



Potentially Preventable Hospitalizations

Year 5 Evaluation Report

March 2023



Tacoma-Pierce County
Health Department
Healthy People in Healthy Communities

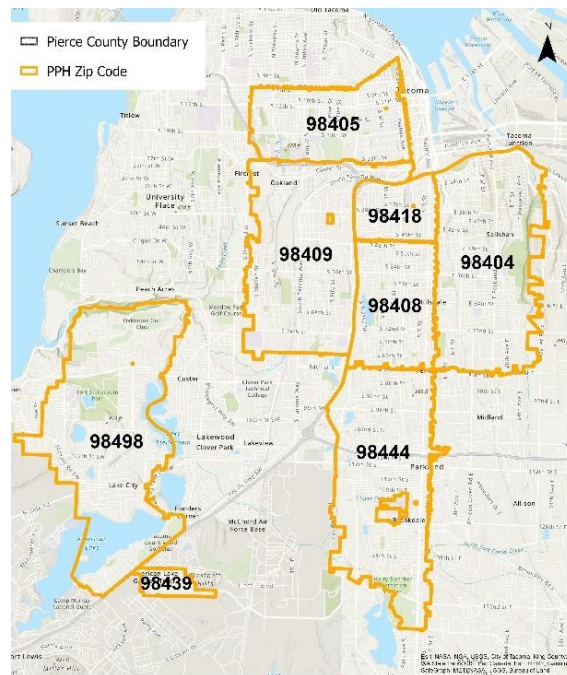
Executive Summary

Potentially preventable hospitalizations (PPH) occur when a person is hospitalized for something primary 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.

PPH strategies

- **Immunization:** Increase flu, pneumonia and COVID-19 vaccination rates to prevent worsening of chronic conditions.
- **Behavioral health:** Improve access to behavioral healthcare. Mental health conditions and substance misuse can make it difficult to seek preventive care or manage a chronic condition.
- **Heart failure:** Reduce the most common type of PPH with improved detection and management of heart failure.



Map of PPH ZIP codes.

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.

Strategy 1: Immunizations

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

For the 2022–2023 flu season, PPH purchased 200 flu vaccines (50 high-dose, 150 regular). We provided 40 to Community Health Care (CHC) for unestablished patients. We gave some of the rest to Pierce County Medical Reserves Corps (MRC) to distribute. As of December 2022, MRC distributed the vaccines at:

- Tacoma Rescue Mission, Oct. 5, 2022: 1 high-dose, 11 regular.
- Project Homeless Connect, Oct. 7, 2022: 2 high-dose, 8 regular.
- Asia Pacific Cultural Center, Nov. 2, 2022: 7 high-dose.
- Asia Pacific Cultural Center, Nov. 16, 2022: 1 high-dose, 9 regular.

A broken refrigerator spoiled the rest. We lost 73 regular doses and 38 high-doses.

Strategy 2: Behavioral health

Screening, brief intervention and referral to treatment (SBIRT) and motivational interviewing (MI) training

Did our SBIRT and MI trainings reach providers/social services (including in PPH ZIP codes)?

More than 430 people registered for SBIRT and MI training between 2019 and 2022. They represented 89 organizations. Most were in the social services sector (including behavioral health).

More than 230 people attended a training. This includes staff from 4 of 5 primary PPH partner organizations: CHC, Virginia Mason Franciscan Health, MultiCare Health System and Sea Mar Community Health Care Centers. Participating organizations represented 6 PPH ZIP codes.

Did our trainings improve participants' knowledge and likelihood of using SBIRT/MI?

The trainings improved attendees' knowledge. They showed an average score of 35% before the training and 80% after.

On the 2021 follow-up survey, overall SBIRT/MI knowledge levels declined slightly compared to right after the training but remained higher than pre-training.

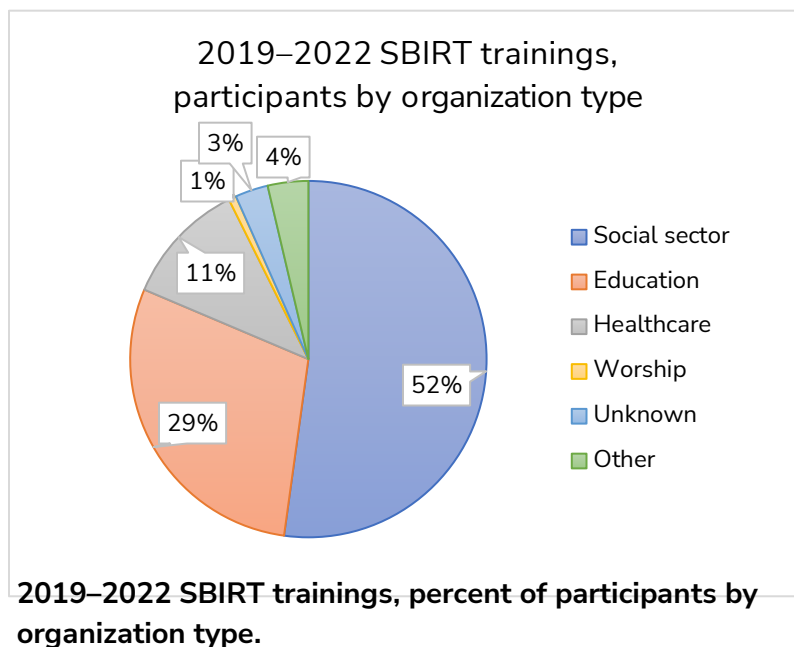
Ask, advise, refer (AAR) brief intervention training

Did our AAR trainings reach healthcare providers?

Yes. Heidi Henson hosted AAR trainings with 62 CHC employees, mostly medical residents and behavioral health specialists. Some attendees came from other healthcare organizations, including Sea Mar, Northwest Medical Specialties and CWA Behavioral Health Clinic. Attendees worked in all PPH ZIP codes, as well as 22 others. Of the non-PPH ZIP codes, 98499, 98003 and 98387 were the most represented.

Did our training educate and motivate participants to use AAR?

Our AAR trainings improved participants' knowledge of AAR brief intervention. Average knowledge scores improved from 78% pre-training to 92% post-training.



Strategy 3: Reducing heart failure

Learning collaboratives

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

Since our learning collaboratives launched in March 2021, 296 people registered for at least 1. They came from at least 76 organizations in more than 20 ZIP codes. They mostly worked in social services.

Did our learning collaboratives improve knowledge about each session's topic?

Each learning collaborative led to an increase in knowledge scores. Average pre-quiz knowledge scores were 64%. That increased to 78% on the post-quiz.

Community Health Worker pilot

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

By June 2022, we enrolled 51 of 172 patients (30%) referred to the Community Health Worker (CHW) pilot project.

Men made up 55% of the group and women 45%. None identified as non-binary. Most patients are white and prefer English. This suggests the program is not equitable in reaching patients with heart failure. We plan to analyze this more deeply.

More to come

We used some of our questions to assess the PPH project. See the full report for data and Appendix A for a list of questions. This list is dynamic. We may revise it as we get new data sources and collection methods.

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Introduction

Potentially preventable hospitalizations (PPH) occur when a person is hospitalized for something primary 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.

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.

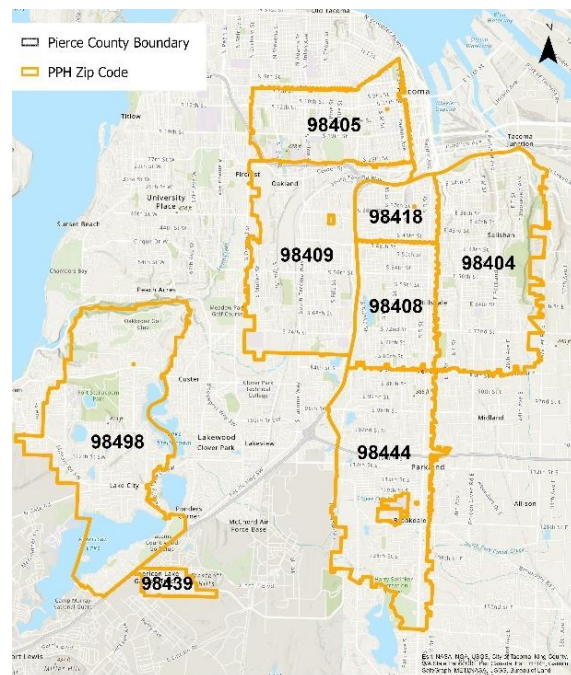


Figure 1: Map of PPH ZIP codes as of July 2021.

Stakeholders

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

Table 1: PPH stakeholders.

Stakeholder	Type	Project role	Evaluation role
Tacoma-Pierce County Health Department	Public health	Convener	Evaluator
MultiCare Health System	Provider	Partner	
Virginia Mason Franciscan Health	Provider	Partner	
Kaiser Permanente	Provider	Partner	
Sea Mar Community Health Centers	Provider	Partner	
Community Health Care	Provider	Partner	Participant/data collector (2022-)

ANSWERS Counseling	Social service	Contractor	Participant/data collector (2022-)
Heidi Henson	Tobacco treatment specialist	Contractor	Participant/data collector (2021-)
Past participants			
Korean Women's Association	Social service	Contractor	Participant/data collector (2019-2022)
Elevate Health	Accountable Communities of Health	Contractor	Participant/data collector (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. • Prevent the spread 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 or mental health 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

The next several graphs portray trends in potentially preventable hospitalizations in Pierce County since 2016, 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.

Heart failure remains the most frequent driver of potentially avoidable hospitalizations over the entire time period. Diabetes is the second most common cause. Many of the conditions experienced a small spike in 2019, however the overall trend is relatively stable. One noteworthy exception is Chronic Obstructive Pulmonary Disease (COPD), which seems to have declined steadily since 2016 (with a small increase in 2019). See Figure 2.

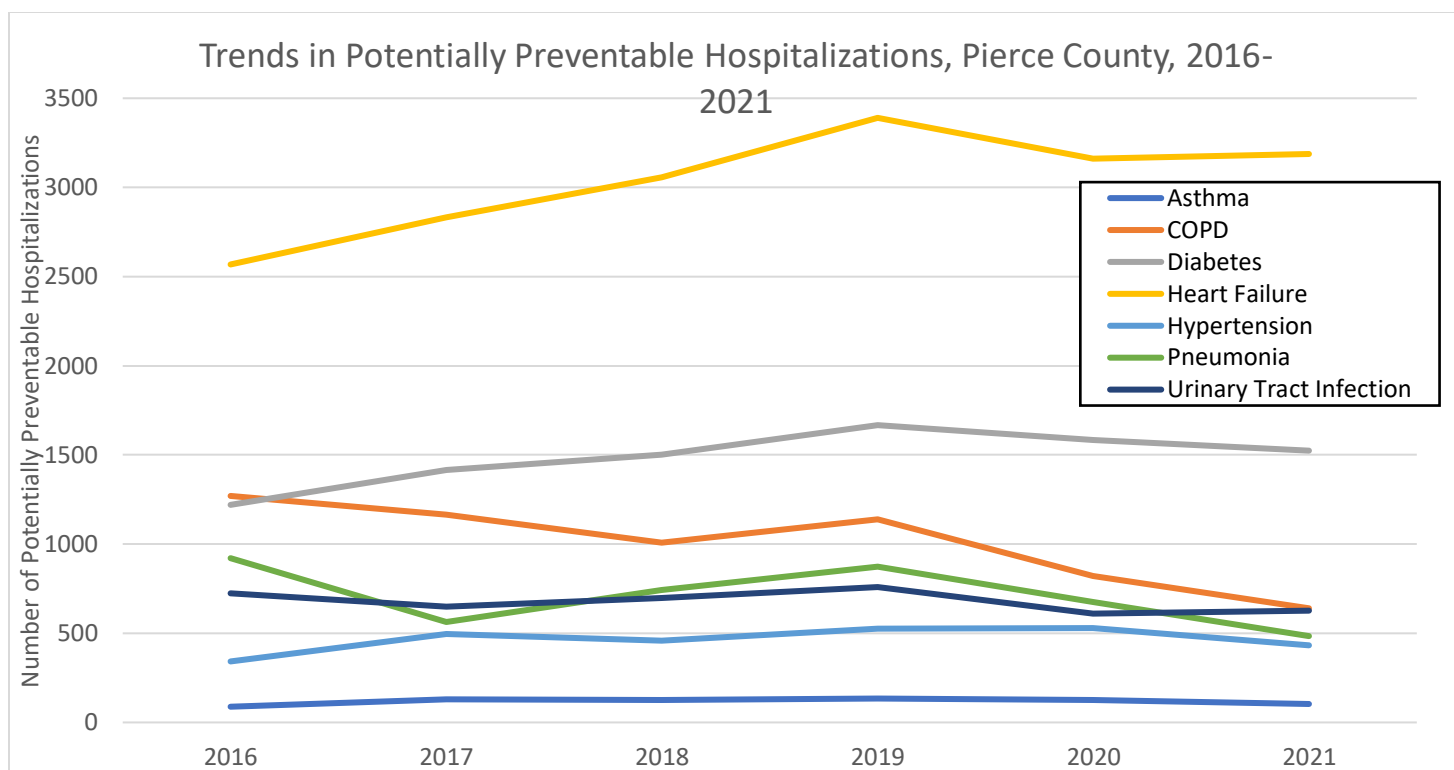


Figure 2

In the next graph (Figure 3) we compare composite PQI rates over time across PPH zip codes, Pierce County, and Washington state. The overall trend remains the same – PPH zip codes have the highest rate, followed by Pierce, and then the state.

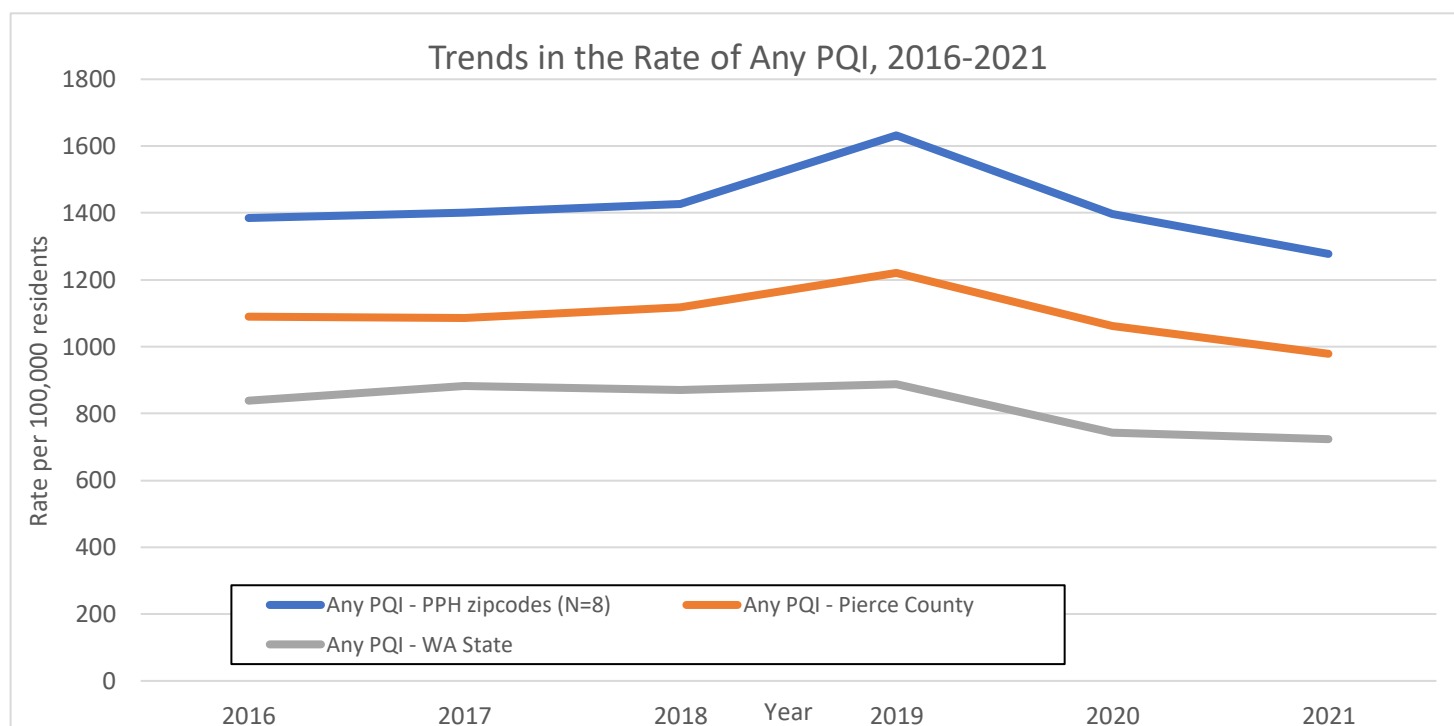


Figure 3

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). For this graph we have included King County, in addition to Pierce, because King is a large contributor to state rates given its large population.

Diabetes is largely unchanged at every level. COPD is declining across the board, although the decline seems to be steepest within PPH zip codes. The number of heart failure hospitalizations in 2021 are higher compared to the number seen in 2016, although the annual numbers have fluctuated greatly during that time for both PPH zip codes and Pierce County as a whole.

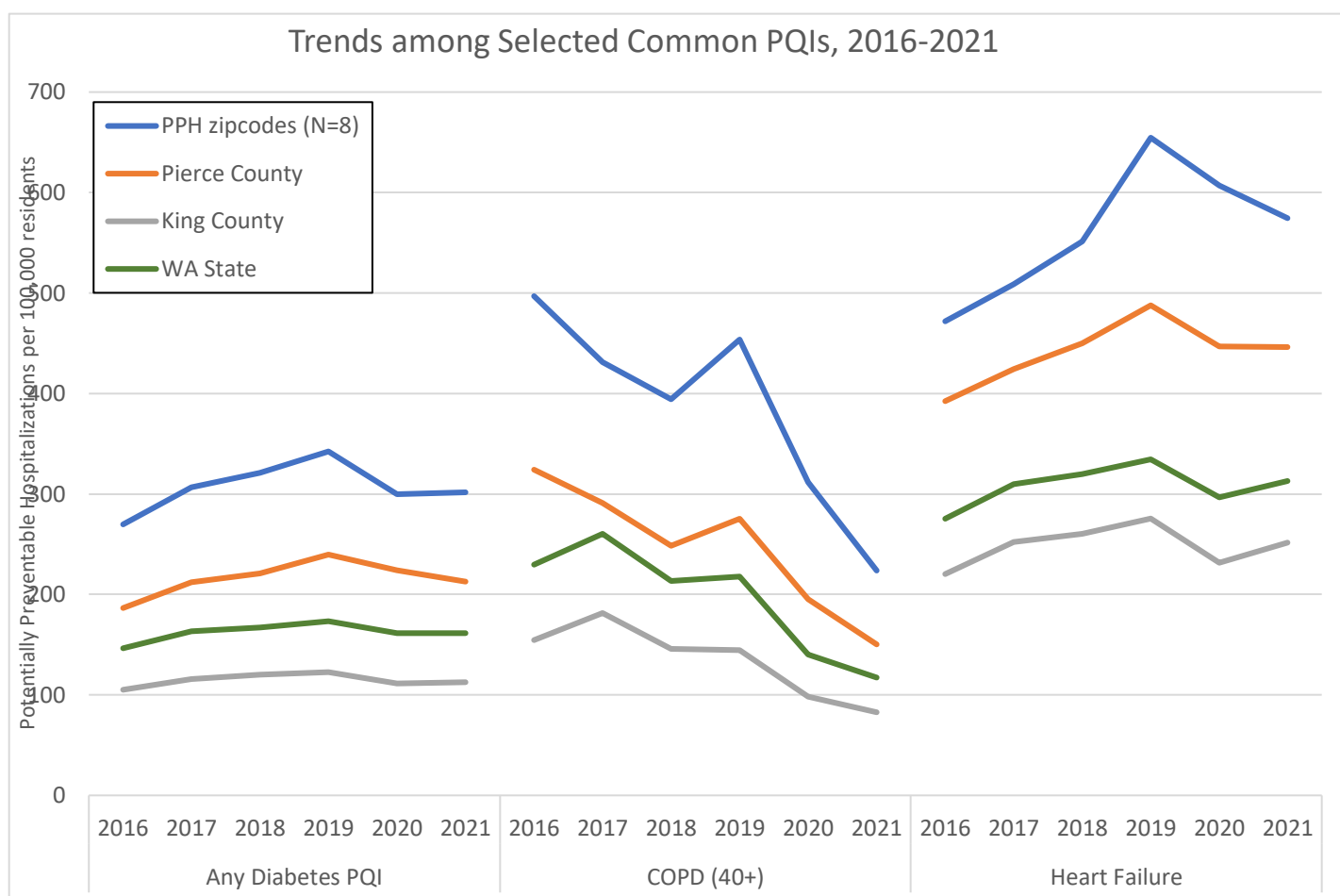


Figure 4

While heart failure hospitalizations spiked in 2019, heart failure mortality steeply declined that year, before rising back up in subsequent years – particularly within PPH zip codes. Diabetes, COPD, and heart failure death rates remained relatively stable across all geographies (Figure 5). It is important to examine death data in conjunction with hospitalization data as it's possible the two could be inversely related – i.e. deaths could increase if people who truly need care are not being hospitalized.

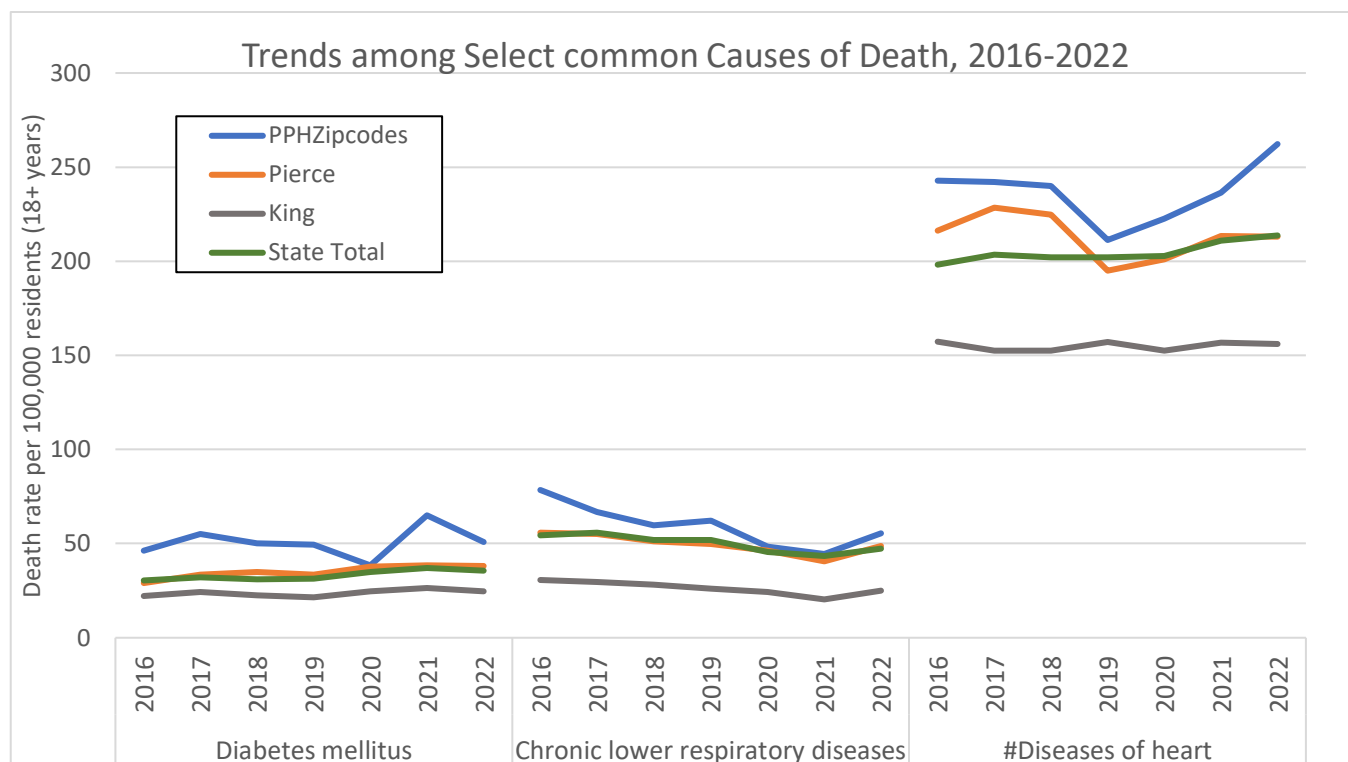


Figure 5

Funding

Since 2017, Washington legislators have supported the PPH project with funds from the state operating budget. Each year, they allocate \$750,000 with dedicated funding through the 2021–2023 biennium. The current legislative session will decide funding beyond June 2023.

Evaluation

The PPH project is complex and requires detailed evaluation. Although the project started 5 years ago, it may take years—even decades—to see the health improvements.

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. The data in this report is current through December 2022, unless we say otherwise.

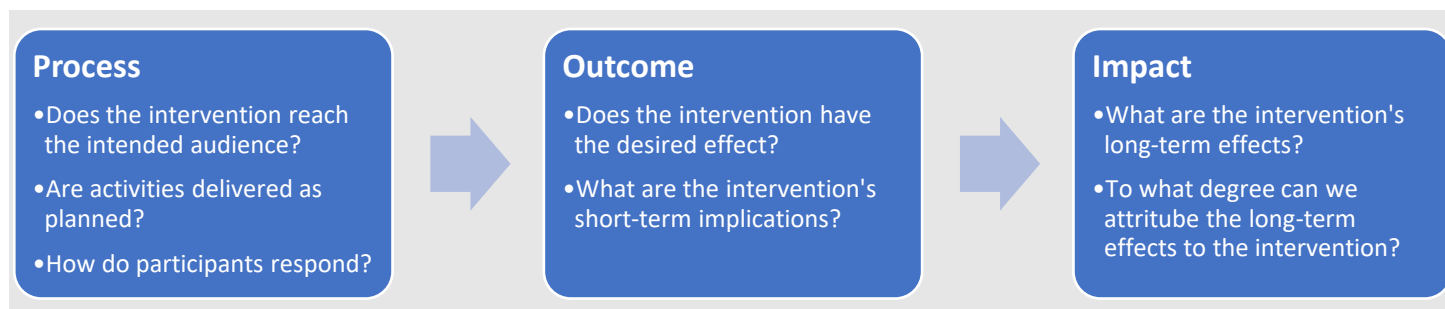


Figure 6: Types of evaluation.

Strategy 1: Immunizations

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. Every year, we:

- Distribute flu vaccine to PPH partner health centers and community-based flu clinics.
- Support 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?
Impact
• Has the PPH project led to an increase in doses of flu or pneumococcal vaccine given at PPH clinics over baseline (before the PPH project launch) to 1 year after project launch (2019)?

Methods

The Health Department immunizations team tracks our flu vaccine distribution. We also partner with local healthcare providers so they can get vaccines to people who would otherwise not have access.

Results

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

For the 2022–2023 flu season, PPH purchased 200 flu vaccines (50 high-dose, 150 regular). We provided 40 to Community Health Care (CHC) for unestablished patients. We gave some of the rest to Pierce County Medical Reserves Corps (MRC). As of December 2022, MRC distributed the vaccines at:

- Tacoma Rescue Mission, Oct. 5, 2022: 1 high-dose, 11 regular.
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- Asia Pacific Cultural Center, Nov. 2, 2022: 7 high-dose.
- Asia Pacific Cultural Center, Nov. 16, 2022: 1 high-dose, 9 regular.

A broken refrigerator spoiled the rest. We lost 73 Fluzone regular doses and 38 Fluzone high-doses.

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

As of December 2022, we haven't hosted an adult flu clinic for the 2022–2023 flu season. The organizations hosting the MRC clinics listed above are based out of 98402, 98405, and 98409. ZIP code 98402 is a largely urban area that's mostly businesses and apartments. 98402 is not a PPH focus area because of its size and commercial nature. It borders three PPH ZIP codes (98405, 98409, 98408) and has some of the highest rates of PPH in the county.

Has the PPH project led to an increase in doses of flu or pneumococcal vaccine given at PPH clinics over baseline (before the PPH project launch) to 1 year after project launch (2019)?

We don't have reliable data because of gaps in the state's system. We're working to help improve the state's data and find other sources of data in our ZIP codes. We began investigating this question using data from the Washington State Immunization Information System (WAIS). However, we learned from Health Department vaccine experts that flu vaccination data is inconsistently reported to WAIS 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 WAIS to record flu vaccinations and investigating other data sources to better understand flu vaccination rates in our zip codes over time.

Next steps

The PPH project will continue to provide pneumococcal and flu vaccines for uninsured and underinsured people, as well as people living homeless. We will encourage and support partners to use WAIS to report adult immunizations.

Strategy 2: Behavioral Health

People who need to manage a chronic health condition, like diabetes, heart failure or COPD often must follow a detailed health action plan. People with substance use or mental health issues sometimes find it hard to manage their chronic condition. That leads to worse health outcomes and PPH.

We expanded the use of 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:

- Assessed our partners' screening and referral practices.
- Facilitated SBIRT and motivational interviewing (MI) trainings.
- Evaluated improvements in SBIRT-related knowledge among trainees.

In the past year, we continued hosting a nicotine cessation support group and provider intervention trainings. We also launched a smoking cessation social marketing campaign.

SBIRT/MI trainings

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.

With support from PPH staff, the Korean Women's Association facilitated 9 SBIRT and MI trainings between 2019 and 2022. The 7 trainings in 2019 were free and open to Health Department partners. In 2020 and 2022, we conducted SBIRT/MI trainings 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. We have not yet conducted a follow-up survey for the 2022 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. Starting in 2021, quizzes also asked about comfort with MI as a skill.

- **2019 SBIRT/MI training:** We held this in-person. Attendants completed an anonymous paper quiz before and after the training. We encouraged participation but didn't require it.
- **2020 and 2022 Tacoma Public Schools SBIRT training:** These were virtual. We encouraged registrants to take an online quiz before and after, but didn't require it. Anonymity was not an option.
- **2021 follow-up survey:** We administered this survey online and emailed everyone who registered for the SBIRT/MI training in 2019 or 2020. Because the 2019 training was in-person and we didn't require sign-in, we didn't have a list of attendants. We asked that only people who took one of the trainings take the survey. We offered a \$20 gift card to Walmart, distributed by the Korean Women's Association. The quiz included all the knowledge questions from the 2019–2020 pre- and post-quizzes, except for 2 (noted in the table below). We also asked about 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 430 people registered for trainings between 2019 and 2022. They represented 89 organizations. Most worked in the social services sector (including behavioral health).

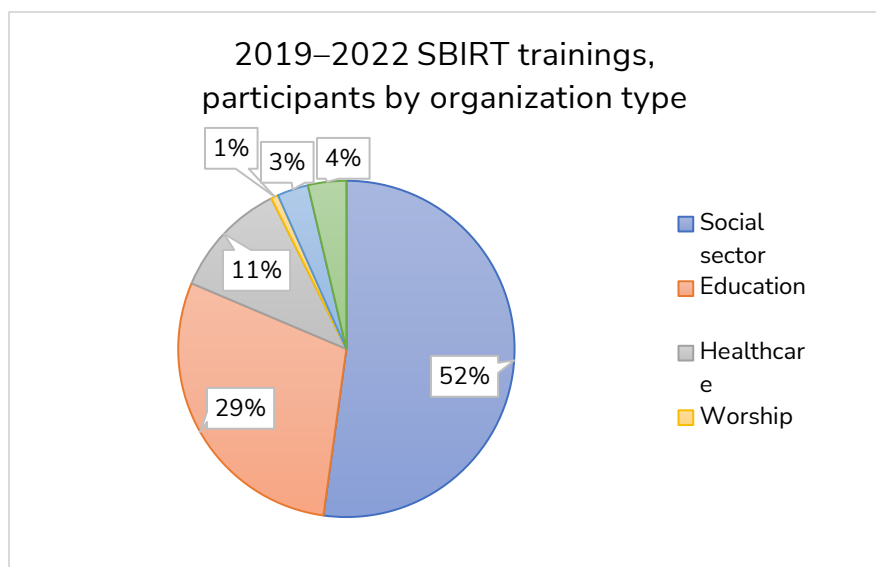
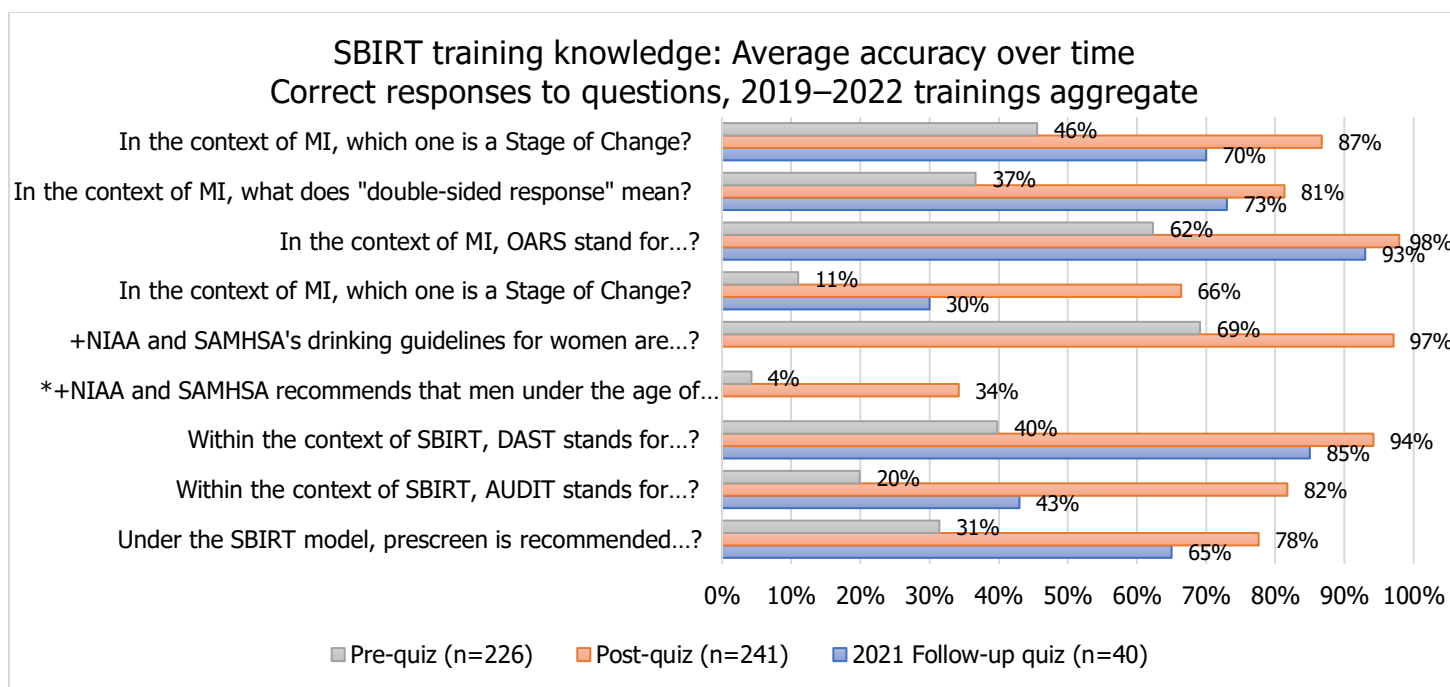


Figure 7: 2019–2022 SBIRT trainings, percent of participants by organization type.

More than 230 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 6 PPH project ZIP codes.

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

The trainings increased attendees' knowledge. Surveys showed an average score of 80% compared to 35% before 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.

Figure 8: SBIRT training knowledge, average accuracy over time.

According to the 2021 follow-up survey, 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.

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

Nearly 40% said they increased the number of substance use and mental health screenings thanks to the SBIRT/MI training, as of July 2021. 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. 87% strongly agree or agree they have used MI skills since the training.

Sixty-four percent agreed they were "interested in talking to people within my organization to utilize SBIRT and MI in my role" right after the SBIRT/MI trainings. By the 2021 follow-up survey, 59% had those conversations. 21% said their organization created or updated policies or procedures to make it easier to conduct SBIRT.

Table 2: SBIRT/MI training impact questions.

How have participants adopted SBIRT/MI in their work since the SBIRT/MI training? <i>Related 2021 survey questions.</i>	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%	36%	26%
As a result of the SBIRT/MI training, I have increased the number of mental health screenings I've conducted in my work.	39%	41%	20%
Since the SBIRT/MI training, I have used the MI skills when talking with patients/clients.	87%	13%	0%
Since the SBIRT/MI training, I have spoken with people within my organization about using SBIRT in my role.	59%	28%	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.	21%	51%	29%

Next steps

We will continue to offer SBIRT/MI trainings as needed. We are also conducting organizational assessments with our health system partners to better understand their SBIRT/MI protocols and learn how they've changed since the project launched. That will help us further refine our priorities.

Freedom from nicotine dependence

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

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. The groups began in February 2021 and are ongoing.

Methods

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

Prior to their first session, we send each participant an online survey to collect demographic information and data about their nicotine use. We send a follow-up survey every 6 months. The follow-up is similar but collects feedback about experience and does not request demographic information.

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?

Results

Are patients using support groups?

Heidi began hosting support groups once a week in February 2021. In May 2021, we increased to three a week. Since the groups began, we have had 9 registrants, 8 of whom attended at least 1 session. All 8 identify as white/Caucasian, non-Hispanic.

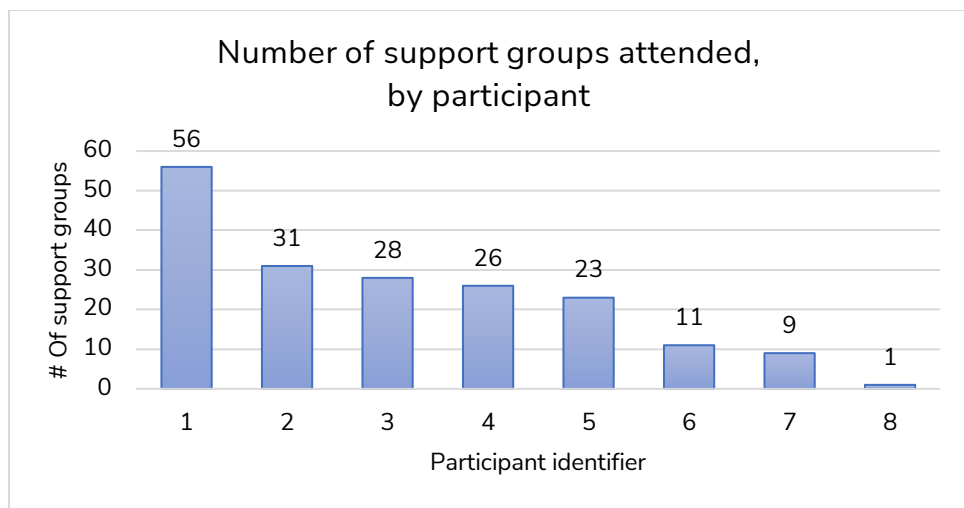


Figure 9: Number of support groups attended, by participant.

Are PPH partner providers referring patients to the support groups?

A PPH partner provider referred 3 of the 8 participants. Two people self-referred after learning about the group online or from Washington State Department of Health. And 4 were already familiar with the group from its facilitator, Heidi Henson.

Does participation lead to a reduction in individual nicotine use?

Of the 3 attendees who took a 6-month follow-up survey, 2 have reduced their nicotine use since joining the support groups. One of these people decreased their use from a pack of cigarettes per day to nothing. The other went from a pack of cigarettes a day to 10 per day on average.

Next steps

As of December 2022, all Freedom from Nicotine Dependence participants have been white. The PPH team is working to make the support group more culturally appropriate and welcoming to all races and ethnicities. We are working with other Health Department programs to help more people get certified as tobacco treatment specialists. There may be a chance for people who get certified to host Freedom from Nicotine Dependence support groups.

With a small number of attendees and only a few of those taking the 6-month survey, we don't have much data. We will continue to collect baseline and check-in data, and will consider a new cadence for follow-up data collection.

AAR brief intervention training

Background

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

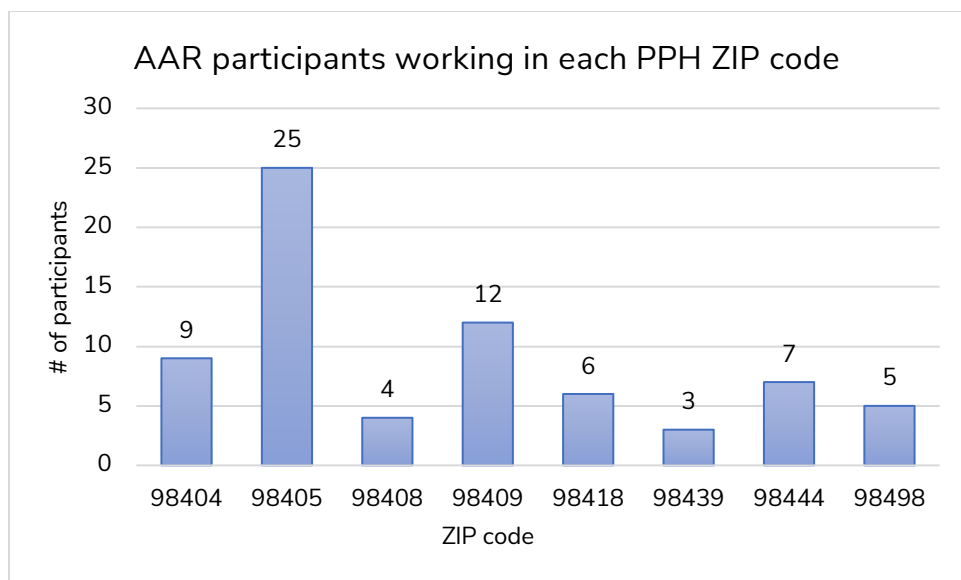


Figure 10: AAR participants working in each PPH ZIP code.

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.

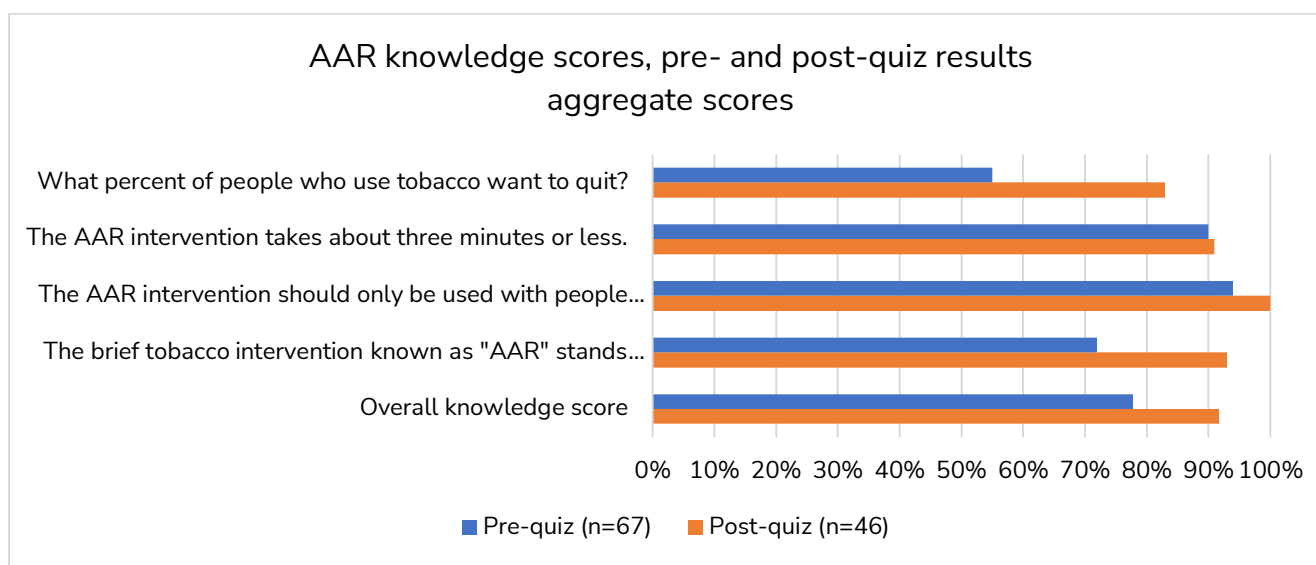


Figure 11: AAR knowledge scores, pre- and post-quiz results aggregate scores.

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

We received feedback that the AAR trainings were too scripted and prescriptive for some communities. Our facilitator is working with Health Department community health workers to make the training more conversational and culturally inclusive.

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

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.



Figure 12: One “What could smoke-free do for you?” campaign ad.

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?

Methods

We marketed the campaign via Google and on 5 outdoor billboards. Our contracted advertising firm, Strom & Nelsen, collected data for the digital campaign. Lamar Advertising hosted the billboard campaign 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?

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.

Did the campaign increase traffic to tobacco cessation resources?

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

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. 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.

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

Next steps

The campaign was budgeted to run about 6 months. It ended on December 31, 2022. Health Department staff are looking for ways to extend the campaign.

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 40–60 years old occur every year in the PPH project ZIP codes. That's 100 more than expected based on Pierce County rates.¹ 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 We launched several heart failure-specific initiatives over the past year.

People with heart failure 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. We partnered with Korean Women's Association to design and host 4 learning collaboratives to improve heart failure knowledge and skills among community service providers. These events were free, virtual, and open to all service providers. People learned about heart disease basics, healthy action planning, motivational interviewing, SBIRT, and the impact of social needs on heart disease patients.

We also launched a more 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 works with patients to reduce barriers to care.

Learning collaboratives

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 monthly 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.

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.

Table 3: 2021–2022 learning collaborative topics.

Month	Learning collaborative topic	Presenters
March 2021	Heart Disease and COVID-19. Culturally Responsive Care for BIPOC Communities.	Dr. Francis Mercado, Virginia Mason Franciscan Health Diane Shepard, Shepard & Associates
April 2021	Creating Healthy Plans for Heart Disease Patients and Discussion on Providing Culturally Responsive Care	Sara Eve Sarliker, Washington State Department of Health Nellis Kim, Pierce County Human Services
May 2021	Social Determinants of Health (SDOH) Care Coordination	Alden Willard, Elevate Health Carolynn Nofsinger, Elevate Health Diane Shepard, Shepard & Associates
June 2021	Mental Health Brief Interventions for Heart Disease Patients; Sea Mar's Primary Care – Behavioral Health Integration	Elizabeth Allen, Health Department Diane Shepard, Shepard & Associates Harry Franqui, Sea Mar Clare Walsh, Sea Mar
July 2021	Opioid & Pain Reliever Misuse Disorder. Brief Interventions	Bonnie Corns, Health Department Chelsea Amato, Health Department Elizabeth Allen, Health Department Diane Shepard, Shepard & Associates
August 2021	Motivational Interviewing	Suzanne Pak, Korean Women's Association
September 2021	Women & Heart Disease	Pam Kozu, MultiCare's Pulse Heart Institute
October 2021	Oral Health & Chronic Health	Dr. Jeffrey Reynolds, Community Health Care
November 2021	Motivational Interviewing (MI) for Oral Health	Diane Shepard, Shepard & Associates Monique Myers, Health Department
December 2021	How to Self-Monitor Your Blood Pressure	Sara Eve Sarliker, WA Dept of Health
January 2022	Adverse Childhood Experiences and Trauma Informed Self-Care	Diane Shepard, Shepard & Associates
February 2022	SMART goal setting	Suzanne Pak, Korean Women's Association
March 2022	Personal Finance Tips. Goodwill's Volunteer Income Tax Assistance (VITA) and Other Goodwill Connect Services	Heather Little & Stefani Whittle, Goodwill Diane Shepard, Shepard & Associates Monique Myers, Health Department
April 2022	Tobacco Risks & Cessation	Bev Utt, MultiCare Center for Health Equity & Wellness
May 2022	Motivational Interviewing Brief Intervention for Tobacco Cessation	Diane Shepard, Shepard & Associates Monique Myers, Health Department Suzanne Pak, Korean Women's Association

June 2022	Vaping/ E-Cig Health Risks & Lung Cancer Screening	Kayla Banyas, PA-C Cardiothoracic Surgery, MultiCare Pulse Heart Institute
July 2022	Financial & Behavioral Wellness	Diane Shepard, Shepard & Associates
August 2022	Heart Disease and Medications	Dr. Amanda Carter, PharmD, BCACP, Virginia Mason Franciscan Health
September 2022	Brief Interventions for Prescription Medication Management	Suzanne Pak, Answers Counseling Timieka Travis, Health Department Alix Warren, Health Department
October 2022	Financial Prescription Assistance	Rod Shutt, Prescription Drug Assistance Network Monique Myers, Health Department
November 2022	Mpox, COVID-19, and the Flu	Dr. Matt Brignall, Health Department
December 2022	Childhood Immunizations	Trang Kuss, Washington State Department of Health

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.

Korean Women's Association (as of August 2022, 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, it 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

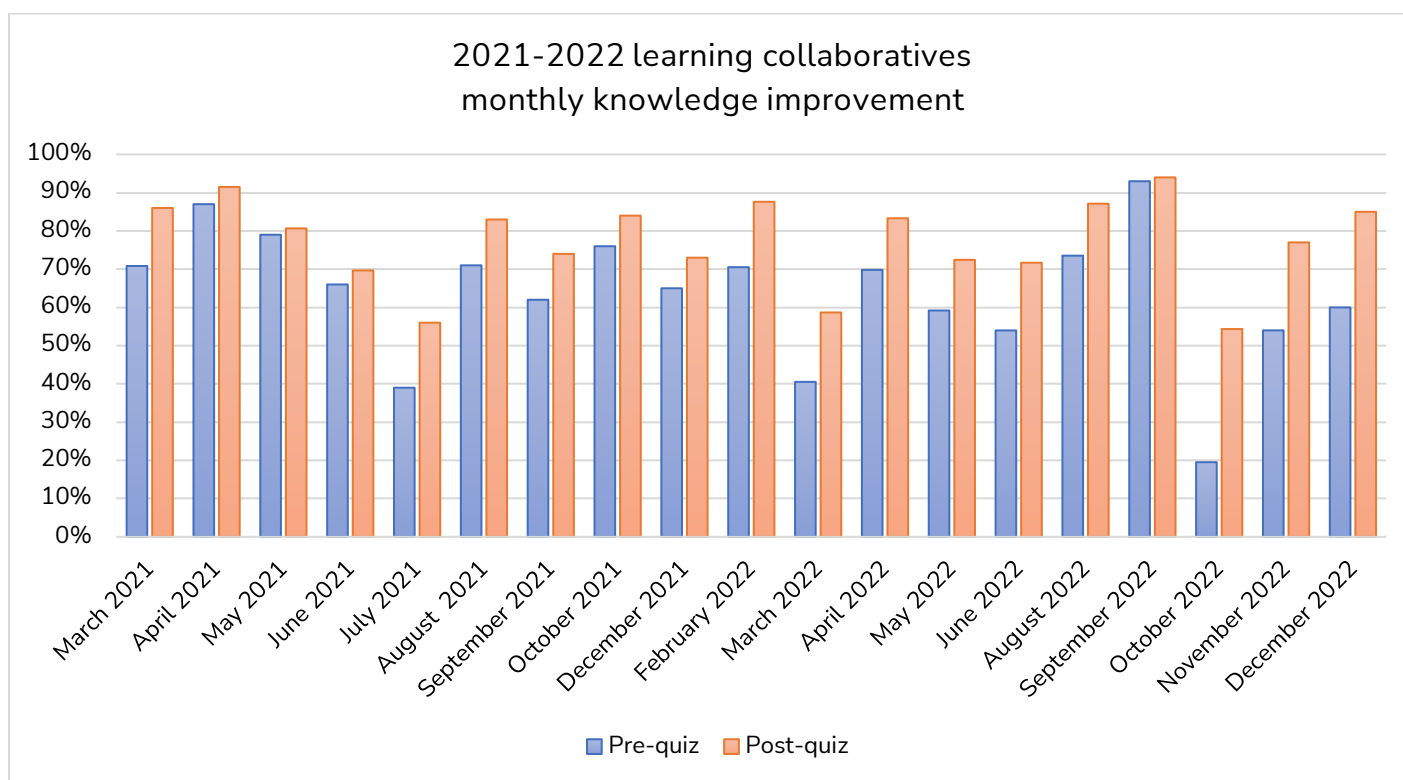
Did the learning collaboratives reach a broad group of healthcare and social service providers from the PPH ZIP codes?

Since the learning collaboratives launched in March 2021, 296 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 64% before and 78% 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.



November 2021, January 2022 and July 2022 did not have any multiple-choice knowledge questions.

Figure 13: 2021–2022 learning collaboratives monthly knowledge improvement.

How satisfied were participants?

93% of responses were very satisfied or satisfied. We routinely collect feedback. Suggestions were related to:

- Breakout rooms (e.g., fewer rooms, larger groups).
- Technical issues.

- Posting recordings online.

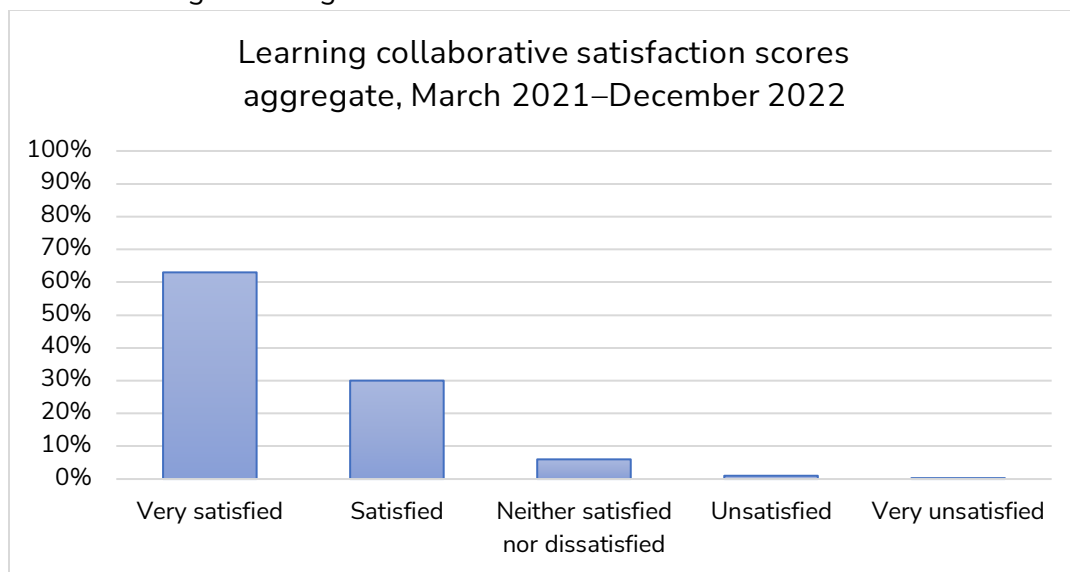
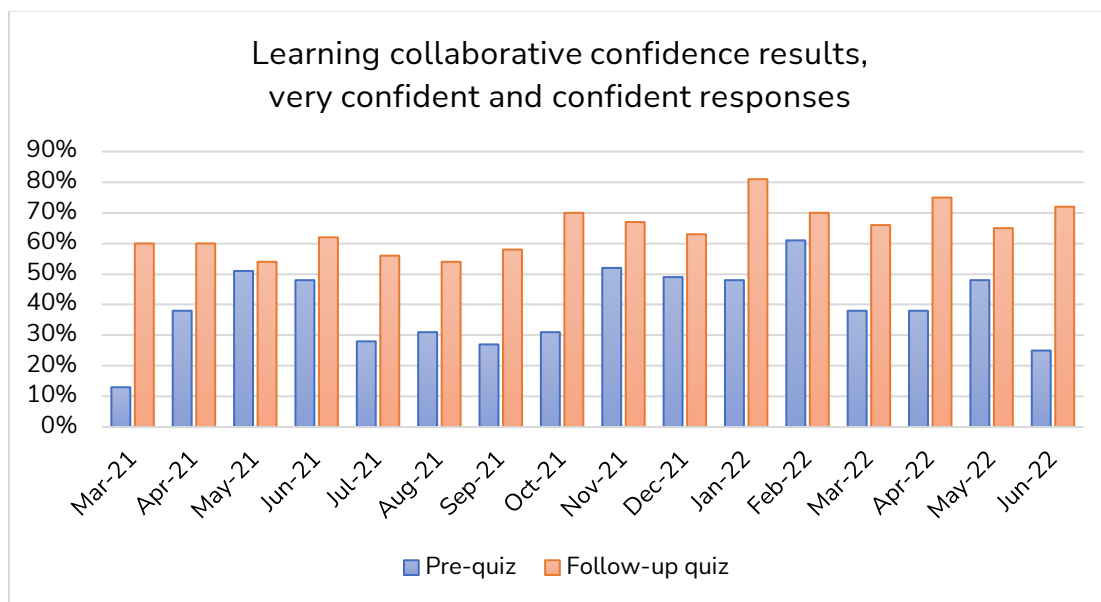


Figure 14: Learning collaborative satisfaction scores aggregate, March 2021–December 2022.

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



As of December 2022, follow-up data on confidence has only been collected through June 2022.

Figure 15: Learning collaborative confidence results, very confident and confident responses.

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

People shared feedback about implementing skills or adopting behaviors they learned, both for themselves and for clients.

- "My mom ha(s) high blood pressure and is on meds for it but I took the information that I learned and now (she) is able to monitor her blood pressure."

- "As a community health worker, these information (sessions) really help to update my knowledge of healthcare and will be (a) benefit to all my clients who get support from me."
- "Cultural competence is so important in the work that I do within the community. I love hearing from others regarding their culture and things that I can do/not do to support them."
- "These meetings are so beneficial for me and truly help me in my work and even in my own life. I truly appreciate the work you all do and the resources you all share."

Next steps

In August 2022, Answers Counseling began hosting the learning collaboratives instead of Korean Women's Association. Answers Counseling is contracted to continue the learning collaboratives through the fiscal year ending June 2023.

CHW pilot program

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 train 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 on this. Since we've learned the importance of a direct connection between the CHW and provider organization, we now work directly with CHC to manage this project. The data below is from April 2021 through June 2022 and may be incomplete due to the change in project partners.

Methods

Once patients receive a referral, the CHW contacts them to explain the pilot and invite them to enroll. Patients then participate in an intake call. The CHW collects demographic information and conducts multiple assessments to determine health, medical, and social determinants of health (SDOH) needs. The CHW documents the information within the care coordination system. If the patient expresses any SDOH needs, like transportation or rental assistance, the CHW connects them to social services. The CHW conducts regular follow-up calls to evaluate the patient's symptoms and self-care and track changes over time.

The pilot is new, so we don't yet know the impact or have outcome data. We evaluate the process regularly and have early recruitment data. You can find it below.

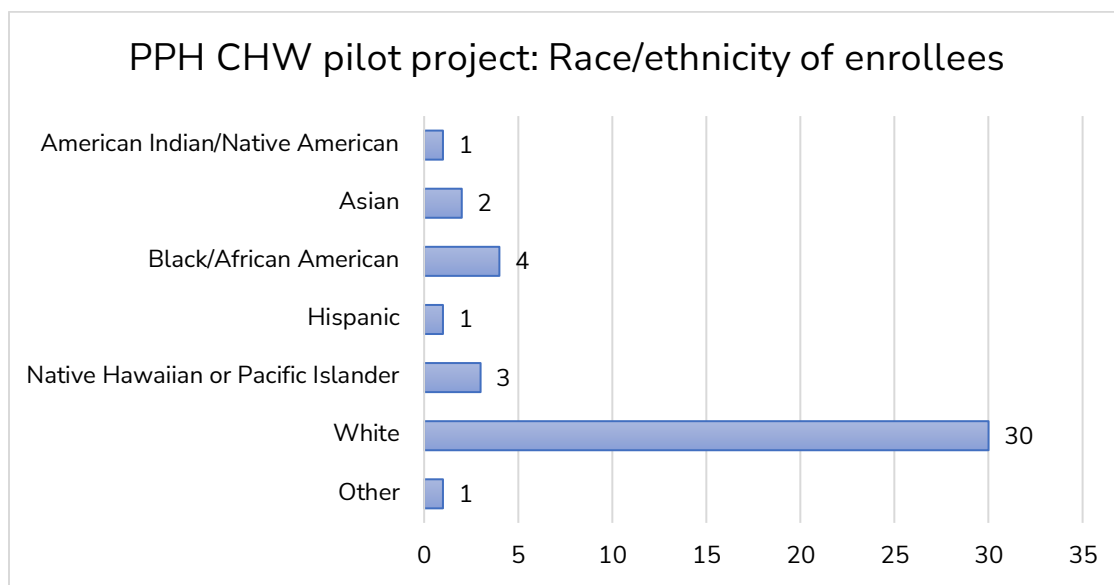
Elevate Health collected the following data, which is incomplete. You should interpret it with caution. We'll have data from CHC's work on the CHW pilot in Spring 2023.

Results

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

As of June 2022, we enrolled 51 of 172 referred patients (30%) into the CHW pilot.

Men made up 55% of the group and women 45%. None identified as non-binary. Most patients are white and prefer English. That suggests the program is not equitable in reaching patients with heart failure diagnoses.



Race and ethnicity data were not reported for all patients participating in the CHW pilot program.

Figure 16: PPH CHW pilot project, race/ethnicity of enrollees.

Referral data

Enrolled patients were referred to 190 medical services and 117 social services. The most common medical services referrals were for specialty and primary care. Transportation is the social service people needed most often.

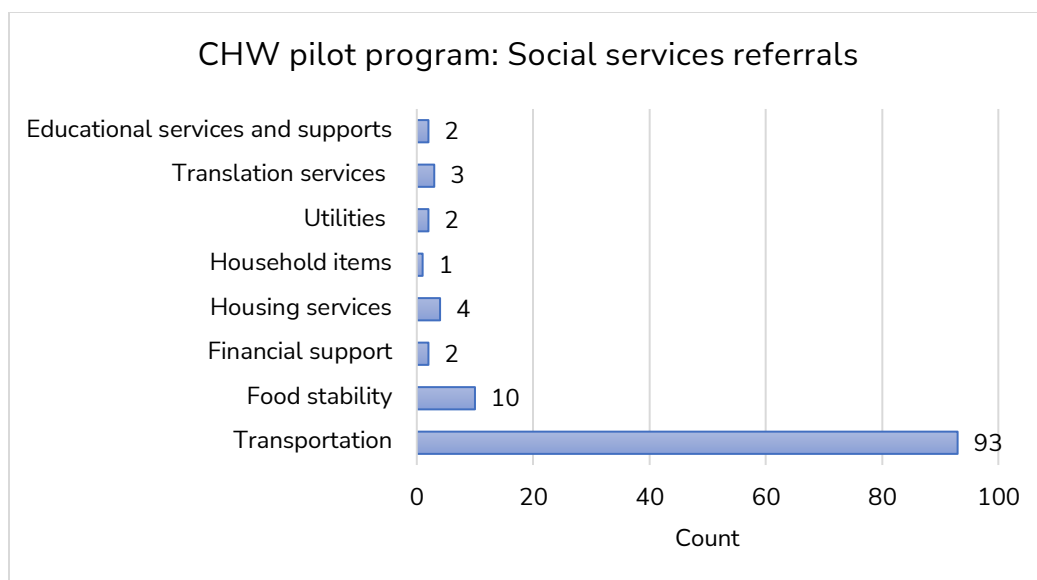


Figure 17: CHW pilot program, social services referrals.

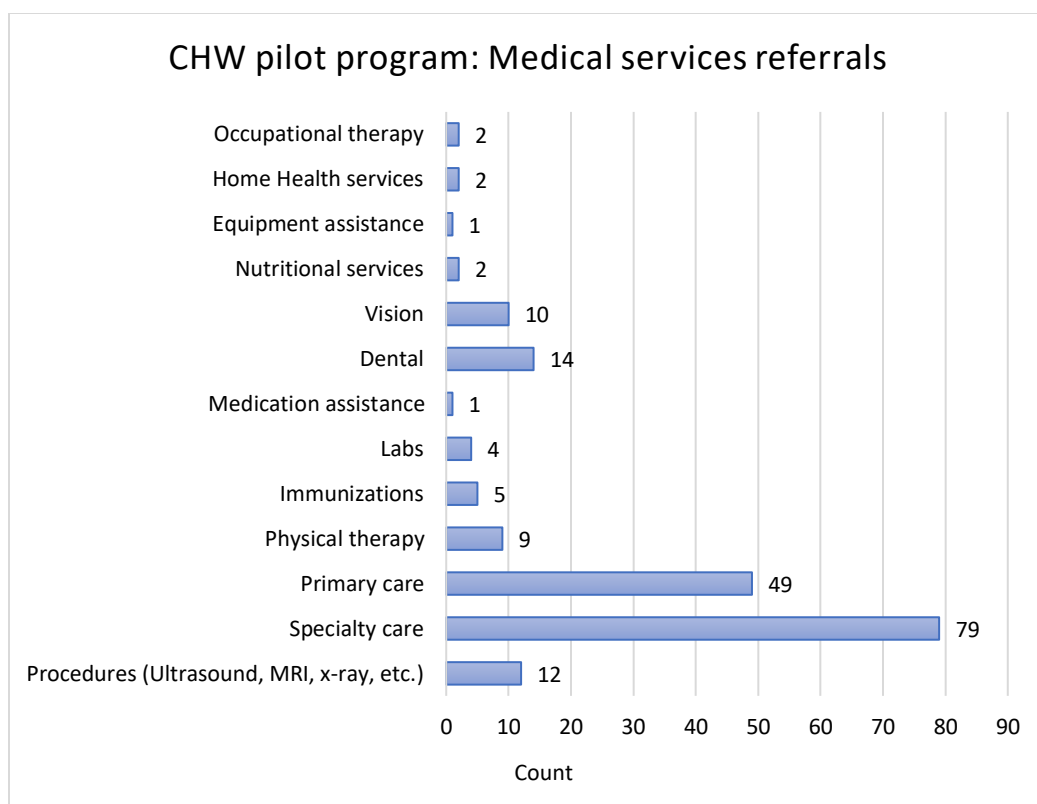


Figure 18: CHW pilot program, medical services referrals.

Next steps

This pilot project will continue. Currently, 1 CHW that CHC employs is participating. The CHW works out of 3 CHC clinics in the PPH project ZIP codes. We may expand the pilot.

Future Evaluation Data

Some of our questions assessed the impact of the PPH project. See Appendix A for a list. We may revise it when we get new data sources and collection methods.

We recently gained access to Washington State All Payer Claims Database. It includes healthcare claims data from more than 30 commercial health plans, Medicaid and Medicare Advantage. It will allow us to better assess cost and use patterns. For example, we can use it to find which groups (age, race, gender, insurance types) most often experience PPH. We can also learn which conditions are most likely to co-occur and cause hospitalizations. We are analyzing the data to better understand the state of PPH in Pierce County, as well as the cost and populations most affected.

We will continue to analyze data as it becomes available and add new questions from Appendix A into the report. We will publish an updated report each year.

Appendix A: PPH Project Evaluation Questions

Initiative 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 1 year after project launch (2019)?	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

Initiative 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. ○ Participant 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
<i>Freedom from Nicotine Dependence support group</i>		
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
<i>AAR</i>		
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

Initiative 3: Reducing Heart Failure.

Unlike other PPH, those related to heart failure (PQI 08) are increasing. The PPH Steering Committee took steps to help. Exploratory interviews of care-coordination practices helped us create a 4-part learning collaborative series and a CHW pilot program.

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
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