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Closing Gaps to Address Lifespan Health: Considerations for Developing a Preconception Healthcare Training for Community Health Workers

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MPH Concentration: Maternal Child Health

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Introduction

The United States has higher than average rates of maternal morbidity and mortality, preterm birth, and other adverse maternal and infant health outcomes compared to other developed countries (Hoyert, 2023). These adverse outcomes disproportionately affect people of color; in particular, Black and Native American women (Parchem et al., 2020; Pollock et al., 2021; Shen et al., 2005). Additionally, almost half of all pregnancies in the U.S. are unintended (CDC, 2023). Unplanned and rapid repeat pregnancies (defined as pregnancy within 12-18 months of a previous birth) are more common among mothers who are younger, Black, low-income, who have lower educational attainment, or who did not have adequate prenatal or postpartum care visits (CDC, 2023; Luff et al., 2024). An individual's pre-pregnancy health can have a significant impact on the health outcomes during and after their pregnancy and for their children.

In recent years, preconception health, which refers to a person's health before they become pregnant, has become increasingly recognized as a critical component of reducing the proportion of unplanned pregnancies and achieving a higher quality of maternal and child health in the long-term. *Healthy People 2030* outlines several objectives related to preconception health. These objectives include: increasing the proportion of pregnant people who receive early prenatal care (MICH-08), increasing the proportion of people who are at a healthy weight prior to conception (MICH-09), reducing the proportion of adolescent pregnancies (FP-03), increasing the use of contraception among adolescents and adults at risk of unintended pregnancy (FP-10, FP-11), reducing the proportion of unintended pregnancies and rapid repeat pregnancies (FP-01, FP-02), and increasing the proportion of people of reproductive age who get enough daily folic acid (MICH-12) (Office of Disease Prevention and Health Promotion, n.d.).

Unfortunately, many of the objectives listed above have had no detectable change or are getting worse (Office of Disease Prevention and Health Promotion, n.d.). Addressing these issues requires

knowledge of the patient and their social determinants of health that medical providers may not have access to or simply may not have the time or means to find out during a clinical visit. One way to bridge this gap could be to train community health workers (CHWs) to provide preconception health counseling. As frontline public health workers who are trusted members of the communities they serve, CHWs are equipped to provide culturally appropriate and competent services to individuals in their own communities and can act as important linkages to care for those most at risk (Olaniran, 2017). CHWs not only increase access to healthcare services at the individual level, but are often leaders in their communities, with the potential to help change attitudes and behaviors at the community level (Olaniran, 2017).

Through administering a training needs assessment survey to a sample of community health workers, this capstone project aims to identify CHWs' confidence and knowledge gaps in the area of preconception healthcare, as well as their preferred methods of training. Properly training and integrating CHWs into the preconception health care space is one way to improve maternal and child lifespan health in the U.S., especially among historically marginalized and underserved groups with accumulated risk of poor outcomes.

Background and Literature Review

At their core, preconception health care and promotion are a life course approach to preventing adverse health outcomes. There are several different life course approaches, but one known as the *critical period* model emphasizes the timing of exposures to risk factors that are likely to cause irreversible effects on health (Cable, 2014). One such critical period is the conception period, which includes the three months before and after conception (Cable, 2014). This means that the physiological, social, and behavioral health of a person and their level of exposure to certain risk factors at the time of conception will have an impact on the health of their child, both at birth and throughout that child's life

– and may potentially impact generations to come through what is known as the *accumulation of risk* (Cable, 2014).

Data from the 2018 National Health Interview Survey shows that more than half (51.8%) of Americans have at least one chronic disease (from arthritis, cancer, chronic obstructive pulmonary disease, heart disease, asthma, hepatitis, diabetes, hypertension, stroke, or kidney disease), and over a quarter (27.2%) report having two or more of these conditions (Boersma et al., 2020). This equates to about 129 million people living with at least one chronic disease, and 68 million having two or more (Boersma et al., 2020). The high burden of chronic disease in the United States underscores the importance of proper preconception healthcare, because chronic conditions make pregnancy more dangerous for both the mother and newborn. In fact, the rate of severe maternal morbidity and mortality among pregnant people with multiple chronic conditions was found to be nearly four times higher than among pregnant people with no chronic conditions (Admon et al., 2018). The rates of preterm birth and cesarean delivery are also higher among pregnant people with multiple chronic conditions, and their deliveries are associated with significantly higher healthcare costs (Admon et al., 2018). Ensuring adequate preconception care, including increasing risk awareness for all people of reproductive age, is one step toward prevention of these adverse maternal child health outcomes. Preconception healthcare includes not only prevention, but diagnosis and proper management of chronic conditions, which can make pregnancy safer for the many individuals who have at least one chronic condition and may become pregnant.

As part of preconception health promotion, the CDC recommends that all people of reproductive age have a plan for their preconception health goals, whether those goals include getting pregnant or avoiding pregnancy (CDC, 2023). It is recommended that individuals make these plans in consultation with their healthcare provider. To increase awareness about preconception healthy behaviors and optimize preconception health, the plan should include setting intentions around

smoking, alcohol, and drug use; HIV and STD/STI prevention; birth control methods; vaccinations; personal safety; environmental exposures and toxins; maintaining a healthy weight and lifestyle; being mentally well; having an adequate amount of folic acid every day; and having a preconception healthcare visit with their care provider (CDC, 2023).

Quality preconception health planning for everyone who needs it is admirable goal but is complicated by the fact that nearly one-third of Americans surveyed in 2015 reported avoiding going to their doctor for routine or preventive care (Taber et al., 2015). During the COVID-19 pandemic, this number rose to a high of over 40% (Czeisler et al., 2020). On top of that, healthcare providers face time constraints and large patient loads which may prevent them from building a rapport with patients that will encourage them to come to appointments regularly. Community health workers, properly trained and integrated into care teams, could be the key to bridging these gaps.

As defined by the American Public Health Association, a community health worker (CHW) is "a frontline public health worker who is a trusted member or and/or shares an unusually close understanding of the community served" (American Public Health Association [APHA], n.d.). This sense of understanding or shared identity may be based on race, ethnicity, religion or culture, language, country of origin, socioeconomic status, geographical area (for example, living in a rural community), or shared lived experience, such as having the same chronic disease as their clients. Community health workers are *peers* to the people they serve, and because they live, work, and play in the same community, CHWs are able to reach people who are often underserved and provide them with critical counseling, care, and access to services.

In the United States, community health workers go by as many as 250 different titles, including Lay Health Workers, Patient Navigators, Peer Support Specialists, Community Health Representatives, Community Outreach Workers, Intake Coordinators, Health Information Specialists, Health Educators, Parent Advocates, Peer Liaisons, Maternal Child Health Workers, Youth Development Specialists,

Promotores de Salud, and more (California Association of Community Health Workers [CACHW], n.d.). These numerous titles reflect the diversity of health and human services that CHWs are equipped to provide and the variety of settings that they work in.

The U.S. Department of Health and Human Services' Health Resources and Services Administration (HRSA) describes six key areas of CHW activity (HRSA, 2007):

1. **"Acting as, and creating, linkages between communities and healthcare systems."** This may include working as an integrated member of the healthcare team to gather and help synthesize a client's information; explaining medical terminology to clients; and serving as experts on community needs for medical and social service providers.
2. **"Addressing basic needs.**" This may include providing limited clinical services such as taking vital signs or performing emergency services like CPR and first aid. It could also include linking clients and community members with resources to meet their basic needs such as food pantries, housing, utility assistance, etc.
3. **"Health education."** This may include educating clients and community members about health promotion, disease prevention, and chronic disease management.
4. **"Serving the underserved."** This may include case finding, making referrals, patient advocacy, and follow-up for the most high-risk communities and individuals.
5. **"Informal counseling."** This may include providing individual support aimed at fostering self-efficacy, leading support groups, and encouraging positive health behaviors.
6. **"Building community capacity."** This may include CHW involvement in the development of grant proposals, community planning, and as skills development leaders.

Considering these key areas, community health workers have been deployed in a wide variety of health prevention and promotion settings and programs with positive results. There is abundant research outlining the positive outcomes of engaging CHWs in cancer prevention, screening, and self-

efficacy (O'Brien et al., 2010; Roland et al., 2017), prenatal and postpartum home visiting programs (McCue et al., 2022; Straughen et al., 2023), asthma control and environmental health (Krieger et al., 2005), hypertension management interventions (Allen et al., 2017), healthy lifestyle and behavioral interventions (Koniak-Griffin et al., 2015), and diabetes self-management (Spencer et al., 2011). The literature is rife with evidence that CHWs programs are especially effective at improving health outcomes among at-risk populations, including non-white, Hispanic or Latino, and/or low-income or Medicaid recipients. There appears to be a gap in the research about the use of CHWs for preconception health specifically, but the above studies provide promising evidence that CHWs could be effective in this area of health promotion as well. The six key areas of CHW activity outlined above show how CHWs can play an important role in filling the gaps in the healthcare system related to preconception healthcare.

With more states passing legislation each year to make community health worker services Medicaid reimbursable, the deployment of properly trained CHWs equipped to provide preconception counseling in their communities may be more attractive to health systems and other payors. Among Medicaid recipients, only about one-third reported using an effective form of contraception 60 days postpartum (Rodriguez, 2022). The potential cost savings of avoided rapid repeat pregnancies, sexually transmitted diseases, and other health complications from increasing CHW-facilitated access to services and screenings could be significantly beneficial. Regardless of Medicaid reimbursement status, CHWs lessen the demand on the healthcare system and reduce healthcare costs through outreach and education, care coordination, improving patient compliance and management of chronic conditions, and facilitating access to screenings, leading to earlier diagnosis and treatment (National Center for Chronic Disease Prevention and Health Promotion, n.d.). Community health workers are able to accomplish these tasks relatively inexpensively, compared to the cost of care at a medical provider's office.

While there is some evidence that preconception health education is covered in maternal child health training programs for CHWs, such as *Healthy Start*, there does not appear to be a separate, existing preconception health training for CHWs available. The National Preconception Health and Health Care initiative (PCHHC) has created a series of five one-hour webinar-style modules about preconception health, but these are aimed at clinical staff. Although CHWs may be integrated into clinical settings, their role is uniquely different than a medical provider's.

Through the delivery of a training needs assessment for community health workers, my goal was to characterize knowledge and skill gaps about preconception healthcare among Michigan CHWs and make recommendations about preconception health training for CHWs. My hope is that the results of this needs assessment can be utilized in a variety of settings to develop preconception health trainings for community health workers that are both appropriate and relevant to them, and as a result, achieve better maternal and child health outcomes in their communities.

Methods

The objective of this Capstone project was to assess: 1) what areas of preconception healthcare Michigan CHWs may need more education on, based on their self-reported levels of knowledge on several preconception health topics; 2) their perceived barriers to incorporating preconception healthcare into their work with their clients; and 3) what type of training would be most useful to them. To accomplish this, I developed a training needs assessment, the results of which can be used to make recommendations about what a preconception health training for CHWs could look like. The training needs assessment consisted of a 33-question survey.

The purpose of a needs assessment is to determine the current state of performance (or knowledge) against the desired state of performance (or knowledge); the difference between these is the gap or the "need" (Stefaniak, 2021). The general steps of a needs assessment are identification of the problem, identification of data sources, data collection, data analyses, and recommendations

(Stefaniak, 2021). In this case, I identified the problem through my background literature review and the apparent gap in research regarding community health workers and preconception healthcare interventions. To gather the data necessary to evaluate this gap, I developed and delivered the training needs assessment specifically for community health workers. The data collected was used to answer the following research questions:

What is the general state of self-reported knowledge on preconception health among Michigan CHWs? Questions #10-14 on the needs assessment were used to answer this question.

How often are CHWs facing barriers to incorporating preconception healthcare into their work? Questions #15-30 were used to answer this question.

What elements would make a preconception health training valuable to CHWs? Questions #30-33 were used to answer this question.

Questions #1-9 were used to collect demographic and work experience information.

Sample

With the advisement of my committee, my goal was to receive at least 35 responses from community health workers who are currently employed or volunteering in Michigan. The respondents could be employed full-time, part-time, or be a volunteer with any CHW-employing organization in Michigan, for example community-based organizations, health care systems, hospitals, federally qualified health centers, local or state health departments, etc. The respondents were not required to have experience in preconception or maternal child health (MCH). Although the feedback of CHWs with MCH experience is valuable, a preconception health training, once developed, would not be exclusively useful to CHWs already working in the MCH field. Since CHWs may encounter individuals who would benefit from preconception healthcare services in a variety of different settings, I felt it would be beneficial to collect feedback from as many CHWs as possible.

Participants were individuals self-identified as community health workers. Participants were provided the American Public Health Association's definition of a CHW (below) and asked to confirm whether they function as a CHW in their current role, even if their job title was not 'community health worker.'

The Community Health Workers Section of the American Public Health Association has adopted the following definition of a CHW:

> *"A community health worker is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. A community health worker also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy."* (American Public Health Association, n.d.)

Procedure

Participants were invited to participate via email blast with a link to the survey (Appendix B). The survey was emailed to a listserv of members of the Michigan Community Health Worker Alliance (MiCHWA), the professional association for community health workers in the state of Michigan. Before taking the survey (Appendix B), participants were required to read and attest their agreement to an informed consent form (Appendix A).

To enhance validity, the survey was piloted with four community health workers. Feedback was gathered from the pilot testers via an additional questionnaire at the end of the main survey (Appendix C). The questions were focused on how easy the survey was to understand, if the questions seemed relevant to CHWs, and how long it took them to take the survey. Pilot testing allows for evaluation of the length of the survey, the relevance and understandability of the questions, and provides the opportunity for important revisions prior to wider distribution. Finally, while CHWs have often been engaged as data collectors in public health research, they are rarely full partners in all stages of

evaluation and research (Rodela et al., 2021). There were no major edits or revisions to the training needs assessment based on the pilot testing.

Data collection

Responses were collected through a Google form survey. The survey link was sent out on August 5th, 2024, and was closed on August 11th, 2024, when a little over 100 responses were obtained.

The survey contained a mix of multiple choice and Likert scale questions. After determining the domains of interest, questions were drafted using Centers for Disease Control and Prevention (CDC) definitions and resources and were then refined with the feedback of Capstone committee members. The questions were essentially grouped into four domains:

Demographics. Demographic data were collected including race, ethnicity (Hispanic or non-Hispanic), gender identity, age, level of education, number of years working or volunteering as a CHW, and communities worked in (rural vs. urban). In addition, participants were asked whether or not they currently work or volunteer as a CHW with people who are pregnant.

There was also a question asking respondents whether or not they received any education about preconception healthcare during their CHW certification training (if applicable). In Michigan, CHWs are not legally required to be certified to be hired and function in their job roles. However, they are required to be certified through a Michigan Department of Health and Human Services-approved CHW training program or be approved for a work experience pathway that leads to certification by December 31st, 2025, in order to bill for services under the new Medicaid policy (MMP 23-74). Gaining an understanding of whether or not preconception health is a topic covered by CHW certification training programs could be valuable in determining the need for a training on this subject.

Knowledge base. The survey contained five Likert-scale questions intended to assess respondents' self-reported knowledge about the following preconception health topics: unplanned pregnancy, pregnancy spacing, nutrition and supplements, fertility awareness, and vaccinations and

preventative care. The participants rated their self-reported level of knowledge on these topics, from 'not knowledgeable at all' to 'extremely knowledgeable.'

Community needs and current barriers. There were 16 survey questions intended to assess how often CHWs have observed preconception health needs with their clients, how often they are discussing the identified preconception health topics in their current scope of work, and what their perceived barriers are to providing information about these topics to their clients. These questions were Likert scale questions that participants rated from 'never' to 'very often.'

Training benefit and preferences. There were three questions intended to assess the value of a preconception health training to CHWs, how many hours they would be willing to commit to such a training, and what training format they would prefer (in-person, hybrid, synchronous virtual, or asynchronous).

Data analysis

I used descriptive statistics to analyze the data collected through this needs assessment.. Descriptive statistics procedures are commonly used to describe and summarize the characteristics of a data set (Cooksey, 2020). The survey questions that were used to answer my research questions were mostly Likert scale, which is a validated and scientific method of measuring individuals' attitudes (Joshi et al., 2015). Likert scale questions can be considered ordinally scaled data, appropriate for nonparametric analysis (Joshi et al., 2015). Therefore, respondents' self-reported knowledge and attitudes could be analyzed using descriptive statistics including measures of central tendency, variability or spread, and frequency distribution (Joshi et al., 2015). The validity of the Likert scale increases and the potential of ambiguity in responses tends to be lower when the questions and response options are relevant and contextual for the respondent (Joshi et al., 2015). Pilot testing the survey with CHWs prior to general distribution was intended to help ensure the relevance of the questions.

The Likert scale questions with five response options were modified into binary (or dichotomous) variables so that the results could be interpreted in an easily understandable way. The original variables had five response options, and the variables I created have only two (yes/no): knowledgeable/lack of knowledge; interaction/lack of interaction; informational needs/lack of informational needs; and barriers/lack of barriers.

For the knowledge domain questions, I defined 'lack of knowledge' as having responded not sure, somewhat unknowledgeable, or not knowledgeable at all, and 'knowledgeable' as having responded somewhat knowledgeable or extremely knowledgeable. I created this variable so that I could better characterize the extent of the participants' knowledge gap.

For the questions about CHWs' interactions with their clients, I defined 'lack of interaction' as having responded not sure, rarely, or never, and 'interactions' as having responded sometimes or very often. I created this variable to more easily show the extent of CHWs' lack of regular interactions with their clients about preconception health.

For the questions about observation of clients' informational needs, I defined 'informational needs' as having responded sometimes or very often, and 'lack of informational needs' as responding not sure, rarely, or never. I created this variable to better characterize how rarely CHWs report observing informational needs with their clients.

For the questions about the barriers to providing preconception healthcare services, I defined 'barriers' as having responded sometimes or very often, and 'lack of barriers' as responding not sure, rarely, or never. I created this variable to better characterize how often CHWs are experiencing barriers.

For the questions in the knowledge base domain, I reported out the percentage of respondents that had a lack of knowledge and summarized these data in a graph. Additionally, I fully reported the distribution of participants who responded 'no knowledge at all,' 'somewhat unknowledgeable,' 'not sure,' 'somewhat knowledgeable', and 'extremely knowledgeable' for the five preconception health

topics in Appendix D of this paper. These data were used to discuss and answer my first research question, 'What is the general state of self-reported knowledge on preconception health among Michigan CHWs?'

Next, I reported out the distribution of responses across the categories of the community needs and barriers questions. The percentage of CHWs experiencing barriers and observing their clients' informational needs were summarized, as well as the percentage of CHWs not interacting with their clients about preconception health. Additionally, I reported the percentages of respondents who indicated 'never', 'rarely', 'not sure', 'sometimes', and 'very often' to these questions in more detail in Appendix D. These data were used to discuss and answer my second research question, 'How often are CHWs facing barriers to incorporating preconception healthcare into their work?'

Regarding the training benefit and preferences, I reported out the percentage of respondents who indicated they would find a preconception health training useful in their work as a CHW. I also reported the average number of hours that respondents reported being willing to spend on such a training. Finally, I reported out the percentage of respondents who preferred each training format type. I used these results to discuss and answer my third research question, 'What elements would make a preconception health training valuable to CHWs?'

Human Subjects Statement

As determined by the Institutional Review Board Office of Regulatory Affairs at University of Nebraska Medical Center, this project does not constitute human subject research as defined at 45 CFR 46.102. Therefore, it is not subject to the federal regulations and does not require IRB review. No further action is required.

A copy of the determination is included with this proposal.

Results

Pilot test

The training needs assessment was first pilot tested by four community health workers prior to general distribution. The pilot testers were instructed to complete the entire survey and then answered three questions related to their experience. All of the pilot testers agreed that the survey questions were relevant to CHWs' work, with three responding that they strongly agreed and one responding that they somewhat agreed.

When asked if there were any questions that they weren't sure how to answer in the training needs assessment itself, or the response they would have preferred to give was not an option, all of the pilot testers responded no.

When asked if the survey took the right amount of time to complete, the majority of pilot testers agreed. Two strongly agreed and one somewhat agreed. One participant strongly disagreed.

Demographics

There was a total of 102 responses to the training needs assessment. Table 1 displays the demographic breakdown of the participants. The large majority of participants (89%, n=91) identified as female. About 9% (n=9) identified as male and 2 participants identified as non-binary. None of the participants reported identifying as a transgender man, transgender woman, or Two-Spirit. When selecting their racial identity, participants were permitted to select more than one response, which is why the percentages for this category displayed in Table 1 may add up to more than 100%. The percentages in Table 1 represent how many participants selected that race either alone or in combination with another option. A more thorough breakdown of the responses are as follows: about 52% (n=53) identified as white only; about 36% (n=37) as Black/African American only; less than 1% (n=1) as Asian only; and about 2% (n=2) as American Indian/Alaskan Native only. Two participants identified as Black and white; two identified as American Indian/Alaskan Native and white; one as American Indian/Alaskan Native and Black/African American; and four participants preferred not to answer. No participants identified as Native Hawaiian/Pacific Islander.

With regard to Latinx or Hispanic origin, about 9% (n=9) identified as being Latinx or Hispanic, and 91% (n=93) did not identify as being of Latinx or Hispanic origin.

With regard to age, 6% (n=6) of participants were aged 18-24 and about 21% (n=21) were aged 25-34. About 25% of the participants were aged 35-44 (n=25) and roughly 33% of the participants were aged 45-60 (n=34). Almost 16% of participants were aged 61 or older (n=16).

Level of education varied among participants, although all participants had at least a high school diploma. About 15% (n=15) reported that the highest level of education they had was a high school diploma or G.E.D. and a further 25% (n=25) responded that they had 'some college.' About 22% (n=22) had an associate's or two-year degree, and 28% (n=29) had a bachelor's or four-year degree. Eleven participants, about 11% of the sample, reported having a master's degree or higher. In a later survey question about CHW training specifics, a little over 10% (n=11) of participants indicated that they had not completed a community health worker certification training.

Table 1

Participant demographics

Variable	Number (n)	Percent of total sample %
Total participants	102	
Gender identity		
Man	9	8.8%
Woman	91	89.2%
Non-binary	2	2%
Racial identity		
American Indian/Alaska Native	5	4.9%
Asian	1	1%
Black/African American	40	39.2%
White	57	55.9%
Prefer not to say	4	3.9%
Hispanic/Latinx origin		
Hispanic or Latinx	9	8.8%
Not Hispanic or Latinx	93	91.2%
Age		
18-24	6	5.9%
25-34	21	20.6%
35-44	25	24.5%
45-60	34	33.3%
61+	16	15.6%
Education		
H.S. diploma or GED	15	14.7%
Associate's or 2-year degree	22	21.6%
Bachelor's or 4-year degree	29	28.4%
Some college	25	24.5%
Master's degree or higher	11	10.8%

Table 2 displays the percentage of participants who reported having experience working or volunteering with pregnant people as well as their years of experience in general as a community health worker. The number of participants reporting experience working with pregnant people or not was roughly evenly split, with about 54% (n=55) responding 'yes' and about 46% (n=47) responding 'no.'

Participants were also asked to report their years of experience working or volunteering as a CHW. More than half, about 61% (n=62) of the participants reported having two years or less of experience working as a CHW, and these responses were evenly split, with 31 participants responding less than one year and 31 participants responding 1-2 years of experience. Roughly 23% (n=24) responded that they had 3-5 years of experience in the field, about 8% (n=8) responded 6-10 years, and another 8% (n=8) had more than 10 years of experience.

Table 2

Years as a CHW and MCH experience

Variable	Number (n)	Percent of total sample %
Total participants	102	
Years of experience as a CHW		
<1 year	31	30.4%
1-2 years	31	30.4%
3-5 years	24	23.5%
6-10 years	8	7.8%
>10 years	8	7.8%
Experience with pregnant clients		
Yes	55	53.9%
No	47	46.1%

An additional demographic question was asked which is not represented in Table 1 or Table 2. Participants were asked what type of communities they primarily work in as a CHW and were able to select multiple answers from 'rural', 'small town', 'suburb near a large city' and 'large city.' About 12% of the respondents (n=12) reported working in a rural area only, about 15% (n=15) in a small town or city only, about 15% (n=15) in a suburb near a large city only, and about 35% (n=36) in a large city only. Roughly 10% (n=10) answered that they worked in both a rural area and small town or city. Four respondents reported working in both a suburb near a large city and a large city; two in both a small town and a suburb near a large city; one in both a small town and large city; one in rural, suburb, and large city; three in rural, small town, and suburb; and three participants reported working or volunteering in all of the types of communities provided.

Preconception health knowledge

When asked whether or not their community health worker training course provided any educational modules specifically about preconception health, about 17% (n=17) responded yes. Roughly 35% (n=36) responded no, 37% (n=38) responded not sure or they didn't remember, and about 11% (n=11) responded that they had not completed a CHW certification training course.

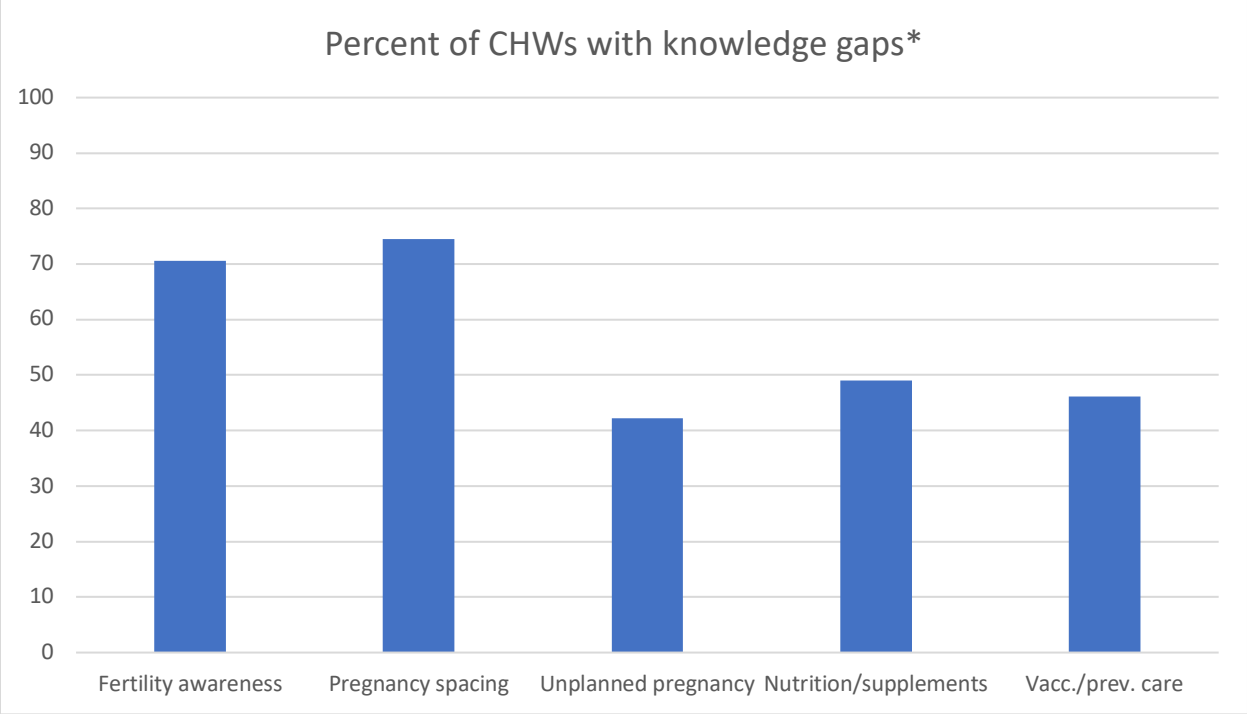
Participants were asked to rate their level of knowledge between 1-5, with one being not knowledgeable at all and five being extremely knowledgeable, on the following topics as they related to preconception healthcare: fertility awareness, pregnancy spacing, unplanned pregnancy, nutrition and supplements, and vaccinations and preventative care. These data are summarized in Figure 1 and a more detailed breakdown of the results is available in Appendix D.

The percentage of participants with a lack of knowledge was about 71% for fertility awareness; 75% for pregnancy spacing; about 42% for unplanned pregnancy; 49% for nutrition and supplements; and about 46% for vaccinations and preventative care.

Across all five preconception health topics, at least 40% of CHWs reported a lack of knowledge. The knowledge gap was most evident in the topics of pregnancy spacing and fertility awareness. Knowledge levels were higher for unplanned pregnancy, nutrition and supplements, and vaccinations and preventative care.

Figure 1

Percent of CHWs with knowledge gaps in preconception healthcare



**Defined as responding not knowledgeable at all, somewhat unknowledgeable, or not sure.*

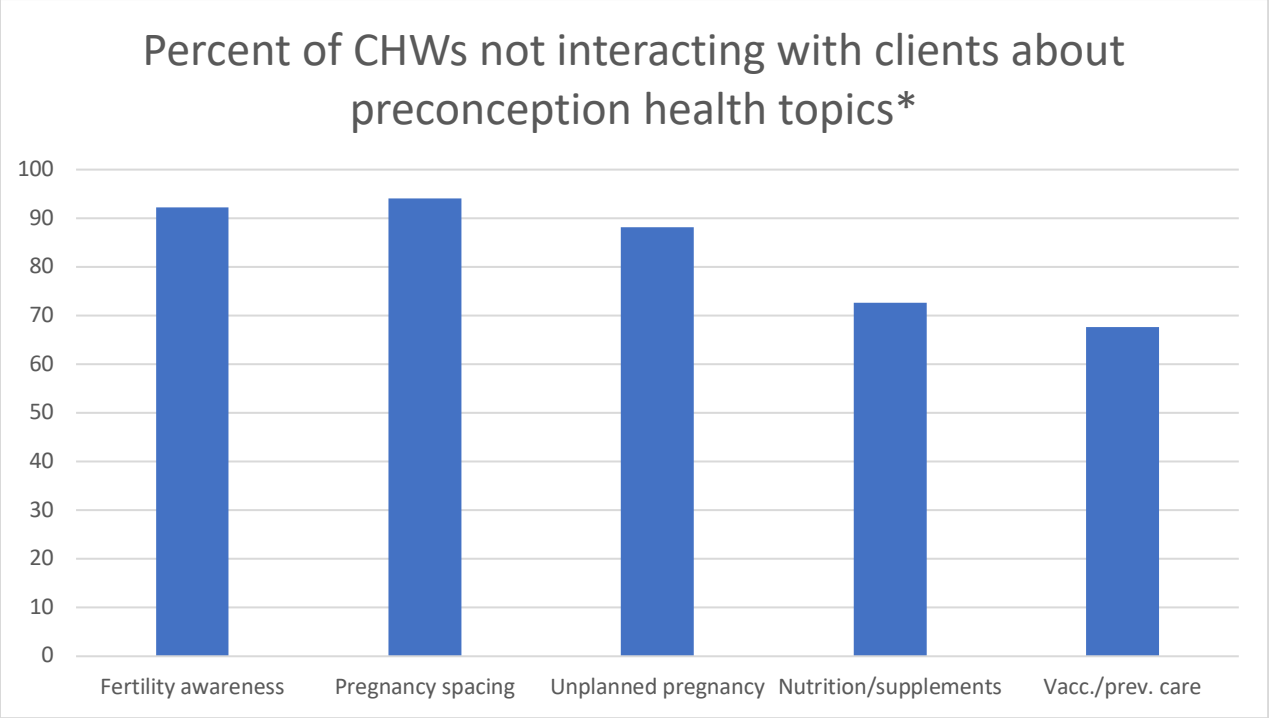
Interactions with clients about preconception healthcare

Participants were asked how often they currently talk about the preconception healthcare topics with their clients. They were asked to respond from 1-5, with one being 'never', two being 'rarely', three being 'not sure', four being 'sometimes', and five being 'very often'. These data are summarized in Figure 2 and a more detailed breakdown of the results can be found in Appendix D.

The percentage of participants reporting a lack of interaction was about 92% for fertility awareness; 94% for pregnancy spacing; 88% for unplanned pregnancy; 73% for nutrition and supplements; and about 73% for vaccinations and preventative care as well.

Figure 2

Percent of CHWs not interacting with clients about preconception health topics



**Defined as self-reporting their frequency of interaction with clients about these topics as never, rarely, or not sure.*

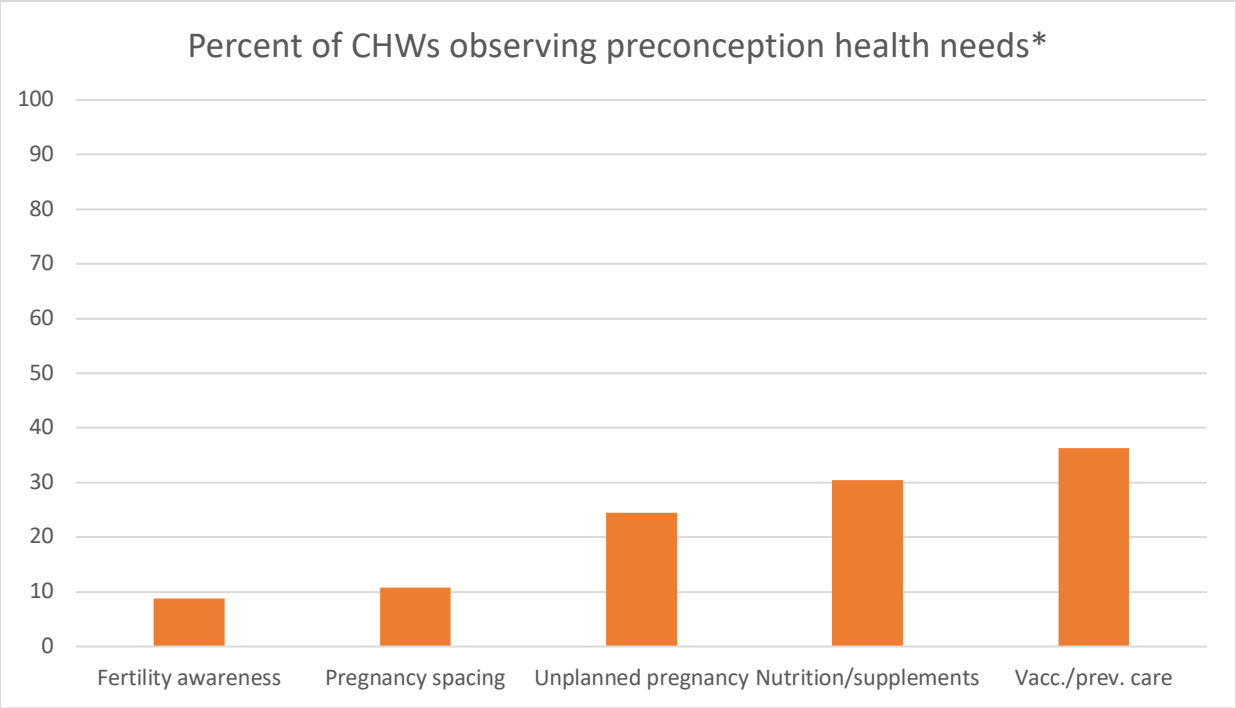
Perception of clients' informational needs

Participants were next asked to respond with how often they have observed their clients having informational needs related to any of the preconception healthcare topics. They were asked to respond from 1-5, with one being 'never', two being 'rarely', three being 'not sure', four being 'sometimes', and five being 'very often'. The percentages of participants reporting informational needs from their clients is summarized in Figure 3 and a more detailed breakdown of results can be found in Appendix D.

The percentage of participants observing informational needs from their clients was about 9% for fertility awareness; 11% for pregnancy spacing; 25% for unplanned pregnancy; 30% for nutrition and supplements; and about 36% for vaccinations and preventative care.

Figure 3

Percent of CHWs observing informational needs



**Defined as self-reporting that they very often or sometimes observed their clients having informational needs about preconception health.*

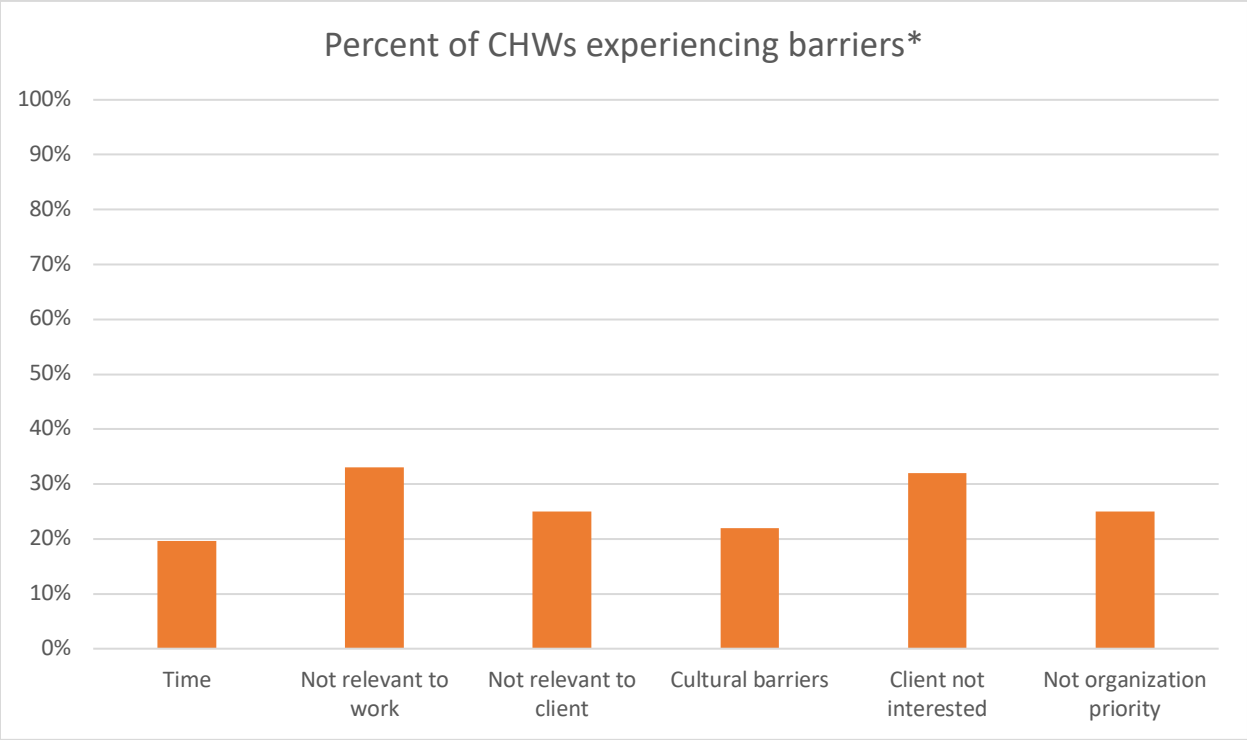
Perceived barriers to providing preconception healthcare services

In the next section of the survey, participants were asked to rate how often they experience certain barriers to providing preconception healthcare services to their clients. They were asked to respond from 1-5, with one being 'never', two being 'rarely', three being 'not sure', four being 'sometimes', and five being 'very often'. The percentages of participants reporting barriers are summarized in Figure 4, and graphs for each individual barrier are available in Appendix D, along with a more detailed breakdown of the results.

The percentage of participants reporting barriers is as follows. About 20% of participants indicated that time constraints were a barrier; 33% that preconception healthcare was not relevant to their work as a CHW; 25% that preconception healthcare was not relevant to the clients they serve (due to age, gender, etc.); 22% said that clients' cultural beliefs were a barrier; 32% reported that they felt their clients weren't interested in preconception healthcare services; and 25% said that preconception health not being a priority for their employing organization was a barrier.

Figure 4

Percent of CHWs experiencing barriers to providing preconception healthcare services



**Defined as self-reporting that they very often or sometimes experienced these barriers to providing preconception healthcare services.*

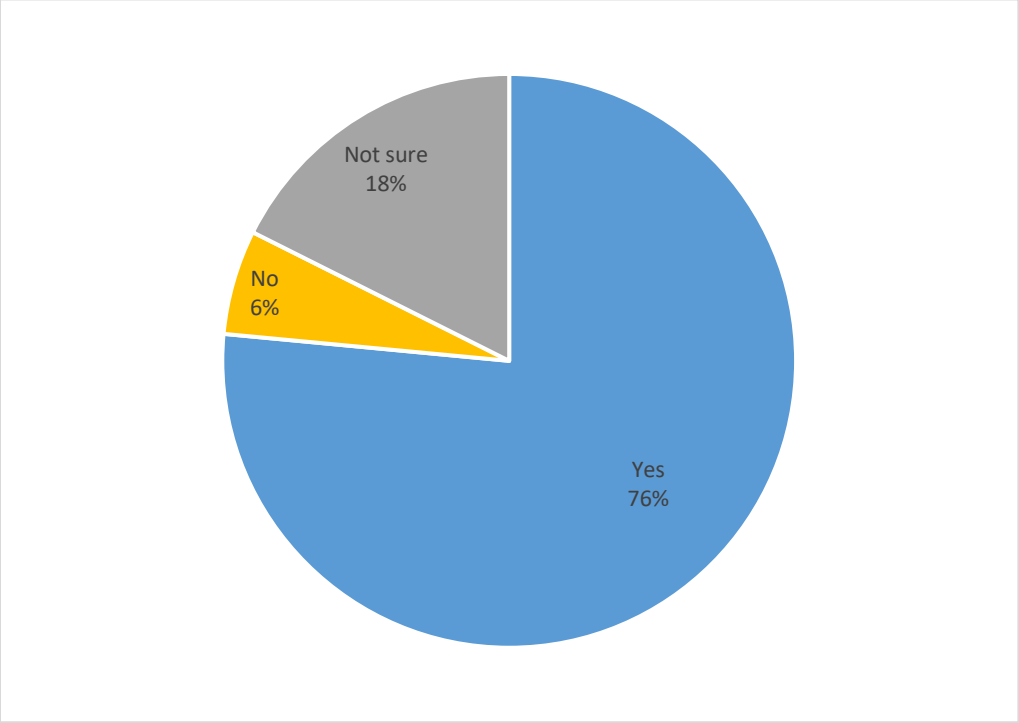
Training preferences

In the final section of the training needs assessment, participants were asked about their preferences related to a preconception health training for community health workers. When asked if they would complete such a training, if it were offered for approved CHW continuing education credits,

more than three-quarters (77%, n=78) responded yes. Only about 6% (n=6) responded no, and about 18% (n=18) were not sure (see Figure 5).

Figure 5

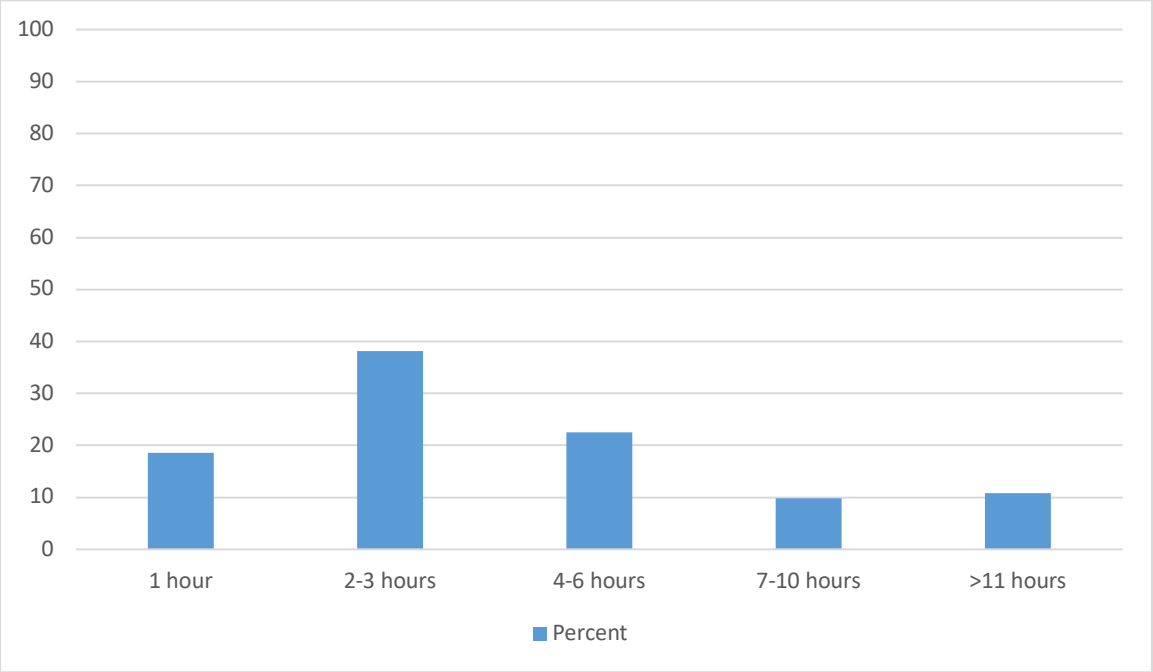
Perceived usefulness of a preconception health training for CHWs



Participants were next asked how many hours they would be willing to commit to such a training if it was offered (Figure 6). Roughly 19% (n=19) responded they would be willing to commit about one hour, 38% (n=39) indicated two to three hours, 22% (n=23) indicated four to six hours, 10% (n=10) indicated seven to ten hours, and about 11% (n=11) responded that they would be willing to commit eleven hours or more.

Figure 6

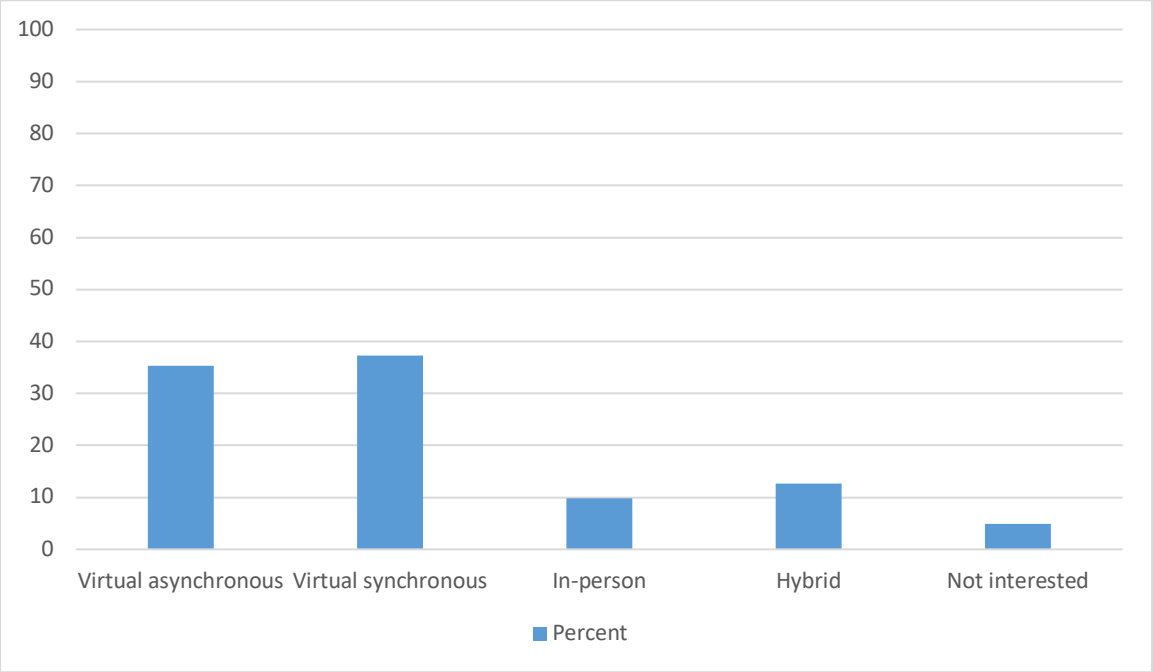
Hours CHWs would be willing to commit to training



Finally, participants were asked which training format would be most convenient for them to complete such a training (see Figure 7). The options were virtual asynchronous (online, self-paced learning), virtual synchronous (for example, attending class on Zoom with an instructor at specified times), in-person, hybrid (a combination of in-person and virtual learning), and not interested. Over a third (35%, n=36) preferred a virtual asynchronous training and about 37% (n=38) preferred a virtual synchronous option. Almost 13% (n=13) preferred a hybrid training, about 10% (n=10) preferred a completely in-person training, and only 5% (n=5) said they were not interested in a training.

Figure 7

Preferred training format



Discussion

Summary of findings

The results of this training needs assessment included the following key findings:

- The general state of self-reported preconception healthcare knowledge among Michigan's community health workers is low.
- The majority of CHWs who responded are not currently interacting with their clients about preconception health topics. At the same time, the barriers to having these interactions were relatively low.
- Finally, the majority of CHWs who responded would find a preconception health training beneficial if it was offered.
- These results support that providing a preconception health training for community health workers would be beneficial.

The purpose of this training needs assessment was to answer the following research questions: 1) What is the general state of self-reported knowledge on preconception health among Michigan CHWs?, 2) how often are CHWs facing barriers to incorporating preconception healthcare into their work?, and 3) what elements would make a preconception health training valuable to CHWs? Each of these questions were answered, and the implications are addressed below.

Based on the results of the training needs assessment, the general state of self-reported knowledge about preconception health among Michigan community health workers is low. This could be due to a lack of awareness about preconception health in general, not just among community health workers but other professionals including doctors and other healthcare providers. Research has found that healthcare providers also report a lack of knowledge on preconception healthcare and as well as a lack of clarity on their role in providing such care (Goosens et. al., 2018). So, while this is not a problem specific to community health workers, they could be part of the solution. CHWs trained in preconception healthcare can become key conveyers of information to clients who may be uninsured or otherwise can't get to a doctor regularly, or who may have a doctor who is not prioritizing preconception health counseling with them for some reason. The relationships that CHWs are able to build with their clients and communities are based on trust and mutual understanding, whether that be a shared language, culture, ethnicity, geography, ability, health status, or any number of other things. Increasing CHWs' knowledge about preconception healthcare and providing them with the skills and information to counsel others has the potential to get vital preconception health information into communities that aren't being adequately served by the healthcare system and can help create new linkages to care and information among the most at-risk.

The results of the training needs assessment showed that the majority of community health workers are not regularly facing barriers to providing preconception healthcare services. The most common barriers were being unsure if clients were interested in preconception healthcare services, and not

perceiving preconception healthcare services as being relevant to their work as a CHW; each of these were reported as barriers by one-third or less of the participants. According to state Census data, approximately 35% of Michigan's population in 2022 was aged 18-44, which is nearly 3.5 million people (Michigan Vital Stats, 2022), so although participants were not specifically asked about how many clients of reproductive age they were regularly interacting with (this is discussed more under 'Limitations'), individuals in this age range make up over a third of the state's population and currently represent the largest of the reported age groups (those being under 18, 18-44, 45-64, and 65 or older). Given this large proportion of reproductive aged residents, it is both reasonable and beneficial to expect Michigan's community health workers to become knowledgeable on preconception healthcare.

Additionally, since the majority of participants also reported that they were not regularly interacting with their clients about preconception health, that could be a potential explanation for some of them being unsure of their clients' interest – if they are not discussing preconception health with their clients, CHWs have no way of gauging their clients' interest or needs related to it. It is also possible that these barriers, particularly the perception that preconception healthcare is not relevant to their work as a CHW, could be due to lack of knowledge about preconception healthcare in general.

The results also showed that the majority of community health workers would find a preconception health training useful if it were offered to them for continuing education credit. This is especially promising given that almost half of the participants reported that they don't regularly work with pregnant people, which shows that such a training appears to be relevant and a perceived value for CHWs regardless of the setting they may work in or specific population they may serve. When asked how many hours they would be willing to commit to a training, the most selected answer was about 2-3 hours. The majority of participants reported they would prefer a virtual training option, with asynchronous and synchronous being about equally popular.

Implications

Given the wealth of research available on the positive impact of community health worker interventions in a number of chronic disease prevention and health promotion areas, this training needs assessment has provided a foundation of information for developing the appropriate training for CHWs which will enable them to deliver preconception healthcare services in a similarly beneficial manner. Community health workers in Michigan do not currently possess the knowledge level about preconception health necessary to have regular interactions with their clients about it and be able to identify and address their clients' informational needs related to preconception health concerns. At the same time, the barriers to having these interactions are low, which indicates that given the right training and information, most CHWs could engage with their clients to promote preconception health.

Therefore, in addition to developing a standalone preconception health training that can be taken by community health workers, I would recommend that CHW educational and certification programs add a module about preconception health to their general CHW certification courses. Given the fact that the majority of the CHWs participating in this training needs assessment either reported having no such module in their training or they weren't sure, adding some basic preconception health information – such as the definition of preconception and interconception health, how these might be impacted by the social determinants of health, and why it is important for CHWs and their clients to be aware of preconception health – would be beneficial in at least increasing the baseline knowledge about preconception healthcare among newly-trained CHWs. Since community health worker certification courses are significant time commitments and already have to cover a wealth of information in a relatively short period, having a more in-depth training specifically about preconception healthcare available as a standalone training would be valuable.

The results of this training needs assessment can be applied in several different ways when considering how to best develop preconception health training for CHWs. First, the self-reported knowledge levels can be used to tailor the content of the training. The largest knowledge gaps were in

the topics of pregnancy spacing and fertility awareness, indicating that a training with some targeted focus on those topics may be especially beneficial. The other topics – unplanned pregnancy, nutrition and supplements, and vaccinations and preventative care – are still important and it may be helpful to present education on these topics with specific preconception health examples, since they are broader topics that CHWs are likely to have at least basic knowledge on due to the nature of their work, which was shown through the results of this training needs assessment with CHWs reporting fewer knowledge gaps on these topics in particular.

Although barriers were generally low, it may still be beneficial for a potential training to touch on how to address barriers to providing preconception healthcare services, as well as emphasizing the role of the community health worker in preconception health. The results of this training needs assessment showed that about a third of CHWs did not perceive preconception healthcare as being relevant to the work they do. About another third were unsure whether or not their clients were interested in receiving preconception healthcare services, and a quarter perceived their clients' cultural beliefs to be a barrier. Increasing CHWs' overall preconception health knowledge may help eliminate these perceived barriers by equipping them with the knowledge and skills to overcome them. However, it could also be beneficial to specifically address these issues in a training, for example through case scenarios or role-playing.

The National Preconception Health and Health Care initiative (PCHHC) has created a series of five one-hour webinar-style modules about preconception health aimed at clinical providers. Although CHWs may be integrated into clinical settings, their role is uniquely different to a medical provider, and this training would likely not be appropriate to provide to community health workers. However, the flow and content of these existing modules present a promising idea for what a CHW preconception health training could include. The PCHHC training contains modules focused on reproductive planning, health promotion and preventative care, information about the preconception and interconception periods,

and guidance on respectful care, including cultural humility and how to address common barriers or biases (PCHHC, 2024).

It is also important to take CHWs' preferences into account when developing any training. The results of this training needs assessment showed that almost 40% of participants would prefer a training that was about 2-3 hours, and the vast majority preferred a virtual training format. About an equal number of participants preferred a synchronous vs. asynchronous training. This allows for some flexibility when developing a training, both with the duration and delivery. Although not without its own unique challenges, virtual training does eliminate the need for CHW programs to make arrangements for their CHWs to be off-site at in-person training events and may make it easier for program managers to arrange the appropriate time for CHWs to complete training.

Finally, whenever possible, CHW voice should be kept at the forefront of all stages of educational development. When considering developing a preconception health training for CHWs, I would encourage any program to review the results of this training needs assessment, but to also conduct their own assessments as needed, since not every CHW population will have the same needs. For example, the state of Michigan has several robust CHW certification programs which largely operate virtually, so many CHWs in Michigan are accustomed to online training classes. This could certainly vary by state or region.

Limitations

This project had several limitations. First, the survey relied on self-reporting which had the potential for recall bias (for example, participants may have incorrectly remembered past experiences when answering questions), as well as self-selection bias (for example, participants who were already familiar with preconception health were possibly more or less inclined to take the survey).

Next, the survey was only offered in English and required respondents to have an internet connection and some basic digital literacy to complete it. These are potential barriers to accessibility for

non-English speakers, individuals with disabilities, and individuals who do not have access to a stable internet connection. In addition, because my intention was to keep the survey very brief out of respect for community health workers' time and energy, I was not able to probe with any open-ended questions that may have provided more context or generated specific ideas about what CHWs would like to see in a training.

There was also a potential limitation in the knowledge domain portion of the survey. Although participants were asked to consider their level of knowledge on all of the presented topics in relation to preconception healthcare only, for which they were provided a definition, their level of knowledge about vaccinations and preventative care and nutrition and supplements as broader health topics may have caused participants to report higher levels of knowledge on these two topics in particular.

Next, regarding the questions about clients' informational needs, while Census information was available regarding the percentage of people in the state of Michigan who are reproductive aged (18-44 years old), there was no data available about approximately how many individuals of this age are served by CHWs statewide each year. For this reason, it may have been more useful to ask CHWs about how many clients they regularly serve in this age range as well, rather than just asking them to gauge their clients' informational needs about preconception health without the context of knowing how many reproductive-aged clients they're actually interacting with.

Additionally, the sample size of 102 participants represents only a small portion of the thousands of community health workers actively working or volunteering in Michigan (the state admits that their estimate of approximately 1,650 CHWs is likely an underrepresentation). However, I hope that this potential limitation was mitigated by the fact that my sample was very similar demographically to the sample from the 2023 Michigan Community Health Worker Alliance (MiCHWA) CHW Survey. The MiCHWA CHW Survey is currently the most comprehensive, bi-annual survey of CHWs in the state. In the 2023 MiCHWA CHW Survey, of the respondents (n=226), 54% identified as white, 32% identified as

Black or African American, 11% as Hispanic or Latinx, 4% as American Indian/Alaskan Native, 1% as Asian/Pacific Islander and 0.4% as Arab American or Middle Eastern. As far as gender identity, 87% of respondents identified as female, 13% identified as male, and one respondent identified as non-binary. Nearly all of the CHWs surveyed reported at least a high school education, with 35% possessing a bachelor's degree (MiCHWA, 2023).

Conclusion

The results of this training needs assessment support that Michigan community health workers have knowledge gaps about preconception healthcare and would find a training for CHWs on preconception healthcare to be beneficial. Once appropriately trained, the number of evidence-based interactions CHWs have with their clients about preconception health topics may increase. With more interactions, there will be more opportunities for CHWs to observe clients' informational needs related to preconception health, providing CHWs the chance to help close those need gaps and increase preconception healthcare awareness and access in their communities. My recommendation is that the results of this training needs assessment be used to create a framework for preconception health training for community health workers.

Application of Public Health Competencies

MPHF2: Select quantitative and qualitative data collection methods appropriate for a given public health context.

For this capstone project, I developed and disseminated a training needs assessment for community health workers. I used quantitative data collection methods and secured an IRB determination for my project.

MPF4: Interpret results of data analysis for public health research, policy, or practice.

After developing and disseminating the training needs assessment, I reported the results and analyzed the data. These data can influence future public health practice by being used to inform the creation of a preconception health training for community health workers.

MCHMPH2: Apply the life course perspective in addressing health, diseases and behaviors of MCH populations.

Developing and delivering a training needs assessment for community health workers on preconception health can be considered a life course intervention. The goal of preconception healthcare is to optimize health prior to conception to prevent adverse maternal child health outcomes across the lifespan.

MCHMPH1: Examine the historical development of MCH public policies and practices in the U.S. for federal, state, and local agencies and programs serving MCH populations and analyze the current gaps in MCH services and programs.

For this project I conducted a background literature review on the impact of community health workers on health outcomes and identified an apparent gap in the use of CHWs for the preconception healthcare period. The results of my training needs assessment also revealed that Michigan CHWs do have a gap in preconception health knowledge and would benefit from being trained appropriately on this topic in order to better serve their clients and communities.

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Appendix A

Informed Consent Agreement for Needs Assessment

Survey Title: CHW Preconception Healthcare Training Needs Assessment

Purpose of this Survey: You are invited to participate in a survey about CHWs' knowledge of preconception healthcare. The purpose of this survey is to evaluate the need for a preconception care training for CHWs. This survey is one part of my Capstone project, which is a requirement for graduation from the Master of Public Health program at the University of Nebraska-Medical Center College of Public Health.

In order to participate, you must be at least 18 years of age and identify as a community health worker using the following definition from the American Public Health Association. It is okay if you have a different job title as long as your work follows the definition below:

> *"A community health worker is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. A community health worker also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy."*

Procedures: If you choose to participate, you will answer some questions about your knowledge of preconception healthcare.

Potential Risks and Benefits: It is unlikely that you will experience any risks or discomforts beyond what would be experienced in everyday life by participating. There are no specific benefits associated with participating.

Compensation: To ensure anonymity, there is no compensation available for participation in this survey.

Confidentiality: The data collected in this survey will be anonymous. No personally identifiable information will be collected and the information you choose to provide in this survey cannot be

connected back to you. Results from this survey will be part of my Capstone project which will be available for public download through UNMC Digital Commons upon my graduation.

Voluntary Participation: Your participation in this survey is voluntary and you may choose to not participate or end your participation at any time.

Questions or Concerns: If you have any questions or comments, you may contact Jaclyn VanCamp at jvancamp@unmc.edu.

Consent: *I have read and understand the above consent form. By clicking the "Agree" button to continue to the survey, I indicate my willingness to voluntarily take part in this assessment.*

Appendix B

Training Needs Assessment Questions and Promotion

1. **Please indicate your race by selecting the response(s) that most closely fit your identity. You may select more than one.**

[ ] American Indian or Alaska Native
[ ] Asian
[ ] Black or African American
[ ] Native Hawaiian or Other Pacific Islander
[ ] White
[ ] Prefer not to say

2. **Do you identify as Hispanic or Latinx?**

[ ] Hispanic or Latinx
[ ] Not Hispanic or Latinx

3. **What is your age?**

[ ] 18-24
[ ] 25-34
[ ] 35-44
[ ] 45-60
[ ] 61 or older

4. **What is your gender identity?**

[ ] Man
[ ] Woman
[ ] Transgender Man
[ ] Transgender Woman
[ ] Non-binary
[ ] Two-Spirit
[ ] Other (fill in the blank)

5. **What is the highest level of education you have completed?**

[ ] Some high school
[ ] High school diploma or GED
[ ] Associate's or 2-year degree
[ ] Bachelor's or 4-year degree
[ ] Some college
[ ] Master's degree or higher

6. **What type of community do you primarily work in? (Check any that apply)**

[ ] Rural area
[ ] Small city or town
[ ] Suburb near a large city
[ ] Large city

7. **How long have you worked as a CHW?**

[ ] Less than 1 year
[ ] 1-2 years
[ ] 3-5 years
[ ] 6-10 years
[ ] 10 or more years

8. **Do you have experience working or volunteering as a CHW with people who are pregnant?**

[ ] Yes
[ ] No

Keep in mind the following definition of preconception health as you answer the rest of the questions:

Preconception health is the health of people of reproductive age, when they may become pregnant. Preconception health awareness includes knowing how health conditions and risk factors could affect a pregnancy and unborn baby. Preconception healthcare includes care and interventions provided to make sure people are as healthy as possible before having a baby.

9. **Did your CHW Certification Training provide any training modules specifically dedicated to preconception health?**

[1] Yes
[2] No
[3] Don't remember / Not sure
[4] I have not completed a CHW Certification Training

Please rate your level of knowledge on the following topics <u>as they relate to preconception health</u> (1- Not knowledgeable at all, 5- Extremely knowledgeable):

10. **Fertility awareness**

[1] Not knowledgeable at all
[2] Somewhat unknowledgeable
[3] Not sure / Neutral
[4] Somewhat knowledgeable
[5] Extremely knowledgeable

11. **Pregnancy spacing**

[1] Not knowledgeable at all
[2] Somewhat unknowledgeable
[3] Not sure / Neutral

[4] Somewhat knowledgeable
[5] Extremely knowledgeable

12. **Unplanned pregnancy**

[1] Not knowledgeable at all
[2] Somewhat unknowledgeable
[3] Not sure / Neutral
[4] Somewhat knowledgeable
[5] Extremely knowledgeable

13. **Nutrition and supplements**

[1] Not knowledgeable at all
[2] Somewhat unknowledgeable
[3] Not sure / Neutral
[4] Somewhat knowledgeable
[5] Extremely knowledgeable

14. **Vaccinations and preventative care**

[1] Not knowledgeable at all
[2] Somewhat unknowledgeable
[3] Not sure / Neutral
[4] Somewhat knowledgeable
[5] Extremely knowledgeable

15. **How often do you currently talk about fertility awareness with your clients in the scope of your work?**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

16. **How often do you currently talk about pregnancy spacing with your clients in the scope of your work?**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

17. **How often do you currently talk about unplanned pregnancy with your clients in the scope of your work?**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

18. **How often do you currently talk about nutrition and supplements with your clients in the scope of your work?**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

19. **How often do you currently talk about vaccinations and preventative care with your clients in the scope of your work?**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

20. **How often have you observed your clients having informational needs related to fertility awareness?**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

21. **How often have you observed your clients having informational needs related to pregnancy spacing?**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

22. **How often have you observed your clients having informational needs related to unplanned pregnancy?**

[1] Never
[2] Rarely
[3] Not sure / Neutral

[4] Sometimes
[5] Very often

23. **How often have you observed your clients having informational needs related to nutrition and supplements?**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

24. **How often have you observed your clients having informational needs related to vaccinations and preventative care?**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

Other than lack of training or knowledge on preconception health, how often do you experience these other barriers to providing accurate, evidence-based information on preconception health for your clients?

25. **Time constraints**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

26. **Not sure if clients are interested**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

27. **Client's belief system and/or cultural barriers**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

28. **It is not relevant to the work I do as a CHW**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

29. **It is not a priority for my employer or organization**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

30. **It is not relevant for the clients I serve (due to age, gender, etc.)**

[1] Never
[2] Rarely
[3] Not sure / Neutral
[4] Sometimes
[5] Very often

31. **If a preconception healthcare training for CHWs was offered, for approved CEU credit, would you find it useful for your work as a CHW?**

[1] Yes
[2] No
[3] Not Sure

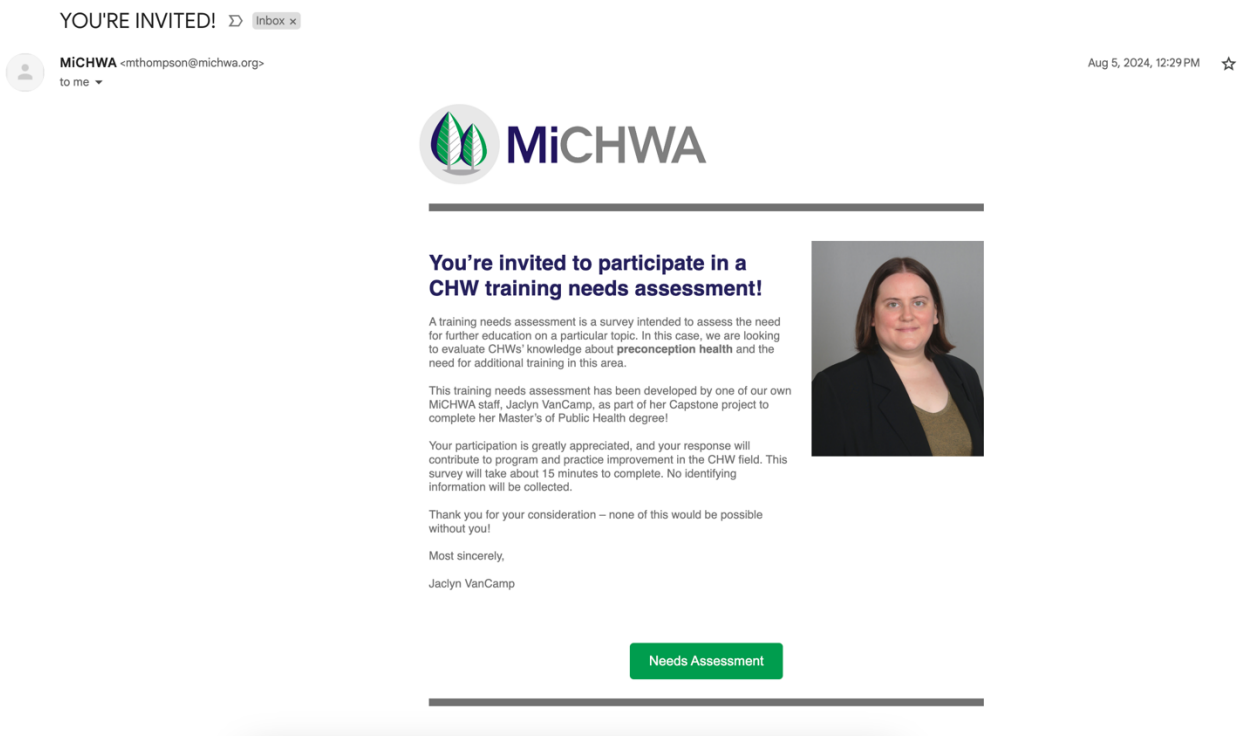
32. **If a preconception healthcare training for CHWs was offered, for approved CEU credit, how many hours would you be able to commit to the training?**

[1] About 1 hour
[2] 2-3 hours
[3] 4-6 hours
[4] 7-10 hours
[5] 11 hours or more

33. **If a preconception healthcare training for CHWs was offered, for approved CEU credit, which training format would be most convenient for you?**

[1] Virtual, asynchronous training (online, self-paced learning)
[2] Virtual training with synchronous learning (for example, attending classes on Zoom with an instructor and other learners at specified times)
[3] In-person training

[4] Hybrid training (a combination of in-person and virtual learning)
[5] I would not be interested in this training



YOU'RE INVITED! Inbox ×

MiCHWA <mthompson@michwa.org>
to me

Aug 5, 2024, 12:29 PM

MiCHWA

You're invited to participate in a CHW training needs assessment!

A training needs assessment is a survey intended to assess the need for further education on a particular topic. In this case, we are looking to evaluate CHWs' knowledge about **preconception health** and the need for additional training in this area.

This training needs assessment has been developed by one of our own MiCHWA staff, Jaclyn VanCamp, as part of her Capstone project to complete her Master's of Public Health degree!

Your participation is greatly appreciated, and your response will contribute to program and practice improvement in the CHW field. This survey will take about 15 minutes to complete. No identifying information will be collected.

Thank you for your consideration – none of this would be possible without you!

Most sincerely,

Jaclyn VanCamp

Needs Assessment

Appendix C

Pilot Test Evaluation Questions

Thank you for your participation in the pilot test of this assessment. Please answer the following questions about this survey and your experience.

1. **The survey questions were relevant to CHWs' work.**

[1] Strongly disagree
[2] Slightly disagree
[3] Not sure / Neutral
[4] Somewhat agree
[5] Strongly agree

2. **Were there any questions that you weren't sure how to answer, or the response you would have given was not an option?**

[No]
[Yes – Please indicate which question(s)]

3. **The survey did not take too long to complete.**

[1] Strongly disagree
[2] Slightly disagree
[3] Not sure / Neutral
[4] Somewhat agree
[5] Strongly agree

Appendix D

Additional Data and Figures

Preconception health knowledge

On the topic of fertility awareness, roughly 70% of participants were not sure of their level of knowledge or were at least somewhat unknowledgeable. About 7% (n=7) reported being extremely knowledgeable, 23% (n=23) somewhat knowledgeable, 36% (n=37) were not sure, 25% (n=26) somewhat unknowledgeable, and 9% (n=9) not knowledgeable at all.

On the topic of pregnancy spacing, almost three-quarters, 74%, of participants were not sure of their level of knowledge or reported being at least somewhat unknowledgeable. About 9% (n=9) were extremely knowledgeable, 17% (n=17) were somewhat knowledgeable, 29% (n=29) were not sure, 19% (n=19) were somewhat unknowledgeable, and over 26% (n=27) were not knowledgeable at all.

On the topic of unplanned pregnancy, roughly 43% reported being not sure of their level of knowledge or reported being at least somewhat unknowledgeable. About 18% (n=18) were extremely knowledgeable, 40% (n=41) were somewhat knowledgeable, 25% (n=25) were not sure, 11% (n=11) were somewhat unknowledgeable, and about 7% (n=7) were not knowledgeable at all.

On the topic of nutrition and supplements, about half of participants were not sure of their level of knowledge or were at least somewhat unknowledgeable. About 13% (n=13) were extremely knowledgeable, 38% (n=39) were somewhat knowledgeable, 25% (n=24) were not sure, 19% (n=19) were somewhat unknowledgeable and almost 6% (n=6) were not knowledgeable at all.

Finally, on the topic of vaccinations and preventative care, a little less than half of participants were not sure of their level of knowledge or reported being at least somewhat unknowledgeable. Roughly 11% (n=11) were extremely knowledgeable, 43% (n=44) were somewhat knowledgeable, about 25% (n=26) were not sure, 14% (n=14) were somewhat unknowledgeable and almost 7% (n=7) were not knowledgeable at all.

Interactions with clients

On the topic of fertility awareness, over 90% of participants (n=94) reported that they were not sure, rarely, or never talked with their clients about this topic. About 10% (n=10) were not sure, 22% (n=22) responded rarely, and almost 61% (n=62) responded never. About 4% (n=4) responded sometimes, and another 4% (n=4) responded very often.

On the topic of pregnancy spacing, almost 70% of participants (n=71) responded that they never discuss it. Another 16% (n=16) responded rarely, 9% (n=9) were not sure, 2% (n=2) responded sometimes, and 4% (n=4) said very often.

On the topic of unplanned pregnancy, almost half (46%, n=47) of participants said that they never discuss this topic with clients. About 25% (n=25) responded rarely, 18% (n=18) were not sure, 8% (n=8) said sometimes, and about 4% (n=4) said very often.

On the topic of nutrition and supplements, about one-third (32%, n=33) said they never discuss this topic. A further 22% (n=22) responded rarely and about 19% (n=19) were not sure. Almost 19% (n-19) said sometimes, and roughly 9% (n=9) said always.

Finally, on the topic of vaccinations and preventative care, over two-thirds or almost 68% of participants responded that they were not sure, rarely, or never discussed this topic in interactions with their clients. About a quarter (24%, n=24) were not sure, almost 16% (n=16) said rarely, and about 28% (n=29) said never. Roughly 16% (n=16) responded sometimes, and roughly 17% (n=17) responded always.

Perception of clients' informational needs

On the topic of fertility awareness, over half of participants (55%, n=56) responded never, about 22% (n=22) said rarely, and almost 15% (n=15) were not sure. About 8% (n=8) said sometimes, and one participant responded very often.

On the topic of pregnancy spacing, roughly 61% (n=62) said they never observe clients having informational needs. Almost 16% (n=16) said rarely, and 13% (n=13) were not sure. Almost 7% of participants (n=7) responded sometimes, and 4% (n=4) responded very often.

On the topic of unplanned pregnancy, 40% (n=41) said never, 15% (n=15) said rarely, and almost 21% (n=21) were not sure. Roughly a quarter responded that they sometimes or very often observe clients have informational needs about unplanned pregnancy, with about 18% (n=18) responding sometimes and 7% (n=7) responding very often.

On the topic of nutrition and supplements, about a quarter of participants (26%, n=27) responded never, 18% (n=18) responded rarely, and another quarter (25%, n=26) were not sure. Almost a third of participants reported sometimes or always observing clients having information needs about this topic, with almost 21% (n=21) responding sometimes, and about 10% (n=10) responding very often.

On the topic of vaccinations and preventative care, 28% of participants (n=29) responded never, 12% (n=12) responded rarely, and about 23% (n=23) were not sure. Almost 22% (n=22) responded that they sometimes observe clients having informational needs about this topic, and almost 15% (n=15) responded that they very often do.

Perceived barriers

A little less than 20% of participants (n=20) reported sometimes or very often experiencing time constraints as a barrier to providing preconception healthcare services, with about 14% (n=14) responding sometimes, and only about 6% (n=6) responding very often. Roughly 80% of participants reported that time constraints were not a barrier, with almost 30% (n=30) saying never, 21% (n=21) saying rarely, and about 30% (n=31) not sure. See Figure 8.

When asked if they thought their clients not being interested was a barrier, over two-thirds said never, rarely, or they weren't sure. About 20% (n=21) responded never, 11% (n=11) responded rarely, and 36% (n=37) were not sure. About a third of participants said client interest in these topics was

sometimes or very often a barrier, with almost 24% (n=24) responding sometimes and about 9% (n=9) responding very often. See Figure 9.

When asked if their clients' belief systems or cultural factors were a barrier, over 75% of participants said never, rarely, or they weren't sure. About 20% (n=20) said never, 16% (n=16) said rarely, and 42% (n=42) were not sure. Roughly 18% (n=18) said sometimes, and about 5% (n=5) said very often. See Figure 10.

When asked if they thought that preconception healthcare being irrelevant to the work they do as a community health worker was a barrier, about two-thirds of participants responded never (27%, n=27), rarely (10%, n=10), or not sure (30%, n=30). A further 12% of participants (n=12) reported that this was sometimes a barrier, and about 22% (n=22) said it was very often a barrier. See Figure 11.

When asked if they thought that preconception healthcare not being a priority for their employer or organization was a barrier, over 75% of participants said either never (29%, n=30), rarely (15%, n=14), or not sure (32%, n=33). About 9% (n=9) said this was sometimes a barrier, and 16% (n=16) said very often. See Figure 12.

When asked if they thought that preconception healthcare services not being relevant to the clients they serve due to age, gender, etc. was a barrier, about two-thirds of participants responded either never (22%, n=23), rarely (15%, n=15), or not sure (37%, n=38). Roughly 15% (n=15) said sometimes, and 11% (n=11) said very often. See Figure 13.

Figure 8

How often CHWs perceive time constraints as a barrier

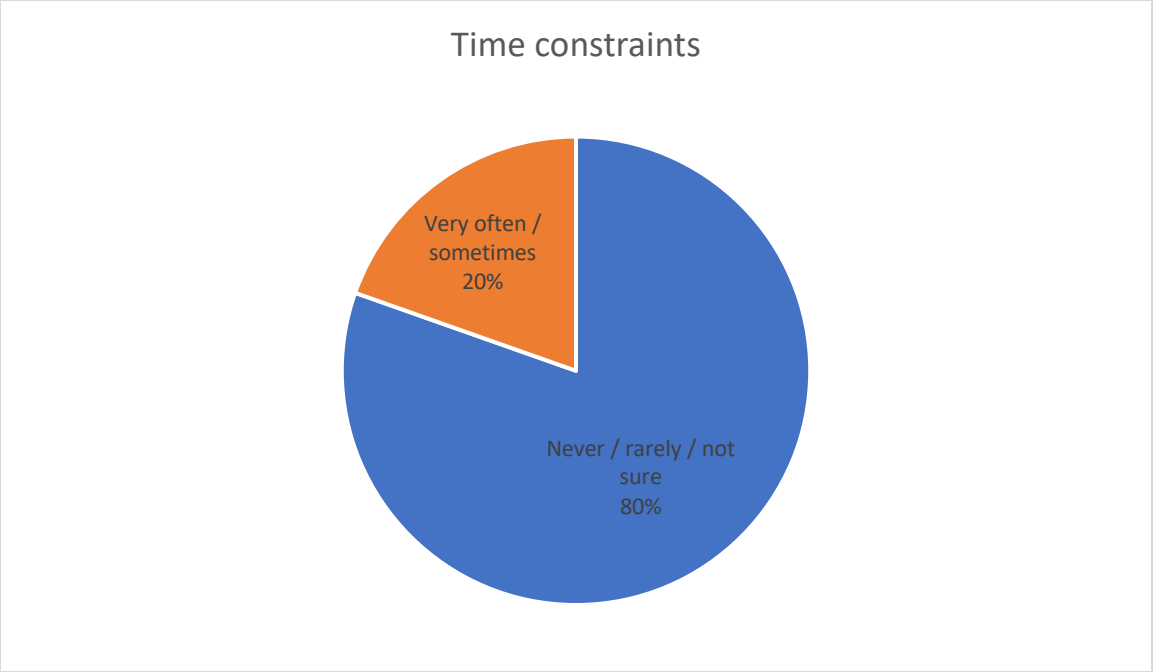


Figure 9

How often CHWs perceive client lack of interest as a barrier

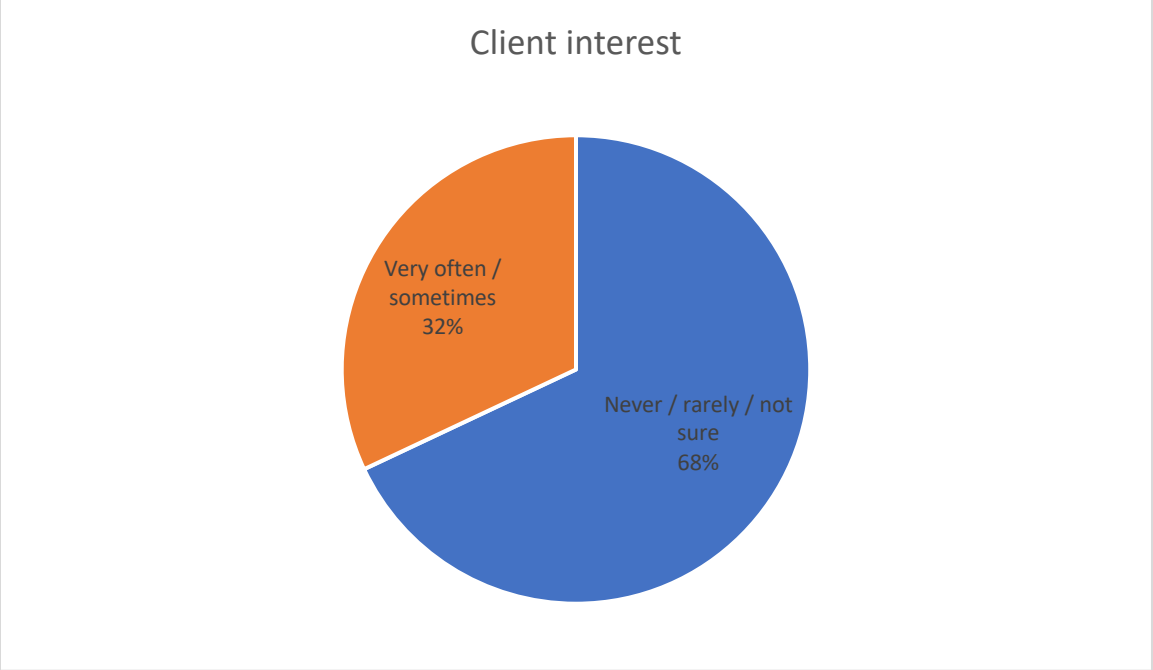


Figure 10

How often CHWs perceive client's cultural beliefs as a barrier

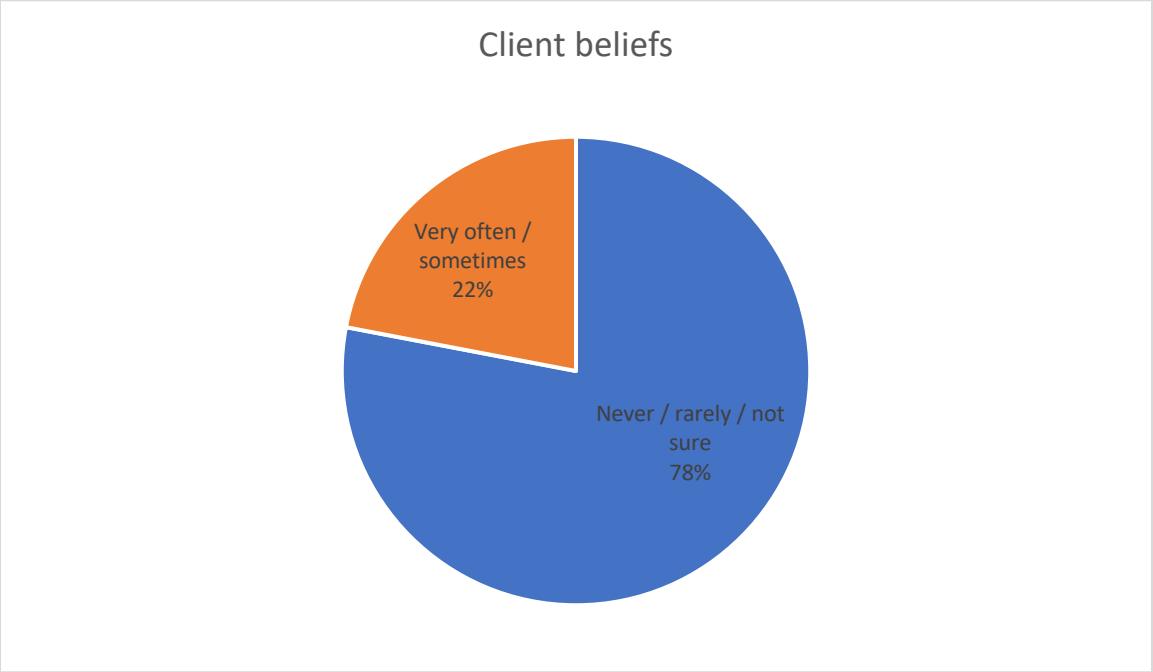


Figure 11

How often CHWs perceive preconception healthcare as not being relevant to their work

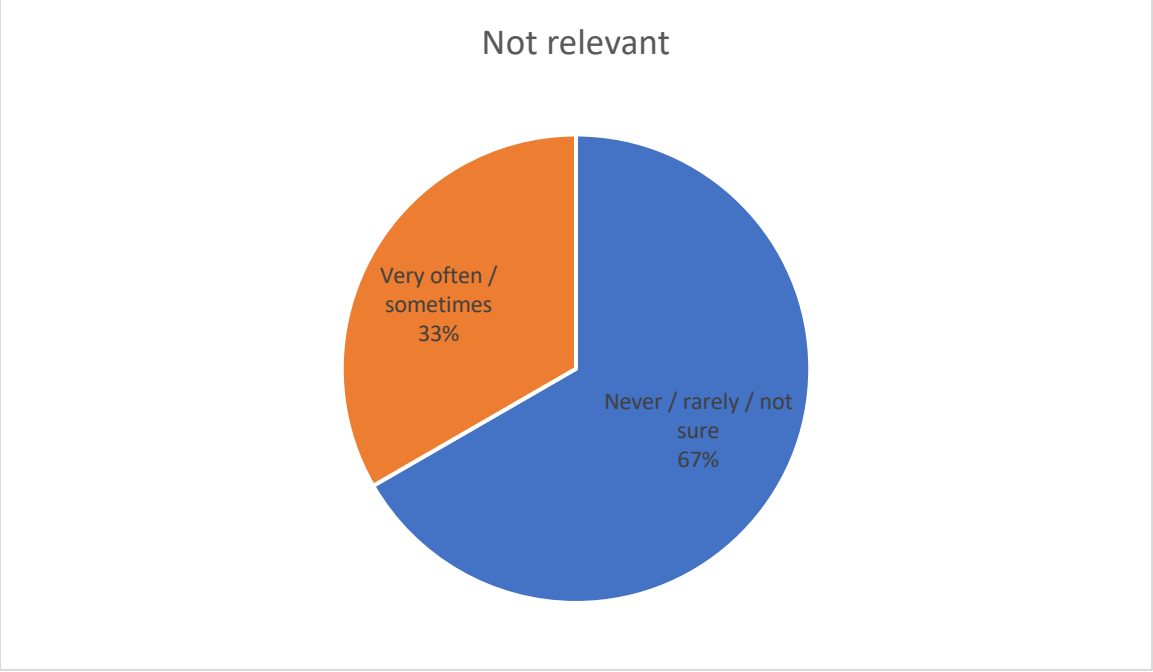


Figure 12

How often CHWs perceive preconception healthcare as not a priority for their organization

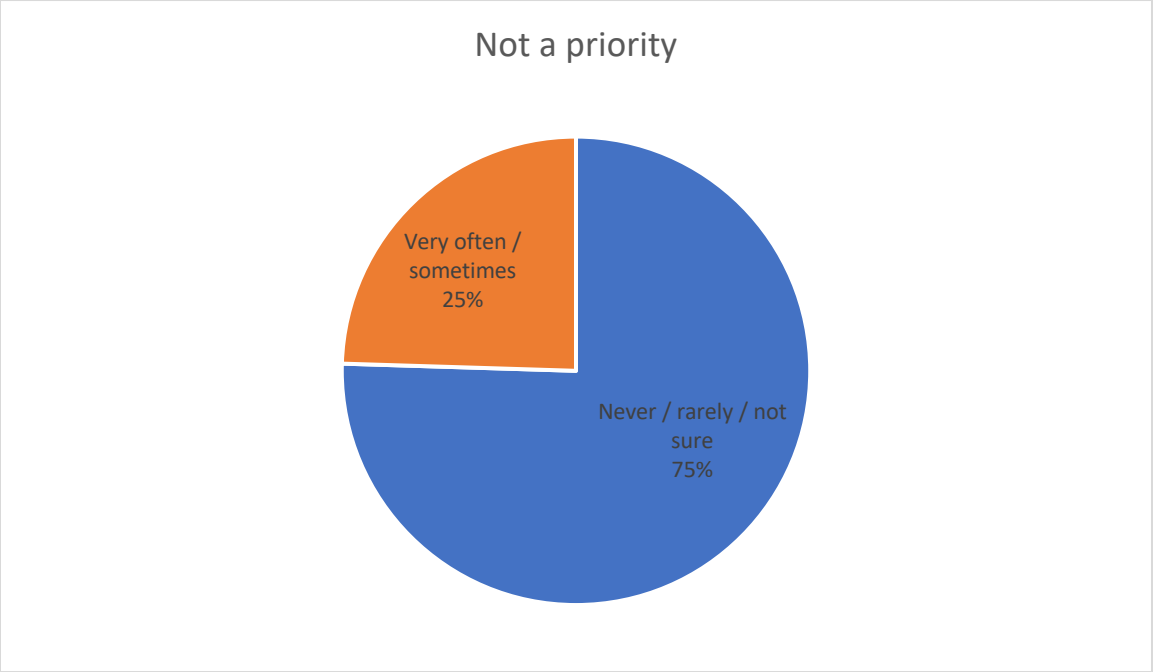
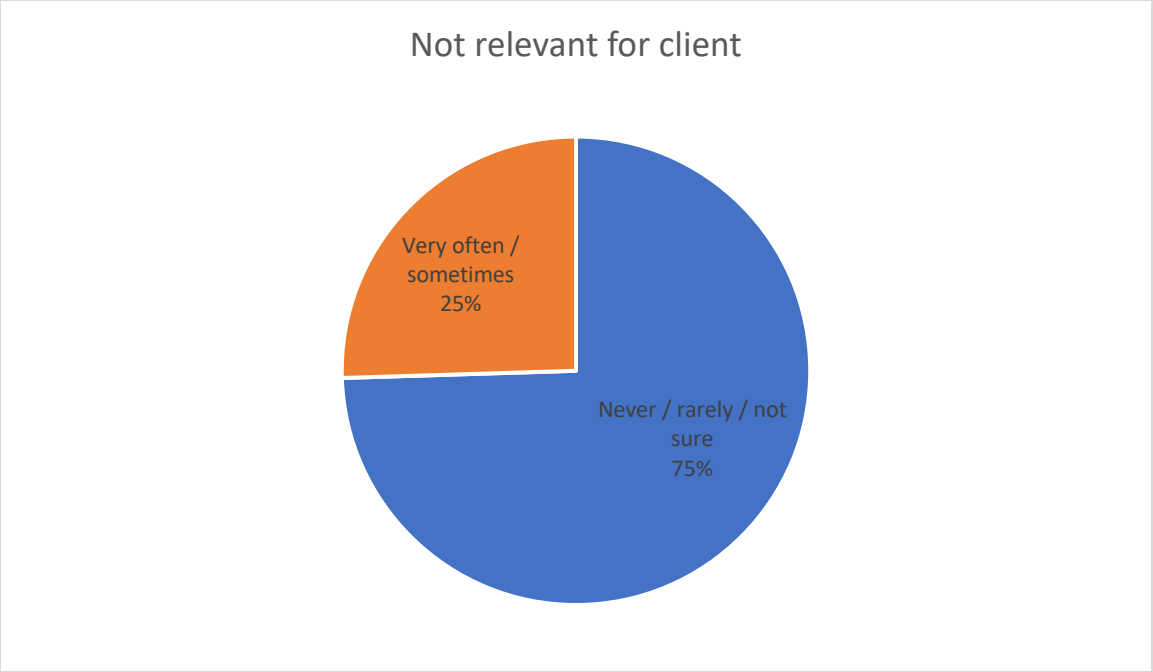


Figure 13

How often CHWs perceive preconception healthcare as not relevant to their client due to age, gender, etc.


Not relevant for client
Very often / sometimes 25%
Never / rarely / not sure 75%