakeholders are hungry for data and insights – the challenge is to understand their needs so that the insights have the maximum impact
2. Data science and analytics skills are valuable – but humility, curiosity, and conceptual thinking are essential!
3. The HIE can be a wonderful resource – but strong partnerships are needed to extract and sustain value
4. Monitoring existing, relevant data can inform planning. Policy makers and community are using the data.
5. Aligning relevant policies' timelines with trends gives context to understand changes in behaviors
6. Moving to rapid-cycle reporting quickly is possible but takes resources and staff time; having data sharing experience is helpful



Big City Mouse and Small City Mouse

Addressing Pandemic-Driven Community Needs with
Data, Analytics, and Collaboration
in Seattle, WA, and Trenton, NJ

Amy Laurent

Senior Epidemiologist
Public Health - Seattle & King County

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Director of Analytics and Insights
Trenton Health Team

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