Potentially Preventable Hospitalizations

Evaluation Report

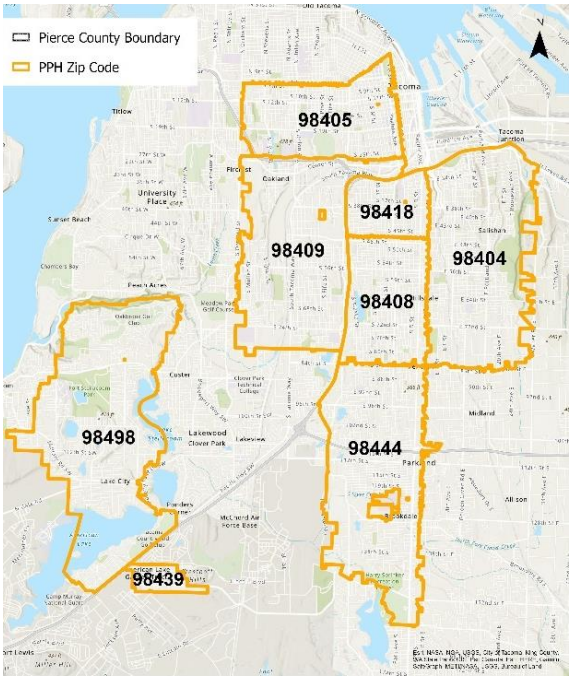
Updated August 2024

Tacoma-Pierce County
Health Department
Healthy People in Healthy Communities

Executive Summary

Potentially preventable hospitalizations (PPH) occur when a person is hospitalized for something preventative care or timely access to outpatient care could have prevented. Common PPH are caused by worsening chronic conditions like diabetes or heart disease, or communicable diseases like flu and pneumonia.

We formed a strike team of local healthcare leaders to address PPH in target ZIP codes. Our project includes local health systems, provider organizations and community-based organizations.



Map of PPH ZIP codes.

PPH strategies

- **Immunization:** Increase flu, pneumonia and COVID-19 vaccination rates to prevent infection or decrease the severity of an infection.
- **Behavioral health:** Improve access to behavioral healthcare. Mental health conditions and substance use disorders can result in hospitalization and can make it difficult to seek preventive care or manage another chronic condition.
- **Heart failure:** Reduce the most common type of PPH with improved diagnosis and management of heart failure.
- **Overarching initiatives:** Interventions that touch on all three PPH strategies above.

Evaluation

The PPH project is complex. Good evaluation is critical to help us learn about the project's impact. We continually evaluate the outcomes and produce an annual report. Many of the measurable indicators to date are process indicators. They measure activities and outputs to make sure we're on track.

This report contains data for each initiative, ranging from 2019 through 2024. Data and time frames vary by initiative. Some initiatives have been discontinued while others are ongoing. See individual initiatives for details.

Strategy 1: Immunizations

How many doses of flu and pneumococcal vaccines did we provide with PPH funds?

From 2018 through June 2023, PPH purchased a total of 1,620 flu vaccines and 150 pneumococcal vaccines. We did not purchase any vaccines for the 2023-2024 flu season due to funding limitations.

Do Health Department flu clinics reach people in the PPH ZIP codes?

Data on the number of people vaccinated at each flu clinic and where those individuals reside is not consistently available each year.

For example, in 2020 we hosted 12 flu clinics from September-December, vaccinating 5,352 people. Only one of the flu clinics was in a PPH focus area (98444), but roughly 14% of people vaccinated at the clinics lived in a PPH zip code.

From 2021-2024, we do not have data at the same level of granularity, but we do know that the Health Department hosted vaccine clinics in the following PPH zip codes:

- 2020-21: 98444
- 2021-22: 98404, 98405, 98408, 98409, 98418, 98444
- 2022-23: 98405, 98409
- 2023-24: 98404, 98405, 98408, 98409

Strategy 2: Behavioral health

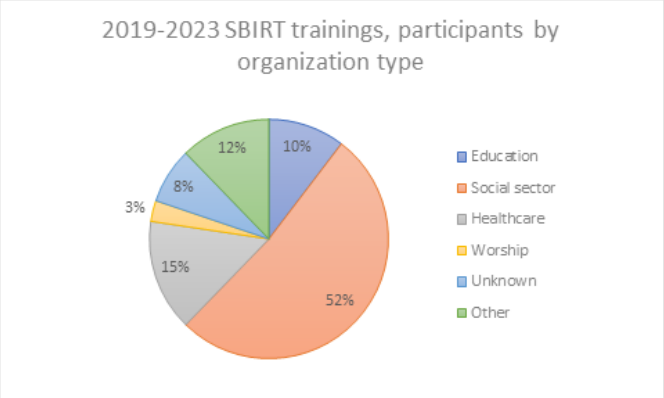
Screening, brief intervention and referral to treatment (SBIRT) trainings

SBIRT is an evidence-based approach to identify and refer patients to substance misuse treatment or mental health services.

Did the training successfully reach providers/social services (including in PPH ZIP codes)?

More than 500 people registered for 10 trainings between 2019 and 2023. The represented more than 100 organizations. Most worked in the social services sector (including behavioral health).

More than 300 people took a training. This includes staff from 4 of our 5 primary PPH partner organizations (Community Health Care, Virginia Mason Franciscan Health, MultiCare, and Sea Mar Community Health Care Centers). We trained people from organizations in at least 6 PPH project zip codes.



Did the training improve participants' knowledge and likelihood of using SBIRT/MI?

The training increased attendees' knowledge. Surveys showed an average score of 77% compared to 31% before the training.

Freedom from Nicotine Dependence nicotine cessation support groups

Are patients using support groups?

Since the groups began, we have had 15 registrants, 14 of whom attended at least 1 session. The large majority of participants (14) identified as white/Caucasian, non-Hispanic.

We decided to discontinue the Freedom from Nicotine Dependence support group in June 2023 due to low participation. Nicotine cessation remains important to the PPH project. In the upcoming year, we will explore new ways to address this issue more effectively.

Ask, Advise, Refer (AAR) brief intervention training

The AAR training teaches healthcare providers best practices for fast and effective nicotine interventions with patients.

Did the AAR training reach healthcare providers?

Yes. We hosted an AAR training with 62 CHC employees. They were mostly medical residents and behavioral health specialists. Attendees worked within all PPH ZIP codes, as well as 22 other ZIP codes.

Was the AAR training effective in educating and motivating participants to use AAR?

The AAR trainings improved knowledge of the AAR brief intervention technique. Average scores improved from 78% before to 92% after.

"What could smoke-free do for you" smoking cessation campaign

In Spring 2022, the PPH project team partnered with MultiCare and Health Department leads to create a smoking cessation media campaign. That campaign originally ran June – December, 2022 and directed people to the Health Department Quit Tobacco webpage, which links to medical experts, support groups and additional resources. In 2024 we purchased additional ad buys.

How many people did the campaign reach?

2022:
The campaign resulted in 38,530,586 total impressions June 13 – December 31, 2022:

- Billboards: 21,900,052.
- Google: 16,630,534.

For virtual impressions, the most common age groups were 55–64 and 65+. The cities with the most virtual impressions were Tacoma, South Hill, Gig Harbor, Parkland and Bonney Lake.

2024:
The campaign resulted in 10,340,908 total impressions from June 1 – July 31, 2024. There were 8,275 interactions with the campaign, 443 of which were link clicks.

Refer to Treatment webpage

From our SBIRT/MI trainings, we learned that providers may screen patients for behavioral health needs but aren't familiar with their referral options if issues are identified. In response, we created the Refer to Treatment webpage as a repository of behavioral health referral options in Pierce County in 2020.

Is the Refer to Treatment webpage successful in supporting providers?

Our web analytics do not reveal who exactly is accessing the Refer to Treatment webpage, so we're not sure if providers are the primary viewer. However, we can see that the number of visitors has increased over the years. The difference between unique page views and total page views reflects the value of the webpage, as it indicates visitors are not just viewing it once, but repeatedly returning to the resource.

Year*	Total page views	Unique page views
2020	55	48
2021	478	380
2022	499	380
2023	750	488

**Data is for October 1st – December 31st of each year.*

Strategy 3: Reducing heart failure.

Community Health Worker pilot project

Did pilot recruitment reach a diverse group of provider-identified patients? Did the program reach people equitably?

From January-June of 2023, 45 patients were referred to the CHW.

Referred patients ranged in age from 34 to 92. They represent 20 different Pierce County zip codes, including six of the eight PPH focus zips. We did not collect race and ethnicity data from patients, but we did track primary language. The vast majority (38) patients spoke English as their primary language. Four spoke Spanish, two Russian, and one was not specified.

More data is needed to know if the program reached people equitably.

Overarching strategies

Learning Collaboratives

We partner with Answers Counseling to host bimonthly learning collaboratives. Learning collaboratives are sessions providing interactive education and discussion for health and social service providers in Pierce County. Attendees learn about chronic disease prevention and how to provide care coordination and behavioral health intervention. Topics this year have included hypertension, immunizations, oral health, and more.

Did the learning collaboratives reach a broad group of healthcare and social service providers from the PPH ZIP codes?

Since the learning collaboratives launched in March 2021, more than 290 people registered for at least 1 session. Registrants represented over 76 different organizations and more than 20 ZIP codes. Participants were mainly from the social services sector.

Did the learning collaboratives improve knowledge about each topic?

Each learning collaborative led to higher knowledge scores. Knowledge scores averaged 58% in the pre-quiz knowledge assessment and 77% after, as indicated by the post-quiz knowledge assessment.

Additional accomplishments

Below are additional accomplishments since January 2023.

- Expanded CHW Collaborative: The Pierce County CHW Collaborative strives to provide people who work in various roles that perform community health worker activities a place to network, learn, and practice new skills. In collaboration with Elevate Health, we recently selected a consultant to lead a strategic planning process with the group starting summer 2024.
- Reconvened the Tobacco Cessation Workgroup: In 2024 we began meeting with internal and external stakeholders to promote the creation and expansion of nicotine cessation services in Pierce County.
- Created standardized "Heart Failure Referral Guide" for health system partners: Inconsistent (or non-existent) referral guidelines can lead to over-referral (or under-referral) to specialty providers, hindering capacity and leading to delayed care for patients who need to be seen. With our healthcare partners, we created a standard set of referral guidelines to help patients receive the right care at the right time.
- *Re-launched* "What could smoke-free do for you" smoking cessation campaign: In 2024, the Health Department's Behavioral and Emotional Health team, along with PPH, purchased additional ad buys and expanded upon a smoking cessation media campaign we originally launched in 2022.

More to come

See the full report for data and Appendix A for a list of evaluation measures. Since some data is not yet available, only a portion of the evaluation measures are included in this report's body. We may revise our evaluation plan as new data sources and collection methods become available.

Contents

Introduction

Potentially preventable hospitalizations (PPH) occur when a person is hospitalized for something preventative care or timely access to outpatient care could have prevented. Common PPH are caused by worsening chronic conditions like diabetes or heart disease, or communicable diseases like flu or pneumonia.

In 2017, the Health Department brought together local healthcare systems, providers, payers and others to address PPH. We included ZIP codes with high PPH rates, poor health outcomes and health disparities: 98404, 98405 and 98408 in the 27th legislative district and 98409, 98418 and 98444 in the 29th legislative district.

Our project raises awareness and expands community response to PPH caused by chronic health conditions. We aim to strengthen relationships with healthcare systems, community clinics and other community partners. Our long-term goal is to improve health and reduce healthcare costs in areas with the highest need.

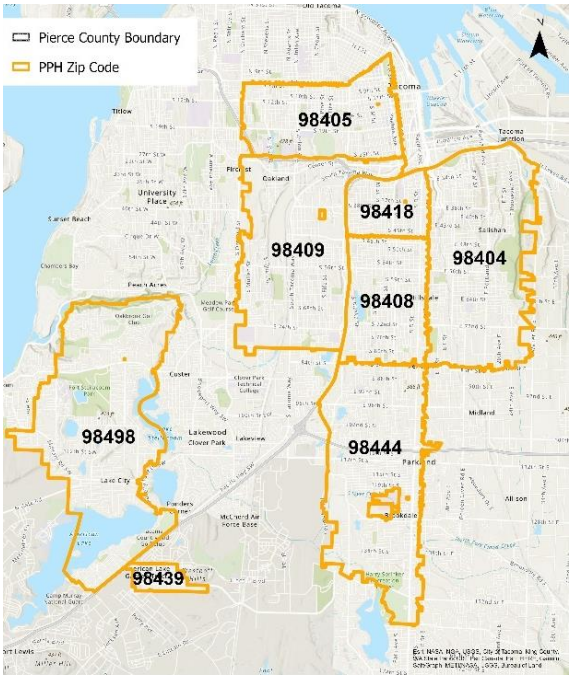


Figure 1: Map of PPH ZIP codes as of July 2021.

In July 2021, the project expanded to include 2 additional ZIP codes: 98439 and 98498. These regions fall within the 28th legislative district and are adjacent to the original 6 PPH ZIP codes. They also overlap with the Health Department's Communities of Focus: areas with poorer health outcomes and lower life expectancy compared to their neighboring ZIP codes.

Stakeholders

Reducing PPH is an ambitious goal. We need help from stakeholders and community partners.

Table 1: Current and historic PPH stakeholders

Stakeholder	Project role	Evaluation role	Committees/Initiatives
Tacoma-Pierce County Health Department	Convener	Evaluator	
MultiCare Health System	Collaborator		Steering Committee (2017 – present) Improving Heart Failure Workgroup (2022 – present)
Virginia Mason Franciscan Health	Collaborator		Steering Committee (2017 – present)

			Improving Heart Failure Workgroup (2022 – present)
Kaiser Permanente	Collaborator		Improving Heart Failure Workgroup (2022 – present) Certified Tobacco Treatment Specialist pilot project (2023 – present)
Sea Mar Community Health Centers	Collaborator		Steering Committee (2017 – 2019)
Community Health Care	Collaborator/Contractor	Data collector 2022-2023)	Steering Committee (2017 – present) Improving Heart Failure Workgroup (2022 – present) Improving immunization access for adult flu, pneumococcus and COVID vaccines (2017 – present) Community Health Worker Heart Failure pilot (2022 – present)
ANSWERS Counseling	Collaborator/Contractor	Data collector (2022-present)	Steering Committee (2022-present) Improving Heart Failure Workgroup (2022 – present) SBIRT/Motivational Interviewing trainings (2022-2023) Learning Collaboratives (2022-present)
Previous stakeholders	**Project role**	**Evaluation role**	**Committees/Initiatives**
Heidi Henson, Certified Tobacco Treatment Specialist	Contractor	Participant/data collector (2021-2023)	Freedom from Nicotine Dependence support groups (2021-2023) Ask, Advise, Refer Provider Training (2021-2023)
Korean Women's Association	Contractor	Participant/data collector (2019-2022)	SBIRT/Motivational Interviewing trainings (2019-2022) Learning Collaboratives (2021-2022)

Elevate Health	Contractor	Participant/data collector (2021-2022)	Community Health Worker Heart Failure pilot (2021 – 2022)

Project goals

The PPH Steering Committee first prioritized respiratory-related immunizations and access to behavioral health. In 2019, data showed an increase in PPH due to heart failure. We launched initiatives to help.

Improve immunizations
• Increase rates of pneumococcal, flu and COVID-19 immunizations. • Improve access to vaccines to help lessen the severity of bacterial pneumonia and other conditions that worsen chronic conditions.
Improve access to behavioral health
• Ensure access to behavioral health resources. • Help people meet their substance use care or mental health care needs so they can better manage chronic conditions.
Reduce heart failure
• Reduce heart failure rates—one of the biggest drivers of PPH in our region.

Hospitalization data

Hospitalization data have been monitored in Pierce County since 2016. Given the significant impact of COVID-19 during 2020-2021, the trends may or not be valid in the longer term. In the next several graphs, we present the trends in potentially preventable hospitalizations in Pierce County as defined by the Agency for Healthcare Research and Quality. These data are known as Prevention Quality Indicators (PQIs), a standardized way of calculating hospitalizations that could have been prevented with routine care.

The rate of potentially preventable hospitalizations increased in 2023 relative to their 2020-2021 low levels during the worst of the COVID-19 pandemic. In the 8-zipcode area of the PPH project and in Pierce County, these rates increased to a level consistent with a slight gradual increase since the 2016-2018 period. The 2019 rates were unexpectedly high in both the PPH area and Pierce County. However, in Washington state, although the PPH values increased from their COVID-19 pandemic lows, they have not reached their high 2017-2019 levels.

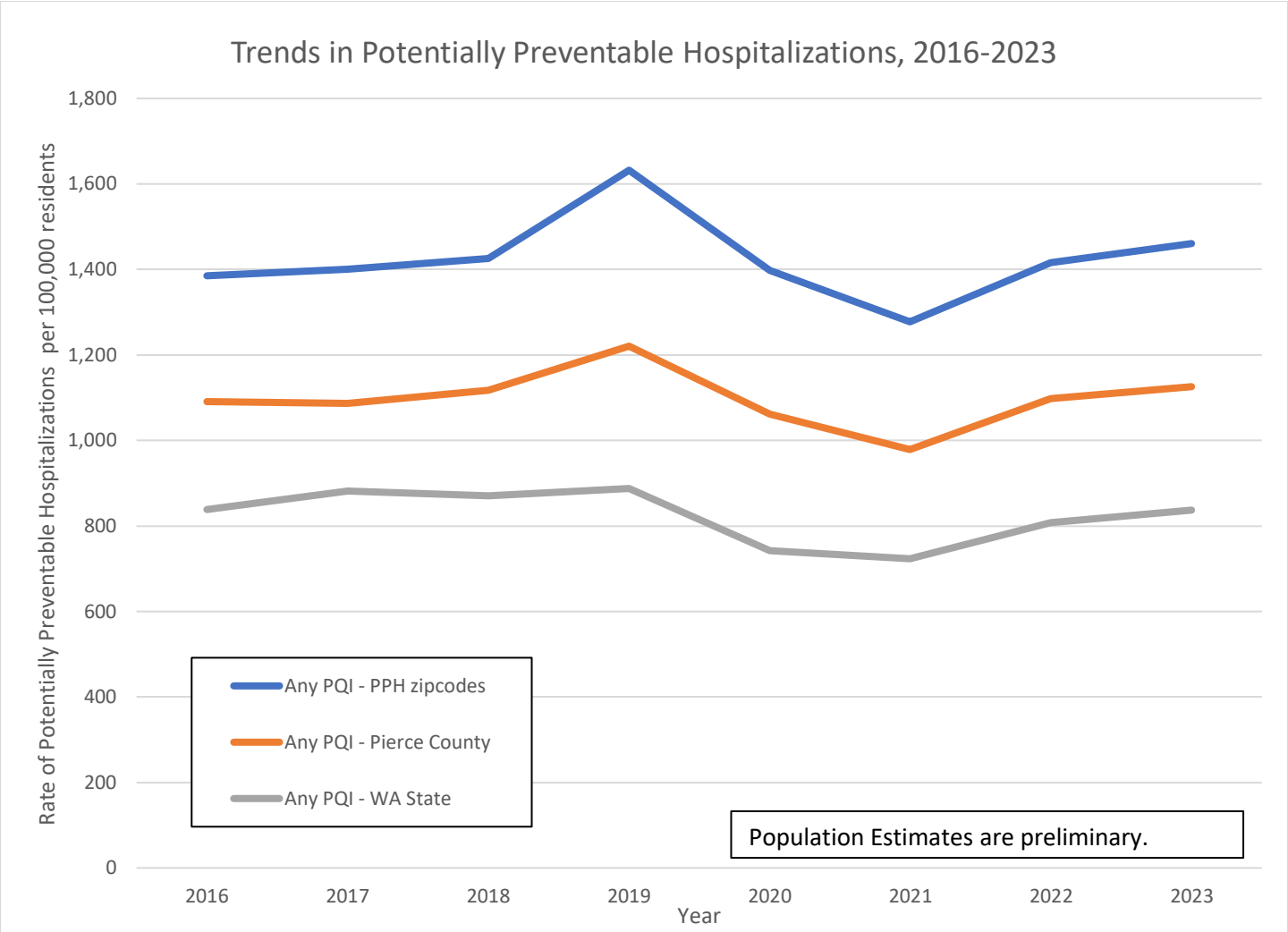


Figure 2

In Figure 3, we present the trends for specific types of potentially preventable hospitalizations in Pierce County. Heart failure hospitalizations account for the greatest number and rate and appear to have stabilized at levels similar to the average of pre-COVID-19 values. Diabetes has increased above their previous 2019 high. Chronic obstructive pulmonary disease (COPD) and asthma hospitalizations remain below their COVID-19 era lows. Consistent with national data, COPD has been dropping at least since 2016, likely associated with fewer people smoking and people who smoke are smoking less.

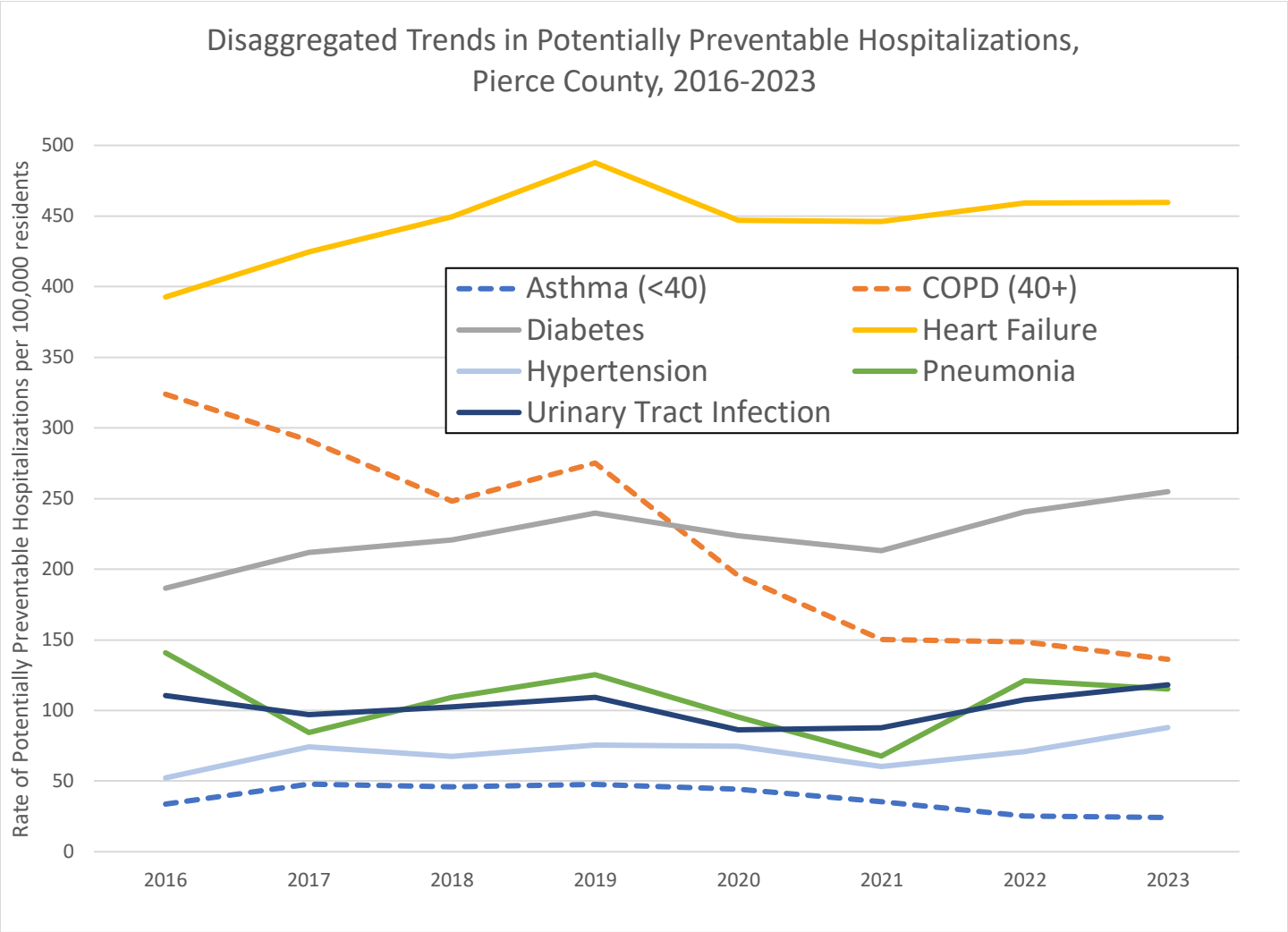


Figure 3

Below, we highlight three of the most common drivers of preventable hospitalizations – heart failure, diabetes, and COPD – at the PPH zip code, county, and state levels (Figure 4). COPD is only shown among individuals 40 years of age and older. Note that in our PPH zip code area and Pierce County as a whole, the rate of the increase in diabetes hospitalizations is larger than in Washington state. Although the rate of hospitalizations for diabetes is greater than historic norms, the change may be consistent with historic trends of an increase in diabetes.

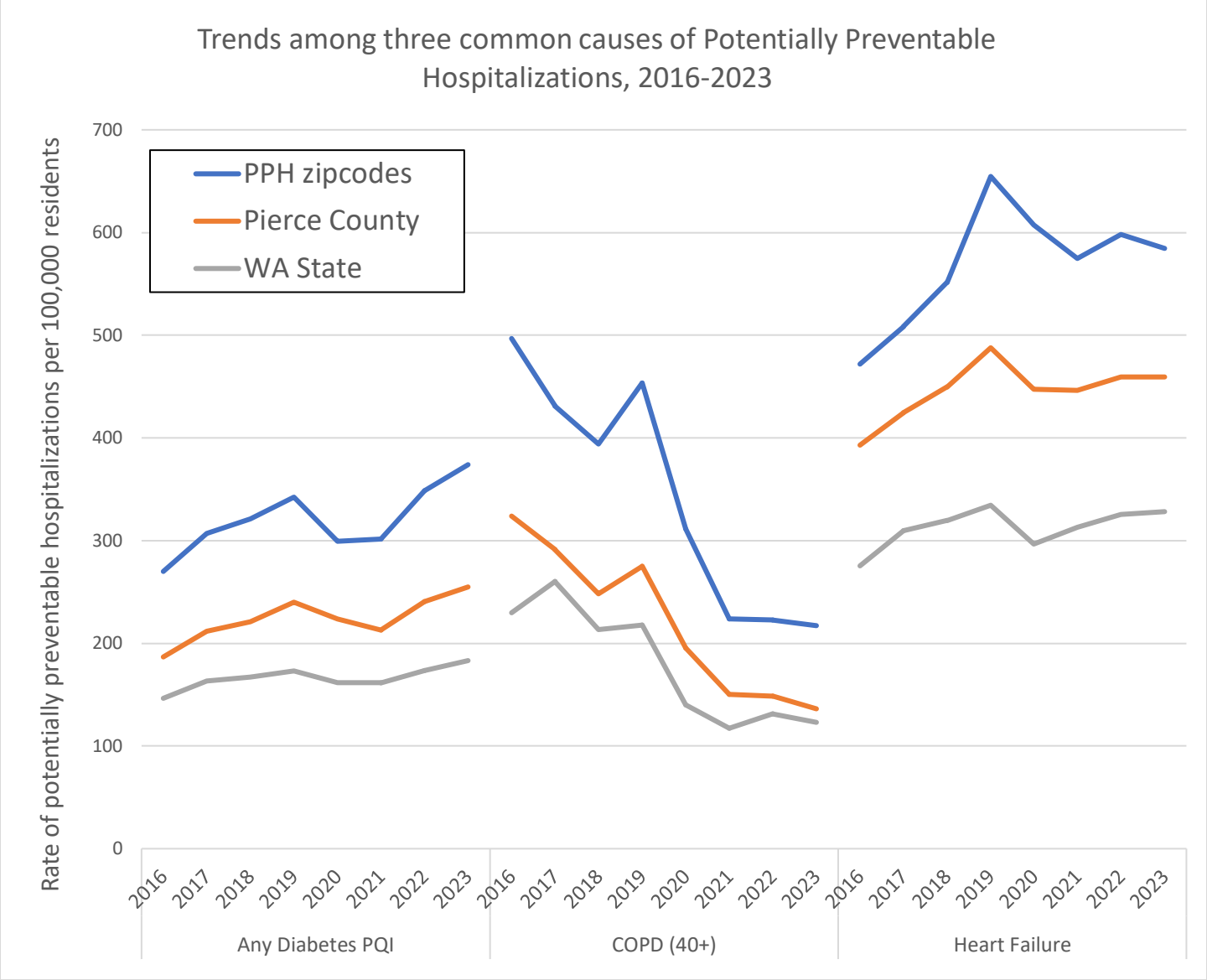


Figure 4.

Figure 5 includes information on mortality due to many of the same causes of death that are measured with potentially preventable hospitalizations (PQIs). In 2020, there were fewer deaths due to diabetes, heart disease and chronic lower respiratory diseases, than historically. However, they have begun to rebound indicating that these reductions may have been temporary. Mortality data for 2023 is not yet available.

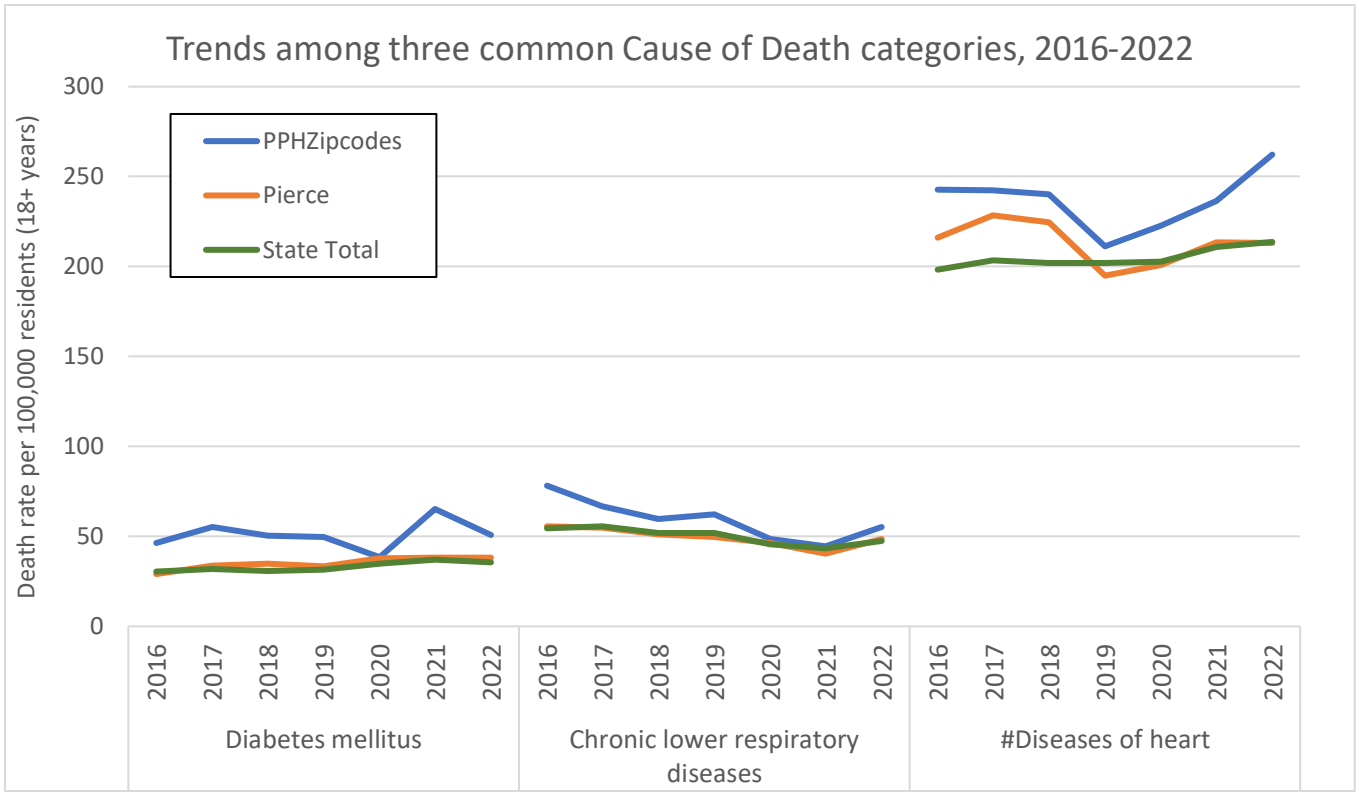


Figure 5

Funding

Since 2017, Washington legislators have supported the PPH project with funds from the state operating budget. They have allocated $750,000 per year for the 2023–2025 biennium. The next legislative session will decide funding beyond June 2025.

Evaluation

The PPH project is complex and requires detailed evaluation. Although the project started 6 years ago, it may take years—or even decades—to see the health improvements resulting from some of our initiatives.

Many of the measurable indicators to date are process indicators. They measure activities and outputs to make sure we're on track. See the figure below for the types of evaluation we used. The rest of this report details questions, results and next steps. This report contains data from 2019 through 2024, although specific timelines vary by initiative.

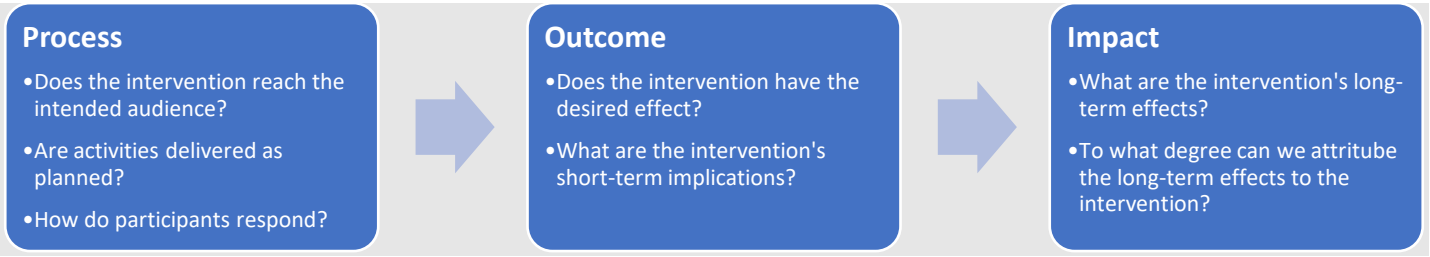


Figure 6: Types of evaluation.

Strategy 1: Immunizations

Status: Discontinued 2024

Background

Vaccines can prevent many bacterial and viral pneumonia hospitalizations. Since 2018, we worked to improve rates of pneumococcal and flu immunizations in Pierce County. Many people in PPH ZIP codes have a hard time accessing vaccines against common causes of pneumonia hospitalizations. This includes uninsured and underinsured adults and people who experience homelessness or live in congregate settings.

We work to increase immunizations. In the past we have distributed flu vaccine to PPH partner health centers and community-based flu clinics. In the 2023-24 project year, we focused on supporting Health Department community-based flu clinics.

Select evaluation questions
Process
• How many doses of flu and pneumococcal vaccines did we provide with PPH funds? • Do Health Department flu clinics reach people in PPH ZIP codes?
Outcome
• Has the PPH project led to an increase in doses of flu or pneumococcal vaccine given at PPH clinics from baseline (before the PPH project launch) to future years?

Methods

The Health Department immunizations team tracks our flu vaccine distribution.

Results

How many doses of flu and pneumococcal vaccines did we provide with PPH funds?

From 2018 through June 2023, PPH purchased a total of 1,620 flu vaccines and 150 pneumococcal vaccines. We did not purchase any vaccines for the 2023-2024 flu season due to funding limitations.

Do Health Department flu clinics reach people in the PPH ZIP codes?

Data on the number of people vaccinated at each flu clinic and where those individuals reside is not consistently available each year.

For example, in 2020 we hosted 12 flu clinics from September-December, vaccinating 5,352 people. Only one of the flu clinics was in a PPH focus area (98444), but roughly 14% of people vaccinated at the clinics lived in a PPH zip code.

From 2021-2024, we do not have data at the same level of granularity, but we do know that the Health Department hosted vaccine clinics in the following PPH zip codes:

- 2020-21: 98444
- 2021-22: 98404, 98405, 98408, 98409, 98418, 98444
- 2022-23: 98405, 98409
- 2023-24: 98404, 98405, 98408, 98409

Has the PPH project led to an increase in doses of flu or pneumococcal vaccine given at PPH clinics from baseline (before the PPH project launch) to future years?

We began investigating this question using data from the Washington State Immunization Information System (WAIIS). However, we learned from Health Department vaccine experts that flu vaccination data is inconsistently reported to WAIIS making it a poor source for this question. Many people receive the flu vaccine from pharmacies or flu clinics, sometimes outside of the ZIP code in which they live. We are supporting increased use of WAIIS to record flu vaccinations and investigating other data sources to better understand flu vaccination rates in our zip codes over time.

Next steps

We will encourage and support partners to use WAIIS to report adult immunizations. We will continue to provide immunization resources to partners as they become available.

Strategy 2: Behavioral Health

Mental health conditions and substance use disorders can result in hospitalization in and of themselves and can also make it difficult to seek preventive care or manage another chronic condition such as diabetes, heart failure, or COPD. People with mental health conditions and substance use disorders are at increased risk of various poor health outcomes and at increased risk of hospitalization.

We expanded the use of screening, brief intervention, and refer to treatment (SBIRT), an evidence-based approach to identify and refer patients to substance misuse treatment or mental health services. In previous years, we laid a foundation to use SBIRT. We:

- Facilitated SBIRT and motivational interviewing (MI) trainings.
- Evaluated improvements in SBIRT-related knowledge among trainees.

We continued hosting nicotine cessation support groups through June 2023. We also supported local community members in accessing the Certified Tobacco Treatment Specialist training with the Mayo Clinic.

SBIRT/MI trainings

Status: Discontinued 2023

Background

In 2018 and 2019, we asked our community partners what tools they use to screen and refer for treatment. We also used these results to better understand organizational capacity to conduct SBIRT and MI. We found a wide variety of practices and abilities.

In partnership with the Korean Women's Association, we've hosted 10 SBIRT and MI trainings since 2019. The trainings in 2019 and 2023 were free and open to Health Department partners. In 2020 and 2022, we conducted SBIRT/MI training for Tacoma Public School counselors and teachers.

In July 2021, we conducted a follow-up survey of 2019 and 2020 participants to assess knowledge and SBIRT/MI use 1-2 years after the training. In 2023 we did the same for the 2022 trainees. We have not yet conducted a follow-up survey for the 2023 participants.

Select evaluation questions
Process
• Did the training reach providers/social services (including in PPH ZIP codes)?
Impact
• Did the training improve participants' knowledge and likelihood of using SBIRT/MI? • Have participants increased their use of screening and referral 1-year post-training?

Methods

Each training involved a pre-quiz and a post-quiz with identical knowledge questions. Post-quizzes also included satisfaction questions.

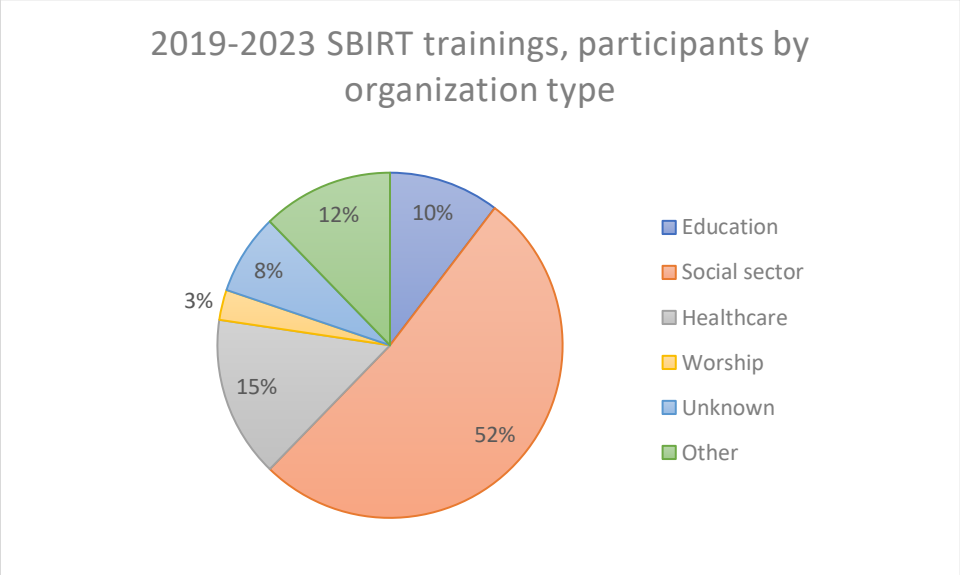
The SBIRT/MI trainings have been virtual. We encouraged registrants to take an online quiz before and after but didn't require it. Anonymity was not an option.

We administered the follow-up surveys online and emailed everyone who participated in the preceding SBIRT/MI training. We offered a $20 gift card for participating. The quiz included all the knowledge questions from the pre- and post-quiz. We also asked about the use of SBIRT/MI after people took the training.

Results

Did the trainings successfully reach providers/social services (including in PPH ZIP codes)?

More than 500 people registered for 10 trainings between 2019 and 2023. The represented more than 100 organizations. Most worked in the social services sector (including behavioral health).



More than 300 people took a training. This includes staff from 4 of our 5 primary PPH partner organizations (Community Health Care, Virginia Mason Franciscan Health, MultiCare, and Sea Mar Community Health Care Centers). We trained people from organizations in at least 6 PPH project zip codes.

Did the training improve participants' knowledge and likelihood of using SBIRT/MI?

The training increased attendees' knowledge. Surveys showed an average score of 77% compared to 31% before the training.

According to the 2021 and 2023 follow-up surveys, overall SBIRT/MI knowledge declined slightly from the time just after the training but remained higher than pre-training. This shows people's knowledge long-term improved.

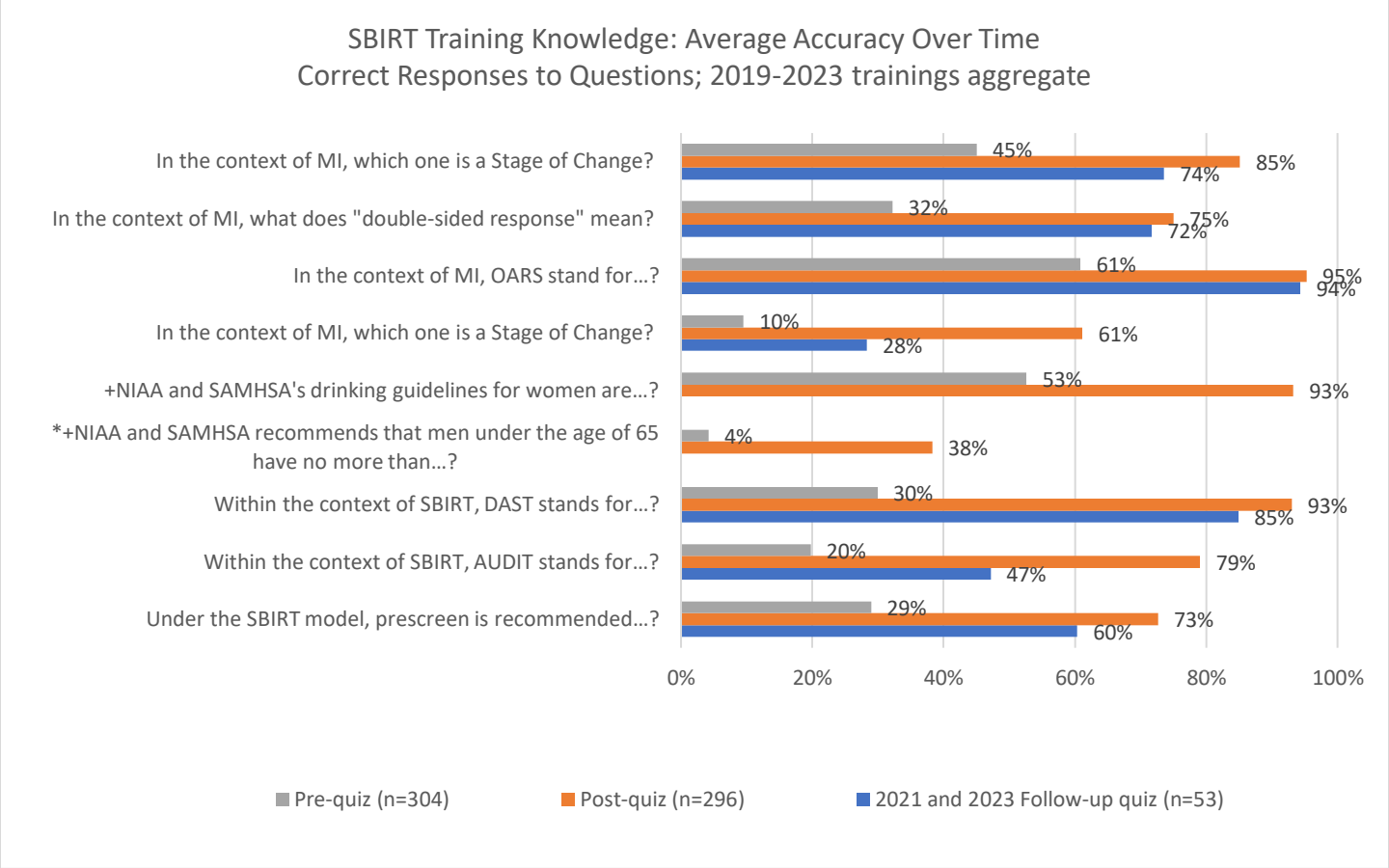


Figure 7: SBIRT training knowledge, average accuracy before/after the training *Question asked in 2019; not included in 2020–2022 training pre- or post-quiz. +Question not asked in 2021 follow-up survey as guidelines have since changed.

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Have participants increased their use of screening and referral 1-year post-training?

About 40% said they increased the number of substance use and mental health screenings thanks to the SBIRT/MI training. Some who didn't said it wasn't within the scope of their role.

The most impactful part of the SBIRT/MI training is motivational interviewing. 90% strongly agree or agree they have used MI skills since the training.

Among follow-up survey participants, 5% had spoken with someone in their organization about using SBIRT in their role. However, only 17% said their organization created or updated policies or procedures to make it easier to conduct SBIRT.

Table 1: SBIRT/MI training impact questions.

How have participants adopted SBIRT/MI in their work since the SBIRT/MI training? *Related 2021 and 2023 survey questions.*	**Strongly Agree or Agree**	**Neither Agree nor Disagree**	**Disagree or Strongly Disagree**
As a result of the SBIRT/MI training, I have increased the number of substance use screenings I've conducted in my work.	38%	37%	25%
As a result of the SBIRT/MI training, I have increased the number of mental health screenings I've conducted in my work.	44%	37%	19%
Since the SBIRT/MI training, I have used the MI skills when talking with patients/clients.	90%	10%	0%
Since the SBIRT/MI training, I have spoken with people within my organization about using SBIRT in my role.	58%	29%	13%
Since the SBIRT/MI training, my organization has created or updated policies or procedures to make it easier to conduct SBIRT and intervene earlier for those with mental health and substance use challenges.	17%	50%	33%

Next steps

We will continue to offer SBIRT/MI trainings as needed.

Freedom from nicotine dependence

Status: Discontinued June 2023.

Background

Feedback from the SBIRT/MI trainings showed providers have limited options for behavioral health referrals following a brief intervention. They may not know about resources or find the existing resources insufficient because of quality, location or capacity limitations. We created our own nicotine cessation service and launched the Freedom from Nicotine Dependence support group. We contracted Tobacco Treatment Specialist Heidi Henson to host 3 virtual support groups per week. We welcome provider-referred or self-referred participants. These groups began in February 2021.

The data below are from February 2021 through June 2023. Due to low attendance, the support groups were discontinued.

Methods

Information about the Freedom from Nicotine Dependence support group was sent to the PPH provider partners and posted on the Health Department website. Providers could refer their patients or people could self-refer.

Prior to their first session, we sent each participant an online survey to collect demographic information and data about their nicotine use. We send a follow-up survey every 6 months.

To protect patient privacy, we don't report detailed demographic data. We collect age, gender, race/ethnicity, ZIP code, referral source, nicotine product use, nicotine use/day and the following measures:

- On a scale of 1 to 10, how important is it that you become free from nicotine?
- One a scale of 1 to 10, how confident are you in your ability to become free from nicotine?

Select evaluation questions
Process
• Are patients using support groups? • Are PPH partner providers referring patients to the support groups?
Impact
• Does participation lead to a reduction in individual nicotine use?

Results

Are patients using support groups?

Since the groups began, we have had 15 registrants, 14 of whom attended at least 1 session. The large majority of participants (14) identified as white/Caucasian, non-Hispanic.

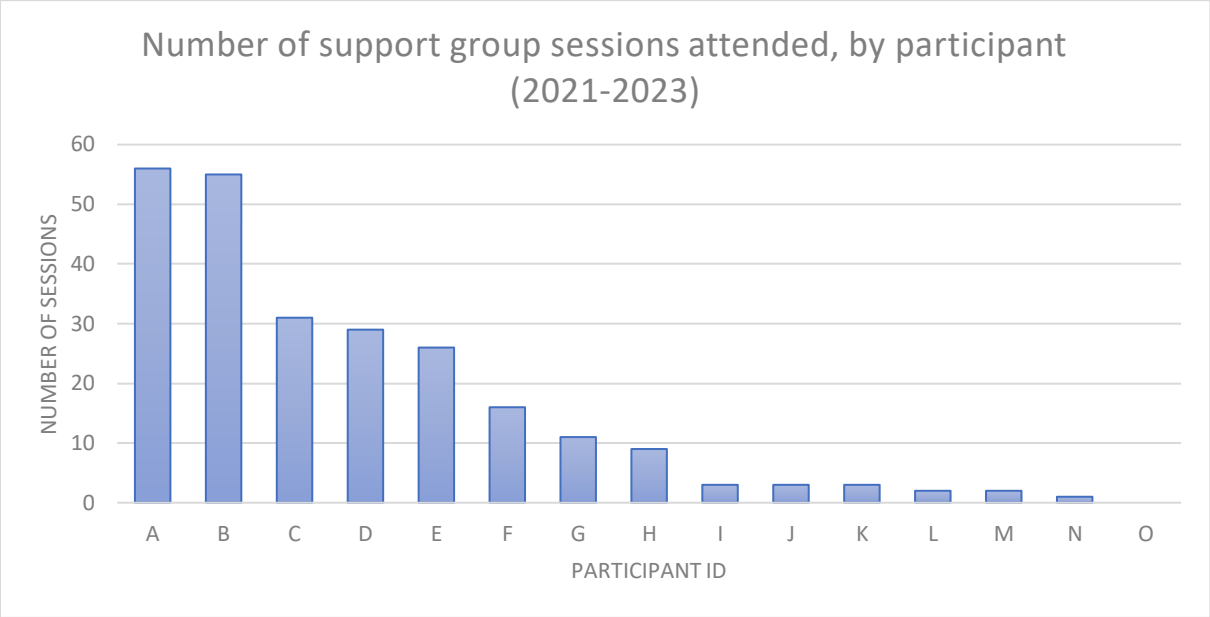


Figure 8: Number of support groups attended, by participant from Jan-June 2023.

Are PPH partner providers referring patients to the support groups?

A PPH partner provider referred 7 of the 15 participants. Three people self-referred after learning about the group online or from Washington State Department of Health. And 5 were already familiar with the group from its facilitator, Heidi Henson.

Does participation lead to a reduction in individual nicotine use?

Four attendees took the 6-month follow-up survey. One of those individuals also took a 12-month follow-up survey. One individual went from smoking one pack a day to no use after a year. Of the other 3 follow-up survey participants, one person reduced their use, another's stayed the same, and one person's use increased slightly.

Next steps

We decided to discontinue the Freedom from Nicotine Dependence support group in June 2023 due to low participation.

To increase the number of culturally appropriate nicotine cessation services in Pierce County, we funded eight community members to take the Certified Tobacco Treatment Specialist (CTTS) training through the Mayo

Clinic in January 2023. We hoped the trainees would provide nicotine cessation services in Pierce County to complete their certification hours. Two trainees are currently providing services.

Our efforts to improve nicotine cessation services, both through the Freedom from Nicotine Dependence support groups and the CTTS training grant, have been relatively unsuccessful. Nicotine cessation remains important to the PPH project. In the upcoming year, we will explore new ways to address this issue more effectively.

AAR brief intervention training

Status: Discontinued June 2023.

Background

We partnered with Heidi Henson to host the Ask, Advise, Refer (AAR) Brief Intervention training for health and social service providers. We hosted 7 from May 2021 through January 2023. The training taught best practices for fast and effective nicotine interventions. All trainings were virtual. The data below is through January 2023.

Select evaluation questions
Process
• Did the AAR training reach healthcare providers?
Impact
• Did the AAR training educate and motivate participants to use AAR?

Methods

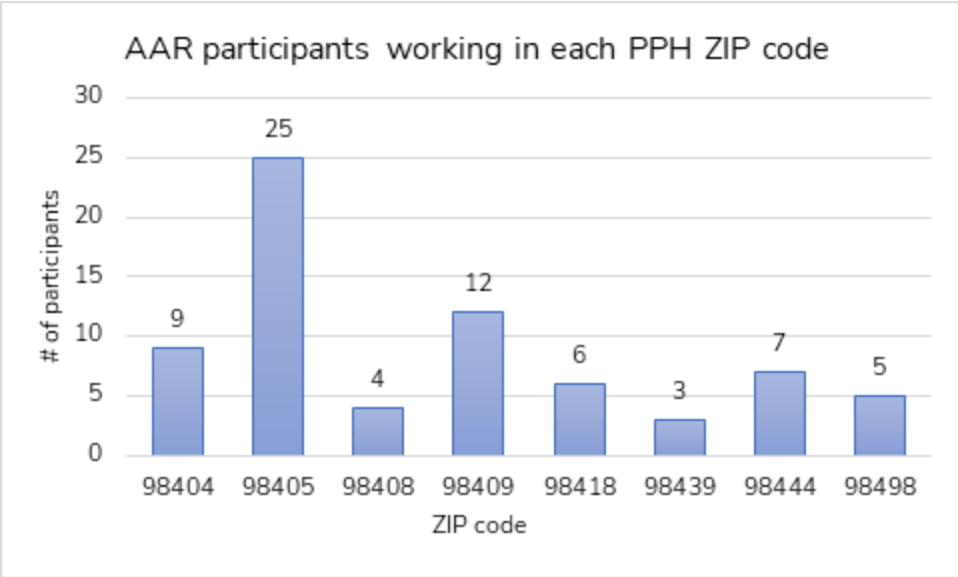
We sent a brief web-based quiz before and after the training to assess learning and satisfaction. The pre-quiz contained demographic for employer, occupation, and ZIP code, and questions to assess knowledge and confidence using the AAR technique. The post-quiz contained the same knowledge and confidence questions. We also asked about training satisfaction, the likelihood of using AAR, and how we can improve the training.

Results

More than 100 people participated. More than 60 took the pre- and/or post-surveys.

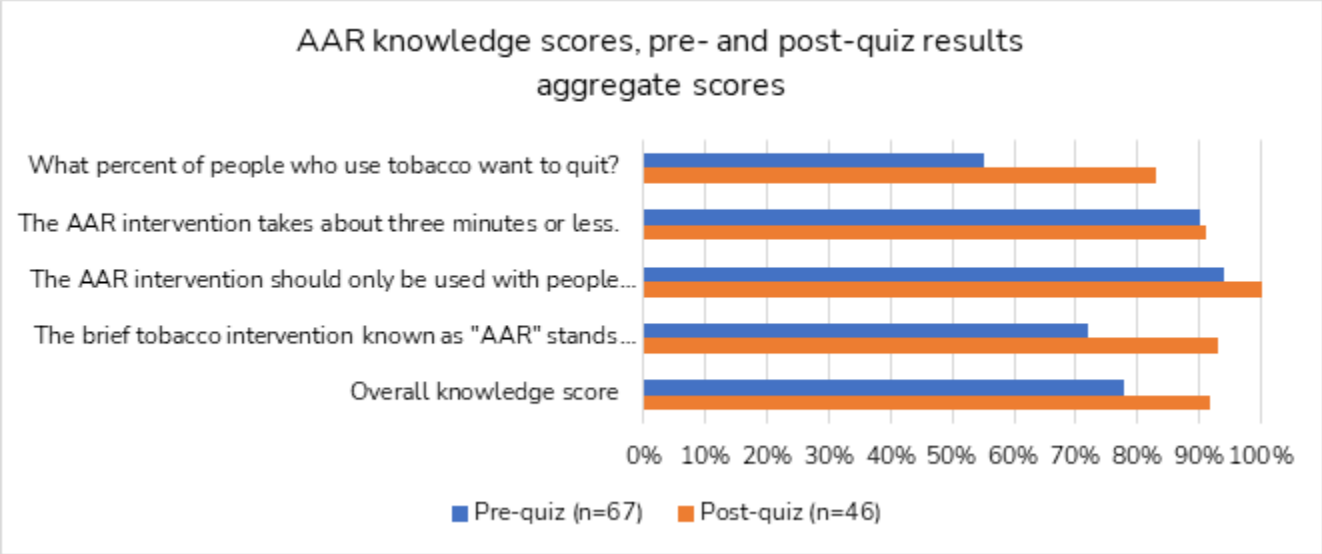
Did the AAR training reach healthcare providers?

Yes. Heidi hosted an AAR training with 62 CHC employees. They were mostly medical residents and behavioral health specialists. Other healthcare organizations with participating staff included Sea Mar, Northwest Medical Specialties and CWA Behavioral Health Clinic. Community health workers are the next most common participant. Attendees worked within all PPH ZIP codes, as well as 22 other ZIP codes. Of the non-PPH ZIP codes, 98499, 98003 and 98387 were the most represented.



Was the AAR training effective in educating and motivating participants to use AAR?

The AAR trainings improved knowledge of the AAR brief intervention technique. Average scores improved from 78% before to 92% after.



Most respondents (91%) indicated they were very likely (65%) or likely (26%) to use AAR techniques when talking to patients or clients about their nicotine use. The training improved average confidence in asking about nicotine use, advising cessation and referring to resources.

Next steps

AAR trainings were discontinued in 2023 due to funding constraints.

"What could smoke-free do for you?" smoking cessation campaign

Status: Ongoing

Background

In Spring 2022, the PPH project team partnered with MultiCare and Health Department leads to create a smoking cessation media campaign. The Health Department Communication Team designed the campaign, which ran June 13–December 31, 2022. The advertisements directed people to the Health Department Quit Tobacco webpage, which links to medical experts, support groups and additional resources.

The primary audiences for the campaign were people 25–64 years old, those with an annual income under $75,000, and people who identify as Native Hawaiian/Pacific Islander, Asian, or Multi-race. We chose these groups based on smoking rates in Pierce County.

In 2024, the Health Department's Behavioral and Emotional Health team, along with PPH, purchased additional ad buys and expanded upon the campaign using Spanish translation for some of the ads.

Select evaluation questions
Process
• How many people did the campaign reach? • Did the campaign increase traffic to tobacco cessation resources?
Impact
• Did the campaign lead to an increase in people accessing tobacco cessation support?

Figure 9: One "What could smoke-free do for you?" campaign ad.

Methods

We marketed the campaign via Google in 2022 and 2024. In 2022, we also advertised the campaign on 5 outdoor billboards. Our contracted advertising firm, Strom & Nelsen, collected data for the digital campaign.

Lamar Advertising hosted the billboard campaign in 2022 and provided data to Strom and Nelsen based on predicted traffic patterns. Strom & Nelsen reported all the data to us on a dashboard.

Results

How many people did the campaign reach?

2022:
The campaign resulted in 38,530,586 total impressions June 13 – December 31, 2022:

- Billboards: 21,900,052.
- Google: 16,630,534.

For virtual impressions, the most common age groups were 55–64 and 65+. The cities with the most virtual impressions were Tacoma, South Hill, Gig Harbor, Parkland and Bonney Lake.

2024:
The campaign resulted in 10,340,908 total impressions from June 1 – July 31, 2024. There were 8,275 interactions with the campaign, 443 of which were link clicks.

Did the campaign increase traffic to tobacco cessation resources?

Our Quit Tobacco webpage received 70,800 views during the campaign in 2022, up from 535 views in the 6 months prior. The page became the third most visited page on the Health Department website during that time.

In 2024, we received 10,197 page views from June 1 – July 31, 2024.

Did the campaign lead to an increase in people accessing tobacco cessation support?

Although the campaign greatly increased the number of people visiting the *Quit Tobacco* webpage, the *Freedom from Nicotine Dependence* webpage garnered 279 views during the 2022 campaign. That means .4% of visitors clicked on the support group resource. When asked how they learned about the support group, none of the Freedom from Nicotine Dependence participants cited the campaign. By the 2024 campaign relaunch, we had discontinued the Freedom from Nicotine Dependence support group.

We can't track how many people clicked links to outside resources (e.g., MultiCare's cessation program, Washington State QuitLine).

Refer to Treatment webpage

Status: Ongoing

Background

From our SBIRT/MI trainings, we learned that providers may screen patients for behavioral health needs but aren't familiar with their referral options if issues are identified. In response, we created the Refer to Treatment webpage as a repository of behavioral health referral options in Pierce County in 2020.

Select evaluation questions
Process
• Is the Refer to Treatment webpage successful in supporting providers?

Methods

The Refer to Treatment webpage is housed in the Health Department's website. We worked with Health Department Communications team to track the total webpage views and unique viewers for a consistent time frame (October 1st – December 31st) from 2020-2023.

Results

Is the Refer to Treatment webpage successful in supporting providers?

Our web analytics do not reveal who exactly is accessing the Refer to Treatment webpage, so we're not sure if providers are the primary viewer. However, we can see that the number of visitors has increased over the years. The difference between unique page views and total page views reflects the value of the webpage, as it indicates visitors are not just viewing it once, but repeatedly returning to the resource.

Year*	Total page views	Unique page views
2020	55	48
2021	478	380
2022	499	380
2023	750	488

**Data is for October 1st – December 31st of each year.*

Next steps

We maintain the Refer to Treatment webpage and update it annually. We are considering opportunities to collect feedback and further evaluate the value of the webpage for providers. We have received feedback from one user that a printable version of the resource would be useful. We are working with Communications to determine if that is possible.

Strategy 3: Reducing Heart Failure

At the end of the second year of the PPH project, Comprehensive Hospital Abstract Reporting System (CHARS) hospital discharge data showed PPH were increasing among patients with heart failure. Roughly 400 heart failure hospitalizations in people 40–65 years old occur every year in the PPH project ZIP codes. That's 100 more than expected based on Pierce County rates.[1] We are particularly interested in this age group because chronic disease hospitalizations become more common with age. By intervening early, we have a great opportunity to make a long-term impact on one's health.

According to all payer claims data, each 2-day hospital stay in Pierce County for moderate heart failure costs about $5,000, plus the cost for room, board and ambulance transfers.[2]

In response, we launched a concentrated intervention for high-risk heart failure patients who are connected to a medical provider. The pilot program enables physicians to refer eligible heart failure patients to a CHW. The CHW worked with patients to reduce barriers to care.

CHW pilot program

Status: Discontinued June 2023.

Background

We launched a Community Health Worker (CHW) pilot in April 2021 to provide care coordination services for high-risk patients with heart failure, referred to us by their medical provider.

We trained CHWs to help patients overcome barriers to health, like access to healthcare, food insecurity and unemployment. They work with patients to prioritize needs and connect them to resources. We originally partnered with Elevate Health, but after learning the importance of a direct connection between the CHW and provider organization, we then began working directly with CHC to manage the project.

The project was discontinued in June 2023 at the end of PPH year 5 due to budget constraints. The data below is only from CHW Pilot's second iteration from January 2023 through June 2023 and may be incomplete due to challenges with data collection.

[1] The number of excess heart failure hospitalizations in a calendar year is a conservative estimate of the minimum based on a comparison of the All Payer Claims Database and CHARS datasets. We calculated it by taking the countywide rate and applying it to the 8-ZIP code area. We then subtracted that expected value from the observed number. We did not adjust for age or comorbidities.
[2] We assumed an average heart failure hospitalization would be 2 days for a moderately severe illness. We reviewed charged costs from the All Payer Claims Database and the standard charges for Medicare. We assumed insurance or the client would likely pay 30% of the charged costs. This is a conservative estimate compared to 39% reported in The Dramatic Difference: What A Hospital Charges Vs. What Medicare Pays. We present the lowest value calculated.

Select evaluation questions
Process
• Did pilot recruitment reach a diverse group of provider-identified patients? Did the program reach people equitably?

Methods

Once patients received a referral, the CHW contacted them to explain the pilot and invite them to enroll. Patients then participated in an intake call. The CHW collected demographic information assesses their health, medical, and social determinants of health (SDOH) needs. The CHW documented the information in a spreadsheet. If the patient expressed any SDOH needs, like transportation or rental assistance, the CHW connected them to social services. The CHW conducted regular follow-up calls to evaluate the patient's symptoms and self-care and track changes over time.

Since we first worked with Elevate Health before contracting directly with CHC, the project was paused from June 2022 to January 2023. The quantitative data below is from January-June 2023, after CHC took over the pilot. It is incomplete and you should interpret it with caution.

Results

Did pilot recruitment reach a diverse group of provider-identified patients? Did the program reach people equitably?

From January-June of 2023, 45 patients were referred to the CHW.

Referred patients ranged in age from 34 to 92. They represent 20 different Pierce County zip codes, including six of the eight PPH focus zips. We did not collect race and ethnicity data from patients, but we did track primary language. The vast majority (38) patients spoke English as their primary language. Four spoke Spanish, two Russian, and one was not specified.

There were 70 total encounters with the CHW, demonstrating some patients met with the CHW multiple times. The majority of patients were referred by a CHC provider, although some were referred by other staff, the CHW, or the patient themselves (self-referral).

More data is needed to know if the program reached people equitably.

Services provided

The most common service provided was a catch-all category of education, which entailed general education or information about how to use equiptment. Case management referrals were the next most common service. The PPH project provided blood pressure monitors and weigh scales, which were handed out as needed.

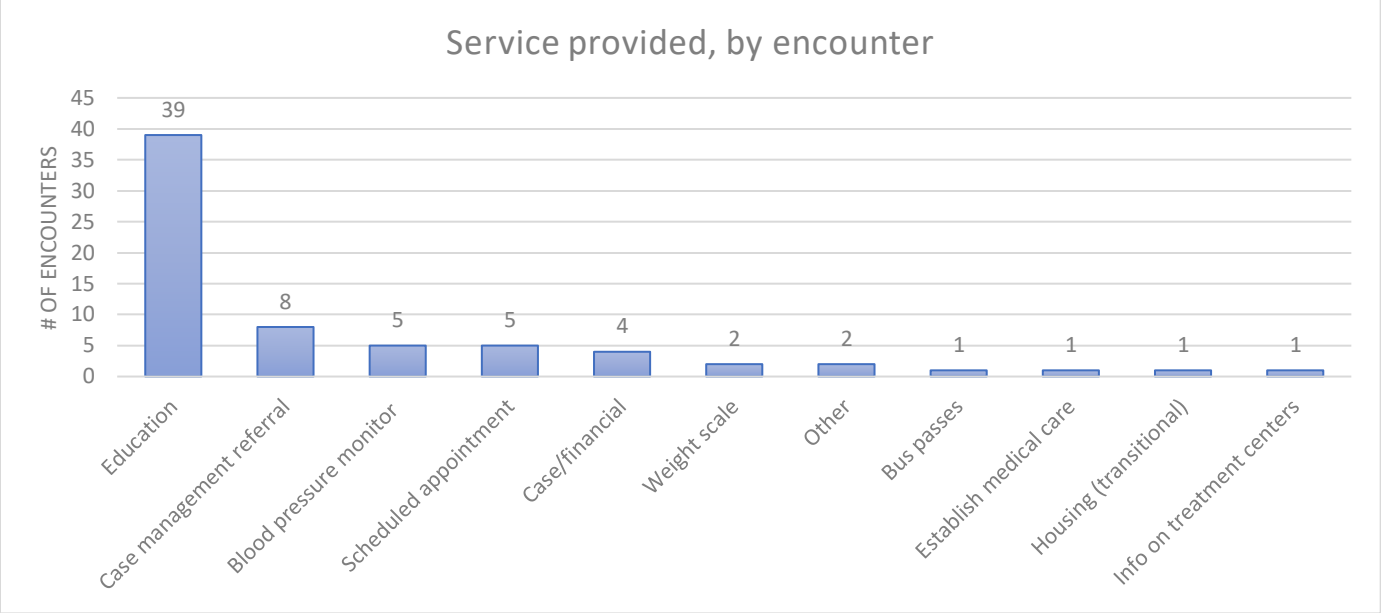


Figure 10: Services provided by CHW in 2023

Next steps

This pilot project was discontinued in June 2023 at the culmination of PPH Year 5 due to funding constraints. If additional resources become available, we will reassess this initiative.

Overarching Initiative

People with chronic conditions aren't always established with a medical provider. Proximal service providers (e.g., community health workers, patient navigators) may be better able to counsel patients. These workers have an important role to encourage behavior change or medical treatment but are often ill-equipped to do so. In 2021, we partnered with the Korean Women's Association to design and host 4 learning collaboratives to improve heart failure knowledge and skills among community service providers. People learned about heart disease basics, healthy action planning, motivational interviewing, SBIRT, and the impact of social needs on heart disease patients.

In partnership with Answers Counseling, we have since continued and expanded these learning collaboratives to include other chronic conditions and additional skill-building. The learning collaboratives relate to all three PPH strategies – immunizations, behavioral health, and improving heart failure. These events were free, virtual, and open to all service providers.

Learning collaboratives

Status: Ongoing.

Background

In March 2021, the PPH project began hosting a series of learning collaboratives through a continued partnership with Korean Women's Association and Answers Counseling. These bimonthly sessions offer interactive education and discussion. Attendees learn to provide care coordination and behavioral health intervention for patients with chronic conditions, including heart failure. The 90-minute, virtual sessions are free and open to all. The target audience is Pierce County health and social services providers.

Table 2: 2023-2024 learning collaborative topics.

Month	Learning collaborative topic	Presenters
January 2023	Adult & Adolescent Immunizations and Immunization Resources	Trang Kuss, Washington State Department of Health Kate Cranfield, Health Department
February 2023	P4Ve Focus Group Findings and Tobacco Cessation Specialist Certification Training	Jennifer Thompson and Julie Tergliafera, Health Department Monique Myers, Health Department
March 2023	Hypertension	Dr. Francis Mercado, Virginia Mason Franciscan Health Amanda Carter, Virginia Mason Franciscan Health
April 2023	Syphilis Prevention & Treatment	Kim Steele-Peter, Health Department
May 2023	Medicaid Eligibility	Suzanne Pak, Answers Counseling

June 2023	Apple Health/ Medicaid Enrollment in WAHealthPlanFinder	Shaunie Long, Washington State Health Care Authority
August 2023	Oral Health	Dr. Jeffrey Reynolds, Community Health Care
September 2023	Tobacco Cessation	Cenora Akhidenor, Health Department
November 2023	RSV, COVID & FLU Vaccine Guidelines and Resources	Heidi Kelly, Washington State Department of Health Kate Cranfield, Health Department
January 2024	Hepatitis C Diagnosis and Cure	Dr. Leslie Linares-Hengen, Franciscan Infectious Disease Associates
March 2024	Molina's Hepatitis C Eradication Initiative through Screening & Treatment	Dr. Frances Gough, Molina Healthcare of Washington Gayatree Sapre, Molina Healthcare of Washington
May 2024	Kidney Disease Prevention and Treatment	Kat Wolf Khachatourian, Novo Nordisk

Select evaluation questions
Process
• Did the learning collaboratives reach a broad group of healthcare and social service providers from the PPH ZIP codes? • How satisfied were participants?
Impact
• Did participation lead to improved knowledge about each session's topic?

Methods

To join the learning collaboratives, people completed a 1-time registration form to capture demographic data. They also completed a pre-quiz baseline knowledge assessment. When relevant, we also ask about comfort with the topic skill(s) (e.g., MI). We send participants a post-quiz, which includes the same knowledge questions and feedback. The pre- and post-quiz aren't required. We give a $20 Walmart gift card to those who complete the quiz.

Answers Counseling collects data and shares the raw data with us to analyze. We analyzed data using Microsoft Excel. For multiple-choice knowledge questions, people received credit if they answered correctly and 0 credit if their response was wrong. Some questions were "select all that apply." For those, people could receive partial credit (0 credit would mean they did not select any of the correct answers or selected all the incorrect answers).

For this evaluation, we didn't assess individual knowledge improvement and instead looked at overall change from pre-quiz to post-quiz.

In each pre-quiz we ask about confidence with that's month's subject. We do not include the same question in the post-quiz because we believe it will improve right after the session. Instead, we conduct a confidence-specific quiz every 6 months to see if scores remain higher, even months later.

Results

Did the learning collaboratives reach a broad group of healthcare and social service providers from the PPH ZIP codes?

Since the learning collaboratives launched in March 2021, more than 290 people registered for at least 1 session. Registrants represented over 76 different organizations and more than 20 ZIP codes. Participants were mainly from the social services sector.

Did the learning collaboratives improve knowledge about each topic?

Each learning collaborative led to higher knowledge scores. Scores averaged 58% before and 77% after.

Since we didn't assess individual knowledge gain or require quiz participation, our results may be skewed. For example, those who took the pre-quiz may be more likely to score higher on the post-quiz since they knew what to listen for. Those who skipped the pre-quiz may be at a disadvantage on the post-quiz.

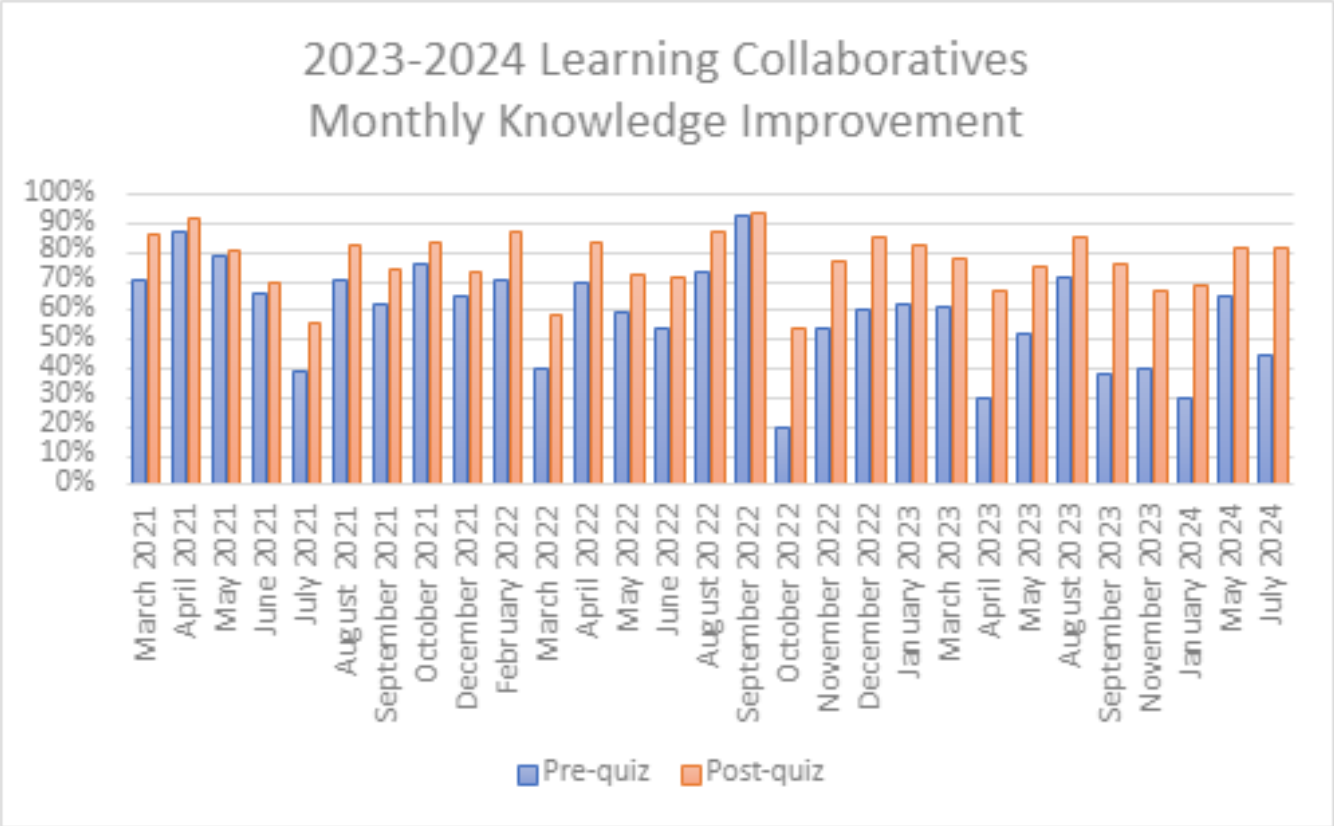


Figure 11: 2023–2024 learning collaboratives monthly knowledge improvement. Missing months did not have any multiple-choice knowledge questions.

How satisfied were participants?

92% of respondents were very satisfied or satisfied. In addition to satisfaction scores, we routinely collect feedback.

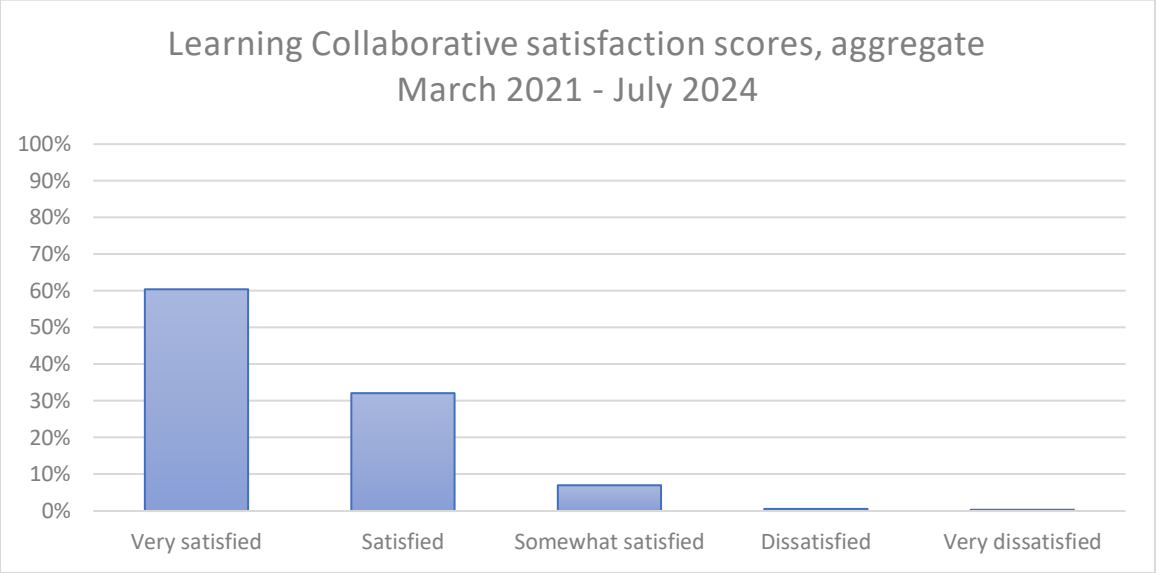


Figure 12: Learning collaborative satisfaction scores aggregate, January 2023–July 2024.

Are participants more likely to adopt the session's behaviors and practices?

Confidence improved for every topic. We collect this information 1 to 6 months later, indicating lasting improvement.

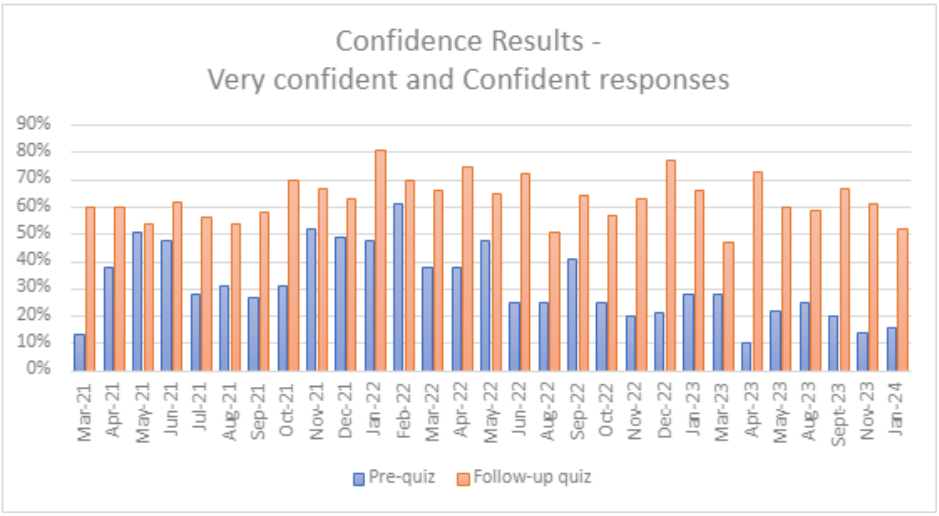


Figure 13: January 2023 – January 2024 learning collaborative confidence results, very confident and confident responses. As of June 2024, follow-up data on confidence has only been collected through January 2024.

People also shared feedback about their experience and the value of attending Learning Collaboratives.

- “From each session I am learning more in depth about health-related topics that I am usually only generally familiar with. It's very helpful!”
- “Knowledge is power. All these sessions help us with important information can help you improve to better your health.”
- “These sessions are all very eye opening and informative. I have learned so much new information regarding these different subjects and can now pass all this information down to help educate others.”

Next steps

In June 2023, Answers Counseling moved from hosting the learning collaboratives monthly to every other month. They are contracted to continue the learning collaboratives through the fiscal year ending June 2024.

Future evaluation data

We evaluate the PPH project at a process, outcome, and impact-level. See Appendix A for a list of evaluation questions. We will continue to analyze data as it becomes available and add new questions from Appendix A into the report when possible. We may revise it when we get new data sources and collection methods. We will publish an updated report each year.

Additional 2023-2024 Accomplishments

Below are additional accomplishments since January 2023.

- **Expanded CHW Collaborative:** The Pierce County CHW Collaborative meets monthly and strives to provide people who work in various roles that perform community health worker activities a place to network, learn, and practice new skills. Participants, usually 15-20 a month, share educational resources on multiple topics, and they have conducted two subject specific training courses including Motivational Interviewing techniques and De-escalation skills. We also expanded and maintained member participation. In collaboration with Elevate Health, we conducted a process to select and contract with a consultant. The consultant will lead the group in a strategic planning process beginning in the summer of 2024. The goal of working with consultants is to develop a strategic plan for sustainability and growth for the CHW Collaborative to continue supporting the development and strengthening of the CHW workforce here in Pierce County.

- **Reconvened the Tobacco Cessation Workgroup.** In September 2023 we began meeting with internal and external stakeholders to promote the creation and expansion of nicotine cessation services in Pierce County. The workgroup meets monthly. In addition to the Health Department, participants include representatives from Virginia Mason Franciscan Health, Kaiser, Public Health – Seattle & King County, and Washington State Department of Veteran Affairs. Our collective objectives are to provide training opportunities to partners, improve tobacco cessation screening and referral process, and access to NRT.

- **Created standardized "Heart Failure Referral Guide" for health system partners:** Inconsistent (or non-existent) referral guidelines can lead to over-referral to specialty providers, hindering capacity and leading to long wait times for patients who truly need to be seen. The opposite can be a problem too – if a patient isn't connected with a specialist soon enough, the disease can progress unnecessarily. With our healthcare partners, we created a standard set of referral guidelines to help patients receive the right care at the right time. We disseminated these guidelines to MultiCare, Kaiser, CHC, and Virginia Mason Franciscan Health.

Recommendations for fellow LHJs

In the six years since the PPH project began, we've had many ah-ha moments and lessons learned. For other local public health jurisdictions (LHJs) considering a similar project to reduce potentially preventable hospitalizations, we have the following recommendations (in no specific order):

- Understand the landscape of potentially preventable hospitalizations in your community through a literature review, and primary and/or secondary data collection. Consider using Prevention Quality Indicators through the Agency for Healthcare Quality and Research to identify the conditions with the highest rates of PPH.
- Develop a data and evaluation plan at project onset. Data analysts can assist in defining performance indicators and identifying potential data sources to track impact over time.
- Start developing a Communications Plan early in the project.
- Learn about the Electronic Health Record systems used at partnering health care systems.
- Document processes, infrastructure, and historical knowledge for reference and for new team members.
- Secure sustainable funding.
- Identify PPH champions across health systems.
- Cultivate internal cross-divisional partnerships and partnerships with Director of Health and Health Officer
- Work closely with leaders of healthcare systems in your community. Their buy-in and continued participation is essential to success.
- Engage elected officials. Elected officials are instrumental in advocating for continued funding, disseminating events to constituents, and providing feedback.
- Have patience! This work doesn't happen overnight.

Appendix A: PPH Project Evaluation Questions

Strategy 1: Immunizations. **Pneumococcal vaccine can prevent bacterial pneumonia (prevention quality indicator [PQI] 11). We also prioritized flu vaccine because flu is a risk factor for bacterial pneumonia. Keeping people out of the hospital and managing pre-existing conditions is especially important given the COVID-19 pandemic.**		
Evaluation questions	**Measures/indicators**	**Indicator type**
Do Health Department flu clinics reach people in PPH ZIP codes?	• Number of flu clinics supported (total and in PPH ZIP codes). • Number of flu vaccine doses distributed to PPH clinics. • Number of people from PPH ZIP codes served by Health Department flu clinics.	Process
How many doses of flu and pneumococcal vaccines did we provide with PPH funds?	• Number of flu or pneumococcal vaccine doses provided by PPH project.	Process
Has the PPH project led to an increase in doses of flu or pneumococcal vaccine given at PPH clinics from baseline (before the PPH project launch) to future years?	• Change in number of vaccines given at PPH clinics as result of PPH participation.	Outcome

Did immunization efforts lead to a reduction in PPH?	• Decrease in related PQIs:
	  ○ Bacteria pneumonia (PQI 11).
	  ○ Acute conditions composite (PQI 91).
	  ○ All payer claims data.
		Impact

Strategy 2. Behavioral Health. **Throughout our screening, brief intervention and referral to treatment /motivational interviewing (SBIRT/MI) work, we learned providers didn't always know where to refer patients who screened positive. We created a Referral to Treatment webpage that lists referral options for a variety of needs. Because tobacco use is linked to many conditions that lead to PPH, we contracted with a Mayo Clinic Certified Tobacco Treatment Specialist, Heidi Henson. She hosts weekly Freedom from Nicotine Dependence support groups and trains providers on ask, advise, refer (AAR).**		
Evaluation questions	**Measures/indicators**	**Indicator type**
SBIRT/MI training		
Did our SBIRT and MI trainings reach providers/social services (including in PPH ZIP codes)?	• Number of people who participated. • Number of organizations represented.	Process

Did the trainings improve participants' knowledge and likelihood of using SBIRT/MI?	• Among training participants:
	  ○ Participants' satisfaction with training.
	  ○ Participant knowledge from pre- to post-test.
	  ○ Participant likelihood to screen and refer from pre- to post-test.
	  ○ Participants increase in use of screening and referral from pre- to post-test.
		Outcome

How have organizations changed their policies, procedures and/or tools used in implementing SBIRT over time?	• Change in policies, procedures, and/or tools used in implementing SBIRT from 2018 to 2021.	Impact
Have participants increased their use of screening and referral 1-year post-training?	• Participant self-report use of SBIRT 1-year post-training.	Impact
Freedom from Nicotine Dependence support group		
Are patients using the support groups?	• Number of support groups facilitated. • Number of participants in each support group. • Number of sessions attended by each participant.	Process
Are PPH partner providers referring patients to the support groups?	• Referral source from each participant. • Number of participants referred from PPH partner providers.	Process
Does participation lead to a reduction in individual nicotine use?	• Decrease in use (i.e., number of times per day or week?) • On a scale of 1 to 10, how confident are you that you'll be able to quit nicotine? • On a scale of 1 to 10, how important is it that you quit nicotine?	Outcome
Ask, Advise, Refer provider training		
Did our AAR training reach healthcare providers?	• Number of healthcare providers trained in AAR brief intervention.	Process
Was the AAR training effective in educating and motivating participants to use AAR?	• Providers' level of satisfaction with the training (quantifiable survey). • Number of providers who indicate they will change their practice to incorporate some or all the AAR elements with patients as a result of the trainings. • Knowledge questions (pre- and post-training) coming from the script (i.e., correct way to phrase questions). • Improvement in provider comfort level using AAR.	Outcome

Did participating providers change their behavior to better support patients with nicotine addiction?	• Number of participating providers who, since the training:
	  ○ Increased the number of patients who are asked about tobacco use.
	  ○ Advised more patients to quit.
	  ○ Took advantage of "teachable moments" with patients.
	  ○ Referred more patients to cessation resources.
		Outcome

Did the PPH Freedom from Nicotine Dependence efforts lead to a reduction in potentially preventable hospitalizations?	• Decrease in related PQIs:
	  ○ COPD or asthma in adults (PQI 5).
	  ○ Heart failure (PQI 8).
	  ○ Chronic Conditions Composite (PQI 92).
	  ○ All payer claims data.
		Impact

***"What could smoke-free do for you?"* smoking-cessation campaign**		
How many people did the campaign reach?	• Web analytics and traffic pattern predictions.	Process
Did the campaign increase traffic to tobacco cessation resources?	• Health Department web analytics.	Process
Did the campaign lead to an increase in people accessing tobacco cessation support?	• Health Department web analytics. • Freedom from Nicotine Dependence intake survey.	Outcome
Refer to Treatment webpage		

Is the Refer to Treatment webpage successful in supporting providers?	• Web analytics
	  ○ Total page views
	  ○ Unique page views
		Process

Strategy 3: Reducing Heart Failure. **Unlike other PPH, those related to heart failure (PQI 08) are increasing. The PPH Steering Committee took steps to help.**		
Evaluation questions	**Measures/indicators**	**Indicator type**
CHW pilot program		

Did pilot recruitment reach a diverse group of provider-identified patients? Did the program reach people equitably?	• Enrollment rate.
	• Demographic information of patients referred compared to demographic information of patients enrolled. Example demographics:
	  ○ Race/ethnicity.
	  ○ Insurance type.
	  ○ Age.
		Process

How satisfied were participants?	• Patient surveys for satisfaction with the process. • Engagement rate.	Process
How satisfied with are participants with the CHW?	• CHW evaluation by client.	Process
How satisfied is the CHW?	• CHW evaluation of satisfaction with the process.	Process
How successful was recruitment?	• Enrollment rate: Number of completed enrollments (numerator) vs. total number of referrals (denominator). • Drop-off rate: Number of clients who drop out of program (numerator) vs. total number of clients (denominator).	Process
Does participation reduce potentially preventable emergency department (ED) use at an individual level?	• Percent reduction in potentially preventable ED use: The number of ED visits during the pilot/number during prior 12 months vs. the number during the pilot.	Outcome
Do participants increase number of primary care provider (PCP) visits, in relation to acute care utilization?	• Number of PCP visits prior 12 months vs. during pilot. • Number of ED visits in prior 12 months vs. during the pilot. • Number of hospitalizations in prior 12 months vs. during the pilot. • All payer claims data.	Outcome
Does participation reduce PPH at an individual level?	• Percent reduction in hospitalizations among participants.	Impact
Did the intervention lead to a reduction in dollars spent on potentially preventable acute care visits?	• Cost of potentially preventable acute care visits prior vs. cost during the pilot. • All payer claims data.	Impact

Does participation improve motivation and ability to manage one's own healthcare?	• Patient activation measure (PAM) score at the beginning vs. PAM score at the end of pilot. • The number of patients who monitor their weight (numerator) versus the total number of patients (denominator).	Impact
Does participation improve quality of life?	• Quality of life scale (QOLS) score at intake vs. QOLS score at regular intervals and end of pilot.	Impact
Does participation improve anxiety and depression symptoms?	• Number of clients with depressive symptoms that warranted PHQ-9 screening at beginning vs. number of clients with depressive symptoms that warranted PHQ-9 screening at end. • Number of clients with symptoms of anxiety that warranted generalized anxiety disorder- (GAD-7) screening at beginning vs. number of clients with Symptoms of anxiety that warranted GAD-7 screening at end. • Number of clients with new depression/anxiety vs. number with chronic depression/anxiety.	Impact

Overarching initiatives. **Any initiative listed here relate to all three PPH strategies – immunizations, behavioral health, and improving heart failure.**		
Evaluation questions	**Measures/indicators**	**Indicator type**
Learning collaboratives		
Did the learning collaboratives reach a broad group of healthcare and social service providers in the PPH ZIP codes?	• Number of participants (total and for each session). • Number of organizations represented. • Diversity of participants: type of work, race/ethnicity, region of work?	Process
How satisfied were participants?	• Satisfaction scores according to post-surveys. • Qualitative feedback from post-surveys. • Participant drop-off over time.	Process
Did the learning collaboratives improve knowledge about each topic?	• Improved knowledge scores according to pre- and post-collaborative surveys.	Outcome

Are participants more likely to adopt the session's behaviors and practices?	• Self-reported confidence levels according to pre- and post-collaborative surveys. • Participants' qualitative feedback about if/how they plan to incorporate what they learned into their work from post-collaborative surveys.	Outcome