Community Health Workers in the Community Health Center Context: Approaches in the Pacific Northwest

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DEDICATION

In loving memory of my parents

Benjamin Janklewicz Jacobs *z"l* and Hinda Awstreich Jacobs *z"l*

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Keywords/Abbreviations

ACA	Affordable Care Act
CHC	Community Health Center - see FQHC and FQHC LAL below.
CHW	Community Health Worker
DHHS	Department of Health and Human Services – DHHS is a cabinet level department, responsible for eleven divisions including the Health Resources Services Administration (HRSA)] which administers the health center program, as well as ACF, ACL, AHQR, ASTDR, CDC, CMS, FDA, IHS, NIH, and SAMHSA.
FQHC	Federally-Qualified Health Centers include all organizations receiving grants under Section 330 of the Public Health Service Act (PHS). FQHCs qualify for enhanced reimbursement from Medicare and Medicaid, as well as other benefits. FQHCs must serve an underserved area or population, offer a sliding fee scale, provide comprehensive services, have an ongoing quality assurance program, and have a governing board of directors. Health centers that receive cost-based reimbursement for services delivered to patients who qualify for Medicaid or for Medicare
FQHC LAL	Federally-Qualified Health Center Look-Alike: Health centers that meet PHS Section 330 eligibility requirements, but do not receive grant funding; LALs receive special Medicare and Medicaid reimbursement.
HRSA	Health Resources and Services Administration – One of the operating divisions of DHHS.
Medicaid	A federal/state funded program (also known as medical assistance), operated by the state, which provides medical benefits for certain low income persons.
NACHC	National Association of Community Health Centers – The national association that represents community, migrant and homeless health centers.
PCA	Primary Care Association – A state (SPCA) or regional (RPCA) nonprofit organization, federally-funded, representing the interests of its members (primarily community and migrant health centers) and the patients served by its members.

PCMH	Patient-Centered Medical Home – In the medical home model, a patient's primary care office coordinates and tracks the care being provided by specialists and hospitals, and also makes sure that patients follow through on care regimens and follow-up care.
Section 330	Section 330 of the Public Health Service Act statute defines the Federal Health Center Program
S/RPCA	State / Regional Primary Care Association
UDS	Uniform Data System (*UDS*) is a reporting requirement for Health Resources and Service Administration (HRSA) grantees, including community health centers, migrant health centers, health care for the homeless grantees, and public housing primary care grantees.

I. Background and Problem Statement

    a. Study Objectives

The objective of this study is to document the use of those staff that function as Community Health Workers in community health centers and the role they play in patient-centered care teams on the one hand and community health improvement, including the broader idea of health of the population, on the other. My aim is to examine CHW models in place in health centers today, explore and document any gaps, update the models and finally to assess how CHWs might best be deployed to strengthen patient-centered and community-based care, and bridge public health and health center services, all adaptive challenges for health centers.

    b. Background and Context

Community health centers represent the single largest comprehensive primary health care system serving the nation's most vulnerable medically underserved communities. Since the first health centers were opened more than 50 years ago, CHCs have shown the capacity to adapt and flourish, and today operate in more than 9,200 urban and rural locations. Since 1996, the number of patients served by health centers has tripled, and the number served has increased more than 5% in the past year alone.[1]

One reason for the enormous success of community health centers is their connectedness to the communities they serve. Among the key requirements for health centers as defined under the governing legislation set forth under Section 330 of the Public Health Service Act (42 U.S.C. §254b) is that health centers must be governed by community members and that the majority (51%) of each health center's board members must be consumer users of the center. Because health center management reports to the Board, each health center's programs and policies reflect the direct accountability of the organization to the community.

Yet the relationship of health centers to their communities goes well beyond governance and even beyond their important role as direct care providers. Indeed, the nation's first community health centers were launched as a small demonstration program in 1965 as part of the President Johnson's Office of Economic Opportunity, the lead agency of the President's War on Poverty. Another significant element of the War on Poverty was the creation of the Model Cities program, which aimed to foster urban renewal in marginalized communities through the creation of affordable housing alternatives, workforce development, social service programs, job training, and community organizing. Citizen participation was emphasized as a key strategy in the effort to rebuild and rehabilitate blighted urban areas and form a social service infrastructure. Under the Model Cities initiatives, community activists began to rally poor residents to demand and plan for better social services and access to primary and preventative health care emerged as a key issue. With roots in the both the civil rights movement and the War on Poverty, and emerging in urban areas alongside the Model Cities program, the earliest health centers had as their mission no less than using the health care system to change the health and lives of their communities' residents.

Emerging from the Johnson-era programs, health centers have often served as economic engines in their communities, creating job opportunities of various kinds, as well as and career training for local residents. In 2015, according to data from the Bureau of Primary Care, which administers the health centers program under the Health Resources and Services Administration (HRSA), an agency of the U.S. Department of Health and Human Services, community health centers were staffed by 188,851.75TEs. While nearly half of these jobs (48%) were medical personnel (including doctors, dentists, nurses, mental health providers) or ancillary medical staff (such as lab and x-ray techs), about 36% were administrative and operational jobs including non-clinical and facility support, and 9.9% were classified as those providing outreach transportation,

eligibility assistance, and other support. (In addition to the direct employment at health centers, Capital Link, a national non-profit that provides technical assistance for health center capitalization projects, has estimated that CHCs were directly responsible for generating another 169,463 jobs in other industries in 2014.[2]) These data illustrate the extent to which offering good jobs and creating economic opportunity for neighborhood residents has been very much embedded in the fabric of the community health center program since its inception.

Health centers have emphasized both improving the health of the individual through direct care and improving community well-being by, among other strategies, offering employment and promoting broader public and population health goal. Given these objectives, community health workers - those workers who, irrespective of title, have a long-standing relationship to the community and can serve as a bridge between the institution and the residents of the neighborhood with the objective of promoting or enhancing their access to care - would seem a natural fit in health center programs, and many CHCs do include CHWs in their staffing. However a precise count of CHWs in health center settings, or analysis or their roles, has not been published.

Beyond health centers, community health workers are widely used in many health care organizations (as well as in some social service organizations or other institutions) and play an important part in the delivery of health services. In the current literature, CHWs are widely lauded as "part of the solution" to the expansion of health care services generally, and specifically the extension of services to underserved communities. Yet today, those serving in a community health worker capacity continue to have a range of titles and serve in a variety of roles across settings, and sometimes even in different roles within a single setting. Despite the development of a new CHW category by the Department of Labor in 2009, and its inclusion in the Standard Occupational Classification (21-1094) as a defined occupation, information about

precisely how and where CHWs are used remains incomplete, and while definitions of the CHW role would suggest that an important element of their role is their relationship to the communities they serve, core competencies are wide-ranging, not universally defined and not explicitly dependent on community-based relationships. There is no common information base documenting how such health workers are used, hampering the development of sustainable models or at least, of verifiable best practices. Clarification is needed of both the objectives of using CHWs, but also the role, titles and competencies that may comprise best practices.

So, if health centers are the backbone of capacity expansion and community health workers are "part of the solution," to both expanding the reach of the delivery system and improving outcomes, where do CHWs fit in health centers? Focusing on their use and utility in community health centers, my thesis project is intended to examine CHW models in place today, and to assess how CHWs might best be deployed to strengthen patient-centered and community-based care, and bridge public health and health care services, all adaptive challenge for health centers as they seek to strengthen and expand their reach and improve quality of care. This has important implications for health center practice and operations and health center workforce development, both essential components for an effective health care delivery system.

While the Patient Protection and Affordable Care Act (ACA) signed into law by President Obama on March 23, 2010 ⸂42 U.S.C. §18001(a) (2010) - Patient Protection and Affordable Care Act), has already dramatically extended health care coverage to previously uninsured populations, access to health care services is determined not only by insurance status, but by the capacity and availability of those services. In order to expand services, there must be an adequate workforce. Today, Community Health Workers play an important part in the workforce in many settings, and may be a core element in expanding the base of service delivery and

increasing capacity; indeed CHWs are broadly lauded as being "part of the solution," [3] to improving access to care.

Through an initial review of the literature, I have identified several different dimensions to the discussion on the roles and relevance of community health worker that both point to the complexity of the issue, and that I am using to "unpack" the problem. First, CHWs are often recruited from within their communities with the expectation that their personal histories, cultural familiarity, language competencies, and local relationships will help them to be effective, primarily as peer health educators and outreach workers, supporting provider-based efforts to   promote and encourage preventive care. The CHWS are intended primarily to serve as a liaison or a bridge between provider and patient. One example of this perspective on the function of CHWs is expressed by the U.S. Department of Health and Human Services (DHHS) Promotores de Salud/Community Health Workers Initiative. HHS, which established the program in 2011[4] with the intent to develop a national program and database of *promtores* networks, describes as its goals to:

1. Recognize the important contributions of *promotores* in reaching vulnerable, low-income and underserved members of Latino/Hispanic populations, and

2. Promote the increased engagement of *promotores* to support health education and prevention efforts and access to health insurance programs.

But what are CHWs, exactly, and how are they used? The Community Healthworker National Workforce Study (2007), a report prepared by DHHS based on a national survey of CHW employers in all 50 states, as well as interviews and in-depth cases,   says:

Community health workers are lay members of communities who work either for pay or as volunteers in association with the local health care system in both urban and rural environments and usually share ethnicity, language, socioeconomic status and life experiences with the community members they serve. They have been identified by many

titles such as community health advisors, lay health advocates, "promotores(as)," outreach educators, community health representatives, peer health promoters, and peer health educators. CHWs offer interpretation and translation services, provide culturally appropriate health education and information, assist people in receiving the care they need, give informal counseling and guidance on health behaviors, advocate for individual and community health needs, and provide some direct services such as first aid and blood pressure screening.[5]

The Community Healthworker Alliance, a group of diverse stakeholders in Minnesota, developed this alternate definition[6]:

Community Health Workers (CHWs) come from the communities they serve, building trust and vital relationships. This trusting relationship enables the CHWs to be effective links between their own communities and systems of care. This crucial relationship significantly lowers health disparities in Minnesota because CHWs: provide access to services, improve the quality and cultural competence of care, create an effective system of chronic disease management, and increase the health knowledge and self-sufficiency of underserved population.

Both the American Public Health Association and The California Healthworker Alliance build on this definition, and emphasize both the elements of trust that, in their view, enable CHWs to be effective while providing somewhat greater specificity regarding the roles that CHWs fill:[7]

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. This trusting relationship enables the worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. 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. (APHA)

A person who is a trusted member of and/ or who has an unusually close understanding of the community served in the delivery of health-related services through either working directly with providers or their partner organizations. This trusting relationship with the community enables CHWs to serve as a liaison between health and social services and the community to facilitate members' access to services and improve the quality and cultural competence of services delivered. CHWs build 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. (CHWA)

From the above definitions, it is evident that CHWs may provide a range of services intended to improve individual and community health - translation, education, information, informal counseling, patient advocacy, as well as some limited direct clinical services. They serve as outreach workers, health educators and to some extent, ancillary/lay health workers, often in targeted programs such as maternal health or diabetes prevention and control. Perhaps more significantly, though, the CHW is described as providing an important link to the community that offers intangible and tangible health benefits. Karen LeBan, in a report for the USAID, describes the importance of social capital [8] -"*connections among individuals in social networks and norms of reciprocity and trustworthiness that arise from them*" - in global CHW programs and indeed, the importance of CHWs in creating social networks that benefit the community - seems equally significant in the domestic context.

In a recent brief TAKING INNOVATION TO SCALE: Community Health Workers, Promotores, and the Triple Aim[9] (2013) the California Health Workforce Alliance (CHWA), a statewide public-private partnership, " reports on a study to survey the field through a comprehensive survey completed by 121 organizations across the state coupled with case-studies of four California safety-net providers. Their findings underscore the extensive use of

CHWs in safety-net organization today, with 65% of the respondents reporting that they used CHWs, in various capacities.[10] Among the four case-study sites,[11] CHWs were used in diverse capacities, and sometimes in variety of ways even in a single setting: in a high-touch, home-visitation program to prevent unnecessary Emergency Department use (Inland Empire Health Plan's Health Navigator Program); as ER based health educators in a local hospital and its affiliated community health center, to assist uninsured patients with accessing follow-up services (La Clinica de la Raza's Patient Navigator Program); to provide health education, insurance enrollment, in-home environmental remediation, and to support community-led organizing and advocacy (St. John's Well Child and Family Centers); to work with case managers as "Community Connectors" to help bridge the transfer of information (Molina Healthcare's Community Connector Program).

So what, then, is a CHW, as we currently understand the role in the U.S.? First, it is important to note the term "frontline public health worker" as used by the APHA and others. Following an effort by the Robert Wood Johnson Foundation[12] (2005) to define the frontline public health workforce, Patel et al. (2014) define this category as "These individuals often serve as the initial point of contact and/or ongoing peer support for patients and caregivers throughout their health care experience."[13] So as a starting point, CHWs are seen as operating within this framework. As Rosenthal, et al. note,[14] the U.S. Department of Labor recommended in 2009 that a Standard Occupational Classification (SOC) be established for CHWs, and this was subsequently incorporated in the ACA. For the first time in 2010, CHWS are recognized in the SOC under Section 21-1094[15] Community Health Workers. The *SOC* defines the category as including those who*: "Assist individuals and communities to adopt healthy behaviors. Conduct outreach for medical personnel or health organizations to implement programs in the community that promote, maintain, and improve individual and community*

health. May provide information on available resources, provide social support and informal counseling, advocate for individuals and community health needs, and provide services such as first aid and blood pressure screening. May collect data to help identify community health needs. Excludes "Health Educators" (21-1091). Illustrative examples: *Peer Health Promoter, Lay Health Advocate* [16]. A look at the SOC classification indicates that CHWs are categorized within the broad occupational category of "Miscellaneous Community and Social Service Specialists" under the Major Group Community and Social Service Occupations and Minor Counselors, Social Workers, and Other Community and Social Service Specialists. Yet indeed in practice, CHWs continue to perform many different types of roles, paid as well as voluntary, across different settings, and presumably these many roles are subsumed under the general classification. The CHWA study (2013) reported a range of operational roles filled by CHWs, in many types of programs, as well as many different titles in use to define the work of CHWs, and further noted "a potential lack of awareness and use of the Department of Labor's CHW standard occupational classification code."[17] . While the 2007 DHHS report described different models of CHW programs, and the CHWA study provides a deeper view of how CHWs are used by safety-net providers in California, there is currently to the best of my knowledge no single current repository or data set that catalogs where and how CHWs are used, and the full range of title assigned to the role.

A related question to understanding the type of work CHWs perform, and their multifaceted functions in practice, is the drive toward occupational regulation and professionalization of the CHW role, through certification and standardization programs. The sociologist Dr. Eliot Freidson wrote widely on the move toward professionalization in health care and the medical professions[18] and his work may provide a useful lens for viewing the efforts of some states to develop certification programs for CHWs. According to the DHHS report[19],

Texas was the first state to establish a certification program, in 1999, and now requires that programs hire certified CHWs to the greatest extent possible. Ohio's certification program (2003) is administered by the State Board of Nursing.[20] Other states have adopted a variety of approaches[21] including providing authorization to permit CHWs to perform specific tasks (Alaska and Indiana), creating non-mandated certification programs (Minnesota, and Kentucky for example) and developing state – level training standards (Washington and Nevada). In Massachusetts, the State Legislature established a Board of Certification of Community Health Workers in 2010, charged with establishing the framework for curriculum, training education and certification. The CDC Summary of State Community Health Worker Laws reports that as of December 2012, fifteen states and the District of Columbia had enacted policy governing some aspect of CHW use, related to one or more of the following: infrastructure, professional identity, certification or financing.[22] Of those, eight states defined CHW scope of practice as a matter of law, four required certification and one authorized certification, while three authorized and three required a standardized training curriculum.[23]

Yet the proliferation of CHW certification programs, intended among other things to define core competencies, also raises the question of whether certification and standardization are compatible with the efforts to retain the community-based nature and intent of CHW programs. Do certification programs enable lower-skilled workers to develop stronger competencies? Do they provide opportunities for meaningful training, professional development and career enhancement? Or might they, instead, create barriers that impede the recruitment and training of those very individuals who have historically formed the core of CHW programs?

Finally, an additional element that has framed my thinking about the role of community health workers is the efforts of health centers to enhance team-based models of care and begin to address population health needs more directly. The Triple Aim, a framework developed by the

Institute for Healthcare Improvement, describes an approach to optimizing health system performance that seeks to simultaneously support and pursue three dimensions:

- Improving the patient experience of care (including quality and satisfaction);

- Improving the health of populations; and

- Reducing the per-capita cost of health care[24].

In practice, one approach to achieving the goals of the Triple Aim has been through the Patient- Centered Medical Home (PCMH). The PCMH concept, first introduced by the American Academy of Pediatrics, was endorsed in 2007 by the major primary care physician associations as the Joint Principles of the Patient-Centered Medical Home. [25] As defined by the [Agency for Healthcare Research and Quality (AHRQ),](link) a patient - centered medical home is characterized by care that is:

- Comprehensive

- Patient Centered

- Coordinated

- Accessible

- Committed to quality and safety

The PCMH is intended to reduce cost while improving quality and early studies demonstrate the success of the PCMH [26] model. The key attribute of the PCMH is that it be "patient – centered," that is, targeted to meet the unique and holistic needs of each patient and to support their participation in directing and making decisions about their own care. Further, the PCMH is expected to offer comprehensive services, coordinated care across providers within any setting, through the integrated efforts of a team. As delivery organizations work to develop and enhance team-based models of care, CHWs, embedded as they are within the communities they serve,

could prove to be an important asset, assuming that their roles can be well defined so as to be effective, and that the services are sustainable.

c. Problem Statement

Community Health Centers (CHCs), which today serve more than 25 million people nationwide, have long played an important role, were expanded under the Patient Protection and Affordable Care Act (ACA), extending care delivery to the newly insured. To further expand capacity and address the expected demand for care, health centers, along with other providers, will need to recruit both clinician and non-clinician staff. An emerging challenge is how to staff up quickly and in a manner that best meets not only the increase in patient volume, but evolving community needs, as patients age and expanded coverage enables those previously disenfranchised to seek care.

Community Health Workers (CHWs) have been embraced as potential solution to health workforce needs, and it is suggested that CHWs - those workers who have a long-standing relationship to the community and can serve as a bridge between the institution and the residents of the neighborhood with the objective of promoting or enhancing their access to care - might play an increasingly important role as CHCs seek to develop and strengthen patient- or person-centered medical homes, and bridge public health and health center services. This reflects the long-standing view that CHWs can serve both as an extender of the clinician and a bi-directional support, spanning cultural, language and resource challenges. Many health centers have embraced CHWs as part of their delivery model.

Yet two problems emerge. First, it is unclear what the staffing needs are of health centers, what skills mix or professional mix might be best suited to the health center model, and where CHWs might "fit". Further, the very term CHW remains something of a catch-all. Even

within health centers, many of which employ CHWs in some capacity, staff identified as CHWs may provide a diverse array of outreach, education, and ancillary clinical services, and the role is not well-defined, The definition is complicated further because many different titles are used for those serving in a community health worker capacity - including community health advisors, lay health advocates, *Promotoras*, outreach workers, community health representatives, peer counselors, and peer health educators – reflecting the different ways in which CHWs may be used, even within a single setting. In addition, and in part because limited reimbursement and financing have created obstacles to long-term sustainability, there is substantial focus on certification and credentialing the CHW work force. Yet without a clear understanding of the various titles used for community health workers, roles, competencies and models, these efforts seems premature and unlikely to create a sustainable framework for effective programs.

Generally, existing frameworks seem to fall short of documenting the ways in which CHWs are used in health centers and how they might be used in the future. The objective of my thesis is to document and codify the use of those staff that function as Community Health Workers in community health centers and the role they play in patient-centered care teams on the one hand and community health improvement, including the broader idea of the economic health of the community, on the other. I intend to:

- Examine CHW models in place today and explore gaps.

- Update these models.

- Assess how CHWs might best be deployed to strengthen patient-centered and community-based care, and bridge public health and health center services, all adaptive challenges for health centers.

d.   Summary of Research Questions

CHWs are a valuable asset to those they serve directly and a developing asset for the public health system. Yet there are appear to be limitations to understanding the existing the existing models and insufficient information to develop robust and sustainable future models. With health centers as a focal point for service:

 1. What are the characteristics of the CHW models in use today ?

    1. a. (Sub) How are these defined with respect to Titles, Work Focus, Roles/Functions; Settings/Programs; Competencies?

2. How do CHWs address staffing competencies and skills that health centers need to meet the requirements of a rapidly evolving healthcare marketplace, emphasizing care teams, patient-centered care, & medical homes?

    2a. (Sub) how are the core CHW competencies defined?

    2b. (Sub) Do CHW competencies or skills differ across programs, functions, settings? Or are they consistent?

    2c. (Sub) Which competencies are essential for meeting defined CHC needs?

 3.   To what extent do CHW models vary, or how are they similar? what are the key
       unifying elements?
 4.   How can CHW competencies be leveraged to meet new workflow needs as health
       centers develop medical homes and respond to other demands in this changing
       environment?

a .(Sub) To the extent that there core community-dependent attributes of CHWs, how can these be maintained, strengthened or incorporated effectively into CHC settings

e. Leadership relevance and reflections

Safety-net providers face many adaptive challenges as they seek to rapidly expand services and address the needs of a newly insured, clinically complex and aging population. One aspect of the challenge is that of recruiting, developing and training a workforce able to meet the multi-faceted needs of their communities and of transforming existing practices to be truly patient centered. An insufficient and uneven supply of primary care clinicians, and the related efforts to have clinicians work at the top of their license, suggests that ancillary staff such as community health workers could play an increasingly important role. In addition, higher levels of patient engagement, and improved outcomes, might be accelerated where CHWS, with deep ties to their communities and shared experience, culture and language, engage their neighbors as part of a health care team. It is important to understand what staff competencies are needed, and if or how existing CHW models might be adapted to address expected needs for an agile, responsive and truly transformed health care delivery system.

Staffing issues are typically complex, and all the more so when considered in the context of a range of objectives including expanding access, improving care and supporting community development. Hence, the strategies needed to help health centers develop new and sustainable models of care and staffing will need go beyond merely technical, procedural or clinical practice solutions; rather they will require both evidence-based and creative approaches to address local needs within the context of a quickly changing landscape. A deep exploration of how and where CHWs fit into CHCs today and how they might fit new models would contribute to this exploration.

Heifetz describes adaptive leadership as the practice of mobilizing people to tackle tough challenges and thrive, and elaborates on the importance of building on the past rather than discarding it, adopting an experimental approach, creating a culture that values diversity, and allowing adequate time for new norms to take hold that will increase organizational resiliency (Heifetz, et al., 2009). Thinking about how best to strategically use community health workers, and how existing models might be enhanced, replicated or brought to scale is an adaptive leadership challenge with immediate and practical implications, and long term importance. Yet as I have dug deeply into the literature I have been struck by some entrenched views, along with some seemingly incompatible objectives for using health worker staff. This has caused me to reflect on the challenges of practice-oriented research, especially on visible or hot-button topics such as how staff community health workers are trained and incorporated into service delivery models. Marshall Ganz (2008) writes, "Leadership is accepting the responsibility to create conditions that enable others to achieve shared purpose in the face of uncertainty." While I don't assume that more research or evidence will necessarily change long-held beliefs, I do believe that as a leader it is important that I both provide evidence for consideration, and help facilitate a meaningful dialog to move the dial forward.

II. Conceptual and Analytical Framework

    a. Introduction to the Conceptual Framework

Recently Joseph Naimoli and colleagues (October 2014) published a "Generic CHW Logic Model." The result of two years of work, supported by US AID and others organizations, the model is based on collection of evidence from over 100 experts globally. The model puts community healthworker performance at the center, and suggests that strong performance of CHWs is a function of program-level activities that are reinforced and brought to scale by system-level activities.[27] Several contextual factors are also identified that influence CHW programming, system functioning, and CHW performance. Naimoli et. al intend the model to inform CHW program in Low and Middle-Income (LIMC) countries, but they note that in practice, CHW programs have proliferated without an evidence base that defines optimal performance or establishes efficient and effective performance strategies, a challenge facing programs in the US as well as globally.
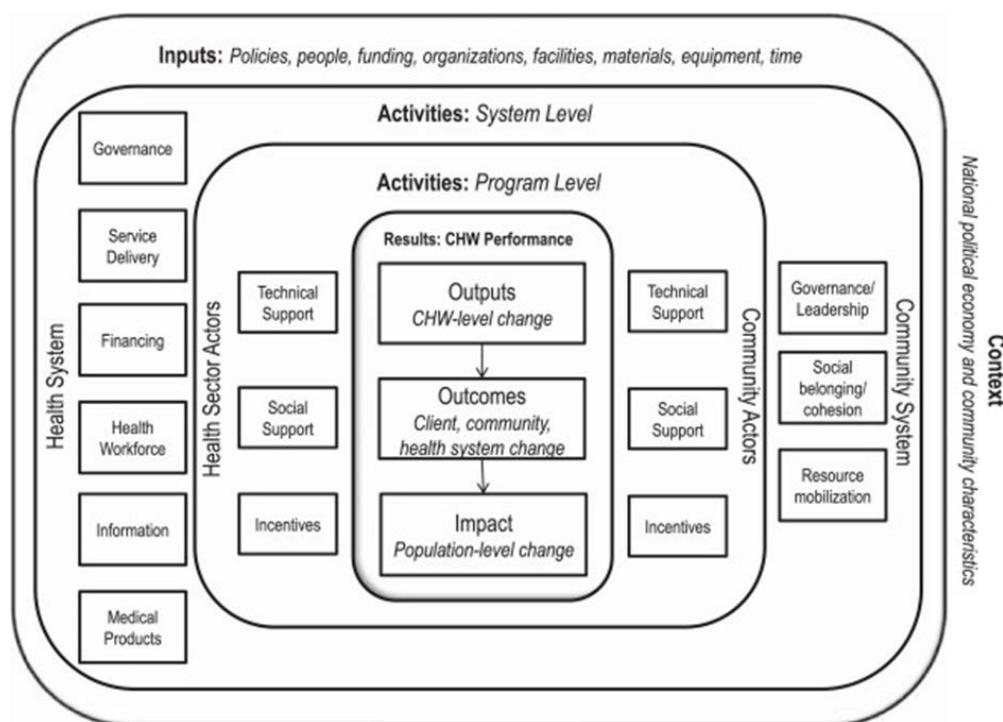
Figure 1 - Community Health Worker generic logic model (Naimoli, et al.)

Globally, CHWs are widely used, and used differently than their U.S. counterparts. Thus, while the Naimoli model is extremely interesting and perhaps the first such model to address the many and varied dimensions related to CHW *performance*, and the global rationale for the use of CHWs may be similar to ours in some instances, more basic questions exists in the U.S. From a practice perspective, community health workers have been appreciated primarily for their strong local knowledge and relationships, and may have even greater value under health reform as the country seeks to better address health equity and primary prevention, but the plethora of titles, responsibilities, program models and job settings seems to undercut the effective development of CHW programs, and the drive toward certification may similarly negate some key CHW attributes. Indeed, "The fast pace at which the ACA is being implemented both offers an initial set of opportunities for CHWs and challenges them to quickly develop actionable paths to greater employment." (Bovbjerg, Urban

Institute, 2013, pg 13). Therefore, to better integrate CHWs in new models of care, it seems important to address several key issues: First, what are the objectives of using community health workers? What are the different roles they play and models in which they work? What are the essential competencies required of CHWs, and is there a distinction or a disconnect between competencies and skills required of CHWs and the roles they are expected to perform? Are there "best practices" that support the use of CHWs? What has been the program experience in states that have adopted certification standards as compared with those that have not? What has been the experience of CHWs in different program models or applications? How might U.S. programs learn from global CHW efforts?

One such effort is described by Kelly Volkmann,[28] of Benton County Health Services (Oregon), who shows community health workers as operating across a continuum that encompasses clinical, resource and community elements.
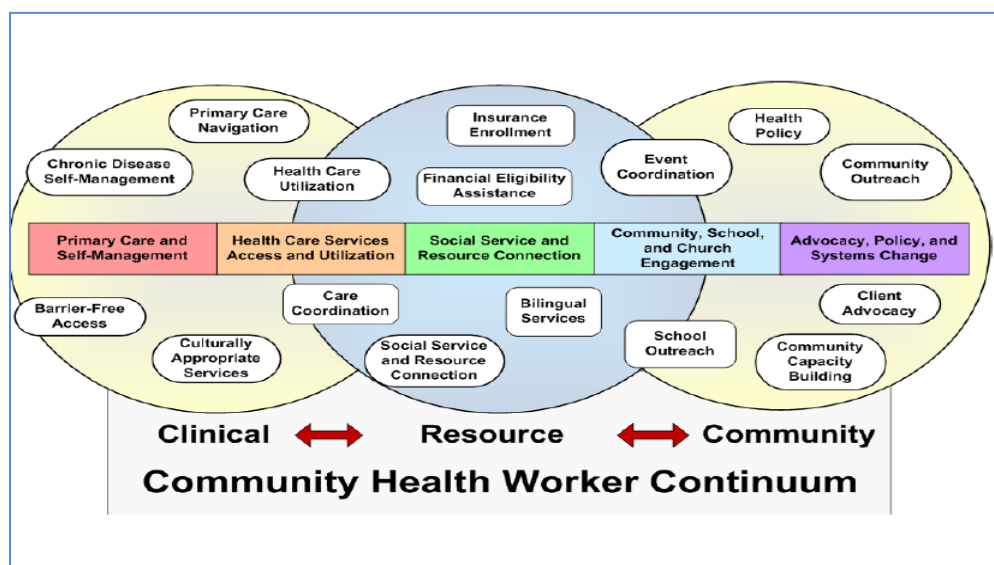
Figure 2 - Community Health Worker continuum (Volkmann)

Another perspective is offered by Charles Alfero, of the Hidalgo Medical Services Center for Health Innovation (New Mexico)[29] who depicts the interventions provided by CHWs across a spectrum of health care services, beginning with prevention and including diagnosis and treatment and ongoing care management as required by the health status of the patient, and showing the type of service related to each point on the spectrum of care.
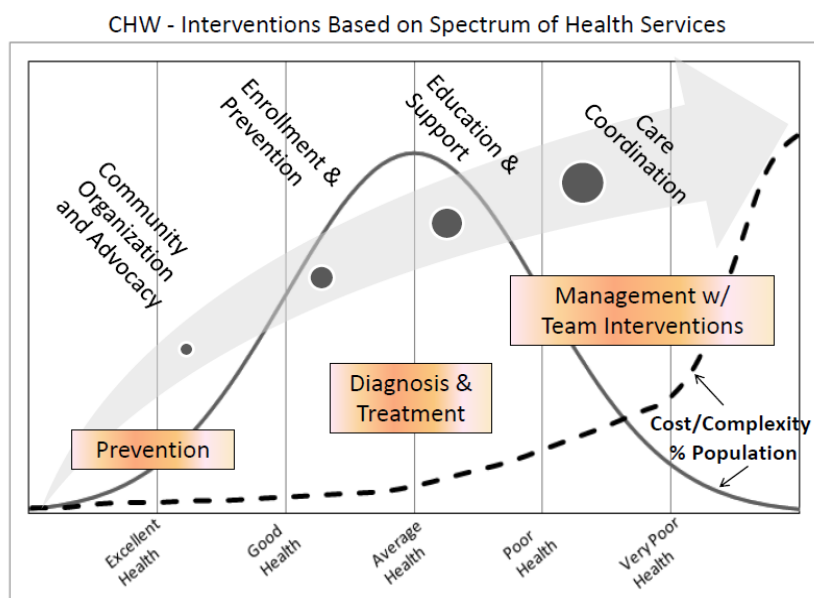
Figure 3 - CHW interventions based on service spectrum (Alfero)

However useful these depictions are – and they are, in my view – exceptionally useful in explaining in broad and logical terms where and how CHWs fit in the scheme of care delivery - they fall short in actually specifying the essential components of a CHW role or model.

So, where to begin? My initial conceptual model below represents the range of factors relevant to thinking about CHWs in the current domestic context, and like the schematics shown above, includes both system and contextual factors, both inside and outside the health sector. This early concept map is deliberately non-linear, and depicts the complex web of issues related to the use of CHWs today and the drivers that are propelling focus on their expanded use.

Directional arrows depict the influences of the various issues and contributing sub-issues; in some instance bi-directional relationships are posited.
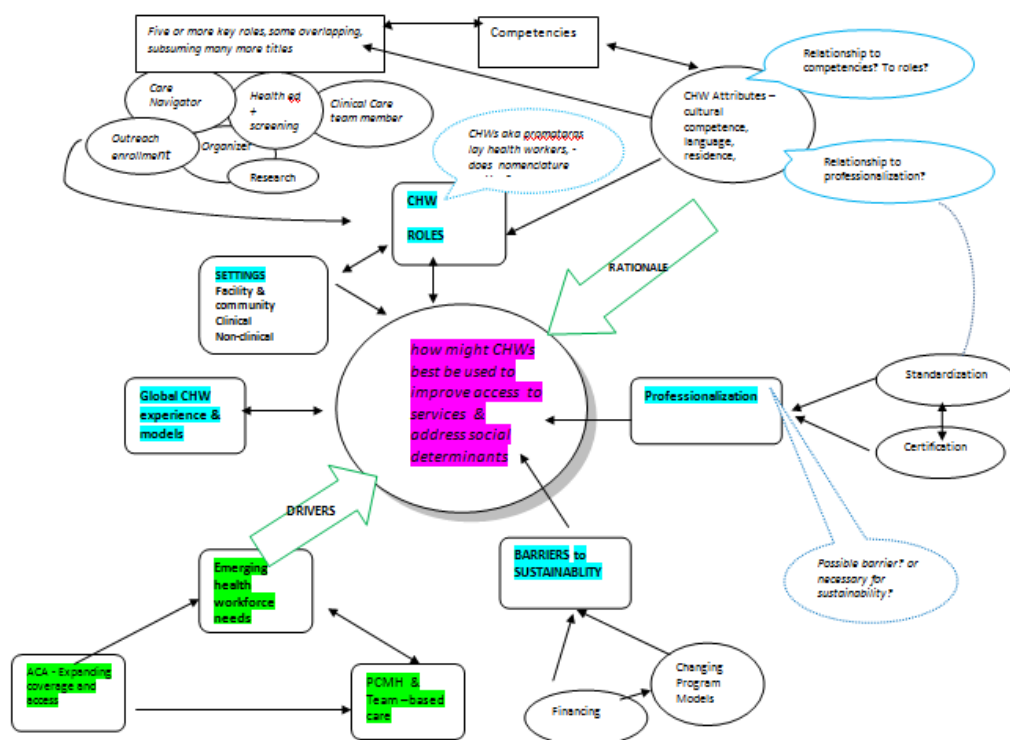
Figure 4 - Initial conceptual framework

This schematic depicts emerging health workforce needs as the key driver toward the expanded use of CHWs, informed by both extended coverage and access resulting from the Affordable Care Act, and the requirements of care models that are patient – centered, such as the patient-centered medical home model (PCMH), and team-focused. The historic *rationale* for the use of CHWs is that the attributes of those who work in a CHW capacity – cultural competence, language, and core knowledge that engenders trust – can help address disparities, by creating a bridge between the institution, provider or care delivery system and the patient or residents of the community. This, in turn, helps to increase the likelihood of patient engagement and follow-

through, promoting or enhancing access to care, and potentially reduce disparities. I have further detailed this aspect in the "hub" schematic below:

Figure 5 - Community Health Worker hub

Yet the relationship of CHW characteristics or attributes to either their roles or a full range of competencies is unclear. Furthermore, several other important questions emerge from reviewing the literature:

- CHWS are called by various names, including *promotoras*, lay health workers, health promoters and others. Are the diverse titles related to actual roles or functions, and does the nomenclature matter, where the different titles or names for the position reflect different work, competencies, or characteristics? Or does the nomenclature simply reflect local needs, but otherwise have no bearing on the role or other attributes?

- How are competencies defined and how do they relate to CHW attributes, roles, and opportunities?

- How does professionalization relate to key attributes of CHCs such as cultural competence, language, familiarity with and residence in the local community that have been thought of as essential to the rationale for their role? Is professionalization a possible barrier? Or is it required for sustainability of the CHW workforce and therefore essential?

This suggests that the elements needed to understand where and how CHWs might best fit in the emerging health workforce include:

- Identifying and categorizing their diverse and sometimes overlapping roles;

- Exploring the varied use of CHWs across many settings, including health facility and community-based, clinical and non-clinical settings;

- Decoding the drive toward professionalization;

- Determining barriers to sustainability, including financing and shifting program models and needs; and

- Further, the literature points to an increasing trend toward professionalization, with certification and standardization as related sub-issues. Yet little is understood about how or if a trend toward professionalization might impact CHW attributes and competencies.

b. Model Components

After considering the literature and issues in the field, I arrived at the following framework, which is an overarching construct that identifies the elements of a CHW model as

consisting of four related quadrants, which I describe as Titles; Competencies/Skills, Roles/Functions and Settings/programs. This approach, which I depict below as the Community Healthworker Quadrant Model, suggests that are distinct, identifiable elements, that, taken together, comprise a model of CHW utilization, but that each component must be examined separately in order to better understand, develop and apply the CHW role. Thus a deep understanding of each element as well as the relationships between the quadrants is essential. My research is focused on investigating these elements.

Competencies/ Skills
How are defined?
What skills, knowledge base are incorporated in the competencies?

Settings/Programs
What are the types?
Does the role differ by program type or setting? Does the title differ by program type or setting?

Titles what are the, are they related in a meaningful way to comptency/skill, role/ function, setting/ program?

Roles/ Functions - How does role fit in organization?
Is there one model for how CHWs are used in the organization? Or different models? Do different roles require unique competencies?
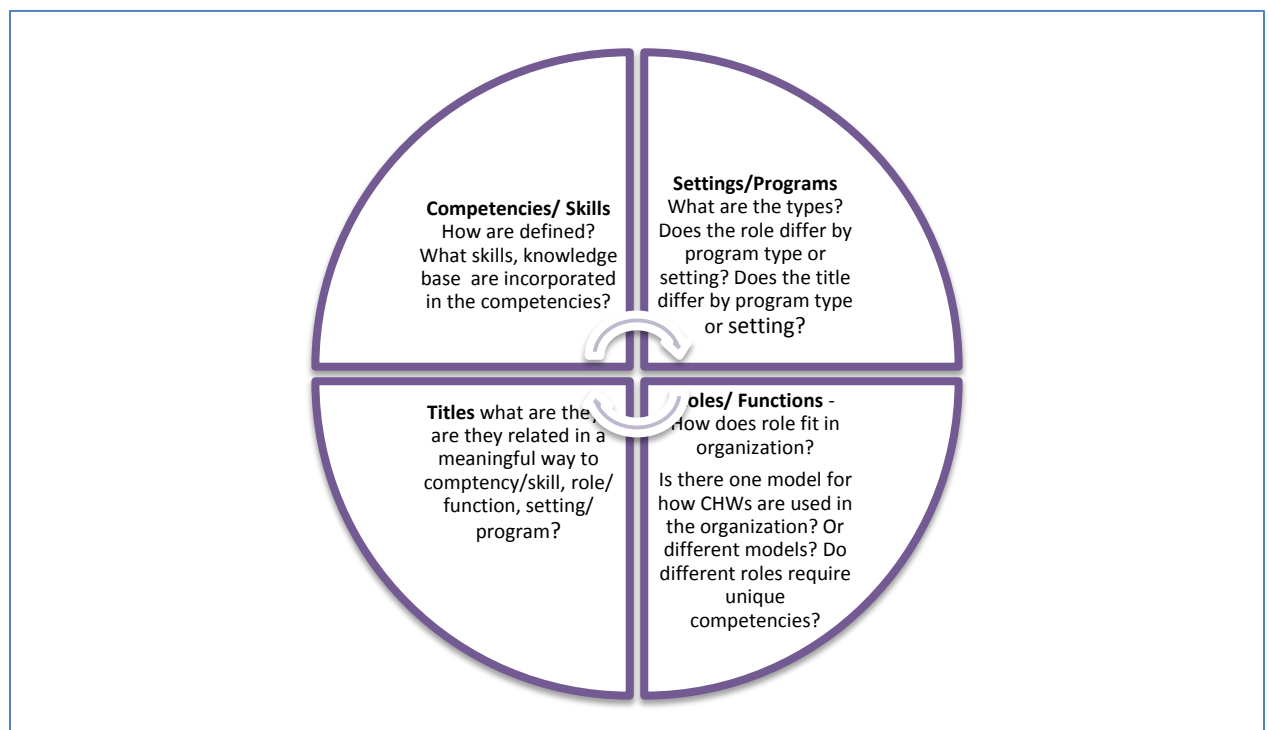
Figure 6 - Community Health Worker quadrant model

c. Literature Review

Community health workers (CHWs) – a catch-all term used here to encompass many titles fulfilling similar, common roles - are widely used in many health care settings (as well as in some social service organizations or other institutions) and play an important part in service

delivery, especially in some communities and for vulnerable populations. CHWs are expected to be "part of the solution" (Rosenthal, Brownstein et al. 2010) to the expansion of health care services generally, and specifically the extension of services to underserved communities. Yet today, CHWS serve in a variety of roles across a range of settings. While there are several state-specific studies available, there is no comprehensive resource documenting precisely how and where CHWs are used nationally, and while definitions of the CHW role would suggest that an important element of their role is their relationship to the communities they serve, core competencies are wide-ranging, not universally defined and may not be explicitly dependent on community-based knowledge or relationships. Developing models for CHW engagement and use need to be driven by local needs, and informed by understanding workforce requirements, current models, current best practices, and barriers to their use. The literature review, while not exhaustive, aims to   provide both a theoretical backdrop for understanding the use of CHWs and explore how their current use in the context of a transforming health care landscape may inform new models.

Several approaches were used to identify relevant literature. These included a general search using Web of Science for the search terms "community health workers," and "*promotoras*," as well as a "community health worker and certification." An initial search, for a limited time span, yielded 24 results but most were not even remotely relevant. The search was expanded to include all years, and additional terms were added; hence "community health worker and certification" yielded 66 results. The topic "community health workers and U.S." offered 343 results, while a search for the term "Promotoras" produced 90 citations. In addition to the Web of Science search, sources were identified using a "snowball" approach, looking first at key documents and searching for thematically related content. Current policy interest, driven by the convergence of changes related to the ACA, new payer and reimbursement models,

emergence of patient-centered care and an emphasis on expanding preventive and primary services, access to care and coverage , are driving an interest in CHCs. While there appears to be an extensive, and increasing body of peer-reviewed literature in academic journals, much of the literature is in the form of "grey literature" in the form of studies, papers or policy briefs produced by or on behalf of academic and clinical institutions, government agencies and providers. My literature search encompassed a look a broad array of issues related to the use of CHWS. I have categorized the review across four broad themes related to how and why are used today, namely workforce needs, cultural competence and community engagement, CHW roles and models, outcomes and effectiveness and standardization and certification.

 Expanding Workforce Needs

Today, there is a documented unmet need for health care professionals, especially those trained to deliver primary and preventive health services. The current supply of primary care professionals is being outpaced by rising demand.   The National Association of Community Health Centers (2008, Access Transformed) has estimated that community health centers, the backbone of the nation's service delivery system to vulnerable and underserved populations, need nearly 20,000 additional primary care providers to reach 30 million patients. Using data on current panel sizes, national patient-provider ratios and estimates of need, NACHC determined that just over one- third of the needed workforce is non-physician primary health care providers. Health centers also will need nearly 15,000 nurses. While the authors focus on creating a pipeline for physicians and non-physician clinicians, they emphasize the importance of health care teams and the introduction of new policies to foster team functions, expand the professional scope of practice and enable professionals to work at the top of their licenses. By extension, the use of other staff in a supportive capacity might be deployed as part of strategy to expand team-based care. Community health workers might effectively bridge the gap between clients and

patients on the one hand, and medical professionals, health care services and other community resources on the other. (Urban Institute, Integrating CHWS into a Reformed Health Care System, 2013). Describing approaches to skill-mix management to optimize the use of personnel and extend care, Dubois explains, "Health care systems' ability to provide safe, high-quality, effective, and patient-centered services depends on sufficient, well-motivated, and appropriately skilled personnel operating within service delivery models that optimise their performance." (Dubois, 2009) The use of CHWs is important in this context.

Cultural Competence and Community Engagement

Going back decades, Community Health Workers have been widely used in the developing world to address the shortage of skilled healthcare professionals. Bonafacio (1979) described a progressive training approach to fill local gaps for trained health professionals in the depressed and underserviced areas on two Philippine islands that included recruitment of students from the depressed areas to be served and development of a training and career ladder. In the U.S., CHWs have played a formal role in health care delivery since the 1940s, (Arvey, 2012, p. 1633). HRSA notes that references to CHWs in the U.S. began to appear in the literature after the mid 1960's (HRSA, 2007, p.iv), following the introduction of the Migrant Health Act in 1962, and Economic Opportunity Act in 1964, both of which supported community-based care focused on outreach, disease prevention and patient education (Perez, L. & Martinez, J. 2008) According to Sprague (2012), the first formal CHW program in the U.S., then called the Community Health Aide Program, was funded in 1967 by the Office of Economic Opportunity. Targeting American and Native Alaskan Indians, it aimed to increase understanding of and participation in health maintenance, and to improve cross- cultural communication. (Sprague, p. 2).

But what it is about community health workers that has captured such widespread interest, and why? First, community health workers may be seen as reflecting a long-standing tradition or value in the development and delivery of public health programs, favoring community engagement. Minkler and colleagues Pies and Hyde (2012) explain that community participation has historically been a central value in public health and describe the extent to which community participation, along with empowerment, emerged as defining features of health promotion programs and community capacity building. Citing Eng and Freire, Minkler explains how the training of community health workers builds on the strengths of community members as "natural helpers".

A related explanation is the degree to which CHWS are seen as providing care that is culturally competent, or extending the ability of the systems in which they work to do so. The California Endowment (2002) emphasizes that the term cultural competency can be seen both encompassing the term "culturally sensitive" culturally relevant" and "culturally responsive" but also as being deeper because of the emphasis on actual competency and skills.   Cultural competence in the health care context has been defined as "the ability of systems to provide care to patients with diverse values, beliefs and behaviors, including tailoring delivery to meet patients' social, cultural, and linguistic needs.[30]" (Betancourt, et al. 2002, 2005). The primary goals of culturally competent care are to reduce barriers to care, eliminate disparities[31] and improve quality, with recognition that there are myriad barriers, which lack of workforce and leadership diversity, poor cross-cultural communication, and systems of care not designed to meet the needs of diverse patients. Betancourt, et al. describe 3 essential constructs or themes to culturally competent care:

- Organizational - recruiting and promoting diverse leadership and workforce.

- Systemic - addressing institutional barriers by offering interpretation services, addressing language proficiency and literacy, using data to inform systems.

- Clinical - providing integrated education, training and professional development informed by patient-focused surveys to enhance awareness of socio-cultural factors and differing health beliefs.

Finally, and perhaps echoing Minkler et al., they note the importance of patient empowerment as an additional factor sometimes seen as important.

Commenting on cultural competence for practicing physicians as a way to improve access, increase patient satisfaction, and achieve greater effectiveness, Rothschild (1998) writes "Physicians must develop the knowledge and the skills to engage patients from different cultures and to understand the beliefs and the values of those cultures."[32] Yet clearly this imperative – the need to engage people in a culturally effective way – extends beyond to physicians to the entire healthcare system, and here it is suggested that CHWs may provide real value and a "running start"

An essential attribute of community health workers is that they both reflect and are embedded in their communities; because they are typically recruited from within the communities they serve, they mirror the culture, language and values of their neighbors and have natural relationships that can make them effective. While HRSA, in the 2007 CHW study, speaks to CHWs having the "ability of understanding and working within the context of the culture of the community being served." Brach and Fraserirector explain that cultural competency goes beyond mere awareness or sensitivity toward diverse cultures. (Brach, C. and Fraserirector, I. 2000.) Looking at how cultural competence might reduce racial and ethnic disparities, they identify nine major cultural competency techniques in health care settings:

interpreter services, recruitment and retention policies, training, coordinating with traditional healers, use of community health workers, culturally competent health promotion, including family/community members, immersion into another culture, and administrative and organizational accommodations. Interestingly, the authors define the use of CHWs as a specific category in and of itself, while some of the remaining eight techniques would seem to define the work or strategies or approaches actually used by CHWs (or other personnel) in their jobs. In addition, the authors note that in practice there is little evidence documenting which of the nine techniques – including use of CHWs as a specific technique – is actually effective. So while CHWs have been promoted as much for their cultural competence as for other skills, there remain questions regarding the extent to which cultural competence reduces disparities, even as it might improve access. Yet because they offer "cultural brokerage and local knowledge" (May, M. et al. 2005) or what has been called linguistic and cultural *translation* (see, for example Brandeis 2003) it is easy to see why CHWs recruited from within the neighborhoods or areas they serve might be seen as uniquely suited to the demands related to rapid expansion of the healthcare delivery system. In addition, CHWs can be seen as generating generate and promote social capital - that is, connections among individuals in social networks and norms of reciprocity and trustworthiness (Le Ban, 2011).

CHW roles and models

As early as 1998, the National Community Health Advisor Study (NCHAS, University of Arizona and Annie E. Casey Foundation, 1998) outlined core roles and competencies for community health advisors, with the roles defined as Lay Health Advocate, Promotor, Outreach Educator, Community Health Representative, Peer Health Promoter, and Community Health Worker. NCHAS (Rosenthal, 1998) also outlined key competencies defined as Cultural

mediation; Informal counseling and social support; Providing culturally appropriate health education; Advocating for individual and community needs; Assuring people get the services they need; Building individual and community capacity; Providing direct services

In 2007, the U.S. Department of Health and Human Services, Health Resources and Services Administration Bureau of Health Professions undertook a comprehensive Community Health Worker National Workforce Study. (HRSA, March 2007). Based on a national survey of CHW employers in all 50 states, as well as interviews and in-depth cases, the study is the first national profile of the CHW workforce. Five prevailing models of CHW use were identified, including as member of care team, navigator, screening and health education provider, outreach-enrolling informing agent, and organizer. (HRSA, 2007, p. vii). The HRSA study further described the prevailing ways in which CHWs worked or their activities as follows: Creating more effective linkages between communities and the health care system; Providing health education and information; assisting and advocating for underserved individuals to receive appropriate services; providing informal counseling; directly addressing basic needs; and building community capacity in addressing health issues. (HRSA, 2007, p. 26) Since there has been no comprehensive update at the national level and the establishment of a standard occupational category took place only in 2009/2010, following the completion of the report, the study provides an important baseline for understanding where and how Community Health Workers were engaged.

In a 2006 report focused on financing CHWs, Dower and colleagues aptly describe the key characteristics of the then-emerging health system as follows:

- more focused on consumer needs and interests;
- more often located in the home and community;

- welcoming to non-traditional providers;

- more culturally sensitive and aware;

- better able to delegate care management technology;

- to midlevel and paraprofessional providers;

- more aware of costs;

- sensitive to a broader array of health outcomes; and

- more attuned to chronic care management than acute treatment.

If anything, these consumer-oriented elements have become more pronounced since the Patient Protection and Affordable Care Act became law in 2010 (Public Law 111-148, HR 3590.) Several provisions in the ACA address, directly or indirectly the use of CHWs. (Bovbjerg, et al. Urban Institute 2013.) For example:

- SEC. 5101 [42 U.S.C. 294q]. NATIONAL HEALTH CARE WORKFORCE COMMISSION, establishes a National Health Care Workforce Commission to develop and promote workforce innovation and specifically includes Community health workers in the list of health professionals.

- SEC. 5313. GRANTS TO PROMOTE THE COMMUNITY HEALTH WORKFORCE specifically amends a section of the Public Health Service Act (Part P of title III of the Public Health Service Act (42 U.S.C. 280g et seq) to provide for population health focused grants that incorporate the use of CHWs in medically underserved communities

As the myriad components of the health reform law are implemented, there is a greater emphasis on the development of patient-centered medical homes (PCMH) or health homes, and on

new models of reimbursement that emphasize outcomes over encounters.(See for example, Patient-Centered Medical Homes (PCMH) and Community Health Teams (CHT) (§3502). Patient-centered medical homes offer coordinated, continuous team-based care that emphasizes patient participation and practice engagement. Studies show that patients with a medical care home experience fewer non-urgent emergency room visits and lower rates of avoidable hospitalizations. Medical neighborhoods, defined as patient-centered medical homes plus the constellation of other medical, social and public health agencies devoted to the delivery of coordinated care, require regular communication, collaboration, and shared decision - making. (AHRQ, 2011). and in what capacities CHWs were likely to work.

Further studies at the state or regional level have attempted to document the breadth of activities in which CHWs engage, the various occupational categories that define their scope, and the settings in which they work. A New York study, conducted in 2008 and 2010 with 44 employers and 226 working CHWs, found consensus on 5 scope of practice elements: outreach and community organizing, case management and care coordination, home visits, health education and coaching, and system navigation; these elements were related to 27 defined skills. Of the identified skills, three were unique to the New York study and had not been previously identified, including computer skills, participatory research methods, and time management. (Findley, S E., Matos, S; et al. 2012) Yet even here, the authors found a potential disconnect: where employers were focused on specific skills, the CHWs themselves felt they were recruited for their relationship to the community.

A comprehensive study by the California Health Workforce Alliance (2013) documented the use of CHWs in safety-net settings and found that while the use of CHWs was extensive, with 65% of the safety-net organizations surveyed reporting using CHWs, CHWS were actually used in very diverse capacities, and sometimes in a variety of ways even in a single setting. Similarly, a

more recent report from the Sinai Urban Health Institute (2014) substantiated other literature documenting role confusion in some settings, where CHWs may be asked to perform tasks outside defined duties, potentially compromising their effectiveness. (p 82). Rush (2014, presentation to 24th Annual Midwest Stream Forum) asserts that while in general , competencies emerge from the NCHAS framework, CHW competencies should be defined in relation to scope of practices and tasks performed, and defined at the state level – highlighting a possible tension between the needs and experiences of diverse organizations operating in different environments.

Team- based care, coordinating the diverse skills and experience of a range of clinicians and other staff, is a preferred model, and integrating CHWS into the team model could potentially strengthens care teams in PCMH settings (Balcazar, H. , Rosenthal, E. L. et al., 2011) "In a team model, primary care physicians and health professionals work in an integrated manner to coordinate care for a patient. CHWs can play a valuable role on the team by providing contextual data about patients' attitudes, behavior, and environment that can inform development of an effective care plan….The relationship between the patient and the CHW transforms the concept of patient centeredness into concrete, practical elements as encouraged by the PPACA." (Martinez J, Ro M, et al., 2011). A recent issue brief titled, Community Health Worker Integration into Primary Care Settings, (2015) from Community Clinic, Inc, a federally qualified health center serving Prince George's and Montgomery counties in Maryland, details the integration of CHWs into clinical teams to accelerate practice transformation at the health center. Pittman, Broderick et al. (2015) underscore the point in a new IOM report, explaining that CHWs are "extenders of care beyond clinic walls and between doctor visits"[33] and that their impact is magnified in the context of the team, where they not only gather essential data, but share community and patient-specific knowledge with other members of the care team to make care more effective.

Outcomes Evidence and Effectiveness

An on-line 2010 National Community Health Worker Advocacy Survey (NCHWAS) conducted by AzPRC concludes that "consensus on empirical evidence of CHW impact remains elusive." (Ingram, et al. 2012). Still, there exists a growing body of outcome evaluations and other literature that suggests that CHWs can indeed positively impact health outcomes as well as costs. Rush, in a commentary in Journal of Ambulatory Care Management (2012) mentions three studies that documented cost savings related to the use of CHWs:

- A retrospective comparative study of patients in Baltimore assessed the effectiveness of an intervention by specially trained community health outreach workers with a group of African American diabetic patients, with or without hypertension. Emergency room (ER) visits declined by 40% and admissions from the ER to the hospital, as well as hospital admission overall, decreased by 33% ,resulting in an average savings of $2,245 per patient, per year. (Fedder, et al. 2003)

- A three-year pilot CHW asthma intervention with pediatric patients at a community health center in Hawaii found a decrease in per capita charges of 75%, from $735 to $181, and a decrease in asthma related emergency room visits from 60 to 10. In this case, the CHWs were specifically trained for 11 months in anatomy and physiology of asthma symptoms and triggers; severity classifications; asthma medications; peak flow meter, inhaler and spacer use and care; and relaxation and strengthening exercises. The project included team based care and home visits. (Beckham, S., Kaahaaina, D., et al. 2004)

- A project at Denver Health, Colorado's comprehensive safety-net provider system, which used a longitudinal repeated measures design to assess the return on investment

(ROI) of outreach by CHWs employed by Denver Health Community Voices as part

of the Men's Health Initiative targeting low-income, high-risk men. The authors

found that primary and specialty care visits increased and urgent care, inpatient, and

outpatient behavioral health care utilization decreased, resulting in a reduction of

monthly uncompensated costs by $14,244. Program costs were $6,229 per month and

the ROI was 2.28:1.00, a savings of $95,941 annually. (Whitley et al. 2006)

More recently, the Arkansas Community Connector Program used specially trained

community health workers in three disadvantaged counties to identify patients at risk for admission

to a nursing home and connect them to Medicaid home and community-based services. In a

longitudinal, quasi-experimental research study, Medicaid recipients served by the Community

Connector Program for three years (2005-08), were observed before and enrollment and compared

with a group of Medicaid recipients located in five nearby counties. The authors documented

statistically significant findings of a 23.8 percent average reduction in annual Medicaid spending

per participant during the period 2005-08 and net three-year savings to the Arkansas Medicaid

program equaled $2.619 million. (HC, Mays GP, et al. 2011). In addition to the ROI or cost-

benefit studies, a number of studies have reported on health behaviors or health outcomes. For

example, Staten and colleagues evaluated a CHW–facilitated program aimed at primary

prevention of chronic disease in an at-risk Latino border community in Arizona, and documented

an increased awareness of, and participation in, healthy lifestyle behaviors among participants.

(Staten LK, Scheu LL, et al., 2005). Other studies, such as assessment of a *promotora*

intervention in California by The Central Valley Health Policy Institute (CVHPI) at California

State University Fresno have sought to document effectiveness of *promotoras* in increasing use of

preventive care services, helping clients establishing a usual source of care, and enrolling in

insurance. (Capitman, 2009). A study documenting the integration of community health workers in

providing care to asthmatic children in an academic medical setting (Matiz, M.A., Peretz, et al.. 2014)   found that participating physicians were more likely to offer care plans and refer families for care coordination, suggesting that CHWs not only impact patient behavior, but also have the potential to modify clinician behavior in support of increased care coordination and follow-up in a team setting.

For the most part, though, while there are many reports of individual project success, there is less in the way of systematic analysis of CHWs more broadly. Rush (2012) further notes the limitations of the published research studies but reflects that in general, less evidence may now be needed to justify CHW programs, commenting that "On the basis of such recent data and policy actions, we may be seeing the beginning of an encouraging change, in which the inclusion of CHWs no longer requires a detailed justification." (Rush, p. 136). Still, the very wide variation in titles, roles and functions performed by CHWs is acknowledged by Rush and others even as they seek to encourage the broader use of CHWs. Ingram and colleagues contend that "Hesitation on the part of the scientific community to validate CHW outcomes may be partly due to the fact that as an intervention the CHW model is organic, rising from and responding to the unique needs of the communities CHWs serve and the organizational settings they work in. (Ingram ,M., Reinschmidt , K. et al. 2012).

Training, Standardization, Certification of CHWs

Thus, while the use of CHWs is generally highly valued, there remains extensive variability on how they are used and similarly, the required competencies and skills appear to be varied across models or settings. Even following the proposal of a competency framework, a range of approaches has evolved with respect to training and development of the CHW workforce.

Kash and colleagues (2007) conducted a national qualitative study with the objective of analyzing trends and approaches to professional development in selected community health worker training and certification programs, and identified trends toward on-the-job training, community college level programs, and certification at the state level. But what type of training is most suited to the wide range of job demands? Catalani et. al (2009) reported that core competencies were undefined or neglected in practice and that CHWs needed skills training in communication, documentation, behavior change, adult learning, informal counseling, goal setting, negotiation/mediation, conflict resolution, and community organizing. In addition, they identified the need for training in health-specific topics such as chronic disease management, prevention and control, health care systems, insurance eligibility and enrollment, and immigration issues in health. O'Brien at al, (2009) found inconsistent reporting both of selection criteria for CHWs and training processes. A new article by Malcarney et. al (2017) which examines, among other issues, the hiring criteria and competencies for community health workers in a group of 76 CHW programs nationally, has identified a shift in the employment of CHWs from community-based organizations to health systems and hospitals. The authors found that in clinical entities such as health care providers, clinics and hospital/health systems that hired CHWs directly, there was a greater emphasis on educational background and training required for CHW staff, and less of a focus on peer status and community relationships, than in CHWs hired by other types of entities.

In recognition of the fragmentation of CHW roles and responsibilities, certification programs, administered by state or local health departments, have been promoted as a way to develop consistent standards and definitions for CHWs, and improve the sustainability of a diverse array of CHW programs. (Alvillar, M, Quinlan J, et al. 2011). Texas was the first state to develop CHW-related legislation in 1999, with the development of a voluntary certification program that was later made mandatory for paid CHWs. Ohio followed in 2003, creating a

"Certificate to Practice" as a CHW. The Ohio program, administered by the State's Board of Nursing, has a clinical focus in contrast to the Texas program, which is oriented toward more general competencies as outlined in the National Community Health Advisor Study. (see Rush, "Certification Basics", 2009, 2011 Community Resources). In New York State Health, a policy initiative convened by the NYS Health Foundation (2011) recommended statewide standards pertaining to the scope of practice, training, and certification of CHWs.

Other states have considered or implemented a range of approaches, cataloged recently by Miller et. al (2014) in a report from the Harvard Law School Center for Health Law & Policy and Innovation, who note that the common element in the successful approaches, irrespective of the type of training or credentialing adopted, has been the engagement of CHWs in the actual policy development process. Most recently (2015), State ReForum, an initiative of the National Academy of State Heath Policy, has developed an on-line resource documenting, at the state-specific level, definitions of CHWs and their key roles, funding for CHWs, training and core competency requirements, certification requirements, enacted state legislation, and lead agencies involved. (https://www.statereforum.org/state-community-health-worker-models.)[34] The resource chart, which is frequently updated, highlights both the range of activity across the states, as well as the broad variation in key roles and models.

Thus, while program sustainability is a laudable goal, certification as one approach toward sustainability is not without its challenges, and points to the need for evidence-driven and best practices models; even as the trend toward certification advances, thoughtful dialog has emerged regarding the potential pros and cons, especially in light of the range of current roles and models of practice: "Standardized education and certification are attempts to create a baseline of knowledge and experience among all CHWs, which may enhance the applicability of research across this group. In doing so, however, there is a risk that the pool of individuals who

choose to become CHWs may be altered due to actual or perceived barriers to entry, and there is also the possibility that the nature of work performed by CHWs will change in subtle ways. (Dower, p 55). Arvey et al. (2012) also caution that the impact of certification is unknown, and speculate that in some cases the opportunity or a requirement for certification could adversely affect CHWs. (p 1635).

Summary and Conclusion

Finally, then, the gaps in documenting the work of CHWs, and understanding how to measure what CHWs do, in economic or clinical terms, and - with that information in hand - how best to stabilize and sustain CHW programs, argues for a return to exploring the roots of CHW program, the varied purposes of community health worker initiatives, and the significance of both social capital and human capital in our broader definition of community and public health . The Sinai study (2011) observes that hiring "CHWs strengthens the community by providing jobs." In strictly economic terms, CHW programs may provide meaningful employment opportunities and serve as an educational and career stepping stone. Yet as noted by Arvey (2012) and others, CHWs may work in a volunteer, unpaid capacity, and those who are compensated are often poorly paid. Kash et al. (2007) describe the human capital dimension, noting that community-college programs for CHWs offer career advancement opportunities and higher wages, and that certification also provided the potential for increased earnings. Koskan et al. (2013) suggest that sustaining the ongoing training of new *promotoras is* a way of helping community members advance their careers and overall social position. Finally, a recent report from the Urban Institute (2013) acknowledges the extent to which professionalization of CHWs may drive opportunities, while at the same time making the case for promoting CHW employment in disadvantaged communities and offering good jobs for low-income people who may have limited access to advanced training, higher education and solid career pathways.

Another important dimension is the concept of social capital, which has been described as a vital element of economic development globally as well as locally (Putnam, 1993) and the deterioration of social cohesion as a detriment to public health (Karachi, I. Kennedy, P. 1997). Labonte (1999) points out that social capital does not "exist," – it is "a process rather than a thing," something that we create. It is, in effect, a public commodity that is continuously under construction, and that must go hand in hand with an applied focus on improving economic, social and health conditions. Farquhar and colleagues (2005) describe the use of CHWs as one of three core strategies to improve social capital in an Oregon project intended to reduce health disparities and address the social determinants of health, focusing on how CHWs work to create connectedness based on language, culture and values. Pérez and Martinez (2008) describe CHWs as natural researchers and social justice advocates. Similarly, the nationwide, community-based participatory National Community Health Workers Advocacy Study conducted by the University of Arizona's Centers for Disease Control and Prevention–funded Prevention Research Center in 2009-2010 indicates that CHWS are actively engaged in advocacy activities of various types, with 75% of respondents involved in some type of political or civic advocacy.[35] The authors Sabo and colleagues identify significant personal, training and work environment factors that contribute to CHW advocacy and engagement to address the social determinants of health, and posit that in addition to addressing complex issues, CHW advocacy contributes to sustained civic engagement by other community members, citing the "community-centric origins" (p. e72) that make CHWs effective. Finally, Koskan et al. (2013) suggest that "sustaining the ongoing training of new *promotoras is* a way of helping community members advance their careers and overall social position."[36] Yet Minkler (2012) reflects on whether CHWs can truly retain their connections to the community and the credibility that underpins their effectiveness if they are systematically trained and professionalized. Minkler posits, *"Once they have been trained and,*

in a sense, "indoctrinated" into the culture of the public health or social welfare organization or department, community health workers may find it difficult to relate to or interact with their peers as they had previously (p, 123.) or their credibility may come to be questioned by the very community they served. [37]

In the current environment, there is opportunity and potential for the expanded use of CHWs. The literature point to the unique challenges of standardizing and professionalizing CHW roles on the one hand, while retaining both the grass roots nature of their work that is believed to be essential to their success, and providing meaningful career opportunities in disadvantaged communities. The literature also reveals some disconnects or unknowns about the skills base, competencies, models and roles desired of, or fulfilled by, CHWs. It is these dimensions that merit further and careful examination so that further capacity development of CHWs can help fulfill the promises of a reformed health care delivery system.

III. Study Design, Data, and Methods

a. Geographic Focus and Rationale

The focus of the study is community health centers and health center look-alike organizations in four states in the Pacific Northwest (Oregon, Washington, Alaska, and Idaho) identified via HRSA's list of community health centers and verified through their participation as a member or associate of the Northwest Regional Primary Care Association (NWRPCA). This geographic area was selected because of the history of CHW engagement at least in several of the states, including important early history in Alaska that shapes today's programs; a diversity of state policy frameworks and programs related to Medicaid expansion and safety-net care; a range of CHW scope of practice, training requirements; and the varied certification approaches across the states. The number of centers and variety of state frameworks was expected to provide a strong base of data for analysis. In addition, the NWRPCA has a long standing, demonstrated interest in addressing workforce issues, including CHW training and leadership development, and viewed the analysis as potentially useful for their training and policy activities.

The Pacific Northwest is home to nearly 100 community health centers, or approximately 7% of the community health centers throughout the U.S. Together, the centers in the region serve over 1.5 million people in diverse rural, urban and frontier communities. While each health center is subject to federal statute and specific program requirements for federally qualified health centers (*Section 330* of the *Public Health* Service Act) CHCs also operate within the context of their states, and the array of insurance marketplace and Medicaid frameworks adopted by each:

- Alaska – 28 CHC grantees, 108,015 patients served in 2014. Alaska has expanded Medicaid coverage to low-income adults. The Marketplace functions are shared, with

the Federally-facilitated Marketplace (FFM) offering health coverage in Alaska in 2015. The FFM will make assessments of Medicaid/CHIP eligibility and then transfer the applicant's account to the state agency for a final eligibility determination.

- Idaho - 12 CHC grantees, 156,651 patients served in 2014 (plus 1 "look alike," an organization that meets PHS Section 330 eligibility requirements, but does not receive federal grant funding) serving 220 patients. The state of Idaho did not elect to expand Medicaid, and the insurance exchange is operated as a State-based Marketplace known as Your Health Idaho.

- Oregon – 30 CHC grantees, 355,586 patients served in 2014. Oregon is a Medicaid expansion state. Cover Oregon is operating a State-based Marketplace that is Federally-supported by the FFM platform.

- Washington – 26 CHC grantees, 910,380 patients served in 2014 (plus 1 "look alike" serving 2,513 patients.) Washington is operating a State-based Marketplace, known as the Washington Health Benefit Exchange. The state has expanded Medicaid coverage to low-income adults.

The community health centers operating in these four states are represented both by state-specific primary care associations as well as by the Northwest Regional Primary Care Association (NWRPCA) a non-profit membership organization serving CHCs in the four states comprising federal funding Region X.

As noted earlier, there are a number of different approaches to the utilization, training and support of CHWs across the country, and the Pacific Northwest is no exception. The chart below summarizes the salient features of CHW activity in the 4 states. The date presented are extracted from a comprehensive chart by of state-specific Community Health Worker models or

activity across 50 states, be State ReForum[38] (National Academy of State Health Policy.) This reflects the status as of sprig 2016, coincident with the timeframe in which this survey was launched.

TABLE I - STATE CHW MODELS

State Community Health Worker Models

Extracted from Health ReForum chart by Sara Kahn Troster

*Chart updated March 24, 2016

State	Financing [2]	Education	Certification	State CHW Legislation	CHW Organizations	CHW Roles in State
	Source of funding for CHW work	*Training requirements and core competencies*	*Requirements for state CHW certification*	*Enacted state CHW legislation*	*State association or leading organization*	*State definition of a CHW and key roles*
AK	Community Health Aide Program (CHAP) funding support through Indian Health Service, the Denali Commission (a federal agency) or federal Community Health Center funding (p.12).	Board-certified 3-4 week intensive training course; completion of designated number of practice hours and patient encounters; post-session learning needs and practice checklists; 200 hours village clinical experience; preceptorship; 80% or higher on CHAP exam, and 100% on statewide math exam. Four regional training centers.	Certification necessary to participate in the Community Health Aide/Practitioner program, and the Alaska Native Tribal Health Consortium.	HB 209 (enacted 1993): Community Health Aide Program (CHAP) provides grants for third parties to train community health aides as Community Health Practitioners with an exam at the end of training.	Alaska Community Health Aide Program	CHWs function as Community Health Aides and Practitioners, Dental Health Aides, and Behavioral Health Aides, each of whom is subject to specific standards of practice defined by Certification Board and in the CHAP manual.

ID	Funding through SIM plan/proposal (p.11, 29-30, 32-34); CHWs as part of the workforce for PCMHs, especially in workforce shortage areas.	SIM plan/proposal intends to develop training program for CHWs and community emergency services personnel to increase opportunities for coordinated primary care in rural and underserved areas.	Not currently.	Not currently.	Not currently.	Not currently.
OR	State Plan Amendment (SPA) created Patient-Centered Primary Care Homes (PCPCHs) explicitly includes CHWs in description of providers for four of the six core Health Home services. Only certified CHWs reimbursed. Oregon's SIM grant (p. 2) designed to build on Community Care Organization (CCO) Model. CCOs must include "non- traditional healthcare workers" like CHWs on their care teams. A health professional must supervise a CHW in order for Medicaid to reimburse for services provided. No official reimbursement rate for CHWs; a few sites have negotiated reimbursement for targeted case management. Only CHWs certified by the Oregon Health Authority (OHA) and included on a registry, are eligible to be funded by Medicaid.	OR committed to training 300 new CHWs by 2015 (p. 8-9); 80 hours of training and 20 hours of continuing education required every 3 years. Training centers are certified through the Traditional Health Worker Commission. Core competencies include outreach and mobilization; community liaising; care management care coordination and system navigation and health promotion	Only certified CHWs participate in Health Homes. CHWs can apply for certification after completing an OHA-approved training program. Must be at least 18 years old; criminal background check required. Grandfathering available to those who have worked over 3,000 hours in the past five years, and complete additional training	HB 3650 (enacted 2011) mandated OHA to develop education and training requirements that also meet federal requirements to qualify for financial participation. Oregon Health Policy Board established the Non-Traditional Health Worker Subcommittee to create core competencies, education and training requirements. HB 3407 (2013) established the Traditional Health	Oregon Community Health Workers Association	CHW is an individual who: has expertise or experience in public health; works in an urban or rural community, in association with local health care system; may share ethnicity, language, socioeconomic status and life experiences with residents of the community; assists community to improve health and increases capacity of community to meet health care and

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					wellness needs of residents; provides culturally appropriate health education and information; assists community residents in receiving care; provide peer counseling and guidance; provide direct services and screenings.
				Worker Commission, which oversees CHWs, Peer Support and Peer Wellness Specialists, Personal Health Navigators and Doulas	The Traditional Health Worker Commission is defining a scope of practice for all of the Traditional Health Worker (THW) roles, including CHWs.

WA	Washington's State Plan Amendment allows CHWs to participate in Health Homes and receive funding through Medicaid for each patient served.	Training through the Department of Health establishing core competencies for CHWs. 8-week program may be completed online or in-person, and training is conducted quarterly. CHW receives a certificate of completion.		Not currently.	Washington Community Health Worker Network	CHW participating in Health Homes provide administrative support for the Health Home Care Coordinator, such as mailing health promotion material, arranging for beneficiary transportation to appointments, and calling the beneficiary to facilitate face-to-face Health Home visits with the Care Coordinator.

Notes:

[1] The Association of State and Territorial Health Officials (ASTHO) provides real-time legislative tracking on Community Health Workers on this page under "Licensure & Certification."

[2] Click here for more details on how states are financing the work of CHWs.

Chart produced by Sara Kahn-Troster and Kaitlin Sheedy

http://www.nashp.org/state-community-health-worker-models-3/

At the state level, in addition to the efforts detailed by State ReForum, there are other ongoing activities. For example, the Washington State Health Care Authority/ Washington State Department of Health jointly convened a Community Health Worker Task Force to examine the role of CHWs in the state.[39] While every health center organization operates both within federal guidance for the CHC program and within a particular state framework that sets the context for the delivery of services, individual organizations may have varying objectives for using CHWs, and this may affect how they use CHWs, how they define their titles and roles and establish the competencies required, and how they understand the value of the CHWs. By looking at different organizations within each state, I hoped to identify the salient components of the CHW model or models in place in the participating community health centers and document how the varying uses and titles, as well as the perspectives on those uses, may have implications for recruitment, training and policy.

This study further built on the interests of the NWRPCA and CHC leadership to assess workforce needs and develop training, educational and developmental opportunities that best meet the needs of the populations served by health centers, and allow CHCs to operate effectively and efficiently.

b. Analytical Approach

The research was structured as a sequential, mixed-methods design entailing collection and analysis of primary data. The study consists of two complementary components, comprising a survey followed by key informant interviews, and supplemented by a document review of selected job descriptions provided by several organizations. The first component entailed a detailed survey of organizations in the primary care association region. Invitations were extended to all organizations *eligible* for membership, irrespective of actual membership status, for whom current contact information was available. The purpose of the structured

survey was to provide objective discovery and allow for statistical analysis and interpretation of the key constructs. The survey was also be used to help identify participants for the interview component of the study. The Program Survey was designed by the PI, to align with key research questions, as previously detailed.

The NWRPCA project team reviewed the survey instrument as it was developed and suggested modifications and revisions that were adopted in the final draft. The final survey included approximately 55 questions, both open and closed-ended; the survey logic was sequenced so that respondents saw only those questions relevant to their practices.

Following the survey, key informant interviews were conducted with 24 individuals, in 18 organizations, using a semi-structured interview guide, detailed further below..

The rationale for sequencing the study in this way is that the survey provided quantitative input and data at the aggregate level to inform further qualitative analysis. The interviews l then provided a qualitative mechanism to address questions at a deeper and more nuanced level, incorporating various experiences and perspectives of health center staff and leadership. As Morgan (2014) explains, preliminary quantitative data is also useful for addressing the issues related to having a relatively small number of cases or subjects for the qualitative component. Curry et al.[40] suggest that such qualitative research can be used to "illuminate aspects of organizational context and healthcare delivery that influence organizational performance and quality of care." Here, the interviews will serve to both frame and elucidate the ways in which community health workers are used and provide depth for the model. Finally, Jick (1979) explains that: "Qualitative data and analysis function as the glue that cements the interpretation of multimethod results." [41] A thoughtful use of mixed-methods, according to Jick, can also provide for sophisticated triangulation: "Triangulation, however, can be something other than

scaling, reliability and convergent validation. It can also capture a more complete, *holistic*, and contextual portrayal of the unit(s) under study."[42] Thus not only is triangulation achieved through the use of complementary mixed methods that incorporate an in-depth qualitative component, but the approach itself can lead to new findings and theories.

Describing the richness of qualitative data that can be derived from a robust interview, McCracken (1998) details a method of inquiry that contains four distinct and successive steps[43] depicted as quadrants in a process circle:

1. review of the analytic categories and interview design

2. review of cultural categories and interview design

3. interview procedure and discovery of cultural categories

4. interview analysis and the discovery of analytical categories

McCracken's approach begins with "an exhaustive review of the literature" [44] a primary purpose of which is to guide the researcher in constructing the interview questionnaire. In McCracken's view, a strong literature search is essential as "a way to manufacture distance," by providing the researcher with a strong foundation in existing concepts, data and theory. In the second step, the investigator "begins the process of using the self as an instrument of inquiry,[45]" through a systematic process of examining one's own personal experience to prepare for the construction of the survey instrument. This phase helps the researcher identify additional categories and relationships beyond those identified in the literature search. The third phase consists of the construction of a thoughtful and comprehensive questionnaire, " set in a generous time frame in order to let respondents tell their own story in their own terms." Finally, Stage 4 is the analysis of the qualitative data derived from the interview process and the determination of analytic categories. A hybrid approach was applied to the analysis, based on McCracken's

categories and grounded theory, evaluating and comparing emerging themes throughout the process and generating the concepts and theory from the data (Creswell, 2009). The primary unit of analysis is the organization and the CHW within the organizational context; this permits a deep analysis of how each particular organization defines the titles, roles, skill set and actual tasks of the CHW while allowing aggregation across organizations to understand common themes and approaches.

The full Measurement Table (Table 2) displayed at the end of this chapter details the initial constructs related to the research questions as well as the measures that were explored and analyzed.

c. Data Sources, Survey and Interview Guides

The initial survey encompassed all CHC organizations in the study region to establish a baseline response as to whether CHWs were being utilized, what such workers are called, how they are used, and core competencies. This provided information on the existing models and sources for subsequent key informant interviews. The actual survey instrument was informed by the extensive literature and developed in consultation with professional colleagues including from the NWRPCA. The survey was designed in Fall 2015, during which time I completed an additional elective course, CHSC 577 Survey Questionnaire Design, to deepen my skills in this area. The seminar format of the class, which included Master's and Doctoral students from several departments, was quite instructive in that it allowed me to review questions, pilot approaches and respond to constructive feedback from others in the class also engaged in survey research. . While the questionnaire drew upon the sources identified below, a new original instrument was developed to address specific issues and concepts of interest to the researcher and NWRPCA:

o Survey developed by The George Washington University Health Workforce Research Center (GWU HWRC) for the U.S. Office of Minority Health (OMH) and the Health Resources and Services Administration (HRSA) to examine CHW programs and reimbursement models . The survey was fielded spring 2015.

o Community Healthworker Program Survey 2014, Michigan Community Healthworker Alliance in conjunction with MiCHWA Advisory Board.

o Community Health Workers in the Midwest - survey conducted by Wilder Research December 2011- February 2012 for the American Cancer Society.

o Community Healthworker National Workforce Study (2007) report prepared by DHHS.

In order to develop the final survey instrument, I first developed an outline based on the initial model constructs. The survey outline is provided as Appendix A. Following review and discussion of the outline with NWRPCA leadership and faculty advisors, I developed the draft survey instrument, attached as Appendix B. The survey was finalized pending further client review and approval.

d. Survey Distribution

Care was taken to maximize the response rate across all eligible organizations. Since the PI was not known to the potential respondents, it was agreed that a pre-survey advisory from the collaborating organization would be useful to introduce the survey purpose and themes. Toward that end, prior to mailing the survey, an informational letter from the NWRPCA CEO was sent via email to 92 valid addresses for community health centers or CHC look-alikes on the most currently available list of centers from the Bureau of Primary Health Care. The list was compiled by the PI and reviewed for completeness with the NWRPCA staff. The email outlined the purpose of the survey and introduced the PI and further advised the membership that the survey

would be sent to them directly from the PI. The email also explained that the respondents' confidentiality would be protected and encouraged their participation in the survey in light of importance for programmatic planning at the regional and national levels. In keeping with best practices the PI's academic affiliation was also described. In an early review of email survey response rates, Sheehan (2001)[46] noted, that university affiliation had been shown to have a positive influence on postal mail survey response rates; The initial survey mailing was sent by the PI the following day through the University's Qualtrics account, so that that a university affiliation was both described and evident.

The survey was distributed by the PI to persons identified as either the CEO/ED or in some cases, where there was an identified CHW program, the program manager. Approximately two weeks after the first mailing on March 11, 2016 a second wave mailing encouraging all non-respondents to reply. The survey had initially been scheduled to close April 15, 2016. Upon reviewing the number of responses received on that date, the survey period was extended and further outreach was conducted in the form of personalized reminder emails, to encourage additional responses, with the final survey close occurring on May 14. Survey responses were completed by the either the original addressee or a designee within the organization.

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e. Key Informant Interviews

Initially, all survey respondents were asked to express their interest participating in the interview. This approach yielded few potential interview respondents, so an alternate approach was used, using Morgan's strategies for purposive selection, to invite organizations to participate in an interview. Personal notes were sent, by NWRPCA staff, directly to CHC leadership to encourage their participation in the interview, and followed by notes from the PI. This personalized outreach reflected an effort to recruit a diverse group of CHCs from across the four

states, in order to capture input from organizations in the region with differing characteristics related to location, size, and primary population served.

Key informants within each organization were identified by the leadership for their specific knowledge related to the utilization of CHWs within their own organizations, or more broadly. In total, 18 interview sessions, each lasting approximately one hour, were conducted. In some instances the interview session included several individuals is the health center, resulting in a count of 24 participants. Here it should be noted that the interviews were intended to obtain information primarily from health center and program leadership and did not target interviewing CHWs themselves. Thus, the interviews ultimately included 4 Executive Directors or CEOs, 9 other senior leadership, 10 managers, and 1 individual whose present responsibilities also include provision of direct services in a CHW capacity.

Each interview was conducted telephonically and all were recorded, with consent. Verbatim transcripts of the recorded interviews provided richly detailed data for analysis,[47] while field notes made during the interviews were used to identify any additional relevant observations or issues.

While the interview guide was finalized after the initial survey, in order to benefit from the information derived and frame the interview questions, the scope of the interview was defined in an interview guide that was developed in cooperation with NWRPCA (Appendix C). The interview guide defined the framework for the discussion but provided flexibility to permit certain themes to be explored in greater depth, if appropriate to the respondent.

f. Document Review

   Several interview respondents offered to provide position descriptions for staff utilized in what the organization considered   to be a community health worker capacity. Thirteen (13) unique job descriptions were provided by seven (7)   organizations. These were reviewed, organized using a document summary form (Miles and Huberman, 1994) I developed to catalogue key concepts identified from the coding framework and analyzed to provide for additional background, illustration of themes and triangulation.

g. Approach to Analysis

   The study involved an analysis of survey results and content analysis of the key informant interview data as well as the document review. The survey data provided an overall snapshot and permitted me to quantify and analyze relationships between CHW titles, roles, functions, settings and competencies.

   Upon the completion of the survey, data were downloaded from Qualtrics to Excel for analysis. Data were cleaned, and analysis was undertaken in accordance with the analysis plan. Descriptive statistics were used to summarize the quantifiable data. The responses to open-ended questions were analyzed using Atlas Ti. Crosstabs were prepared to analyze potential relationships

   While this is primarily an inductive approach, I developed a preliminary coding framework based on review of the literature as also suggested by McCracken. The initial coding framework was based on constructs as depicted in the measurement table. Indeed, McCracken's approach addresses both the data collection and separately, data analysis, outlining a 5-step process for analysis of qualitative data. Each step in the process represents a higher level of generality, from the particular to the more general. As Piercy (2004) explains, the sequence of

steps begins with reading the interview transcript carefully, first for specific content (at the level of the "utterance,") and then for comments, observations and themes, in the following sequence:

1. A "mannered reading" (McCracken, 1988) of the transcript for initial utterances and observations;

2. "expanded observations," or development of preliminary categories for both descriptive and interpretive purposes;

3. Moving away from the transcript, the focus is on the observations to begin to identify themes and pattern codes;

4. Determination of themes;

5. Review of the themes identified in step 4 and examination of themes across all of the interviews.

Bradley (2007) describes various approaches to working with data and identifies several code types: (1) conceptual codes and sub-codes identifying key concept domains and essential dimensions of these concept domains, (2) relationship codes identifying links between other concepts coded with conceptual codes, (3) participant perspective codes, which identify if the participant is positive, negative, or indifferent about a particular experience or part of an or part of an experience, (4) participant characteristic codes, and (5) setting codes. Analysis of the interview data followed primarily Maxwell's approach and included listening to the recorded interviews as well as working from the transcriptions of the recordings. Transcripts were read first for a general overview of the content. Then, categorization was undertaken using initially *a priori codes* that is, codes developed before examining the data, based on the literature and survey results. Additional *inductive* codes were created during the coding process. The analysis proceeded with both deductive and inductive coding. The initial coding framework for the semi-structured interviews was adapted to permit analysis of any additional emergent themes and

addition of sub-categories or even revision of themes entirely where the data indicated that the original themes were not relevant or were underdeveloped in some way. As coding progressed, additional relevant codes not included in the original framework were constructed and certain overlapping concepts merged. These additions and changes were documented and reflected in a final, more refined coding scheme. Once coding was complete, data was compared across each interview.

Data analysis was begun simultaneous with the data collection phase. Once all interviews were completed the coding was reviewed and updated for consistency and clarity. Finally, the transcripts were re-reviewed again in order to understand the data in context and identify connecting themes. (see Maxwell, 2013) Both within- and cross- respondent analyses were undertaken. Thematic content analysis was used to identify key themes through comparison of the coded data and extensive discussion with the staff at NWRPCA. This process helped refine our understanding of how, where and why CHWs were utilized.

While ATLAS.ti (version 7.5.16) was used to code and manage the data, the tools used for the analysis of the interview data were also a hybrid, developed to maximize opportunities for organization and content analysis I employed   an approach piloted for an earlier class project, (with Kevin Borrup, for IPHS 505) to sort aggregated code categories via Excel (LaPelle, 2004). This allowed me to both readily categorize theme codes and also summarize the content. Interview memos were maintained in Word, to catalog any additional insights, observations or reflections following each interview. Where documents were analyzed, they were abstracted using a document summary form (Miles and Huberman, 1994) and coded consistent with the theme code framework.

A representation of the coding matrix is provided as Appendix E. The initial *a priori* codes developed from the constructs were first expanded to include emergent codes that surfaced in the survey responses, primarily in response to open-ended questions. (These additional codes are indicated by italics.) Codes that emerged from the interviews and were subsequently added to the coding framework, and these are depicted in Level 2. Finally, the codes were reduced or simplified into common themes, as indicated in the Primary Family columns, that bring together the phenomena based on observed patterns.

Early literature (Sheehan 2001) cites response rates of 20%-40% for general email surveys. Baruch and Holtom (2008), in an analysis of more than 1,600 organizational research studies, documented that electronic data collection including the use of email, phone, and web application resulted in response rates as high as or higher than traditional mailed surveys[48]. Their analysis documented a mean response rate of 54.7% for email surveys. For this research, the response rate to the emailed survey could be defined as high, with 64% percent (59 of 92) responding. This included one center with a partial response, where the survey was incomplete but those questions with responses were included for the analysis. Two additional organizations opened the survey but did not respond and were thus not counted in the results. The distribution and proportion of all responses by state and other important framing data are detailed in the subsequent chapter.

h. Study Limitations

The study design does have certain shortcomings. First, the mixed methods approach, and the interview component in particular, is not easily replicable. Further, the universe of community health centers in the US comprises more than 24 million patients and over 1,300 organizations; because this study was drawn from health centers in a specifically defined, limited

geographic area, survey respondents may not be representative of the broader group of CHC organizations across the country that use some type of CHW. Thus, the generalizability of the survey results and model construct might be limited. However as indicated above, the response rate within the region itself was high, suggesting that the responses might be seen as generally reflective of the health center organizations operating in the northwest, although there were some differences in survey respondent and non-respondent characteristics. On the other hand, the study does offer rich evidence to contribute to an understanding of the wide range of utilization frameworks in the region.

The interview subjects were selected based on organizational contacts and respondent-driven connections. As detailed above, the interview subjects were typically individuals in CHW program leadership or CHC leadership roles. CHWs themselves were not interviewed, so the study is reflective of a management/ organizational perspective. While both the relatively small number of interviews and the purposive sampling would certainly limit generalizability, such generalizability or transferability is not a key goal here and thus this concern is minimized.

Another consideration is reliability of the coding for the in-depth semi-structured interviews, given the fact that this study is the product of as single Principal Investigator, and as such the coding and analysis is undertaken by one individual. Reproducibility or inter-coder reliability might therefore be a concern. Campbell, et al. (2013) discuss this concern and outline approaches to reduce the effect of coder subjectivity and improve reliability. With the assistance of a knowledgeable graduate student intern, presently enrolled in the Mailman School of Public Health at Columbia University, I followed the approached detailed by Campbell, using an iterative process of unitizing, coding, discussing coding discrepancies, and refining codes and code definitions through a negotiated agreement approach.[49] To maintain the integrity of the data set in Atlas.ti and protect respondent confidentiality, the student coding work was done by

hand, using the initial coding framework and dictionary. A sample of transcripts (3 of the 18) were reviewed in this manner and the final coding schema reflects this process.

Finally, it should be noted that the survey was conducted and interviews completed prior to the 2017 presidential elections and change in administration. The President's immediate efforts to repeal the ACA and restructure Medicaid, if successful will have far-reaching consequences for health centers and the patients they serve, and most certainly alter the way in which health centers function and the staff they deploy.

These considerations notwithstanding, the research is likely to have great interest and value to the health center community as it plans for, adapts and implements CHW programs.

i. Research approval / Institutional Review Board

The research proposal inclusive of the survey instrument and draft interview guide were submitted to the University of Illinois – Chicago Institutional Review Board {Research Protocol 2016-36], and was assigned "EXEMPT" status by OPRS on January 19, 2016. (Appendix D) The study included both a survey and key informant interviews. Informed consent was sought and obtained from all survey and interview respondents. Confidentiality of data was maintained at all times. The researcher completed CITI (Collaborative Institutional Training Initiative) training and HIPAA training in 2013 and updated this training as required in December 2015.

TABLE II - MEASUREMENT TABLE CONSTRUCTS & FACTORS

Research Question:				
1. What are the characteristics of the CHW models in use today?				
1. a (Sub) How are these defined with respect to Titles, Work Focus, Roles/Functions; Settings/Programs; Competencies				
Constructs	**Description and Factors**	**Data Collection Approach**	**Measures**	**Sources**
TITLE/ NOMENCLATURE	CHW is an umbrella term that may encompass a large number of titles. What are CHWS called in CHCs? Do the different titles reflect meaningful differences in the work performed/ Or are they an artifact of setting or program ?	Initial survey to define title		Survey of organizational members of the Northwest Regional Primary Care Association encompassing ~ 100 CHCs in Alaska, Idaho, Oregon and Washington) Interviews respondents will be drawn from survey.
		Key Informant Interview	Array of titles	Document review of available position descriptions.
		Document review		Secondary data obtained from colleague survey conducted for US Office of Minority Health and HRSA of ~70 organizations nationally conducted spring 2015 and including some CHCs.
			Frequency table	
			Descriptive statistics	
			Patterns / variation by program or setting	

Constructs	Description and Factors	Data Collection Approach	Measures	Sources
WORK FOCUS	Is the program focused on individuals and improving individual health metrics? On communities or populations and addressing community health outcomes?	Survey	Frequency table	
		Key informant Interviews		As above
			Descriptive statistics	

Constructs	Description and Factors	Data Collection Approach	Measures	Sources
ROLES /FUNCTIONS	Functions or tasks and how these fit together to describe or define the work performed . How does the role fit in the organization?	Survey		As above
	Is there a single model for how CHWs are used in the organization? Or different models?	Key informant Interviews	Frequency table	
			Descriptive statistics	
			Array of roles and functions or tasks associated with each	
			Patterns / variation by program or setting	
			Comparison of roles and functions by title	

Constructs	Description and Factors	Data Collection Approach	Measures	Sources
SETTINGS and Programs	What are the different settings in which CHWS work? On site at the center? Off site in the community? Does the role differ by settings? By programs? Does the title differ by setting or program?	Survey	Array of Settings or program type	As above and
				Document /lit review
			Frequency table Roles within setting	
			Titles within setting	

Research Question				

2. How do CHWs address staffing competencies and skills that health centers need to meet the requirements of rapidly evolving healthcare marketplace, emphasizing care teams, patient-centered care, & medical homes?
 	
     2a. (Sub) How are the core CHW competencies defined?
 	
     2b. (Sub) Do CHW competencies or skills differ across programs, functions, settings? are they consistent?
     2c. (Sub) Which competencies are essential for meeting defined CHC needs?				

Constructs	**Description and Factors**	**Data Collection Approach**	**Measures**	**Sources**
COMPETENCIES / SKILLS	How are competencies – or the perceived skills required for effective work - defined? What knowledge base is incorporated in the competencies?	Survey Key informant interviews	List of identified competencies Frequency table Patterns / variation	As above and Document / lit review

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Research Question: 3. To what extent do CHW models vary, or how are they similar? what are the key unifying elements?				
Constructs	**Description and Factors**	**Data Collection Approach**	**Measures**	**Sources**
MODELS	Overarching construct encompassing titles, roles & functions, setting competencies. How do these fit together in practice?	Survey Key informant interviews	Analysis of relationships between various titles, roles, settings & competencies	As above

Research Question:				
4. How can CHW competencies be leveraged to meet new workflow needs as health centers develop medical homes and respond to other demands in this changing environment?				
4a. (Sub) To the extent that there are core community-dependent attributes of CHWs, how can these be maintained, strengthened or incorporated effectively into CHC settings?				

Constructs	Description and Factors	Data Collection Approach	Measures	Sources
VALUE	What are the perceived benefits of using CHW staff?	Survey Key informant interviews	Frequency table Patterns / variation	As above
BARRIERS	Perceived impediments to program stabilization or expansion	Survey Key informant interviews	Frequency table Patterns / variation	As above

IV. Analysis and Findings

As indicated earlier, all community health center organizations known by the NWRPCA to be operating in the four states comprising the Pacific Northwest, and with verifiable email addresses, were invited to participate in the study by responding to an electronic survey. The distribution and proportion of all responses by state is indicated below, as is the distribution, by state, of the subsequent key informant interviews.

TABLE III - SURVEY INVITATIONS, RESPONSES AND INTERVIEWS BY STATE

State	Invitations sent	Respondents	Percent of CHCs in state responding	Interview respondents (Organizational count)	Interview Respondents (Individual count)
Alaska	25	13	52.0	2	4
Idaho	13*	10	76.9	5	8
Oregon	30*	16	53.3	5	5
Washington	26	22	84.6	6	7
Total	92 organizations (94*)	59 organizations (61*)	64%	18	24

Because several CHCs operate in multiple states, in the chart above the data in the "invited" column was adjusted to reflect the additional operating location in that state even though the survey was sent only once to each organization and initially categorized based only its primary administrative location. In addition, as indicated above 24 individuals participated in the interviews, representing 18 organizations.

Characteristics of Invited Organizations and Survey Respondents and Non-Respondents

Data for key characteristics of patients served by all community health centers in the region was extracted from the UDS data set (2014). Shown below are key characteristics of patients served by all invited centers, in comparison to both responding and non-responding organizations. The responding centers accounted for 78.8% of the patients served by all CHCs in the region, with the responding centers being larger, on average, than all invited centers, and substantially larger than non-respondents. Responding centers reported a lower proportion of uninsured patients in comparison to non-respondents (23.3% v 28.9%), a somewhat higher proportion of patients covered by Medicaid (53.2% v. 46.0%) and a substantially higher proportion of patients best served in a language other than English (24.8% v 13.7%). If meaningful differences exist between the respondents and the non- respondents, this would represent a threat to the external validity of the survey results or the transferability of the results to the region – but neither generalizability nor transferability were intended outcomes of the study. Still, the differences between respondent and non-respondent characteristics should be kept in mind.

TABLE IV - CHARACTERISTICS OF CENTERS AND RESPONDENTS IN NW REGION

Key Characteristics	All Invited Centers	Responding Centers	Non-Responding Centers
Total visits	1,526,767	1,203,064	323,703
Mean # patients served	16,416	20,753	9,232
Patients at or Below 200% FPL	91.9%	92.0%	91.8%
Uninsured Patients	24.5%	23.3%	28.9%
Medicaid Patients	51.7%	53.2%	46.0%
Patients best served in language other than English	22.4%	24.8%	13.7%

Utilization of CHWs among Survey Respondents

The membership of the NWRPCA is comprised of community health centers and related organizations. Survey respondents were asked to select all organization types that applied. With the exception of 1 organization, all survey respondents identified as community health centers (the outlier identified as a local health department only). Several indicated that they were designated to serve special populations as migrant, homeless, or public housing grantees. The two responding as "other" reported their organization type as local health department or county health department.

TABLE V - RESPONDENT ORGANIZATION TYPE

Org Type	Response	% of Total Respondents
Federally Qualified Health Center (FQHC)	58	98%
Migrant grantee (330g)	10	17%
Homeless Grantee (330h)	7	12%
Public Housing Healthcare Grantee (330i)	2	3%
Other (please describe)	2	3%
FQHC Look-alike	0	0%

Of the total of 59 survey respondents, 37 (62.7%) reported that their organization currently utilizes community health workers s in some capacity.
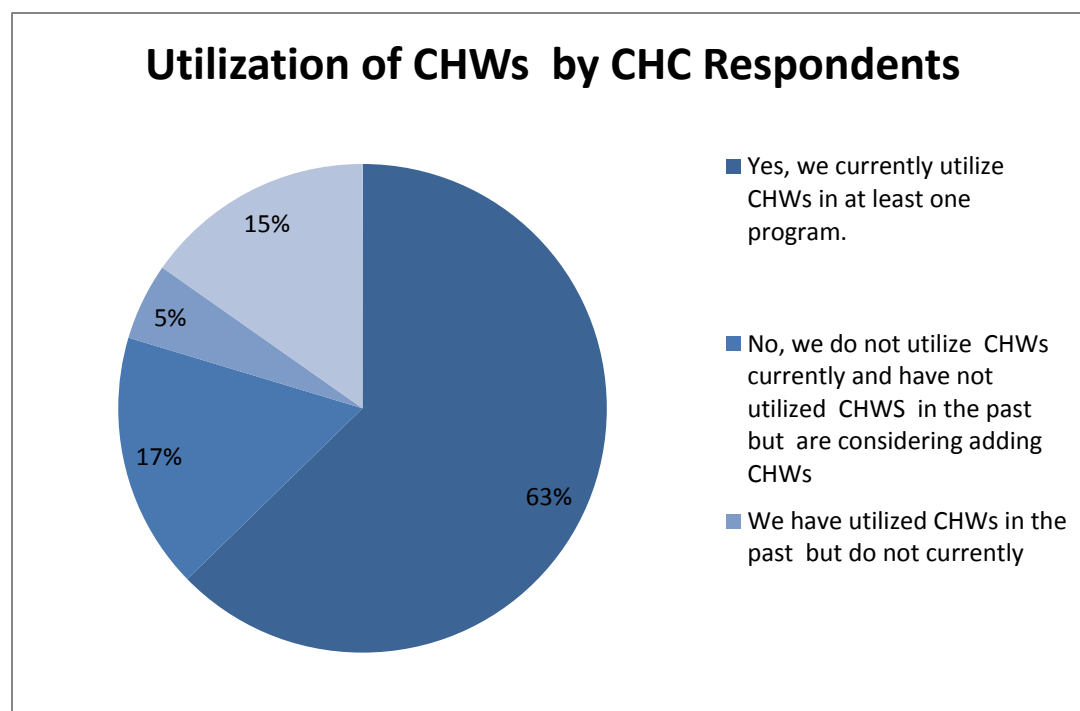
Figure 7 - **Utilization of CHWs by respondents**

Referencing the health center location by primary state, the distribution of survey responses as it relates to utilization or non-utilization of CHWs follows:

TABLE VI - DISTRIBUTION OF CHW UTILIZATION BY RESPONDENT STATE

	Yes, we currently utilize CHWs in at least one program.	No, we do not utilize CHWs currently and have not utilized CHWS in the past but are considering adding CHWs	We have utilized CHWs in the past but do not currently	We do not utilize CHWs now and are not considering	Total respondents in State	Percentage of Respondents in State Utilizing CHWs	State Respondents Utilizing CHWs as Percentage of Total respondents utilizing CHWs
Alaska	5	2	1	5	13	38.5%	13.5%
Idaho	6	2	0	2	10	60%	16.2%
Oregon	12	4	0	0	16	75%	32.4%
Washington	16	2	2	2	22	72.7%	43.2%
Total	37	10	3	9	59	62.7%	100%

Organizations not Utilizing CHWs

A relatively smaller number of survey respondents were not utilizing CHWs. These included organizations that had previously utilized CHWs but did not do so at the time of the

survey (3), those that had never utilized CHWs and were not considering doing so (9), and those that did not utilize CHWs but were considering engaging them (10).

Of those (3) that had utilized CHWs in the past but do any longer reasons given were lack of stable funding (2), Services not reimbursable (2) Turnover of staff (2) Lack of training resources (1).

A total of 9 respondents had not utilized CHWs and were not considering doing so. There was no single prominent reason reported across the respondents, but lack of funding, lack of reimbursement, and staff-related considerations were all cited in the responses.

TABLE VII - REASONS CHWS NOT UTILIZED

Reason	Response	%
Lack of stable funding	2	22%
Services not reimbursable	2	22%
Shortage of qualified applicants (if selected please indicate below the qualification(s) lacking)	2	22%
Lack of training resources	0	0%
Turnover of staff	2	22%
Other (please describe)	5	56%

The free text responses to the survey speak both to the issue of titles used for various kinds of functions as well as perceptions of need.

- 2 respondents indicated they saw no need for CHWs,

- 1 respondent indicated that care coordinators did some of the same activities that might be done by CHWs,

- 1 indicated that prior administration felt CHWs were "not applicable" to their needs,

- 1 respondent wrote that tribe provided CHW services, indicating that the services were available though not delivered under the aegis of the CHC.

Only one organization commented that it had not yet found the need to utilize CHWs. Ten survey respondents indicated CHWs were not currently utilized within their organizations, but that they would consider utilizing or engaging them, and described a variety of reasons for doing so, including connecting people to resources, helping people access community services, and reducing utilization of emergency services. These responses mirrored, in many instances, the rationale offered by those organizations that reported utilizing CHWs in some capacity:

- We have been in the process of integrating behavioral health into our remote medical clinic. We are finding that a third part of the equation is the community aspect, not adequately addressed by the other two disciplines.

- We need to address special target populations in our rural community and this model is perfect.

- We are looking at how we might use CHW to reduce ED use.

- We want to increase better connections with our community resources.

- We like the idea and concept behind it. Seems to fit the mission and be a great way to care for our community.

- Considering adding patient navigators/peer support staff to assist clients to process eligibility and access community supports for housing, transportation, education etc.

- We know the value of having people from the community we serve in the health promotion, patient engagement, and system navigation role! We would love to explore

what that role could look like in our clinic.

- Haven't found the need as yet.

Understanding How CHWs are Utilized Today

Nearly two-thirds (62.7%) of the survey respondents reported utilizing community health workers of some type, and the balance of the survey was devoted to investigating how such staff were engaged and deployed across the responding health centers. The research questions and sub-questions assume the existence of a model or an overarching construct, consisting of four distinct but related elements or quadrants, described as *Titles; Competencies and Skills, Roles/Functions* and *Settings/programs*. In order, therefore, to address the research questions, it is first necessary to analyze each of the distinct elements. Thus, my analysis first addresses separately each element of the quadrant, summarizing the survey responses of the 37 respondents across the NWRPCA region that currently utilize CHWs and incorporating illustrative quotes from the 18 subsequent interviews. The research questions and constructs are further addressed and illustrated in the subsequent chapter and in Appendix F.

Titles Used For Community Healthworker Workforce

- what are the titles? are they related in a meaningful way to competency, skill, role, function, setting or program?

Because the term community health worker or CHW is generally considered to be an umbrella term, encompassing positions that may have a range of titles, 13 different titles known from the literature and other survey instruments to be commonly used for front line workers of this type, plus an additional open-ended option, were offered in the survey as possible responses.

Outreach worker (18) and Community health worker (17) were the most commonly reported title while "other" was also selected by 18 respondents. Interestingly, the title "CHW" itself, while widely used, was neither the most commonly used nor the singular title used by the respondent organizations. Furthermore, 20 respondent organizations (54%) do not use the title CHW at all, instead using other titles to refer to these staff members. On reflection, this is not surprising in that it mirrors the use of "CHW" as an umbrella term, rather than a specific title.

TABLE VIII - REPORTED TITLES FOR FRONT-LINE CHW WORKFORCE

Title	# Reporting	% of All Respondents Using this title
Outreach worker	18	49%
Other	18	49%
Community Health Worker	17	46%
Community outreach worker	11	30%
Promotor (a) de salud	8	22%
Health (or community health) advocate	5	14%
Community health aide	3	8%
Community health navigator	3	8%
Community health representative	2	5%
Peer educator	2	5%
Community health liaison	2	5%
Health ambassador	1	3%
Community health advisor	1	3%
Lay health advisor	0	0%
Total respondents		37
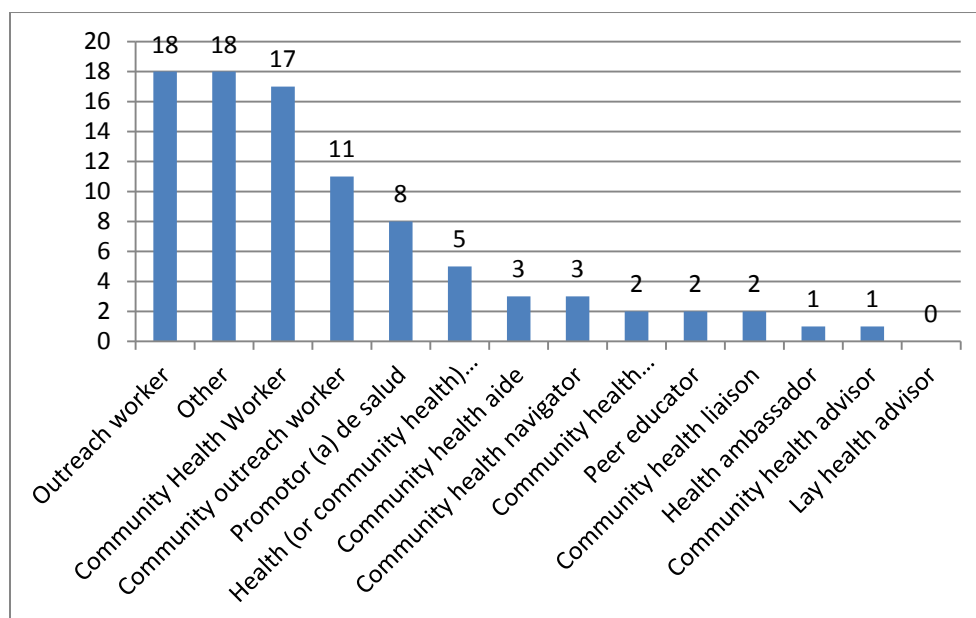
Figure 8 - Titles Used for CHW Workforce

The free-text survey responses recorded under "other" (18 respondents in total, reporting 21 titles as reported /as written) appear in large part to be to be variations on the general theme, with different combinations of words or word order used in the titles. However, some respondents included in this section staff with the title Case Manager and Health Educator, suggesting that in some organizations the understanding of the CHW definition is broad and encompasses a variety of professional roles as well as different titles.

TABLE IX - ADDITIONAL TITLES REPORTED FOR FRONT-LINE CHW WORKFORCE

Case Manager (x4)
Clinical Community Health Worker
Community Health Outreach Worker
Community Health Specialist (x2)
Community Wellness Advocate
Community Worker
Family Resources Coordinator
Health Educator
Health Navigator

Healthcare Specialist
Home Visitor
Navigator
Outreach and Enrollment Specialists
Outreach Referral Worker
Parent Educator
Patient Care Coordinator
Patient Care Outreach Coordinator/ Worker
Patient Navigator
Patient Resource Coordinator
Peer Advocate
Peer Wellness Specialist

Survey respondents were permitted to select multiple titles if applicable to their organization; 24 respondents reported more than one title in use within their organization. Here it should be noted, as explained by Malcarney et al. (2015), that the Standard Occupational Classification System (SOC) definition expressly excludes from the definition of Community Health Worker both Health Educator and Patient Navigator, which are classified separately. However, these titles or roles were not excluded from this study if reported by the responding health center as functioning in the capacity of a CHW. While 13 respondents reported using only a single title for their front line staff working in this capacity, most organizations reported using two or more titles within their organization to encompass the positions held by front line workers working in a CHW role. In one instance, the organization reported nine different titles in use across the practice to identify staff engaged in a CHW role. The number of titles reported in use by the responding organizations is detailed below.

TABLE X - NUMBERS OF CHW TITLES IN USE BY RESPONDENT ORGANIZATIONS

# Respondents	# Titles Reported for Front-Line Health Worker Positions
13	1
11	2
5	3
6	4
1	8
1	9
37	

In get a more in-depth understanding of the survey responses, interview respondents were asked to identify the title or titles used and explain where they fit within the organization. One respondent explained,

> *I don't think that we have anything that is strictly called the community health worker. The community health outreach workers who are working with us on a more primary care focused health services reach out to and engage patients who are experiencing barriers to establishing primary care. (Oregon)*

Explaining the preferred title in their health center, another interview respondent remarked,

> *We do use the term community health worker. We have kind of two tracks for community health workers. So we have staff members who worked on our mobile health unit. And all of those individuals are identified as community health workers and they've received training and certification as community health workers. But their function is to provide immediate assistance when we're out in the community and somebody will have a question about, you know, where is the food resource for me or who do I contact in the community about housing? So they can deal with that kind of in the moment. The other track is within our clinic as part of that care team. And that's more of long-term relationship and it's a little bit more in-depth and really relational with the*

*patient. So it's getting to know what's going on with the patient, what's
happening with them, maybe even doing a home visit to kind of assess
their environment. So those are the two tracks that we have for our
community health workers right now. (Oregon)*

This response reflects the layered and nuanced way in which CHWs are sometimes utilized,

even within a single organization, to address particular community or population needs.

Title in use by State

A review of the titles in use by state reveals that the community health worker title was

not reported by any responding the centers in Alaska, where outreach worker was most

frequently reported. Conversely, in Washington and Oregon, Community Health Worker was the

title with the greatest number of respondents. A deeper dive in to the historical and policy

frameworks may explain this and was explored in the interviews and discussion with NWRPCA

colleagues. In Washington, for example, the term Navigator is used primarily to refer to those

trained and certified by the state Health Benefit Exchange to help individual and families apply

for and enroll in insurance coverage.

As detailed by State ReForum, the state of Oregon has, as part of the state plan

amendment Community Care Organization framework, identified a category of "traditional

health workers" including community health workers, and has defined a scope of practice for

each category. As one interview respondent based in the state explained, "*And now they have this

umbrella of traditional health workers in the state of Oregon. They have this traditional health

worker umbrella and they have community health workers, and they have navigator, and they

have peer support.*" Practices utilizing those CHWs certified by the Oregon Health Authority

(OHA) and included on a registry are eligible to be reimbursed by Medicaid. While the titles are

not proscribed, the framework established and the specific requirements for certification and

reimbursement at the state level have led some organizations to reconsider the titles they use so

as to distinguish their programs or not bump up against evolving state requirements. As one respondent explained, "*because of the legislation in the state, people split the language off.*"

In Alaska, the Community Health Aide Program (CHA/P) supported through the Indian Health Service (IHS) and other federal sources establishes a formal category of certified community health aides/practitioners, who may function in a comprehensive, clinically oriented CHW role. Specific tracks may focus on dental and behavioral health. In addition, the Community Health Representative (CHR), a national program also supported by the IHS, utilizes community-based health care workers and paraprofessionals whose training in outreach and health promotion/disease prevention is explicitly rooted in Native American and Alaskan Native customs and tradition. The participation of Alaska-based CHCs in these programs is reflected in the reported titles, and in some cases, CHCs participate in both programs.

TABLE XI - DISTRIBUTION OF CHW TITLES, BY STATE

	Alaska	**Idaho**	**Oregon**	**Washington**	Total
All	5	6	12	16	37
Community Health Worker	0	1	7	9	17
Outreach worker	3	3	4	8	18
Other (please specify)	3	1	6	8	18
Community outreach worker	0	2	5	6	11
Promotor (a) de salud	0	1	3	5	8
Health (or community health) advocate	0	0	1	4	5
Community health navigator	1	0	0	2	3
Community health aide	3	0	0	0	3
Community health representative	1	0	0	1	2
Peer educator	0	1	0	2	2
Community health liaison	1	0	0	1	2
Health ambassador	0	0	0	1	1
Community health advisor	0	0	0	1	1
Lay health advisor	0	0	0	0	0

Rationale for use of multiples titles

Descriptive information was provided by 20 survey respondents whose organizations

used multiple titles. While one organization noted simply, *"They vary based on role of*

position," other survey respondents provided more detail or other rationale to explain how or why different titles were used. Survey respondents offered the following explanations:

- *It depends on the program and what the title for the program is. For Example: Maternity Support Services use CHW, Parents as Teachers use Parent Educators, Early Intervention Services use Family Resources Coordinators.*

- *We use Clinical Community Health Worker to identify that our CHW's work directly with the clinic. Other CHW's are dedicated more into outreach not so much in the clinic. Community Health Specialist is a title for a volunteer CHW.*

- *Titles are based on the primary function of the CHW. For example, some CHW's primarily teach classes and are identified as outreach workers. Other CHW's primarily provide home visits and are referred to as Community Health Workers.*

- *CHW - are primarily responsible for specific programs targeted at Medicare eligible or prevention registries. On the other hand, Outreach Workers - are more general in their activities, events, fairs, community chamber events, enrollment, community outreach events, open houses.*

Cross tabulations were constructed to determine if titles were meaningfully related to any particular factors. Further, the Chi square analysis was used to determine whether there is a significant association between titles and location type; setting; focus on particular conditions; age group served; activities performed with individuals or groups; work in teams, work with special populations; and paid v. volunteer status. None of these analyses found a statistically significant relationship to the association. However, because of the low expected frequencies for some titles, where expected frequencies were < 5, the chi-square test of fit may not be accurate in determining whether the association between the variables is statistically significant.

Further insight into the use of multiple titles was offered by several interview respondents:

- *Whether you call them community health workers or outreach workers it was really about the relationship. (Oregon)*

- *So in my mind, community health workers are educators, they are case managers but they are primarily people who are a similar culture and background of the people that they're meeting to serve. And so that's to me what they do and who they are. Their titles in our organization are case managers, outreach workers, navigators and community workers. We have all of those titles in our organization that serve different functions. (Washington)*

- *Some people say that is a new concept, but the role has been around for a very long time and many organizations have had the role for a very long time and people shouldn't get hung up on the name. (Washington)*

Finally, in some instances the use of different titles reflected different understandings of the common terminology. In one organization (Oregon) using the promotora title, the interview subject commented *"we describe the role that our clinic recognizes as promotoro or promotora – we usually don't classify it under a community health worker. A community health worker - that would be someone, I guess, that has at least some knowledge of nursing, like a medical assistant."* He explained that his staff worked primarily in the community, including with migrant and seasonal farmworkers, outside the walls of the health center. In contrast he offered the example of another nearby health center that used the CHW title where community health workers played more of a role in the clinic and directly with patients.

A different respondent, explaining yet another local distinction in a setting where staff focus primarily on non-clinical outreach and insurance enrollment, commented:

> *To me a community health worker came up in the migrant health conversations, came from that migrant realm. I have never heard or been in a conversation where community health worker was used in another context. And my outreach workers -- what they do is more of a social services role as opposed to a health worker role. So to me, the care managers, the people who are actively involved in*

some part of the care are closer to what I think of when I think of a community health worker. My bias on the definition of a community outreach worker may have been started with the combination of discussion of migrant health and promotoras. (Idaho)

Roles and Functions

- How does the CHW role fit in organization?

- Is there one model for how CHWs are used in the organization? Or different models?

Both the survey and the interviews illustrate a range of approaches to utilizing CHWs that reflect particular organizational needs. These encompass functions from community-oriented outreach, education and prevention to individual clinical care coordination, to helping clients navigate insurance, coverage, and non-health care related resource needs and finally to general community engagement and empowerment.

Several survey questions were posed to ascertain the focus of CHWs with respect to the populations served, by age, health condition, or population designation, how they worked – whether with individual patients, groups of patients, the broader community, and with teams of staff, and to understand where or how the CHW role fit within the health center, in terms of employment status and pay ranges in addition to functions.

Employment status

Across all respondents, staff working in a CHW capacity are paid employees. Just over half (54%) of responding organizations also reported having volunteer CHWs on staff in addition to paid CHWs; in one organization, the number of volunteer CHWs was about double the number of paid, employed staff.

TABLE XII - CHW EMPLOYMENT STATUS

Status	# of Respondents	% Of all Respondents
Employed /paid	37	100%
Engaged as Volunteers	20	54%
Contracted	17	46%
Other (describe and indicate number)	3	8%

The average number of employed, paid CHW staff reported by the respondents was 9.92. While twenty CHCs indicated that CHWs might also be engaged as volunteers, only six (30%) provided the number of volunteers working in this capacity at the health center. The descriptive statistics below reflect both the differences in size and scale of the respondents, and differing response rates.

TABLE XIII - PAID AND VOLUNTEER CHW STAFF

	# Paid staff (N=37)	# Volunteers (N=6)
Mean	9.92	5.3
Min	1.00	2
Max	78.00	12.00
Median	5.00	3

The response for average salary or salary range (reported by 34 respondents) varied widely, from a low of $11/ hour to a high of $65,000 per year (or in excess of $31/hour, assuming a standard 40-hour work week. The salary variations appeared to be a reflection of the locations of the centers as well as the varying types of functions and roles that community health worker staff plays within each organization, and the professionalization of some elements of the CHW role. The lowest wage rates or salaries reported were by rural organizations (irrespective of state). Some, but not all, of the organizations reporting somewhat higher salary ranges

required a bachelor's degree. The highest average salaries were reported by organizations that reported among the titles used for CHWs Patient Resource Coordinator, Patient Care Coordinator as well as Case manager, Patient Navigator and Outreach Worker.

Among the interview respondents, only one organization utilized primarily volunteer CHWS. The volunteers were typically high school students, who were described as ideal because they had fewer demands on their time than adult volunteers.

> *So primarily our promotora program is volunteer based. They started as students doing senior projects or community service hours...They might be mediocre students but they have leadership qualities that they either (got) naturally from their family or, you know, having been a migrant either doing field work themselves or their family being involved with migrant work and just having a connection with that, and I think just having a passion for people. (Washington)*

In some instances, the volunteer opportunity led to paid employment at the health center in another capacity so the *promotora* work, in this instance, was a stepping stone to a paying job.

CHC populations served by CHWS, identified by race or ethnicity

The specific survey question posed was "Please indicate which populations by race or ethnicity your center's CHWs primarily serve. (Please check all that apply)." While it is not possible to establish how the question was interpreted by the respondents, the data reported suggest that the respondents may have been reporting all of the populations served by the organization, rather than any particular focus for the CHWs. On the other hand, it is also conceivable that given the diverse nature of the populations served by community health centers in the region, and demographics of the local communities, many CHCs would report those "primarily served" as a very ethnically and racially diverse group.

TABLE XIV - IDENTIFIED POPULATIONS SERVED BY CHWs

Ethnic or Racial Group Served	#	% of all respondents reporting
Non-Hispanic White	30	81%
Hispanic or Latino	28	76%
Native American, American Indian or Alaskan Native	14	38%
Asian	9	24%
Black or African American	9	24%
African born	7	19%
Native Hawaiian or other Pacific Islander	7	19%
Other (please describe)	4	11%
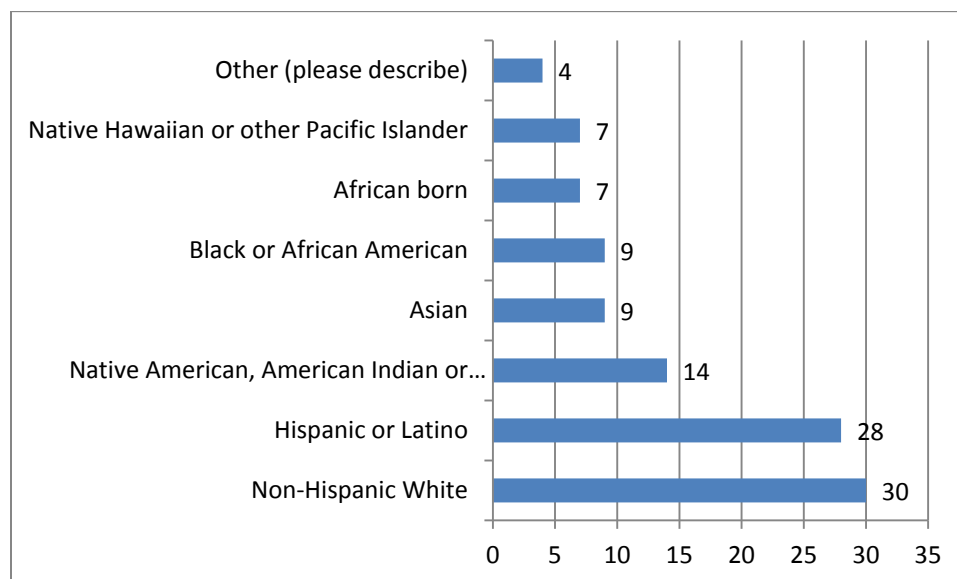
Figure 9 - Ethnic and racial groups served

Summarized below in both tabular and graphic form are the responses to those survey questions related to the population focus and roles of CHWs as they relate to work with individual patients, groups of patients or the broader community, and work with health center

teams. This provides a snapshot of the diversity of CHW utilization, with further detail on each

issue described in the subsequent narrative.

TABLE XV - WORK FOCUS OF FRONT-LINE CHWs

Question	Yes - # of Respondents	Yes - Percent	No - # of Respondents	No - Percent
Do the CHWs at your health center primarily focus on specific health conditions / issues?	11	30	26	70
Do the CHWs serve primarily designated vulnerable populations?	29	78	8	22
Do the CHWs focus on defined age groups?	4	11	33	89
Do CHWs in your health center work directly with individual patients?	36	97	1	3
Do CHWs work with groups of patients at the health center?	19	53	17	47
Do your health center's CHWs work with the broader community in your neighborhood or area?	33	89	4	11
Do CHWs in your health center work in multidisciplinary teams with other staff?	27	73	10	27
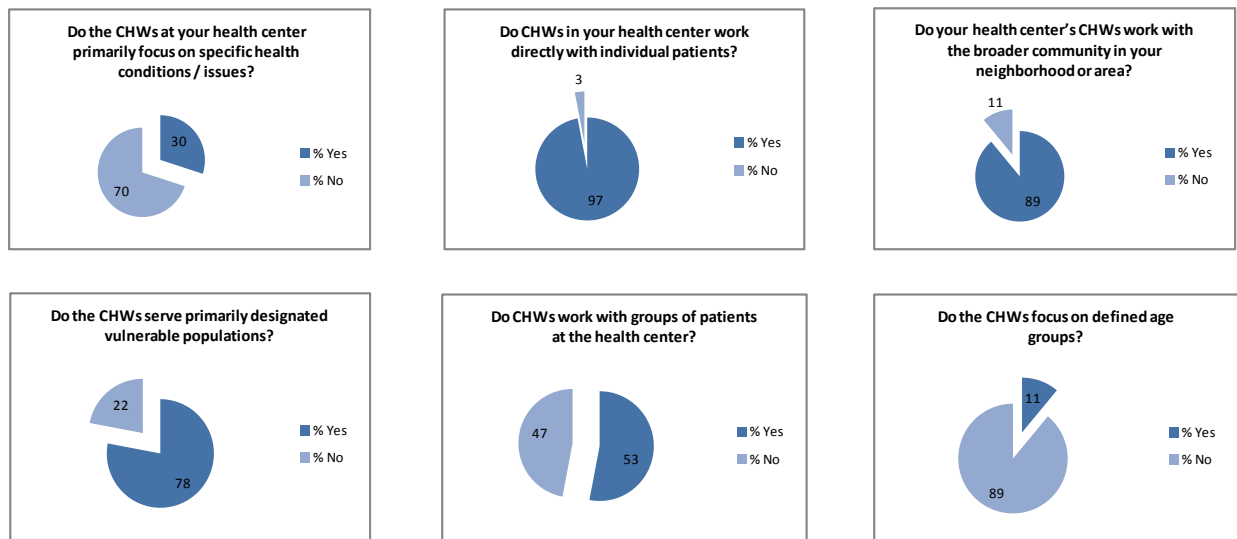
Figure 10 - Work focus and populations served

Do the CHWs at your health center primarily focus on specific health conditions / issues?

Just 30 percent of the survey respondents (11 of 37) reported that CHWs were utilized primarily to address specific health conditions or issues. The most commonly identified health issues were cardiovascular disease and diabetes, as indicated in the frequency table below.

TABLE XVI - HEALTH ISSUES ADDRESSED BY CHWs

Health Condition or Issues	#	% of all Respondents reporting
Cardiovascular disease	6	55%
Diabetes	6	55%
Other	6	55%
Nutrition	5	45%
Maternal or Infant health	4	36%
Obesity	4	36%
Physical activity/ exercise	4	36%
Smoking/ tobacco cessation	3	27%
Asthma	2	18%
Dental /oral health	2	18%
HIV/AIDS	2	18%
Behavioral health or mental health	1	9%
Cancer	1	9%
Environmental health	1	9%
Immunizations	1	9%
Occupational health	1	9%

Of particular interest is the that the range of responses entered as free text in the "other" field under specific health conditions were: *Health insurance enrollment, ACA insurance, elders /senior citizens, and medication management;* in other words, needs not typically thought of as specific health conditions but rather as social determinants that required special attention and hence were considered "conditions." This point was further explored in the interviews, and one respondent, from Washington, explained, *"When I talked about health system navigation, it's also trying to help people to understand the messaging around why would you want health insurance, why would you, if you have health insurance, establish a relationship with a primary care provider."* The absence of insurance, or lack of information about the benefits itself, was thus seen as a health condition in and of itself, and one amenable to intervention to achieve an improved outcome.

Do the CHWs serve primarily designated vulnerable populations?

Of all survey respondents, 29 or 78% percent reported that CHWs served primarily vulnerable populations. This included HRSA-defined special populations as well as other groups with particular needs. Most organizations selected multiple responses to this question, with 4 selecting 9 designated vulnerable populations, 1 reporting eight vulnerable populations and 7 of the 29 respondents selecting seven different vulnerable populations. Only one organization indicated that they serve primarily a single vulnerable population.

The frequency table below shows the special populations identified by the respondents; the most common response was "uninsured," with 86% of the respondents indicating that their CHW services focused on addressing the needs of this vulnerable group of people, followed by homeless individuals and families (79%) and pregnant women and infants (76%). Note that the question posed was whether CHWs "serve primarily" certain designated populations and the responses, with some organizations reporting multiple overlapping special populations, raise some question of how this language was understood.

TABLE XVII - VULNERABLE POPULATIONS SERVED

Population Group	#	%of All Respondents reporting
Uninsured	25	86%
Homeless individuals or families	23	79%
Pregnant women and infants	22	76%
Immigrants	17	59%
Frequent emergency department users	16	55%
Migrant and seasonal farmworkers	16	55%
Residents of public housing	16	55%
Veterans	13	45%
Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ)	9	31%
Other (please specify)	3	10%

Entered in the "other" free-text option for special populations served were refugees, recently incarcerated and elders or senior citizens.
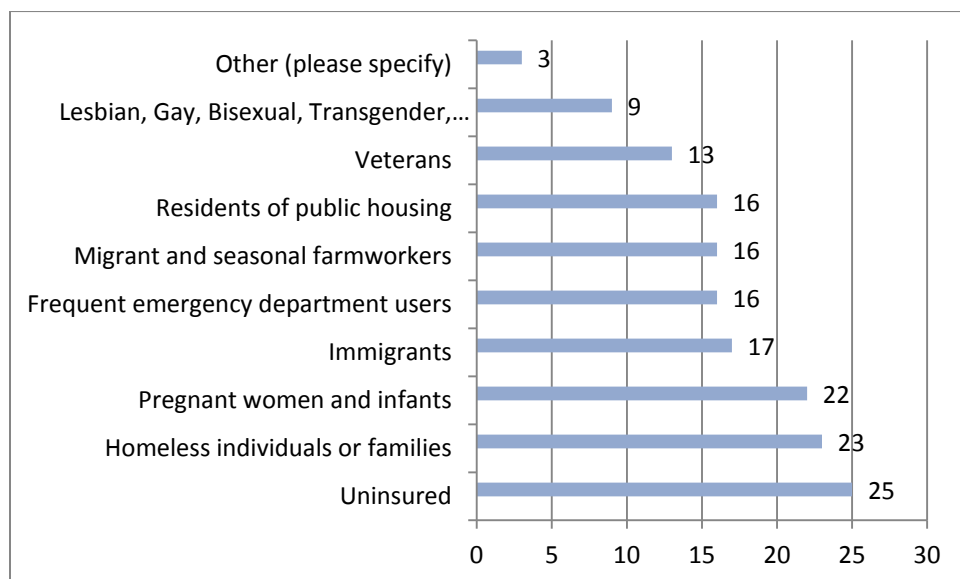
Figure 11 - Special populations served

Do the CHWs focus on defined age groups?

Age-specific services were not commonly reported, with just 4 organizations reporting that the CHWs in their organizations were utilized to address the needs of particular age groups. Of those, three organizations reported focusing on adults age 65 and older. The utilization of CHWs to support the care of older adults was described in detail by one interview respondent in particular, where the remote Alaska location has led to geographic isolation, and CHWs are specifically focused on caring for and supporting elders, while extending the components of the patient centered medical home.

TABLE XVIII - AGE GROUPS SERVED, WHERE CHWS FOCUS ON AGE-SPECIFIC COHORTS

Age Cohort	#	Percent of All Respondents Reporting
Infants and Children up to age 12	2	50.00%
Teens / Adolescents ages 13 -17	1	25.00%
Young adults 18-24	1	25.00%
Adults 25-64	0	0.00%
Seniors ages 65 and over	3	75.00%

Do CHWs in your health center work directly with individual patients?

Virtually all (36 of 37) survey respondents reported that the CHWs work with individual patients. The nature of the work with individual patients varies, though the most-often selected responses focus on connecting people with services, providing navigation or coordination, teaching health promotion behaviors and skills and conducting insurance enrollment. More

clinically- or health services utilization-oriented services such as promoting treatment adherence,

coordinating referrals, or developing goals/ action plans, were less commonly reported in the

survey.

TABLE XIX - ACTIVITIES OF CHWs WORKING WITH INDIVIDUAL PATIENTS

Activity – CHWs who work with Individual Patients	#	% of All Respondents Reporting this Activity
Connect people with non-medical services or programs	36	100%
Conduct health insurance enrollment	30	83%
Provide care navigation and coordination	29	81%
Teach health promotion and prevention behaviors and skills	29	81%
Visit patients at home	25	69%
Work with family members in support of patient needs	25	69%
Develop patient goals and action plans	24	67%
Coordinate patient referrals	23	64%
Provide language translation and interpretation services	23	64%
Promote treatment adherence	21	58%
Transport people to appointments	10	28%
Other (Please describe)	3	8%

The   further examination of the most frequently selected response to this question,

"Connect people with non-medical services or programs," points to the social determinants of

health addressed by the CHWs and reveals that food security and housing were the most

common responses (N-32, or 89%) followed by legal help (25, 69%) and employment (24, 67%).

The "other" field highlighted the high-need nature of the populations served, i.e.:

- Proactively and pro-socially engage with highly complex, marginally housed patients with concurrent chronic physical, mental and behavioral illnesses

- Coordination of transportation, advocacy regarding bills and charity, provide classes/ed.

TABLE XX - ISSUES ADDRESSED BY CHWs WHO HELP PEOPLE CONNECT WITH NON-MEDICAL SERVICES

Service or Program	#	% of All Respondents reporting
Food security	32	89%
Housing	32	89%
Legal Help	25	69%
Employment	24	67%
Education assistance	21	58%
Vocational or job training	20	56%
Other (describe)	11	31%

The work of CHWs to connect people with non-medical services speaks to the underlying understanding of CHWs serving as a bridge across and among populations and services, as well as to the important role that CHWs play in terms of facilitating access to enabling services, the need for staff to be aware of non-medical issues significant to the patient, and the depth of need in the communities served by the responding organizations. In addition, the responses provided as free-text responses to "Other" are shown below, with transportation reported by three and domestic violence assistance, by two respondents.

- ACA Insurance
- Clothing and furniture assistance
- Domestic violence
- Health and Welfare - Medicaid, CHIP

- Healthy lifestyle community resources
- Immigration Assistance
- Mental Health/SA
- Recreational activities
- Sexual Assault
- Transportation

As one interview respondent in Alaska remarked, *they know what the concern is, [and] they use all their resources to fill the gap, where the concerns are, like -- fuel, vouchers, travel. They practically do everything for the wellbeing of the person in the community.*

Do CHWs work with groups of patients at the health center?

Just slightly more than half of the survey respondents (N= 19, 53%) reported that CHWs work with groups. The most commonly reported activity for CHWs who work with groups of patients at the health center is providing health education to groups, followed by staffing events.

TABLE XXI - ACTIVITIES OF CHWs WHO WORK WITH GROUPS OF PATIENTS AT CHC

Activities - CHWs who work with groups at the CHC	#	% of All Respondents Reporting this Activity
Provide health education to groups	18	95%
Staff health center events	16	84%
Lead support groups	10	53%
Provide information about services or coverage to groups	9	47%
Advocacy	8	42%
Other (please describe)	5	26%
Casefinding	3	16%
Participatory research	3	16%

"Other" includes a diverse set of activities including mentoring, program planning, and outreach with the community, and liaison between clinic and community leaders, some of which suggest that while the CHWs are working with groups of patients at the clinic, their activities extend beyond the clinic walls.

Do your health center's CHWs work with the broader community in your neighborhood or area?

Of the survey respondents, 89% (N = 33) indicated that CHWS work with the broader community. In response to a question on the range of activities conducted by CHCs working with the community, all of the respondents indicated that CHWs were engaged in outreach, while 88% (N=29) indicated that CHWs staffed community events. One interview respondent, in Washington, commented, *"It becomes hard to separate your own patient from the greater community after a while. As we've evolved through the years you really can't be just concentrated on your own patients, so it just a morphs into the greater community."*

TABLE XXII - ACTIVITIES OF CHWs WHO WORK WITH BROADER COMMUNITY

Activities – CHWs who work with Broader Community	#	% of All Respondents Reporting this Activity
Outreach	33	100%
Staff community events	29	88%
Collaborate on projects with other health providers or agencies (i.e., Department of Health)	23	70%
Provide information about services or coverage to groups	23	70%
Provide health education to groups	20	61%
Advocacy	19	58%
Community organizing or mobilization	15	45%
Community needs assessment	15	45%
Participatory research	8	24%
Public health needs assessment	7	21%
Casefinding	6	18%
Other (describe)	2	6%

Indeed, interview respondents underscored the multiple ways that CHWs were utilized, reflecting the broad mandate and mission of the health center to be responsive to the needs of the local community, while the emphasizing delivery of high quality primary and preventive clinical care. When asked to describe how CHWs worked in their health center setting, the respondents identified more than twenty different types of functions or categories, as shown below, which were added to the coding schema. As one respondent, based in Oregon, said, "*health workers today have probably one, two, three, four or more primary roles.*" The diverse roles and competencies are further analyzed in Chapter 5.

TABLE XXIII – IDENTIFIED LIST OF FUNCTIONS

Address Social determinants
Advocacy
Behavioral/ mental health
Case management
Chronic illness
Civic Engagement
Dental/ oral health
Engage with assigned but unengaged people
Establish primary care relationships
Events
Engage with or conduct Groups
Health ED
Home visit
Insurance Ed
Liaison to other services/ needs
Maternal child health
Motivational Interviewing
Navigation
Outreach
Paraprofessional services
Peer support
Schools
Screening
Teach/ promote Self-management skills

Tailoring services or plans
Targeted intervention
Wellness
Working with community not exclusively patients

Do CHWs in your health center work in multidisciplinary teams with other staff?

Not quite three quarters of the survey respondents - or 73% - reported that CHWs work in multidisciplinary teams, with a mix of other staff of various types included in the team. Among those offering "other" as a response, behavioral health professionals were most commonly added in the free text, as were pharmacists and other community oriented staff including CHA/Ps.
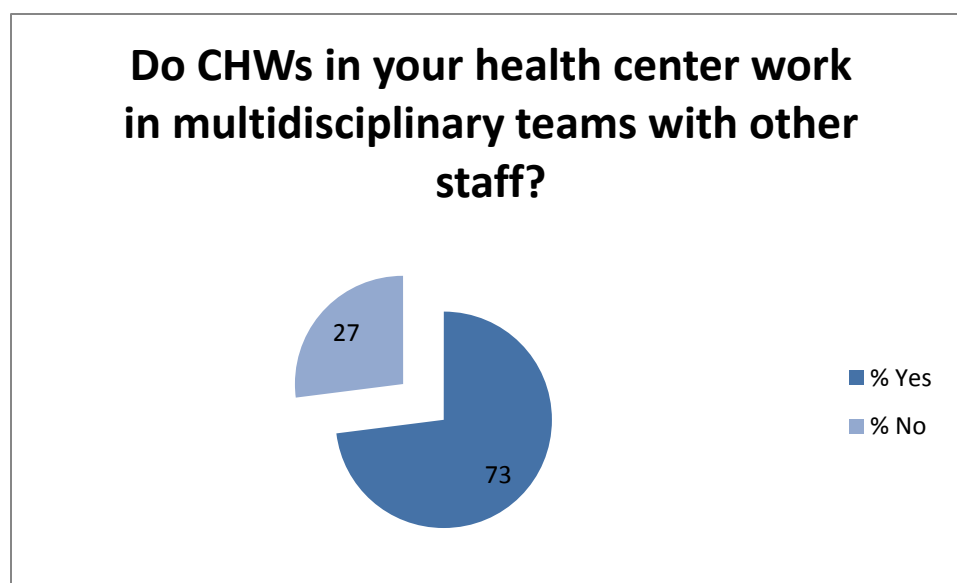
Figure 12 - Participation of CHWs in multidisciplinary teams

Where CHWs were part of a multidisciplinary care team, a range of other staff were involved, including clinicians as well as non-clinicians. Teams were described as both formal and informal.

TABLE XXIV - FOR CHWS WORKING IN TEAMS, OTHER CHC STAFF INVOLVED

Staff on Team with CHW	Response	%
Primary care physician	26	96%
Primary care nurse practitioner (NP)	25	93%
Registered nurse	23	85%
Medical assistant	23	85%
Physician's assistant (PA)	21	78%
Other CHWs	21	78%
Case manager	20	74%
Social worker	19	70%
Other physicians or NPs	13	48%
Dietitian	13	48%
Nutritionist	9	33%
Other (please specify)	6	22%

Free-text survey responses regarding the role of the CHW in the multidisciplinary team were completed by 22 respondents and yielded rich information for thematic analysis. One organization described three separate "classes" of CHWs - community health outreach workers, peer wellness specialists, and community health specialists - and how they worked across the organization. The other descriptions of CHW engagement with teams, several of which are quoted below, included roles and functions encompassing community-focused as well as clinically oriented work:

- *Their role is to connect patients with community resources and advocacy. CHW also do case management for their referred patients.*

- *The role of the Community Health Representative (CHR) or CHW is to assist Elders. So, in the daily huddles, they learn about what Elders appointments have today and need a ride to the clinic and which Elders the health providers are*

concerned about and want the CHR to check on today via telephone or in person

at their home.

- *education, supporting self-management goals, care coordination.*

- *patient advocate.*

Discussion in the interviews yielded insight into the extent to which centers strive to integrate CHWs into their care teams and overall care models and work processes. In some cases, CHWs were fully embedded in the teams and their role was an established part of the clinic flow. Others noted both the important role that CHWs play in bringing teams together, but also the challenges they foresee, based on past experience, of ensuring that essential information known by the CHW is not only communicated, but used by the providers in care planning. *I think our team is working hard to try and integrate [CHW] in the care team, but when they're not in the day to day clinic flow, it creates a little bit of a disconnect that we're trying to overcome.* (ID) Another person noted,

> *It is just a challenge that we'd have to overcome which is -- there are some programs, for example, where there are other agencies that we work with who have these care coordinator-type folks working with our patients and they create great care plans with patient input and collaboration, but then our providers don't actually typically see those or know if they exist and so, you kind of have a gap between the level of effort that someone has put in to try to create a great care plan that works for the patient and then what our providers are able to -- that our providers aren't working off of it. So, it's kind of a disconnect that we need to work on that would be more important as we get more community health workers. (Washington)*

Background, Competencies and Skills

- How are these defined?

- What skills, knowledge base are incorporated in the competencies?

Personal Experience and Background

In addition to addressing specific competencies, respondents were asked to identify the background, work experience or other factors that were required for CHW staff. The experiential or background requirements identified in the survey indicate that membership in the community being served, or prior experience working in the community, is required by just under half of the respondents (N= 18, or 48.6% in each case) while prior health care experience is required by 15, or 40.5% as shown below. Thus, while CHWs are anecdotally described as providing and important link to the community, this does not in all cases translate into specific requirements for personal membership in the community, or for experience working with the community.

TABLE XXV – CHW EXPERIENCE AND BACKGROUND

Prior Experience and background	Yes	Percent YES	No	Percent NO
Prior health care experience required	15	40.5%	22	59.5%
Membership in community being served required	18	48.6%	19	51.4%
Prior experience working with community required	18	48.6%	19	51.4%

As shown below, for the respondent group, prior experience in health care was more commonly required than either personal membership in the community being served, or direct prior experience in the community.
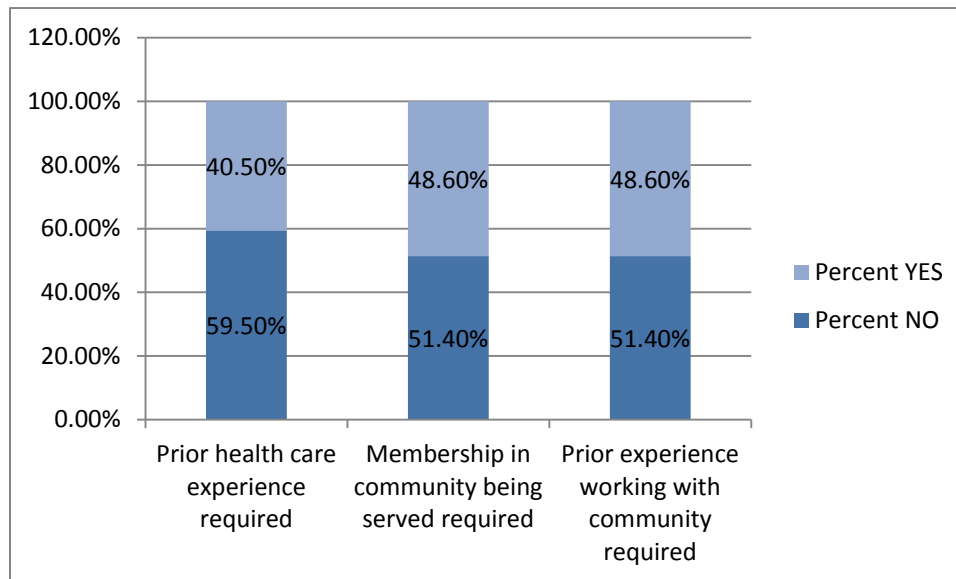
Figure 13 - Requirements for CHW Staff

Where prior work experience in the community was required, it was typically one year (39%) or less than one year (11%), or no specified time (44%). Those organizations requiring prior health care experience described either no specific number of years required (40%), one year (40%) or two years (20%).

Those 18 organizations seeking CHWs who were part of the community defined community membership in various ways, with most (67%) describing membership in the community as being associated with age, race/ethnicity, gender, sexual orientation or other

characteristics, rather than geography.

TABLE XXVI - DEFINITION OF COMMUNITY MEMBERSHIP FOR CHWS

Community membership described as:	Number	Percent
Member of the target community defined by age, race/ethnicity, gender, sexual orientation or other characteristics.	12	67
Resident of specific neighborhood or geographic area served.	8	44
Have themselves experienced the same medical condition as the target population	3	17
Other (Please describe)	3	17

Four respondents used a single definition, "Resident of specific neighborhood or geographic area served" to define membership in the community, while 12 organizations used multiple definitions, and two respondent provided responses as "other," but the nature of the response aligned with the captioned options provided.

One survey respondent noted, "It is a bonus if they live in the area, or have the same medical condition, but those are preferences not requirements. But being a member of the target community is a requirement."

Among those interviewed who spoke to recruiting CHWs from the community, there was an acknowledgment that this sometimes presents challenges. *"The most essential things that we look for is if they are a resident of the community that we're looking to serve and that makes it a little bit challenging to find sometimes. But it's always rewarding when you find*

someone who is wanting to be that advocate for their family and their friends and their neighbors. So really, we're looking for folks that are residents, that speak the languages of the communities that we're serving." (Washington)

Of the 5 survey respondents in Alaska, 4 indicated that the community they served was primarily Native Alaskan or Native American. Yet just two of these organizations indicated in the survey that CHWs were required to be members of the community being served, which they further defined as a person who was a resident the specific neighborhood or geographic area served. This may reflect the unique characteristics of this remote community and those who live there, and/or an assumption that cultural traditions and values would be understood and reflected in the workforce, but the response data is interesting in not more explicitly highlighting as a requirement experience with, or membership in, the unique culture of the community.

Language

While language competency is very important in some organizations, this is not true across the board. While 24% (N = 9) of all survey respondents indicated that all CHWs were required to speak more than one language, and 38% (N=14) said that bi-lingual competency was required for some CHWs, in 38% (N= 14) of the responding organizations, CHWs were not required to speak more than one language. This reflects the fact than in some communities served by health centers, the area population is primarily English speaking, or that other skills may be deemed equally necessary. As further evaluated during the interviews, language itself was viewed as providing a gateway to communication, but otherwise what might be described as "necessary but not sufficient," or in other words needed to ensure effective communication,

but otherwise part of a broader array of needed competencies and skills.
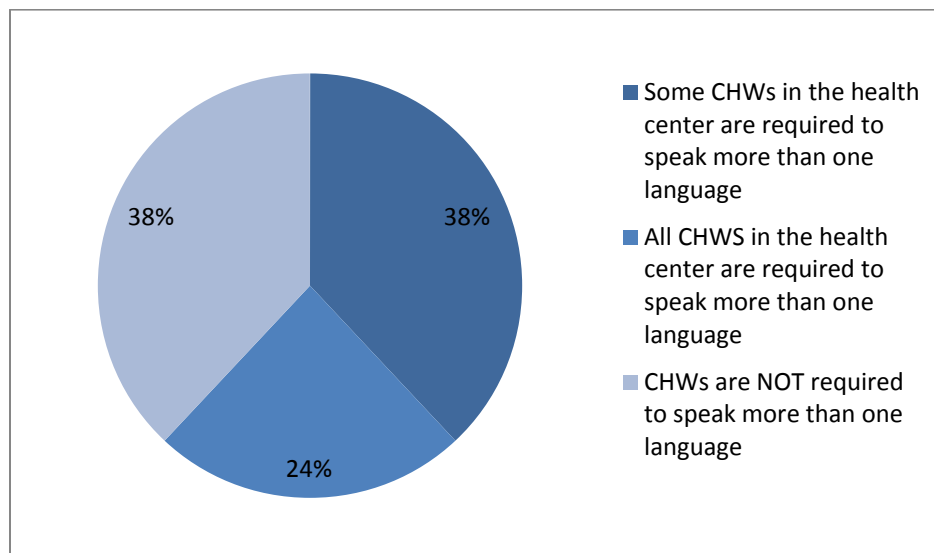
Figure 14 - Language requirements for CHW staff

Education and Training

With respect to education, the majority (N= 19, or 53%) of respondent organizations required that CHWs have a high school diploma or GED, and some had no specific educational requirement while a small percentage (N=3 or 8) required a Bachelor's degree for those working in a CHW capacity, and one required "some college."

TABLE XXVII - EDUCATIONAL REQUIREMENTS FOR CHW STAFF

Educational level	Response	%
High school diploma or GED	19	53%
Other (please specify)	8	22%
No specific educational requirement	5	14%
Bachelor's degree	3	8%
Some college	1	3%
Associate's degree	0	0%

Total	36	100%
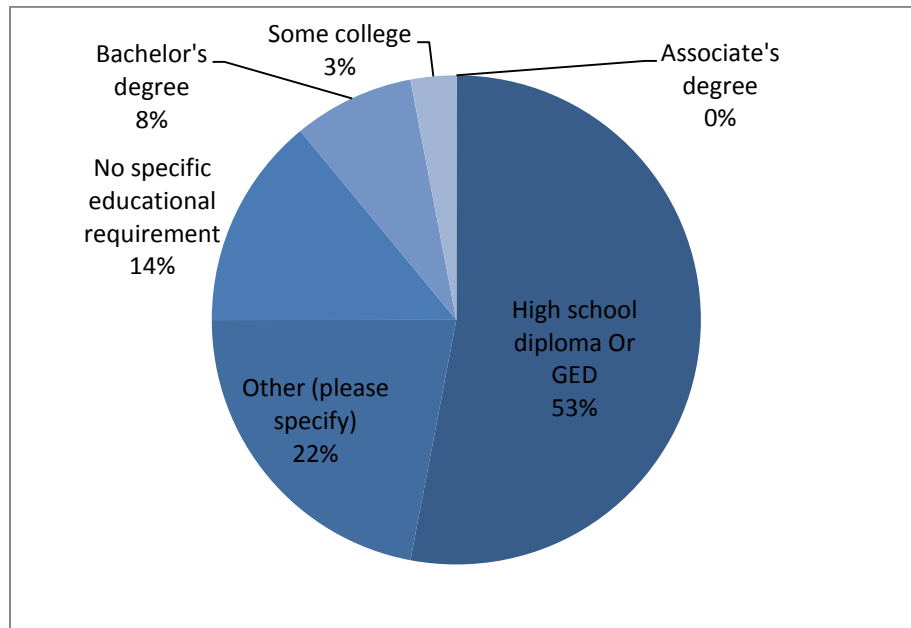
Figure 15 - CHW educational requirements

The organizations that indicated there were "other" education requirements reported that the educational level depended upon the particular job, reflecting the wide range of duties or roles and associated titles. These were described as:

- education depending on job requirements assigned.

- GED, Some College, Associate's degree and bachelor degree in some cases depend of the position.

- Varies by position.

- Depends on the Role. Patient Resource Coordinators - High School Diploma, Care Coordinators - RNs or LPNs.

One respondent indicated that CHWs were required to have either five years of relevant work experience OR certification, while another required certificate of completion of an 8-week training program at a local community college plus 6 months on one-site training.

In addition to formal education, training of some kind was typically required, ranging from program-specific training, to core competency based training, to certification.
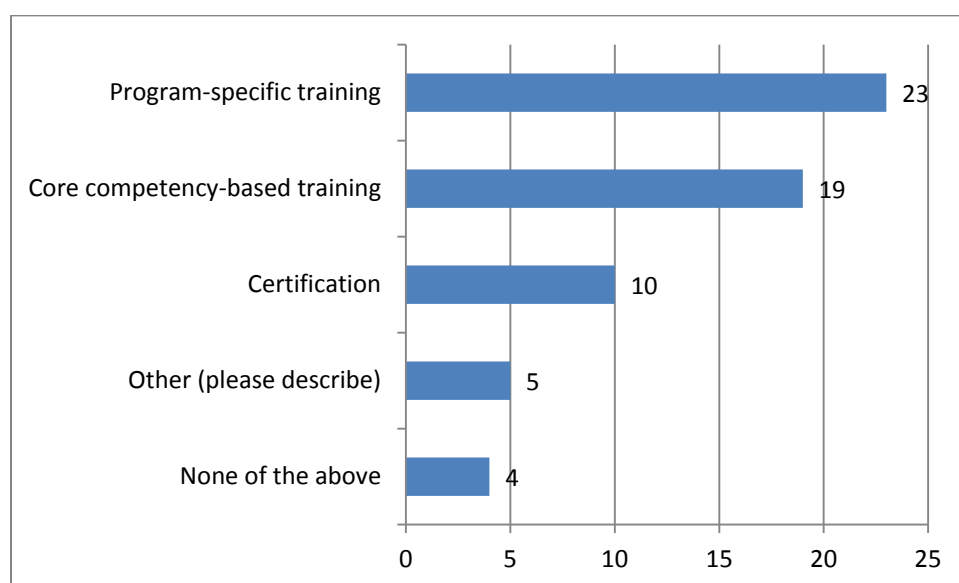
Figure 16 - CHW training required

Of the survey respondents reporting "other" training was required (N=5, or 8%), only three identified actual training specifications including state-sponsored programs as well as training offered by payers, while the others commented on some issues related to preparation or training. One of these organization also noted that "*In the future we want our CHWs to be certified, but now it is cost-prohibitive.*" The other two organizations commented on available training or considerations for future training.

More than two-thirds of the centers (N=25, or 69%) reported providing some types of training or continuing education for their CHWs. The types of training varied, with some organizations describing a comprehensive, CHW-specific program that would lead to certification, and others indicating that training focused on, *"Job and program specific training to teach the skills needed to be successful in their work."* One organization reporting providing each CHW with a modest stipend for continuing education.

In discussion with interview respondents, different approaches to and perspectives on training emerged, mirroring in some cases the various state frameworks in which the CHCs are located. In Oregon, the legislation establishing categories of Traditional Health Worker both created a certification pathway and established an infrastructure for training. In Washington state, there is no formal certification process, rather on-line competency-based training is offered and those who finish the program are awarded a Certificate of Completion. In Alaska, the Community Health Aide Program (CHAP) requires training in accordance with an established curriculum, as well as a practicum, clinical skills preceptorship and examination; upon completion of the training, CHAs may qualify as Community Health Practitioners. CHA/Ps may become certified by the Community Health Aide Program Certification Board (CHAPCB). On the other hand, while both on-line and onsite competency- and standards-based training is available for Community Health Representative (CHRs), the training is typically locally directed and formal requirements are limited. One colleague reflected,

> *I don't think it's fair to set up a formal program. But I do believe they need a lot more training and while each organization looks at CHR differently, if we could have a consistent and the same training, then the managers are going to have less headache and stuff.* (AK)

One interview respondent commented on the training available locally at the community college and explained, "*we did a crosswalk not so long ago in terms of what is covered in one of*

the community colleges and what we're training and how we're training people..   And I think

it's pretty comparable. Everybody could always use more training - I guess I would say that.

But how we're training and what we're doing is pretty comparable with what -- and the

requirements -- of what our community colleges are doing. (Washington)

Some respondents noted the challenges of finding training relevant or appropriate to their specific needs as well as the need for training that was more focused on inter-professional capacities. One larger center explained, *we do have the requirement that whoever we bring on in a community health worker position receive the training and their get their certification within six months of hire and the reason that we do that is because, you know, we're growing the program and we're in our infancy and it's just helpful for us to kind of have everybody on a level playing field as we move forward." (Oregon)*

Others commented on the types of available training, the time needed to train staff and the need for training that allowed CHWs that recognized the interdependent nature of health care work through team oriented and inter-professional training.

- *The trainings that I've seen for specific for community health workers are more clinically based and which is not really what we do. (Washington)*
- *And it does take time to, you know, to get a community health worker fully trained, just because we wanted to have a lower barrier in the beginning but it does take some time to get them up to speed. The training of healthcare professionals really needs to focus on being inter-professional. That is how we practice these days; that's not always how people are trained. I think that's another piece that we need to look at. (Washington)*

- *There's a lot of hands on training. And they have to go through all of that training, and shadowing. (Oregon)*

- *I think for us we really look at the quality of the individual as opposed to, you know, how much training you have. (Washington)*

Survey responses indicated that there was some lack of familiarity with the status of certification and credentialing efforts in their respective states. This might reflect the particular role of the respondent within the organization, as well as the evolving and complex nature of the policy discussions at the state level.

TABLE XXVIII - RESPONSES TO CERTIFICATION AND CREDENTIALING REQUIREMENTS, BY STATE

	Alaska	Idaho	Oregon	Washington	Total
Yes, my state currently has a process for CHW certification or credentialing	1	2	11	5	18
No, my state does not currently have a process for CHW certification or credentialing	4	4	1	9	17
No, but my state is developing such a process	0	0	0	1	1
Total	5	6	12	15	36

Among the interview respondents, community health worker credentialing was seen as a double-edged sword, on the one hand offering an opportunity to deepen skills and create a stronger foundation for CHWs, and on the other potentially creating barriers for staff training at the organizational and individual levels by increasing training costs and requiring skills or capabilities that individuals already experienced in the field might not be able to meet, or as one

person said, *"somebody who's - just because of a piece of paper - considered to be better qualified."* This interviewee elaborated,

> *So you have the Promotoras, then you have people with an associate degree, then you have a bachelor's degree, you have a master's degree. And they're all talking about being community health workers. Which - and my concern is this - once they start certifying community health workers then you're not going to have the same person, you're not – you're going to be focused on all of the paper work and all of this, and all of that, and being monitored and regulated. (Washington)*

Pointedly, another remarked: *It is a really important thing... But – at least for me – just going to the CHW certification doesn't make you a CHW. (Oregon)*

On the plus side, it was noted that the state certification process in Oregon and availability of capacitation centers had created a network that served as an excellent recruitment resource. Finally, others commented on the workforce implications of certification, explaining that certification potentially could create barriers to recruitment and workforce shortages.

> *I think my worry is that if you build in a certification that you create a workforce shortage. Right now, we can look and recruit somebody that meets our expectations and it's a fit for our patient practice and our patient panel. But when you create a certification, then you create a limiting factor about who can be considered to be a community health worker. And on one hand you want to say, well that creates consistent standards. And so, I think my fear would be, taking something that was well intended about raising the bar, and actually creating a workforce barrier that meant that we didn't have a workforce that we could draw from to do community health activities. (Idaho)*

Another interview respondent expressed the sentiment this way:

> *I think if we wanted to make this professional model, we still have to leave that door wide enough that we can bring in the very folks that we want in the door and we're not closing it to them, by making it professional. (Oregon)*

Competencies and Skills

To gain a deeper understanding of the competencies and skills reported in the survey, interview respondents were asked to speak in depth about how CHWs were engaged, recruited and utilized in their organizations, and the necessary skill-set. Interviewees spoke to the need for CHWs to demonstrate an array of competencies and skills, ranging from specific practice-oriented skills to broader knowledge and abilities. One Washington respondent summarized this by saying that the competencies needed across the board are *"Service coordination, advocacy and leadership, documentation and organizing their own schedules and then cultural awareness and sensitivity."* Similarly, an Oregon colleague remarked, *"we need just a high degree of ability to build trust and resiliency. And to do problem solving, be socially engaging, do data managing."* The competencies listed below, summarized from the interviews and listed in order of the frequency with which they were referenced, are explored further in the next chapter, and reflect both the extent to which CHWs are assigned specific responsibilities, as well the necessity that CHWs have broad and deep interpersonal and communication and workplace capabilities to make their work effective. · While cultural and language competence was frequently cited as a required competency, interpersonal or "soft" skills were mentioned nearly as often. Here it should be noted that these themes which emanated from the interview discussions became emergent codes in the analysis, and were incorporated along with modifications to the *a priori* codes established both prior to and following the survey. Core competencies were identified as:

- cultural and language competence
- soft skills - empathy, trust, compassion, ability to relate
- knowledge of special populations
- advocacy
- communication, verbal capability
- popular education, teaching skills

- peer support
- computers
- data, documentation
- leadership
- understand social determinants
- community assessment
- outreach
- problem solving
- capacity building
- medical assisting
- organizational skills
- customer service

Still, interview respondents reflected on the difficulties of establishing specific requirements for education, training or even direct experience. *"So maybe there's somebody with a four-degree that maybe doesn't have any experience. Or maybe they have experience and they want to work with the community, but don't have any of those organic gifts that God and their family has already given them to begin with. They need that true passion, you know, that heart to do the work." (Washington)*

Further, while some organizations intentionally focused on recruiting as CHWs community members or those with strong community relationships, specific background and experience proved to just one factor, and engagement, interest and the ability to truly connect with the community members and the patients was seen as paramount, as summarized in this comment, *they are hired for their skills and their trust and relationships or for their ability to develop this trust and relationships with the community members. (Idaho)*

<u>Settings/Programs</u>

- What are the types of settings?
- Does the role differ by types?
- Does the title differ by setting   or program type?

Survey respondents were asked to report the setting or settings in which CHWs worked. Again, respondents were able to select more than one setting if applicable to their organization. Working on-site at the health center was reported by 97%, and off-site in a community location by 23%. As indicated below, however, the CHWs utilized by the respondents work in a range of settings.

TABLE XXIX - CHW WORK SETTINGS

Setting	# Reporting	% of Total
On site at the health center	36	97%
Off-site in community location	23	62%
Patient's home	16	43%
Other community health center service setting	12	32%
School-based setting	11	30%
Other (please specify)	6	16%
Total Responses	37	

Other settings reported included the following:

- Health fairs, outreach events or other events
- Mobile vans
- Other primary care home settings
- CHC's administrative location

Of note is that 28 organizations reported more than one work setting for the CHWs on their staff. One center reported no CHWs working on site at the health center; rather the CHWs are

deployed off-site in a community-based location. At the other extreme, 7 health centers reported

CHWs working in 5 different settings.

TABLE XXX - NUMBER OF DIFFERENT WORK SETTINGS REPORTED BY CHCs FOR
CHW STAFF

# CHCs reporting	# settings reported
7	5
6	4
7	3
8	2
9	1
37	

To determine whether the titles might be in some meaningful way related to settings, or

whether some types of titles were more likely used in certain settings or programs, a cross-

tabulation was constructed to depict the frequency of titles reported, by setting (see Table

XXXIII, found at the end of this chapter.) No statistically significant relationships were found;

rather titles used in different settings again appeared to reflect local needs or program

requirements at the micro level.

Partnerships

Of those surveyed responding to the survey question (N=34), "does your health center

partner with any other organization (s) to deliver CHW services?" five (5) or 14.7% reported

that they do not partner with other organizations.

The remainder reported that they had partnerships with a range of organizations. Eight

centers reported one partnership only, while 21 reported 2 or more partnerships or collaborations.

The "other" category included tribal organizations and community foundations as well as a local

training center. Note that the question did not specify or define what might constitute a partnership, leaving the respondents free to interpret what the concept of partnership might mean.
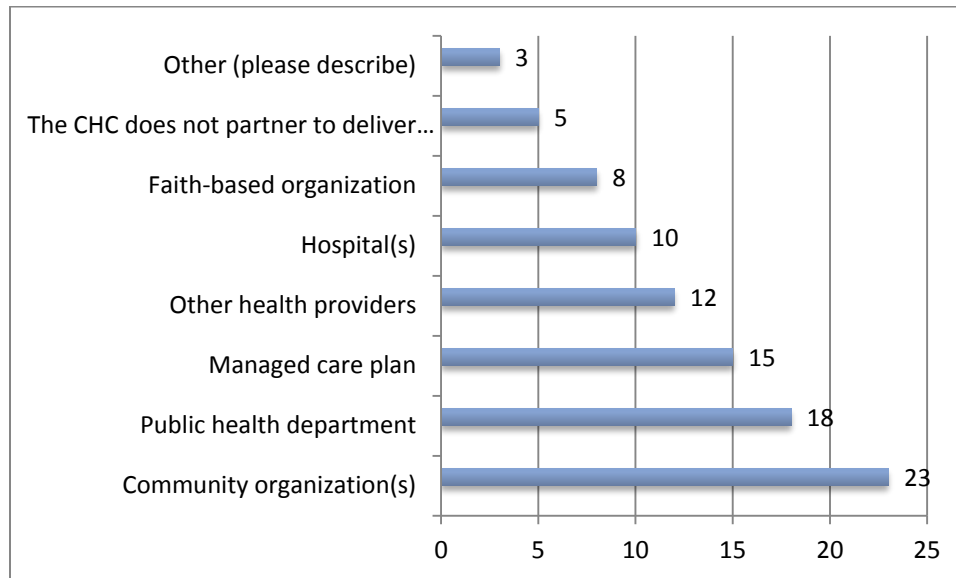
Figure 17 - Reported collaborations or partnerships for delivery of CHW services

Interview respondents spoke to the need for a broad range of collaborations and partnerships to both enhance their reach as well as to promote community focused, equity - oriented messaging across organizations, stating:

- *We're partners of our other agencies, both local and state-wide. (Idaho)*

- *You look for partners in the community that want to share that message. (Alaska)*

- *We make sure that we're at their events, they're at our events. [Our CHW] does a lot of work with other agencies to make sure that the work that they're doing has a health equity spin on it. (Oregon)*

- *A lot of our programs are with partnerships, with existing providers in the community. (Washington)*

- *A really primary function that they serve is to partner up with local schools and other health minded organizations because when you're talking about community health it's so much more than just I have a good idea. (Alaska)*

Finally, and to assist the PCA in understanding the possible needs for training, development and support, several questions were asked to understand issues that might best be understood as framing the utilization of CHWs, including funding, reimbursement, evaluation approaches and perceived challenges or benefits.

CHW Service Funding and Reimbursement

Funding to support CHW services came from a wide array of sources, with federal grants reported as a funding source by 81%, by far the most common source of funding reported.

TABLE XXXI - SOURCE OF CHW FUNDING

Source of Funding	Response	%
Federal grants	29	81%
Self-generated revenue	16	44%
State agency grants	13	36%
Local agency/ local government grants	9	25%
Other (please describe)	7	19%
Private foundations	6	17%
Non-profit organizations	3	8%

Still, many organizations were either dependent on a single funding source, (eleven organizations reported a single funding source only for CHW services) or patched together

multiple sources to support CHW services. One Alaska- based organization noted that, *We're always looking for new sources of funding to keep sort of keep the momentum going so that from the community standpoint, there isn't an interruption of service. Because our clients don't generally care what grant pays the salary.*

TABLE XXXII - NUMBER OF REPORTED FUNDING SOURCES

Number of Sources Identified	Count	% of all Responding (N=37
One Source	11	29.7%
Two Sources	14	37.8%
Three Sources	6	16.2%
Four Sources	3	8.1%
Five Sources	2	5.4%
Six Sources	1	2.7%

Sources of funding differed by state, reflecting different policy and programmatic framework. Health centers in Oregon reported the greatest number of funding sources.
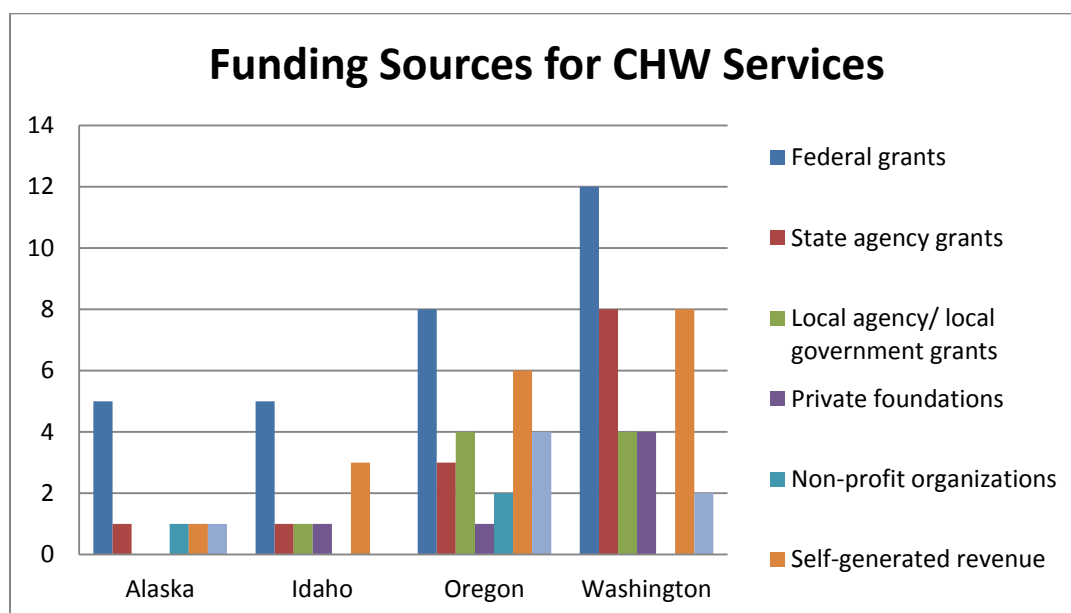
Figure 18 - Funding sources for CHW services

Meanwhile, of the 36 respondents to a question on reimbursement, 72% (N=26) reported that CHW services are not directly reimbursed by public or private sources. As summarized by Health ReForum, (See Table1) the states comprising the region each have different funding and reimbursement framework. Washington's State Plan Amendment allows CHWs to participate in Health Homes and receive funding through Medicaid, whereas in Oregon, supervised, certified CHWs may be reimbursed. Thus, it is not surprising that only a small number of CHCs reported being reimbursed for CHW services, and these were clustered in Oregon and Washington.
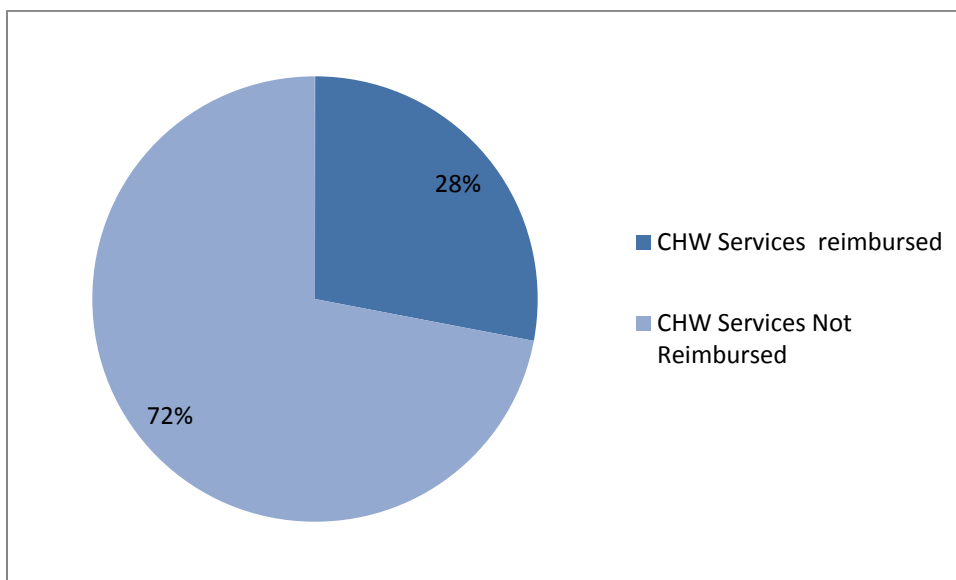
Figure 19 - Reimbursement of CHW services

The ten organizations that reported they are reimbursed for community health worker services reported several different sources of reimbursement, as follows:

- Medicaid (8)
- Private or Commercial Insurer (5)
- Medicaid Managed Care (4)
- Medicare (4)
- State Child Health Plus - CHIP (3)

- Other (3)
- Commercial HMO (1)

Listed under "other" were three separate sources: Oregon Alternative Payment Methodology; Medicare Advantage; and a note explaining that "Reimbursement rate for Medicaid Managed Care factors in use of CHW services, not direct fee-for-service reimbursement."
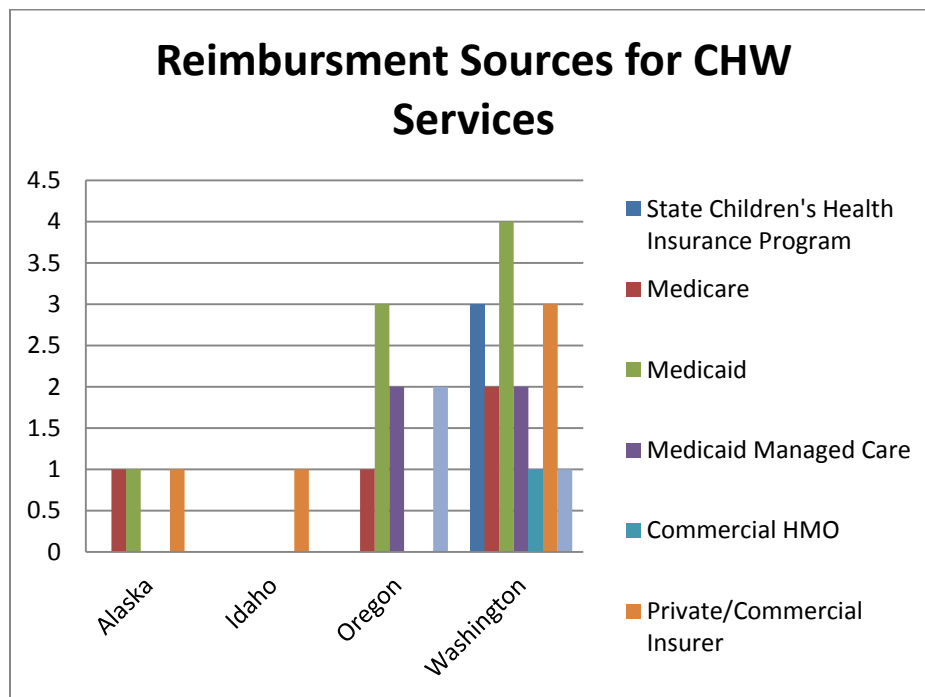
Figure 20 - Reimbursement sources for CHW services

In interviews, respondents reflected on the challenges of balancing organizational needs in an environment where funding and reimbursement was inconsistent, at best. One respondent, in Washington, remarked, *"we're very careful not to let the funding drive our priorities but to find funding that supports our priorities."* Referencing narrow categorical funding for specific types of staff or programmatic interventions, another in Alaska stated, *"I can say that I avoid applying for grants like that, because I can appreciate that position completely, we've been there and it doesn't service well. I look for grants that will appreciate advocates that support holistic*

health because at the end of the day, that is a lot of what it's all about." Yet another person commented,

> *I think the challenge has been that we've gone through this hamster wheel if you will, where you build up a program and there's no funding to sustain it, so you shut down the program or take it to a minimum, a bare minimum. And then, we find a way to fund it and we're able to ramp it back up and then that funding disappears and so it dies. And so, for us, the community health worker has gone through a number of iterations. It's always been a part of the organization, it's just not necessarily been as sustaining, consistent to the way that we want. (Idaho)*

In Oregon, the Medicaid expansion related to the implementation of the ACA health reforms was cited as improving the financial base of the health center, and providing a more stable base from which to expand programs and services, including CHW services. *"We've been able to not only maintain but we've actually increased our health worker program. But it's just bandwidth in having these sources to develop and they've all evolved in even more thoughtful ways and we can thank the ACA for that….We still have a fairly large undocumented population. But, to go from 60 percent to 20 percent uninsured is huge.*"

More pointed was the frustration expressed by other colleagues in Idaho, where Medicaid has not been expanded. Here, several interview respondents framed the issue of CHW reimbursement within in the broader context of working in a non-expansion state and the particular challenges this presents for CHCs which, by mission and statute, serve large numbers of people who are un- or underinsured.

> *I think it calls for a reality check on the payer mix of community health centers. So I'll start with that. So, the reality is that when your payer mixes that are in the 60, 65 percent uninsured and even tipping it to 70 percent uninsured, there's a lot of things that we would love to have and we don't get to have. And it really stinks, to be really honest, to have to make some really difficult decisions to say some things that are incredibly valuable and I can't afford them, I don't care how important they are, I have to get back to core purpose, minimalist, bare minimum and things are tough. And we've been in*

those positions a number of times when you have payer mixes that bad, that there are lots of things that you have to forego... So I would say community health workers are in a bigger category, and that is – that sometimes just we're trying to run community health centers on really limited means and that's really unfortunate for our patients. (Idaho)

Still others reflected on the possibility that changes in reimbursement policy to encompass support for CHWs could drive changes in how such staff are utilized at their health centers, or as one person remarked,

I think that if there becomes an opportunity for reimbursement that it will change how we utilize them. I think that it will probably also require as that – you know, could almost become two different types of community health workers, right? There is the one that are doing the reimbursable encounters and then there could be a whole another cohort that's doing the types of community awareness and community engagement and community, sort of development kind of work that still needed in order to bring about sort of the broader perspective of a healthier community. (Washington)

Evaluation of CHW services and programs

Just 14% (5 survey respondents, N=36) reported that an evaluation had been conducted of their organization's CHW services.
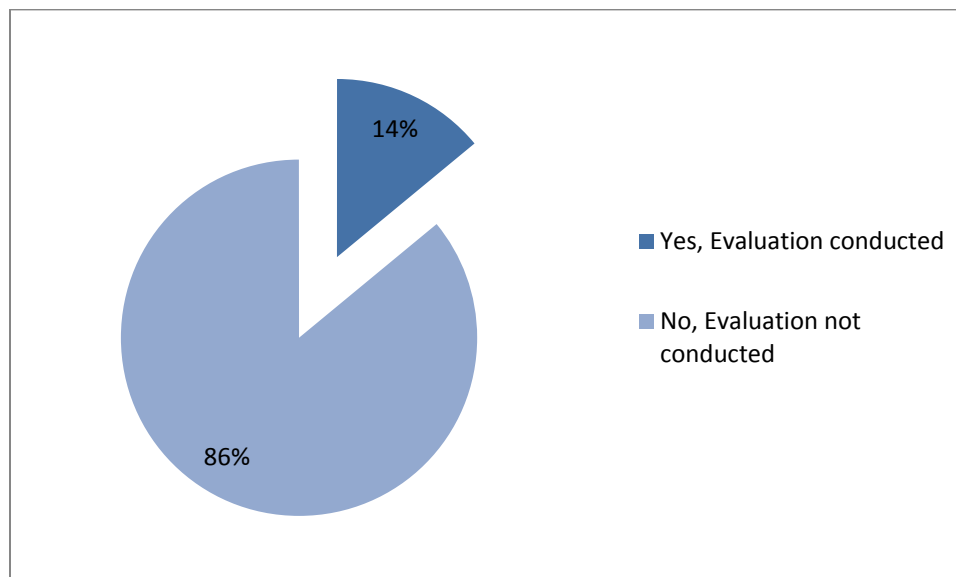
Figure 21 - Evaluation of CHW programs and services

Interview respondents described different approaches to evaluating services and indeed, expressed a range of views on the necessity or merits of evaluation. In some instances, respondents commented on the lack of data to conduct a robust evaluation. To the extent that evaluation or an empirical evidence base can be understood as a tool to demonstrate value, a sub-heading was added to the research questions and further illustrative quotes are presented under in Appendix F (see Q4.)

- *Wow, that is the – that is the million-dollar question right now. And we don't have a formal mechanism in place. (Oregon)*

- *I would say that today, it's been very informal and/or driven by our external funders, so the evaluation is not comprehensive per se. It's more like these are the strategy for you to be certain deliverables and, you know, more of a lessons learned approach. (Washington)*

- *You know, you have a logic plan. You have a logic model. You do evaluations. You do pre- and post- tests. You do community needs assessment. You set up your plan for the year using that information and then you evaluate your information, the numbers that you saw, the quality care of people that you saw, you use measurements and you bring that information back to show that your program is not only great but it's making progress and enrolls with your most chronic patients. Nobody else can say that. Nobody else can prove that. (Washington)*

Yet in other organizations, formal evaluation was not seen as a priority, either because there were limited resources to support evaluation rather than service, or because there was a sense – even if the organization now intended to pursue opportunities for evaluation - that existing evidence provided sufficient rationale for demonstrating the benefit of CHW services. This view mirrors a point made by Rush (2012) and referenced earlier, that in general "we may be seeing the beginning of an encouraging change, in which the inclusion of CHWs no longer requires a detailed justification." This view was clearly expressed in the following statement:

Typically, our approach has been if we're going to pick an evidence-based program and use that, let's assume that that evidence holds and let's not try to recreate the evidence. We just kind of figure, if we are having good fidelity toward that model, then we can assume that we're going to have, on average, that type of impact, whether or not we can measure it ourselves or not. (Washington)

Barriers – both for organizations utilizing and not utilizing CHWs.

All survey respondents were queried about perceived barriers to both continuation of existing services, and expansion of those services. While 83% reported barriers to expanding CHW services, more than half – 58% - reported barriers to continuing such services, reflecting real and perceived risks to the services.
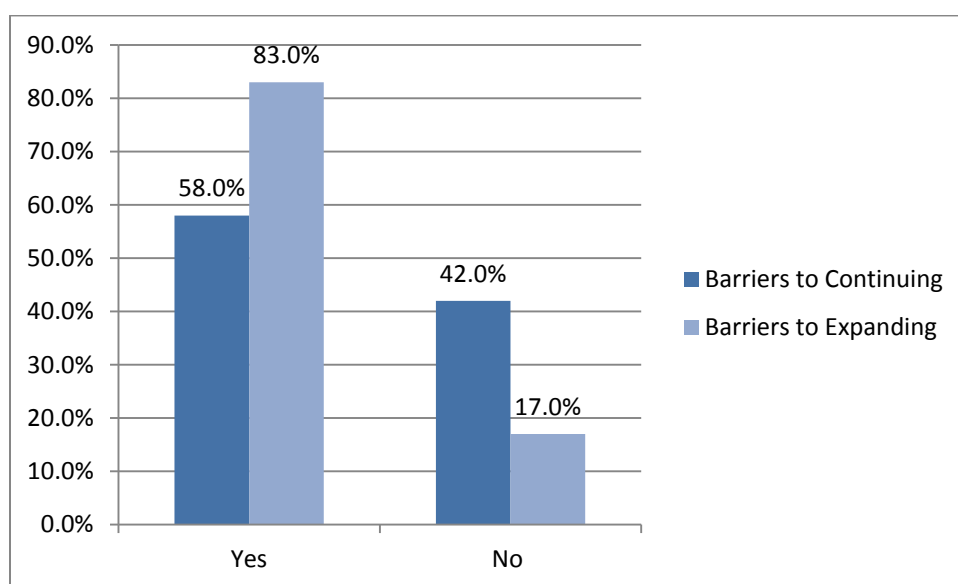
Figure 22 - Barriers to continuation or expansion of CHW services

Not surprisingly, the most commonly reported barriers to both continuations of CHW services and expansion were lack of stable funding, inconsistent funding and lack of reimbursement. One respondent (OR) noted, *"I will say that if finances weren't an issue we probably would have two or three times more community health workers than we have now."* There were no statistically significant associations between state and particular barriers to either

continuing CHW services to expanding services. State – specific detail for barriers reported to expansion and continuation is provided at the conclusion of this chapter (Table XXXIV.)

Other issues mentioned in the survey were a perceived lack of support from the administration. One survey respondent noted that some executive managers *"are uneducated about the importance of CHW, they fall short of supporting their staff. Because you have uneducated admin they are unaware of the training and supervision to make a program successful.* "Similarly, another respondent wrote that *"They are not a priority in many organizations."* In addition, survey respondents noted that CHWs on their staff struggled to learn and use the E.H.R. - an indication that there are skill sets to be developed in order to optimize the effectiveness of CHWs.

Reported Barriers to Continuation or Expansion
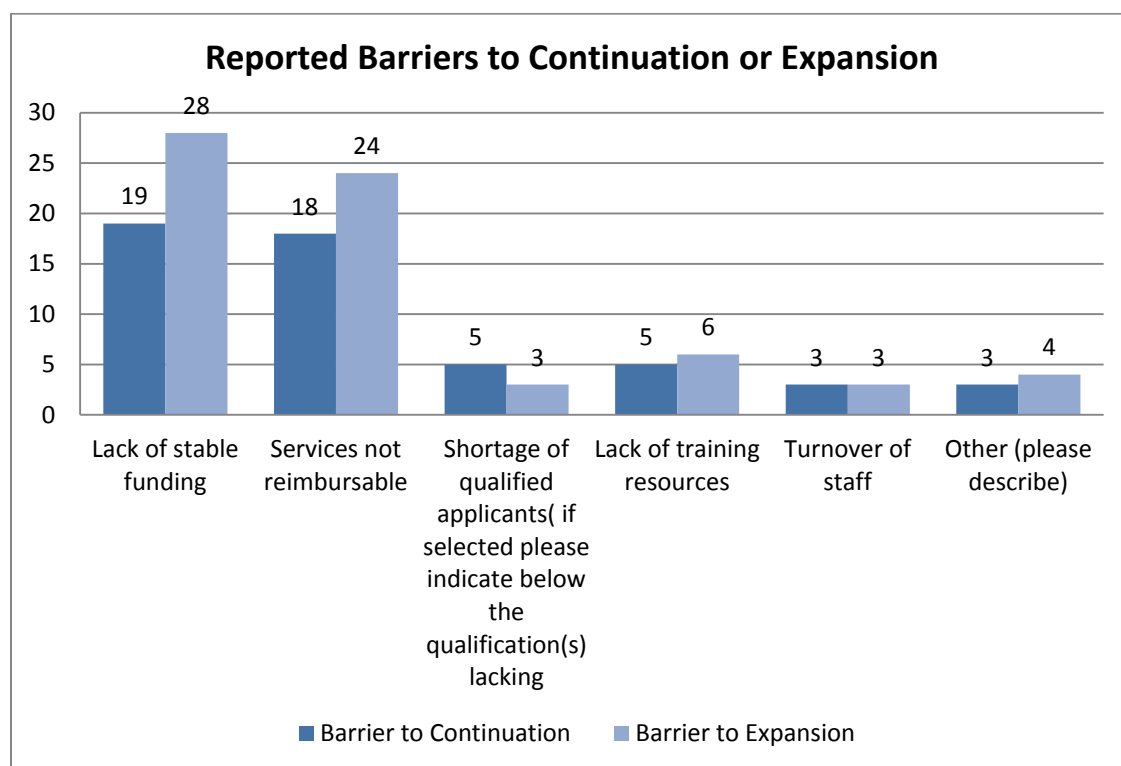
Figure 23 - **Reported barriers to continuing, expanding CHW services**

While these issues were elucidated in the interviews, also mentioned were barriers related to

CHW wages as well as the unique challenges faced by the workforce:

> *I have to have staff who resigned this position because it's intense. It's hard, -- they're in a really small community so essentially, they're on 24/7. They never get to be off work, they are being stopped in the grocery store. They -- some of them have experienced heightened criticism, accusations of hypocrisy even. Like, "Why are you buying ice cream, you just told me that I should have a balanced diet?" And not many us could withstand that level of scrutiny, quite frankly. I wouldn't frame it as a barrier per se but I think it definitely plays into how we're able to recruit. (Alaska)*

Benefits to Utilizing CHWs

Despite identified barriers to expansion and in some cases, to maintaining existing programs, survey respondents reflected in the open-ended responses on the benefits of utilizing CHWs, comment on their roles as well as their perceived value to the organization:

- *They are able to address complex patient issues, deliver services in a culturally competent way, assist medical providers in understanding the reasons a patient may be non-compliant in their treatment plan, provide more population based services and address the social determinates of health.*

- *CHWs have been very helpful on removing barriers patient have. Most of the services they provide is on regards of the social determinants of health. CHW's have supported our patients to access services such as employment, housing, transportation as well as they played different roles as patient navigator, advocates, classes facilitator and health insurance enrollment assistor.*

- Another survey respondent wrote simply*, CHWs are essential to the operations of our FQHC.*

- Finally, one interview participant noted, *But I would say that the [center] of today definitely stands on the shoulders, of those community health workers.*

Thus, even where formal evaluations had not been conducted, both survey and interview respondents viewed CHWs as providing value and benefit directly, and as adding to the overall value of the services offered by the center.

Further evidence on value and benefits of CHWs, as these concepts relate to the research questions and CHW framework, are provided in the next chapter.

TABLE XXXIII - CHW TITLES BY WORK SETTING, ALL SURVEY RESPONDENTS

Title reported	Setting reported						
	On site at the health center	Other community health center service setting	Off-site in community location	Patient home	School-based setting	Other (please specify)	Total
Outreach worker	17	4	9	7	5	3	18
Other (please specify)	18	7	12	8	7	3	18
Community Health Worker	16	6	13	10	5	1	17
Community outreach worker	10	3	7	7	1	1	11
Promotor (a) de salud	7	1	6	5	1	0	8
Health (or community health) advocate	4	4	5	3	3	1	5
Community health aide	3	0	1	1	1	1	3
Community health navigator	3	1	1	1	1	0	3
Community health representative	1	0	1	0	0	0	2
Peer educator	2	2	2	1	1	0	2
Community health liaison	1	0	1	0	0	0	2
Health ambassador	0	0	1	0	0	0	1
Community health advisor	0	0	1	0	0	0	1
Lay health advisor	0	0	0	0	0	0	0
Total	36	12	23	16	11	6	37

TABLE XXXIV - BARRIERS TO CONTINUING OR EXPANDING CHW SERVICES

		Alaska	Idaho	Oregon	Washington	Total
Are there any barriers to CONTINUING the existing CHW services at your health center?	**Yes**	2	4	8	9	21
		40.0%	66.7%	66.7%	60.0%	58.3%
	No	3	2	4	6	15
		60.0%	33.3%	33.3%	40.0%	41.7%
	Total	5	6	12	15	36
		100.0%	**100.0%**	**100.0%**	**100.0%**	**100.0%**
What are the barriers to CONTINUING the existing CHW services? (Please select all that apply)	**Lack of stable funding**	1	3	8	8	19
		50.0%	75.0%	100.0%	88.9%	90.5%
	Services not reimbursable	2	4	6	8	18
		100.0%	100.0%	75.0%	88.9%	85.7%
	Shortage of qualified applicants(if selected please indicate below the qualification(s) lacking	1	1	2	2	5
		50.0%	25.0%	25.0%	22.2%	23.8%
	Lack of training resources	0	2	2	2	5
		0.0%	50.0%	25.0%	22.2%	23.8%
	Turnover of staff	0	1	2	1	3
		0.0%	25.0%	25.0%	11.1%	14.3%
	Other (please describe)	2	0	0	1	3
		100.0%	0.0%	0.0%	11.1%	14.3%
	Total	2	4	8	9	21
		100.0%	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Are there any barriers to EXPANDING the existing CHW services at your health center?	**Yes**	4	5	12	11	30
		80.0%	83.3%	100.0%	73.3%	83.3%
	No	1	1	0	4	6
		20.0%	16.7%	0.0%	26.7%	16.7%
	Total	5	6	12	15	36
		100.0%	**100.0%**	**100.0%**	**100.0%**	**100.0%**
What are the barriers to EXPANDING the existing CHW services? (Please select all that apply)	**Lack of stable funding**	2	5	12	11	28
		50.0%	100.0%	100.0%	100.0%	93.3%
	Services not reimbursable	4	4	8	10	24
		100.0%	80.0%	66.7%	90.9%	80.0%
	Shortage of qualified applicants (if selected please indicate below the qualification(s) lacking)	0	1	2	1	3
		0.0%	20.0%	16.7%	9.1%	10.0%
	Lack of training resources	1	2	2	2	6
		25.0%	40.0%	16.7%	18.2%	20.0%
	Turnover of staff	0	1	2	1	3
		0.0%	20.0%	16.7%	9.1%	10.0%
	Other (please describe)	2	0	1	1	4
		50.0%	0.0%	8.3%	9.1%	13.3%
	Total	4	5	12	11	30
		100.0%	**100.0%**	**100.0%**	**100.0%**	**100.0%**

value, column percent shown

V. Discussion and Recommendations

Critical examination of the findings detailed in the earlier chapters provides evidence of the complex ways in which community health centers think of, and utilize, community health worker staff. Rather than there being a single model or models, or a common understanding of CHWs, what emerges from the data is:

- A broad range of approaches to utilizing CHW staff, which, while generally consistent with other frameworks, emphasizes clinical services and is pragmatically driven, reflecting the needs for flexible staffing approaches, with considerations about how and where to deploy CHWs determined at a hyper-local level;

- A validation of competencies described in other studies – with some unique differences in the degree to which certain competencies are deemed essential; and some nuances in describing concepts such as cultural competence;

- A professed need for a clearer definitions and more training, while at the same time a concern that standardization and certification requirements could prove threatening to staff historically recruited in some CHW roles, as well as challenges for the organization.

Role and Functions

To beter understand the nature of how CHWs work, and in what capacities, I created a framework that grouped specific codes that emerged from the interview conversations into five broader aggregate categories or themes. The aggregation was driven by a deep analysis of how the participants described the roles and functions of CHWs, and resulted in categories defined as:

Coordination of Clinical Services; Coverage/ Enrollment; Engagement/Advocacy at the Individual and Community Level; Health Promotion /Education/ Prevention; and Resource Identification. The codes were mapped into themes using the "families" function in Atlas Ti.

This analysis reveals that in many instances, CHW services were initiated to tackle a specific issue and furthermore, that how CHWs are utilized has evolved organically over time as populations and needs have shifted. The most widespread use for CHWs in the health centers studied is for the construct defined as coordination of clinical services. One the one hand, the study sample consisted of community health centers – organizations that function as providers of health care services – only, and the emphasis in CHCs on quality health care is, of course, a core focus of the mission. Making sure that individual patients establish relationships with their clinicians, understand the plans of care developed by their clinical providers, can follow those plans effectively, and can keep up with oftentimes complex medication and treatment regimens, is essential. While survey responses indicated that the activities engaged in by CHWs who worked directly with individual patients emphasized care navigation, care coordination, health promotion and teaching skill focused on improved health outcomes, rather than treatment adherence, many elements emphasizing patient engagement were evident. This is consistent with the patient centered medical home model emphasized in many CHC and also aligned with the findings in the recent study by Malcarney et. al (2017) showing that CHWs working in health systems are more likely to interact with patients in clinical settings. Thus, it is not surprising that the emerging framework of CHW roles and functions identified in the health center setting was weighted to clinical functions and care coordination, rather than a broader public health or community-facing role. Resource identification was focused primarily on additional enabling, supportive services for health center patients. Health promotion, identification and prevention included both community-facing activities as well as patient-oriented services. Outreach, Access

and advocacy-related functions – while in the aggregate appearing nearly as often as resource identification - were heavily weighted toward outreach. Where community-level advocacy is de-emphasized, it may reflect the sensitivities expressed by some respondents about direct political and civic engagement, "*So it is sort of a gray area for us but we do need to always fall on the side of what our funders want -- the legal contract that we have with our funders.*" or similarly, *So when I hear the word advocacy I -- while we understand and support the power of public health policies to shift health outcomes, we are not allowed to directly propose laws or urge people to vote one way or the other. That said it is absolutely our role to educate the public. (Alaska)*

The schematics depicted below summarize the functions and roles framework, and the concentration of each in the study group.

Coordination of Clinical Services (96)	Health Promotion Education/Prevention (73)	Resource Identification (40)	Engagement/Advocacy- Individual & Comm. Levels (37)	Coverage/Enrollment (18)
• Behavioral/ mental health •Case management •Home visits • Establish/ Maintain care relationships •Maternal child health •Motivational Interviewing •Oral health/ dental •Patients with chronic illness •Paraprofessional services •Self management •Tailoring and Targeted interventions	•Events or Community Activities •Work with Groups •Health ED •*Wellness* •Working with community not exclusively patients •*Screening* •Outreach to Schools	•*Address social determinants* •Facilitate referrals for non-medical resources and services • Navigation of services	•Liaison to and with providers, community groups •Outreach •Civic engagement • Advocacy	•Work with assigned but unengaged individuals •Insurance information, resources, counseling •*enrollment*

Figure 24 - Summary of CHW roles and functions

In discussing this emphasis on care management-type functions, several respondents explained that one key driver is time. They explained that in busy practices, where patient demand is high and resources often stretched, providers tend to have precious little of it, and are often not able to devote an optimal amount of time to any single patient visit. CHWs are seen as being able to fill that gap, offering a necessary and valuable function by explaining, communicating with, and monitoring the patient as an extension of the clinician's role, and providing a direct relationship or link back to the care team. An Idaho respondent reflected,

> *I feel like the thing that's been lost inside the health care system is the relationship between the patient and the provider. I mean because everybody is so busy. You know, you got 20 minutes to get through building a relationship, solving problems, delivering care that really comes from your heart. And, you know, we want to really get back to that level of relationship where patients really know and understand that we care about them. And, given the restraints that come from the payment system that we operate under, under a fee-for-service model, I don't know any other way to do it to give, you know, providers and patients more time together. So, we want to make sure that there structures in place that can begin to replicate that level of relationship. [CHWS are] being very efficient and the provider doesn't have to feel so out in the cold when a patient comes to them with a problem that is so complex.*

CHWs thus offer competencies that are immediately needed by the care team, as well as by the patient. Another rationale offered is that the very complex nature of the patient population served by health centers necessitates not only outreach to bring people into care, but ongoing engagement to ensure that patients are actively involved in maintaining their own health. In some communities, especially in remote areas, CHWs may be the first point of contact with the health care system, and a primary link to education, information and treatment if needed. Community health workers serve as a voice for their patients in the clinical setting, and a partner in their ongoing care.
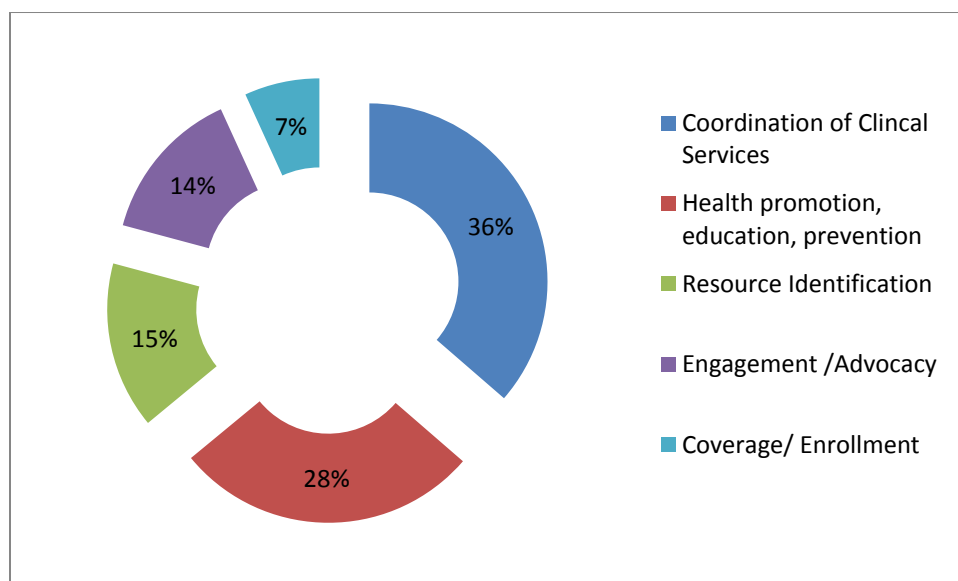
Figure 25 - Approaches to CHW utilization in northwest CHCs

As in several other studies, five core approaches to the utilization of CHWS emerged, but the particular emphasis or composition of each category differed, as indicated in a comparison of the findings to HRSA and NY (Findley) study findings.

TABLE XXXV - COMPARISON OF FINDINGS TO HRSA AND FINDLEY

Assessment of NWRPCA CHC	HRSA (2007) Five prevailing	NY Study Findley, Matos (2012) Five	Comments

Members (Jacobs, 2017)	Models of Care	Consensus Scope of Practice Elements	
Engagement/Advocacy at the Individual and Community Level;	Organizer	Outreach and community organizing	Little emphasis on organizing or direct advocacy among NWRPCA study group. Primarily Outreach and Access focused.
Coordination of Clinical Services	Member of care team	Case management and care coordination	Case management one component of broader coordination role for NWRPCA respondents; development of patient competencies highlighted
Health Promotion Education/ Prevention	Screening & health education provider	Health education and coaching	

	HRSA (2007) Five prevailing Models of Care	NY Study Findley, Matos (2012) Five Consensus Scope	Comments
Assessment of NWRPCA CHC Members (Jacobs,			

		of Practice Elements	
	Navigator, primarily for medical services	Systems navigation, i.e. Patient navigation Interpretation and translation Computer skills and ability to access information	For NWRPCA CHC respondents, NY systems navigation elements embedded for study group in both resource identification and clinical role/function. Medical services navigation (HRSA comparable, embedded in Coordination of Clinical Services)
Coverage/Enrollment	Outreach-enrolling informing agent		
		Home visits	Not a distinct theme for NWRPCA respondents, rather a function embedded primarily but not exclusively in coordination of clinical services
Resource Identification			For NWRPCA respondents, Identification and integration of non-clinical resources a key & distinct theme.

Increasingly, community health centers, consistent with approaches in primary care systems in general, are focused on creating patient-centered medical homes (PCMH). The emphasis on community health worker involvement in the coordination of clinical services is consistent with operationalizing the PCMH concept. Current utilization approaches provide evidence of this trend and potentially, a strong foundation for strengthening such services.

Competencies

My research Question 2 and the related sub-questions focus directly on the elements of competency, and how these are related to one another and to the objectives of the health center.

How do CHWs address staffing competencies and skills that health centers need to meet the requirements of a rapidly evolving healthcare marketplace, emphasizing care teams, patient-centered care, & medical homes?

2a. (Sub) How are the core CHW competencies defined?

2b. (Sub) Do CHW competencies or skills differ across programs, functions, settings? Or are they consistent?

2c. (Sub) Which competencies are essential for meeting defined CHC needs?

These questions were addressed using a similar approach to identify, organize and analyze the CHW competencies described by the respondents. While there are existing CHW competency lists available in the published literature, rather than start with such lists and attempt to vet them, I allowed the competencies to emerge from the data. As indicated earlier, more than 20 distinct competencies were identified by the interview respondents. I established a framework to group the specific competency-related codes into aggregate super-categories or themes. The codes

were mapped to the themes, defined from the emergent data **as Communication, Content/ Role-Based Knowledge, Interpersonal, Organizational/ Workplace, Outreach/ Advocacy, and Teaching,** using the "Families" feature in Atlas. Again, while these super-category themes are comparable to the competency groups reported in other studies, they were developed directly from the data. What resulting categories that emerged both validated the findings of other researchers, but also provided evidence of some variations, and differences at a granular level from other aggregations using similar descriptors. For example, Findley et al. (2012) identified a category called Organizational Skills which is inclusive of Computer skills (office, e-mail, Web), time management, documentation and data collection, interacting with supervisors, mentoring other CHWs, and research. Not all of these skills or competencies were identified in this study, and thus the generally comparable Organizational/ Workplace category identified here included data entry/analysis, customer service, computers, organizational skills (including time management, documentation) and problem solving.

The predominant competency or skills-related code that was reported by the interview respondents was language/ cultural competency; for the study group, this was described as a communication skill and grouped accordingly (in contrast to the Findley consensus-based study in New York, which categorized language and cultural competency as an interpersonal skill). Soft skills were the second most frequently mentioned, as core interpersonal skills. The emphasis on soft skills was further reflected in discussions of key characteristics or personal attributes of effective CHWs, which added to the understanding of what individuals working in a CHW capacity need to know how to do (skills, competencies) and who they are as individuals (characteristics, personal traits). The key characteristics mentioned were trustworthiness, empathy and passion. Also highlighted were natural leadership qualities. These attributes cut across specific job descriptions or functions performed. As one person, from Oregon, remarked,

I don't feel that community health worker is a job title. And there's no one job description necessarily. And you can call whenever you want to. But they have to have the heart of a health worker.

Indeed, this sentiment proved to be pivotal. Thus, while language competency - or quite literally, the ability to communicate effectively, in a language understood by and comfortable for the individual - was viewed as essential, the distinguishing feature of community health workers in many settings was described as "trust" or heart" irrespective of the particular function served, or any specific cultural or language requirement. The competency aggregates, in rank order, are illustrated in the figure below.

Communication (38)
- Language and Cultural competency
- Good verbal capabilities

Interpersonal (32)
- Soft skills - empathy, trust, compassion, ability to relate, natural leaders
- Peer support

Content and Role-Based Knowledge (25)
- Responsive to needs of special populations
- Awareness of social determinants
- Community assessment
- Medical assisting
- Insurance

Oureach and Advocacy (21)
- Outreach
- Engagement / Advocacy
- Leadership

Organizational and workplace skills (18)
- Problem solving
- Data entry, computers, analysis, documentation
- Organizational skills
- Customer service

Teaching (8)
- Understanding and conveying relevant information
- Apply popular education techniques
- Capacity building

Figure 26 - Summary of CHW competencies

One point of interest regarding the teaching competency deserves special mention. Consistent with other studies, teaching emerged as a distinct competency and skill set for the study group. Several respondents referenced incorporating in their service delivery model a popular education approach and training CHW staff in popular education techniques, describing both the "philosophy about popular education," and "popular education style" methods.

Explaining popular education in the context of CHW responsibilities and functions, one interview respondent from Washington explained, *"it's a technique we've used to help people understand. When you can make it visual as you're talking about the subject. Giving examples and utilizing them, they retain it more when they become part of the presentation instead of just being observers or hear it."* Another colleague, in Oregon, commented that the health education program offered by the CHWs is *"built upon principals of popular education and it's very social, it's very engaging, they cover a broad range of topics from, you know, what your chronic illness is, diet, exercise, familial and peer support, stress management, there's a yoga class-- it's a pretty broad ranging curriculum that the health workers are the lead on."* Those interviewed described popular education as learner-focused and participatory, with the CHW playing the role of a facilitator. In these cases, popular education was seen as a strategic and productive approach for communicating information, and deployed as part of an education technique tool kit. More specifically, though, a central goal of popular education can be understood as examining – and confronting – the social basis for lived experience. Thus, while this approach certainly borrows from the principles of Paulo Freire (1976), popular education as described falls short of being seen as a device for mobilizing or direct action, per se, except in the immediate sense of taking responsibility for one's own health, or for the health of one's family. Popular education was not directly mentioned in the context of advocacy- or civic-engagement oriented work performed by CHWs.

Framing Cultural Competence

Historically, a stated rationale for the use of CHWs is that the attributes or characteristics of those who work in a CHW capacity – cultural competence, language, and core knowledge that

engenders trust – help create bridges that increase the likelihood of patient engagement and follow-through. This theme was expressed in several key informant interviews, especially in organizations that served culturally and ethnically diverse immigrant and refugee communities which are scattered across the Pacific Northwest. CHWs in these setting were described as bridging western and uniquely American mores, attitudes and healthcare practices with those better known to the communities from their home countries. As one individual noted,

> *We service a significant percentage of patients, our refugees and immigrants, who are unfamiliar with a Western model of health care and so there's a need to articulate the appropriate message and the need for a primary care provider, why you would see a doctor when you're not (sick) – when you are feeling completely fine, why you would want to actively engage in age appropriate screenings like cervical cancer, colon cancer, breast cancer and really trying to help people understand that there's a different way of community health care in our country – in the U.S. (Washington)*

One Oregon-based respondent stated simply, *health workers essentially are about having people that our patients can connect with as [an] empathetic peer, somebody with a similar background, of experience, culture.*

Hence, of particular note is that the competencies which emerged more broadly directly from the data have a somewhat lesser emphasis on cultural mediation and cultural competence than the NHCHAS (1998) competencies, which include in the seven core roles and competencies both *Cultural mediation* and *Providing culturally appropriate health education.*

Still, there was a prevailing view expressed in the interviews that CHWs can serve as a bridge or link to work with patients and the community across a range of settings and functions. Inherent in this is the bi-directional nature of the bridge – with CHWs playing the role of both engaging patients and community members, on the one hand, and informing their organizational

colleagues of community-identified needs, one the other. In the opened-ended portion of the survey, one respondent noted:

> *They are the trusted link into the community. Their flexibility to offer different services and cross departments. is a big help. They are able to motivate and inspire patients to improve their health in a more successful manner than providers can do. They are the best way to advertise about the clinic, they grow trust between the community and the centers, they can give insight to the patients and give insight into the community.*

Interview respondents elaborated on this theme, explicitly rather than indirectly invoking the concepts of "liaison" and a bi-directional bridge: *They're almost like a liaison or bridge between the community and the clinic and they're both reinforcing messages regarding health and health system navigation but they're also able to kind of report back on, you know, these are the needs that we're seeing or these are the services that a lot of our community members are asking for that we don't have a resource for. (Washington)*

What does this bridge look like, and how stable is it, given that a deep analysis of the data, starting with survey responses and including a review of job descriptions and the interview results, indicates that in at least half of the organizations, no prior experience working in the community, prior health care experience or personal membership in the community is required? While the early analysis of the survey results suggested that the "bridge" might be understood as a "constructed" bridge rather than an organic one, meaning that it relies on certain skills that may be learned or taught, the interviews suggested something different – that the very nature of the bridge relies on a human connection. This may be based on culture or experience, or on a peer relationship, but in all cases is best understood as a deep personal commitment, passion for the work and empathy for those being served. Shared experience was seen as important and empathy as essential:

> *I mean you could be Spanish speaking, you could be Latino and not understand a single thing about your community because maybe you didn't grow up in poverty, maybe you didn't have parents who are undocumented. (Oregon)*

Furthermore, for the community health centers that participated in the study, cultural competency is understood both broadly, and in a granular way. For these CHCs, cultural competence means more than just sharing a common language or ethnic background, and focuses in many instances on social conditions or determinants. Thus, some respondents explained that, as important as CHW linguistic or ethnic competence is, equally more is a deep understanding of homelessness, sexual orientation and gender identity or other factors, as well as the overlay between these issues and ethnic background or culture.

- *I really believe that folks that are experiencing homelessness have a lot of culturally specific needs. (Oregon)*

- *there are some cultural barriers within the communities and cultures that we dominantly serve in addressing LBGTQ issues because, there are biases in (this) community but if you're dealing predominantly with refugee and immigrant communities, there's the other layer of culture and beliefs and values layered on top of the LBGTQ that has to be navigated differently. (Washington)*

In this sense, the health center respondents seemed to truly embrace Betancourt's (2002) definition of cultural competence, "the ability of systems to provide care to patients with diverse values, beliefs and behaviors, including tailoring delivery to meet patients' social, cultural, and linguistic needs;" in their organizations. Language needs were important to establish communication, but were often secondary to other cultural or social needs.

Finally, an important theme emerges about which populations may be hard to reach, and what strategies might be used to engage them. As one particularly thoughtful respondent said,

> *And so, as I noted, all of our health workers have been bicultural and bilingual and we ask our self questions, are we more effective working with our Hispanic community than we are with our non-Hispanic community, which is mostly white, non-Spanish speaking? And it's an interesting question. Not that everybody Hispanic is the same - But I see a definite sense in our Hispanic patients, there's a sense of connection and community as a Hispanic person. And, we don't see the same kind of a thing in our non-Hispanic patients or white patients primarily and there's not that sense of community. So, anyway, for them, it's about making a human connection and -- right, because until it's kind of the idea that people don't care how much you know until they know how much you care. (Oregon)*

Thus, it is possible that organizations that serve primarily people who speak languages other than English both expect as a foundational requirement that CHWs must be able to communicate effectively in the language of the community, but also rely on the cohesive nature of the community itself for CHWs to be effective. Where that social or cultural cohesion is absent, as it may be the case in a neighborhood or service area where people do not share a common background, language, culture, religion or ethnicity, outreach – and improved outcomes – may be more challenging. Empathy, heart, the ability to establish trust and other soft skills such as humility are essential but in the absence of community cohesion, framed either by a shared culture or shared experience, it is likely to be harder to engage at either the individual or community level. This may prove challenging in certain communities. Nonetheless, it is clear that CHWs are viewed as possessing social capital that is essential to the health center's provision of services.

How the Functions, Roles and Competencies Relate in Practice

A question that emerges is where or how particular functional clusters might relate to competencies. The Atlas.Ti - co-occurrence function was deployed to indicate possible

relationships between how CHWs are utilized and identified competencies. Depicted below are selected code combinations where possible associations are indicated. In all cases the co-occurrences determined using this functionality were used to point to particular areas of the text for further review and to substantiate the suggested association. Soft skills such as empathy, trust and compassion were described as a threshold requirement rather than being associated with a particular function.

TABLE XXXVI - KEY CHW COMPETENCIES BY ROLE OR FUNCTION

Role/ Functional Category	Key Competencies
Coverage/ Enrollment	
• How CHWs Utilized - engage with assigned but unengaged	Problem Solving
Coordination of Clinical Services	
• How CHWs Utilized – Case Management	Language and cultural competence Peer support
• How CHWs utilized - establish /maintain primary care relationships	Responsive to needs of special populations
• How CHWs utilized - Maternal/ child health	Responsive to needs of special populations
Health Promotion Education Prevention	
• How CHWs utilized - working with community not exclusively patients	Outreach Community Assessment Communication, verbal capability

• How CHWs utilized - Provide Health Education	Responsive to needs of special populations Community assessment Popular Education
Resource Identification	
• How CHWs Utilized - address social determinants	Responsive to needs of special populations Problem solving
• How CHWS Utilized - Navigation	Language and Cultural Competence
Engagement/Advocacy at the Individual and Community Level	
• How CHWs Utilized - Outreach	Communication, verbal capability
• How CHWs Utilized - Advocacy, Civic Engagement	Responsive to needs of special populations Awareness of Social Determinants

It should be noted that in Atlas.ti, the Co-occurrence Table Explorer (CTE) displays, for each pair of selected codes, the count of their co-occurrence in all project documents as well as a normalized coefficient called the Co-occurrence index (C-index). This is a binary, pair-wise analysis driven by either the presence or absence of codes that co-occur, intended to reveal associations between or across codes and concepts. The results are reported as a decimal between 0 and 1, with 0 indicating that codes do not co-occur (i.e., the terms are mutually exclusive), and 1 indicating that every time one code appears, the other term co-occurs. In

addition, the table identifies by color certain combinations, such as where the ratio between the codes frequencies exceeds a defined threshold, suggesting an area for possible further review.

(Atlas Forum

http://forum.atlasti.com/showthread.php?t=4210,http://forum.atlasti.com/showthread.php?t=4317). The finer points of this type of analysis exceed the scope of this paper. I note, however, that I have not reported the quantitative co-occurrence coefficients, given a concern about the validity of assigning a numerical score to qualitative data and thereby attributing an unintended meaning in terms of numerical or empirical certainty. Rather, I have utilized the functionality of the C-index to emphasize possible concentrations or associations.

As shown in the table above, one interesting theme that emerged was the peer support competency in relation to case management and clinical coordination; this was identified both among organizations where CHWs worked to address management of chronic medical conditions as well as behavioral health or substance abuse challenges. Indeed, two organizations mentioned modeling some aspect of the CHW functions on the Stanford Chronic Disease Self-Management Program, an intensive peer-led program focused on helping people with chronic illness better manage their health. Another important theme was the emphasis on problem solving, especially for those CHWs working to engage people who had coverage but were not utilizing services, as well as for those working to identify and obtain non-medical resources and services.

Similarly, certain competencies were often mentioned by interview respondents in relation to specific rationales for utilizing CHWs. As with the analysis of competencies and roles depicted above, the co-occurrence tables feature in Atlas was used to generate possible associations based on co-occurrence and indicate areas for detailed review in the transcripts.

Depicted below are selected code combinations where the coefficients indicated a co-occurrence. Across all rationales for engaging CHWs, the specific competency most referenced was soft skills - empathy, trust, compassion, ability to relate; this was followed, in rank order, by the following: problem solving; communication, verbal capability; language and cultural and competence responsive to needs of special populations; engagement/ advocacy. The rationales described as *CHWs as a bridge* and *Removing barriers* to care were closely related, but distinct, For the rationale *Removing barriers to care*, the key competencies were problem Solving, soft skills - empathy, trust, compassion, ability to relate, and Responsive to needs of special populations. This rationale co-occurred with the codes for recruitment from the community, recruitment of natural leaders, and recruitment for community-based understanding.

For *CHWs as a Bridge*, the competencies most referenced as necessary (in order of frequency) were problem solving, communication, verbal capability, soft skills, language and cultural competence and engagement/advocacy. This rationale co-occurred with the codes for recruitment from the community. This underscores the points in the discussion above that for this group of community health centers, language and cultural competence were certainly important as a foundation for communication, but core soft skills and general communication capabilities are essential. Looking toward the future, these can be seen as a key requirement for meeting the demands of the health center work setting.

TABLE XXXVII - KEY CHW COMPETENCIES BY RATIONALE FOR USE

Rationale	Competencies
• CHWS as a Bridge	Problem Solving Communication, verbal capability Soft skill empathy, trust, compassion, ability Language and cultural competence Engagement – Advocacy
• Removing Barriers to Care	Problem Solving Soft skill empathy, trust, compassion, ability to relate Responsive to needs of special populations
• Rationale - respond to unique local issues	Soft skill empathy, trust, compassion, ability to relate Language and cultural competence
• Rationale - improve community health	Communication, verbal capability Soft skill empathy, trust, compassion, ability to relate

As health centers seek to develop a competent and agile workforce, and find innovative approaches to address population health challenges, it is essential that they continue to identify and strengthen the key competencies related to communication, interpersonal skills, and content-based knowledge. This includes a nuanced understanding of cultural competence, and a sophisticated awareness of and high degree of responsiveness to the needs of vulnerable populations. Furthermore, to enhance team-based care, skills related to problem solving, communication, and verbal capability are essential. This speaks directly to the need for CHWs to function effectively in relation not only to their patients or community base, but in relation to

other colleagues and professionals in the workplace. The competencies of community health workers can thus be seen as reflecting current workforce needs more generally but also as providing specific and local evidence of effective workplace competencies as they are operationalized in CHCs today.

Revisiting the quadrants

This study began with the idea that there might be a defined model or models of CHW utilization prevalent in the community health centers. I constructed the idea of a quadrant model, inclusive of four key components comprising Titles, Roles /Functions, Competencies/Skills, and Settings, that might be understood as both individual dimensions of a CHW model, and as working in concert with one another to define the work of CHWs in the health center setting:

As articulated in research question #1, *What are the characteristics of the CHW models in use today? 1. a How are these defined with respect to Titles, Work Focus, Roles/Functions; Settings/Programs; Competencies.* Further, assuming a defined model, my research question #3 was *To what extent do CHW models vary, or how are they similar? What are the key unifying elements?*

The data, instead, suggest that rather than a singular or uniform model, with clearly established functions, titles, roles and settings that interplay or interact in a specific manner there is, instead, a more pragmatic and flexible framework with core competencies and characteristics as unifying elements. As discussed earlier in the chapter, competencies identified in earlier studies were generally validated, but some skills and competencies were emphasized to a greater extent in the study group. Similarly, roles and functions were similar to those found in other studies, but not completely aligned. An array of tiles, roles, functions and settings is evident even

across organizations with similar objectives. Thus the original quadrants can be seen as essential elements of a framework but not part of a prescriptive model.
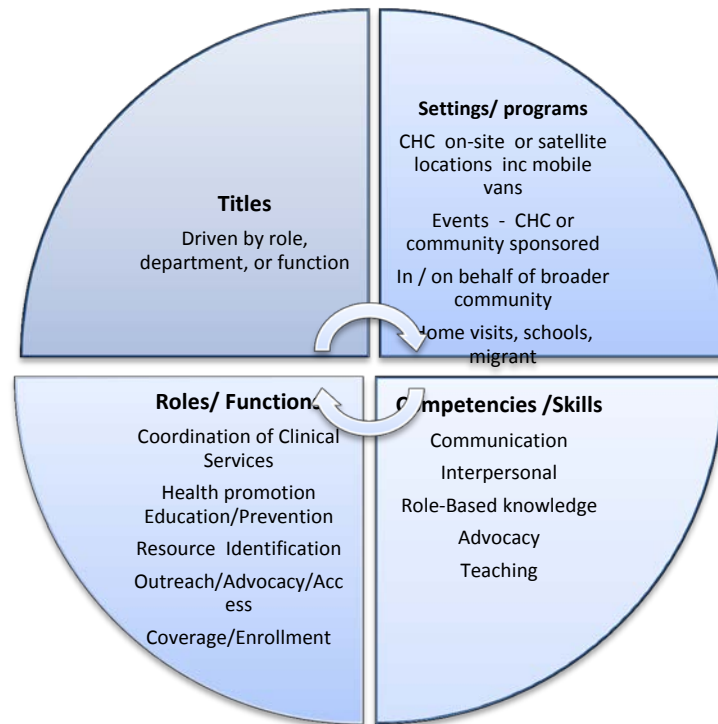
Figure 27 - Updated CHW quadrant framework

Upon reflection, this conclusion, based on the analysis of data from organizations in four distinct states that comprise the Pacific Northwest service region, speaks to the unique nature of community health workers as locally based, and responsive, consistent with the overall community health center mission, to community-directed needs. Thus, addressing research question 4, *How can CHW competencies be leveraged to meet new workflow needs as health centers develop medical homes and respond to other demands in this changing environment*? I conclude that the broadly defined and commonly identified competencies need to be tailored and

honed to the particular needs of the organization to achieve a strong service base and productive outcome.

As one interview respondent from Washington explained, *what works for one particular community may not be the same strategy that's needed for another and we're very attentive to the fact that if we're going to make multicultural engagement work that we can't just have cookie cutter strategies; we really need to be able to have some flexibility to allow the advocates to also inform us as to how and when and what they should be doing in order to accomplish what we're trying to do.* A related point was made by a colleague from Alaska, who offered the observation that: *Every community is different and every community has different needs. I want to throw that out there because most of our [CHWs] know our community very well, and each community is unique in their own way.*

These sentiments seem to underscore Rush's point (2014) that CHW competencies need to be defined at the state level, and in relation to local practice needs. Still, Rush has further suggested that while CHW competencies and skills should be locally oriented, they should be aligned with those in other states.

Here, perhaps, the nature of the Pacific Northwest region, with four distinct states, provides an opportunity for the NWRPCA to develop and encourage opportunities for collaboration at both the practice and policy levels.

Methodological Considerations

The research design for this study consisted of a broad survey of the membership of the NWRPCA, followed by in-depth key informant interviews and supplemented (concurrent with the interviews) by document review. The foregoing analysis integrates the findings from this process. However, it should be noted that this method resulted in certain challenges.

First, while the survey questionnaire was developed through a thorough process that included vetting by the primary care association, in practice some of the questions may have been difficult for the respondents to understand; for example, responses to the questions concerning the population served, which asked the respondent to indicate the populations primarily served by CHWs by patient race or ethnicity and designated vulnerable population designation, were hard to interpret. In general, the survey format, which included a large number of questions where the response type was "select all that apply" might have been simplified by, for example, asking respondents to prioritize or rank their responses.

In addition, while every effort was made to align the interview guide with the survey, some of the constructs were not precise or exactly aligned. This resulted in some challenges in figuring out how to best relate the two processes and interpret the data. Ultimately, I concluded that both the survey and interviews provided rich, valid data which complemented the other. Harris & Brown (2010) – whose methodological article *Mixing interview and questionnaire methods: Practical problems in aligning data* I became aware of only late in the analysis process - state that "The results from these two methods (i.e., survey questionnaire and semi-structured, qualitative interview) should be considered not so much as confirmatory or divergent, but rather as complementary."

Finally, it should be noted that during the course of the study both the Qualtrics application used to collect and analyze the survey results, and the Atlas.T1 application used to analyze the interview transcripts and other documents, were upgraded. These upgrades should not affect the outcome of the analysis, but did add a layer of challenge and complexity to analyzing and working with the data as the study progressed.

Final reflections and Recommendations

This research was undertaken in order to help the NWRPCA better understand the utilization of community health workers in member centers throughout the region, with the objective of informing the development of training, educational and developmental opportunities to help CHCs utilize CHWs effectively while maintaining their mission and enhancing their effectiveness. The data and analysis provide some useful guidance for programming and training, and may also be valuable to primary care associations in other regions working to support their membership. Thus, recommendations are focused on the professed needs of the primary care organization for actionable information. Still, the recommendations that follow are not merely technical fixes. In all cases, developing workforce training and development opportunities are adaptive challenges for community health centers.

Furthermore, in the current, complex environment, the potential of repeal of major provisions of the Affordable Care Act by the new administration threatens to jeopardize improvements in access attained in recent years, and Medicaid is also likely to undergo substantial changes, with the possibility of block granting impacting both states that expanded Medicaid under the ACA and those that did not. Community health centers are likely to face pressure to reduce costs while continuing to improve outcomes and remain mission-focused.

These policy and reimbursement shifts will be deeply challenging for community health centers, and will require thoughtful, strategic, practical response by CHCs and primary care associations. Here it should be noted that the survey was conducted in the spring of 2016, and interviews commenced in the summer and were concluded in November 2016, with the last interview conducted immediately following the presidential election, but prior to the inauguration of the new president and administration. It is conceivable that had the study been conducted or concluded later in the year, different issues might have emerged. Indeed, the final interview respondent, from Idaho, commented that health providers in Idaho had been disadvantaged by the decision of the state to not expand Medicaid, but had learned to cope with a restrictive state framework and provide a high level of services to their patients and communities; they viewed others as now having to learn from the Idaho experience. By way of explanation, this person noted, "*The health centers in Idaho I believe are at a huge disadvantage compared to our neighbors in Washington and Oregon and other places that have very progressive state legislators and have advanced Medicaid. But we never had the funding. I mean, we carried on.*"

Yet amidst the known and potential challenges will be opportunities to consider new or adaptive workforce strategies, including how community health workers can best function in the health center context. Encouraging dialogue, communication and collaboration, and supporting innovation in a resource-constrained environment require the highest levels of engagement and leadership, and these are areas in which the NWRPCA has excelled. Thus the organization should be well positioned to build on its existing programmatic strengths and make effective use of this analysis to support member needs. The PCA can engage in a variety of ways, but several opportunities include:

Taking a lead in sharing information and research at the local and national level about different CHW models and approaches in use or in development. In February, 2016,

HRSA announced to all community health centers several changes to calendar year 2016 Uniform Data System (UDS) to be reported by health center program grantees and look-alikes beginning in February 2017. Those changes were announced as approved in March 2016 (PAL 2016-02). Among the changes is reporting of additional types of staff, including Community Health Workers, on the required Staffing & Utilization and Financial Cost tables. Up through 2015, organizations that employed CHWs were advised to report CHW staff as part of other staffing categories, by including any CHW staff in the staffing category that most closely matched their work responsibilities. In the 2015 manual issued to health centers (*UDS Manual Sept 3, 2015 V1.0 OMB Number 0915-0193)* health centers were advised that any CHWs should be reported in the categories other medical, dental assistants, aides, other professional, other vision care, case manager, patient /community education, outreach, or eligibility assistance, as appropriate to their functions. Thus, it was not possible to discern how many CHWs were employed at health centers, or what their work entailed. For the 2016 reporting year, the UDS established the category "Community Health Workers," defined as *Lay members of communities who work in association with the local health care system in both urban and rural environments and usually share ethnicity, language, socioeconomic status, and life experiences with the community members they serve; no visits are recorded for these workers. Staff may be called community health workers, community health advisors, lay health advocates, promotoras, community health representatives, peer health promoters, or peer health educators.* (Bureau of Primary Health Care, 2016). CHCs were expected to collect this data in 2016, for reporting early in calendar year 2017. Thus, for the first time, when the aggregate data become available later in 2017, for the first time there will l be a count of CHWs employed by health centers. However, because the category is based on the broad definition of CHWs shown above, the information

will not be useful for identifying the various models in use in health centers today. Understanding and interpreting that data will require information from local sources.

Clearly, as the data demonstrate, there is neither a "one size fits all" approach to utilizing CHWs, nor one model that would address all local needs. But all CHCs, whether presently utilizing CHWs or considering how to engage them in the future, could benefit from understanding how CHWs are used in other health centers, both locally and regionally; this information would help them better inform, develop and adapt their own services and programs. One such effort might focus on understanding how CHC staffing can be informed by different approaches to utilizing CHWs, whether in clinically or resource-focused roles. Comments from interview respondents reflect this interest:

> *One of the things that I'd like to happen - not only state wide but it would be nice even if we started asking by region and then maybe on national level – is to really have a great clinical definition of what a promotora is, what a community health worker is and maybe it's in my head, it sounds like a continuum, you know. (Washington)*

> *On the one hand, don't get hung up on title. One the other it would be helpful for there to be some clarification of the titles in use. (Idaho)*

Also, even as some organizations today utilize CHWs primarily in a clinically-focused role, and do not necessarily focus recruitment on members of the community, one interview respondent described an initiative under way in Washington, supported through private funding, to help their organization develop a more community-centric approach, focused on a particular immigrant community, explaining that the center was interested in developing and testing ways to engage more deeply with the community:

> *I guess, I'm kind of thinking of the model of a Community Health Worker who really comes from the community, and already kind of embedded in the community, and is not just working with the patient of a health center, but is also*

out in the community promoting health, and educating, groups in the community, and engaging with community organizations that those members are part of, and kind be in that almost informal advocate for health and someone who can kind of help navigate the system resources, but who can also work one-on-one with people and do things like go into somebody's house and visit with them, and provide a deeper level of discussion than you can typically have in a clinic environment. (Washington)

The Washington initiative, in development even as others focus on clinically oriented services that are potentially reimbursable, points to the interest in a more outward facing and community or population- specific role, that should be further explored and developed. Here it should be noted that the community health workers themselves, working in their many different capacities, obviously have much to offer in the dialog and should be invited to participate in both informal and informal processes, both directly through their organizations and in conjunction with statewide community health worker professional associations.

Finally, irrespective of the particular CHW role or framework, sustainability is essential and the development of sustainable services will most certainly necessitate greater clarity on roles, functions and services. The PCA could serve an important function as both facilitator and clearinghouse.

Promoting evaluation, without going overboard. As Rush has pointed out, and as several interview respondents stated, there are extant studies that provide strong evidence on the value of CHWs. Despite this, several people lamented that that while they feel CHWs are very beneficial, they have little current, real-time empirical evidence to report. The benefits of evaluation are practical, in that they can help organizations trying to determine the types of CHW services, programs or interventions that might be best suited to their own situations. One interview respondent commented,

The possible roles for community health workers are so varied that it's a little bit difficult to know where to get started and what's going to have the most bang for the buck. So, maybe what is the outcome that they're producing-it'd be kind of nice to have some direction in terms of guidance on how you look at your population, kind of identify what is the highest impact you can have for patients and what is the specific role that can have that impact. (Washington)

Quick, impact-oriented evaluations – in the form of qualitative assessments, focusing on innovation and including story telling – that emphasize both clinical outcomes and the value of "soft" skills - could be especially useful in the current policy environment, and help to underscore the value proposition for the CHW workforce. Here, NWRPCA need not serve as the evaluator but rather could help identify evaluators, frame evaluation approaches and resources and again, serve as a clearinghouse to offer information and evidence useful to CHCs both locally and nationally.

Collaborating to expand training opportunities that may fill the gaps for some organizations. Many training approaches - both in person and on line – were described in the surveys and interviews. Still, several gaps were identified.   For example, several organizations reported that it is important that CHWs have the skills to use the electronic health record effectively, and identified this as a training challenge.   Others noted that training – including that available through community colleges – can be difficult to access or cost prohibitive, in addition, some colleagues reflected on the need to make administrators and managers more aware of the important role played by CHWs, as well as the need to strengthen their role as members of a team. This suggests that ongoing and interdisciplinary developmental and training opportunities are needed not only for CHWs themselves, but also for non-CHW staff, including administrators and providers, in order to help CHWs work to their maximum potential and support the work of other colleagues. The latter is especially relevant as more organizations seek

to gain recognition as patient center medical homes and strengthen team-based approaches to care. In addition, some organizations could benefit from targeted technical assistance, potentially through the PCA or peer organizations, to address specific training or implementation needs.

Promoting an inclusive policy framework that recognizes the important role of CHWs and promotes innovations developed across the region. Key policy areas include occupational scope of practice, workforce development and financing and reimbursement. Helping to bring stakeholders to the table, conducting policy analysis and tracking legislative and reform-related initiatives across states are important first steps for which the NWRPCA is well suited, especially in partnership with state PCAs and other entities. This research coincides with the completion of the Community Health Worker Core Consensus Project (C3), begun in 2014, which is intended to update the NCHAS study and produce recommendations for CHW scope of practice and competencies and which will likely be utilized at both the state and local level to inform and frame policy. C3 is a broad, national consensus-based effort that will offer information essential for establishing a framework for CHW policy and financing strategies. This NWRPCA study, on the other hand, represents the first study of community health workers focused exclusively on how they are utilized in a large number of community health centers, across a region encompassing several states.   Accordingly, it adds to the more general studies a detailed view of CHWs as they work in community health centers today. NWRPCA can thus bring to the policy discussion a unique, well-informed and in-depth current understanding of community health centers at the local, regional and national levels, and the importance of CHWs, irrespective of role, function or title, to the effective operation of health centers. As community health centers gear up for significant changes in the health care landscape, NWRPCA can be an important voice in the value and workforce discussions with HRSA, other agencies and

regulators. This will help ensure that as policy is developed and established at the state and national levels, the unique attributes of CHWs, and their varied roles in community health centers, the largest network of comprehensive primary care in the country, can be considered and supported. Current changes to health policy at the national level may derail or delay the growth of health centers in the near term, and accordingly change their staffing and programmatic focus. Over the long term, however, the health center mission – meeting the needs of the underserved through comprehensive services and care that is community focused and community controlled – will be well supported by including CHWs in the mix, in their many and varied roles. Said one Oregon colleague, echoing a common theme:

> *Wellness is beyond just going to see a provider when you're sick and taking medication and doing all of these kind of passive things. Really, if we can have CHWs engage them in something that's proactive, we can really get ahead of the curve.*

A locally relevant deployment of community health workers, whose roles and functions are informed by best practices but tailored to meet specific community needs, can help community health centers address the workforce and healthcare challenges ahead.

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VII. Appendices

APPENDIX A - Community Health Workers in the Community Health Center Context Survey of Approaches in the Pacific Northwest (Initial Outline, Fall 2015)

The survey will query community health center organizations (CHCs) about their use of community health workers (CHWs). The purpose is to better understand the roles, functions, titles and program models for this important component of the workforce in CHC settings. This will be a self-administered written questionnaire. The outline is organized by variables within each construct

INTRODUCTION - Screening Questions

    A. Determine if health center has at least one program that uses CHWs *(Decision point)*

        1. Yes, Currently

            a. Continue to II

        2. Do not use CHWs currently and have not used in the past but considering

            a. Go to XI

        3. Used CHW staff in the past but not currently

            a. Go to XII

        4. No and not considering

            a. Go to XIII

    I. General organization information
    A. State within region

        1. Oregon

        2. Washington

        3. Alaska

        4. Idaho

    B. Location Setting

        1. Urban

        2. Suburban

        3. Rural

        4. Frontier

C. Organization type

    1. FQHC

    2. Look-alike

    3. Other

D. Number of CHWs

    1. Employed

    2. Engaged as Volunteers

    3. Contracted

    4. Other

I.   SETTING FOR CHW WORK (select)

A. On site at the health center

B. On site at a health center satellite location

    1.School based setting

    2.Other CHC service setting

C. Patient's home

D. Off -site in community location

E. Events-based

F. Other

II.   WORK FOCUS

A. Address specific health conditions or issues [1]

    1. Diabetes

    2. Cardiovascular disease

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[1] Health conditions list primarily from Michigan Community Health Worker Alliance CHW Program Survey 2014 as well as George Washington University Workforce Research Center(GWHWRC) survey for OMH and HRSA, spring 2015

3. Physical Activity/ exercise

4. HIV/AIDS

5. Obesity

6. Nutrition

7. Cancer

8. Asthma

9. Behavioral or mental Health

10. Maternal or infant health

11. Immunizations

12. Dental/ Oral Health

13. Smoking or tobacco cessation

14. Environmental health

15. Other (identify)

B. Serve primarily populations identified by defined race or ethnicity

1. American Indian or Alaskan Native

2. Asian or Pacific Islander

3. Black or African American

4. Hispanic or Latino

5. Non-Hispanic white

6. African born[2]

7. Other (identify)

C. Focus on Special Populations[3]

1. Pregnant Women and infants

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[2] Category from Community Healthworkers in the Midwest
[3] see Michigan Community Health Worker Alliance CHW Program Survey 2014

2. Immigrants

3. Homeless individuals or families

4. Uninsured

5. Frequent emergency department users

6. Migrant and seasonal farmworkers

7. Other (identify)

D. Focus on defined age groups [4]

1. Infants and Children

2. Teens / Adolescents

3. Young adults 18-25

4. Adults

5. Seniors

III.   ROLES

A. Work directly with individual patients[5] *(Decision point - If Yes – Select services)*

1. Teach health promotion and prevention behaviors and skills

2. Develop patient goals and action plans

3. Promote treatment adherence

4. Coordinate patient referrals

5. Provide care navigation and coordination

6. Provide language translation and interpretation services

7. Transport people to appointments

8. Work with family members in support of patient needs

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[4] Michigan Community Health Worker Alliance CHW Program Survey 2014
[5] Individual v. population dimension adapted from GW HWRC survey. Specific services adapted from various sources including GWHWRC, Michigan Community Health Worker Alliance Community Health Worker Program Survey and Community Health Workers in the Midwest

9. Conduct health insurance enrollment

10. Connect people with non-medical services or programs

      a. Housing

      b. Employment

      c. Food security

      d. Education assistance

      e. Legal help

      f. Other

11. Other

B. Work with the broader population or community *(Decision point - If Yes – Select services)*

1. Outreach

2. Provide health education to groups

3. Provide information about services or coverage to groups

4. Advocacy

5. Casefinding

6. Community organizing or mobilization

7. Community needs assessment

8. Participatory research

9. Collaborate with other health providers or agencies (i.e., Department of Health)

10. Other

C. Work in multidisciplinary team with other staff[6] (*Decision point. If yes select other staff members that are part of team, and continue to role in team, value to team*)

1. Primary care provider

      a. Physician

---

[6] Source - Michigan

    b. Nurse practitioner

    c. PA

  2. Registered nurse

  3. Social Worker

  4. Dietician

  5. Nutritionist

  6. Case manager

  7. Medical assistant

  8. Other CHWs

  9. Other (specify)

 D. Role in multidisciplinary team (Open ended)

 E. Perceived benefit or value to CHW role in team

IV. NOMENCLATURE

 A. Title or titles used to refer to CHWs *(may have multiple responses)*

  1. Community Health Worker

  2. Promotors or promote(a) de salud

  3. Community outreach worker

  4. Health (or community health) advocate

  5. Health ambassador

  6. Community health advisor

  7. Lay health advisor

  8. Community health representative

  9. Community health aide

  10. Community health navigator

  11. Outreach worker

  12. Peer educator

  13. Community health liaison

14. Other

B. If multiple titles used, variation by focus, population served or role? (open ended)

V.   QUALIFICATIONS AND COMPETENCIES

A. Specific Language Skills (spoken, written fluency)

    1. English only

    2. Spanish

    3. Chinese

    4. Arabic

    5. Russian

    6. French

    7. Other

B. Prior health related experience (*Decision point –desired v. required*)

    1. If required, length of prior experience needed

        a. less than 1 year

        b. 1 year

        c. 2 years

        d. 3 or more years

        e. No specific # of years required

C. Membership in the community being served (*Decision point – desired v. required*)

    1. Member of the target community defined by age, race/ethnicity, gender, sexual orientation or other characteristics

    2. Resident of specific neighborhood or geographic area served

    3. Have themselves experienced the same medical condition as the target population

D. Prior experience working with the community (*Decision point – desired v. required*)

    1. If required, length of prior experience needed

        a. less than 1 year

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b. 1 year

c. 2 years

d. 3 or more years

e. No specific # of years required

E. Prior Education or Training

1. Educational background[7]

a. No specific educational requirement

b. HS Diploma or GED

c. Some College

d. Associate's Degree

e. Bachelor's degree

f. Other

2. Training required

a. Core competency- based training

b. Program - specific training

F. Other required skills or background (open ended)

VI. DETERMINING VALUE

A. FUNDING - Source of funding (open ended)

B. REIMBURSEMENT from public or private insurers (decision point yes/no)

1. If yes, SOURCE (open ended)

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[7] Adapted from Michigan Community Health Worker program Survey

C. FORMAL EVALUATION of the CHW Program (decision point yes/no)

    1. If yes, Identify by whom (i.e. funder or other source)

D. Type of local or project knowledge provided by the CHW (open ended)

E. Benefit to CHC of CHWs (open ended)

VII.   BARRIERS TO CONTINUING EXISTING PROGRAM

A. Lack of stable funding

B. Services not reimbursable

C. Shortage of qualified applicants

    1. (if yes, define qualification missing – open ended)

D. Lack of training resources

E. Turnover of Staff

F. Other

VIII.   BARRIERS TO EXPANDING PROGRAM

A. Lack of stable funding

B. Services not reimbursable

C. Shortage of qualified applicants

    1. if yes, define qualification missing – open ended)

D.

E. Lack of training resources

F. Turnover of Staff

G. Other

IX.   CHCS WITH NO CURRENT CHW STAFF AND HAVE NOT USED IN PAST BUT CONSIDERING

    1. Why? Or Perceived benefit (open ended)

X.   CHCS WITH NO CURRENT CHW STAFF BUT PAST CHWS - REASON DISCONTINUED

A. Lack of stable funding

B. Services not reimbursable

C. Shortage of qualified applicants

      1. if yes, define qualification missing – open ended)

D.

E. Lack of training resources

F. Turnover of staff

G. Other

XI.   CHCS WITH NO CURRENT CHW STAFF AND NOT CONSIDERING

A. Lack of stable funding

B. Services not reimbursable

C. Shortage of qualified applicants

      a. if yes, define qualification missing – open ended)

D. Lack of training resources

E. Other

COMMUNITY HEALTH WORKERS IN THE COMMUNITY HEALTH CENTER CONTEXT
SURVEY OF APPROACHES IN THE PACIFIC NORTHWEST

Welcome and Introduction

The purpose of this survey is to document and detail the use of staff that function as Community Health Workers (CHWs) in community health center (CHC) settings. This study is being conducted by Ms. Feygele Jacobs, MPH, MS a candidate for the DrPH degree at the University of Illinois - Chicago. The study builds on the interests of the NWRPCA and CHC leadership to assess workforce needs and develop training, educational and developmental opportunities that best meet the needs of the populations served by health centers, enhance capacity and help CHCs to operate effectively and efficiently.

Throughout the survey, when we use the term "community health worker" or "CHW" we are referring to front-line public health workers who are engaged in the delivery of community health-related services and who may be represented by a broad range of job titles, which may include those listed below. ** We are interested in capturing information about paid CHWs as well as   those who may work in a voluntary capacity. We are also interested in obtaining information from organizations that do not utilize CHWs.

This survey should be completed by the manager/director who directly oversees your health center's CHWs or person in a leadership position. The survey has approximately 50 questions and it will take you approximately 30 minutes to complete. Your participation in this study is voluntary and you can withdraw at any time. There is no personal identifying information on this survey. Your response to this study will remain completely confidential.

If you have questions about this project, you may contact Feygele Jacobs via email at *fjacobs3@uic.edu*
Thank you very much for participating and assisting with this research!
** Titles
1.   *Community Health Worker*
2.   *Promotor(a) de salud*
3.   *Community outreach worker*
4.   *Health (or community health) advocate*
5.   *Health ambassador*
6.   *Community health advisor*
7.   *Lay health advisor*
8.   *Community health representative*
9.   *Community health aide*
10.   *Community health navigator*
11.   *Outreach worker*
12.   *Peer educator*
13.   *Community health liaison*

GENERAL ORGANIZATION INFORMATION

This section asks some general questions about your health center.

1. Referencing the community health worker titles in the introduction above, please indicate whether your community health center utilizes or has utilized CHWs (select one option below)

   ☐ Yes, we currently utilize CHWs in at least one program. (Please continue with the survey beginning with Question 2 below)

   ☐ No, we do not utilize CHWs currently and have not utilized CHWS in the past but are considering   (Please skip to Question 51)

   ☐ We have utilized CHWs in the past but do not currently (Please skip to Question 52)

   ☐ We do not utilize CHWs now and are not considering (Please skip to Question 53)

2. In which state(s) is your health center located?

   ☐ Alaska

   ☐ Idaho

   ☐ Oregon

   ☐ Washington

3. Which term(s) best describes your health center location?

   ☐ Urban

   ☐ Suburban

   ☐ Rural

   ☐ Frontier

4. Please select your organization type (Please check all that apply)
   - ☐ Federally Qualified Health Center (FQHC)
     - ☐ Homeless grantee (330h)
     - ☐ Migrant grantee (330g)
     - ☐ Public Housing Healthcare Grantee (330i)
   - ☐ FQHC Look-alike
   - ☐ Other (Please Describe) _____

5. Approximately how many CHWs work in your organization as paid employees, volunteers, or contract staff? Please check below each category that applies and write in the number:
   - ☐ Employed /paid #_____
   - ☐ Engaged as Volunteers #_____
   - ☐ Contracted _#_____
   - ☐ Other (Please specify _____) #_____

6. In which settings do your health center's CHWs work? (Please check all that apply)
   - ☐ On site at the health center
   - ☐ Other community health center service setting
   - ☐ Off-site in community location
   - ☐ Patient's home
   - ☐ School-based setting
   - ☐ Other (Please specify) _____

PLEASE CONTINUE TO NEXT SECTION

POPULATIONS SERVED AND WORK FOCUS

This section asks you to describe the populations served by your health center's CHWs and the types of functions CHWs perform.

7. Do the CHWs at your health center primarily focus on specific health conditions/issues?
   - ☐ Yes
   - ☐ No (skip to 9)

8. Please indicate which specific health condition(s) /issue(s) the CHWs target. (Please check all that apply)
   - ☐ Asthma
   - ☐ Behavioral or mental Health
   - ☐ Cancer
   - ☐ Cardiovascular disease
   - ☐ Dental/ Oral Health
   - ☐ Diabetes
   - ☐ Environmental health
   - ☐ HIV/AIDS
   - ☐ Immunizations
   - ☐ Maternal or infant health
   - ☐ Nutrition
   - ☐ Obesity
   - ☐ Occupational health
   - ☐ Physical Activity/ exercise
   - ☐ Smoking or tobacco cessation
   - ☐ Other (Please specify) _____

9. Please indicate which populations identified by race or ethnicity your center's CHWs primarily serve (Please check all that apply)

- ☐ African born
- ☐ Asian
- ☐ Black or African American
- ☐ Hispanic or Latino
- ☐ Native American, American Indian or Alaskan Native
- ☐ Native Hawaiian or other Pacific Islander
- ☐ Non-Hispanic white
- ☐ Other (identify) _____

10. Do the CHWs serve primarily designated vulnerable populations? These may include Health Resources and Services Administration (HRSA)-defined special populations such as migrant and seasonal farmworkers and their families, persons experiencing homelessness, and/or residents of public housing, as well as other vulnerable groups .

- ☐ Yes
- ☐ No (skip to 12)

11. Please indicate which of the following vulnerable populations (including but not limited to HRSA-defined special populations) the CHWs primarily serve (Please check all that apply)

- ☐ Frequent emergency department users
- ☐ Homeless individuals or families
- ☐ Immigrants
- ☐ Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ)
- ☐ Migrant and seasonal farmworkers
- ☐ Pregnant Women and infants
- ☐ Residents of public housing
- ☐ Uninsured
- ☐ Veterans
- ☐ Other (Please specify) _____

12. Do the CHWs focus on defined age groups?

- ☐ Yes
- ☐ No (skip to 14)

13. Please indicated which age groups the CHWs primarily serve:

- ☐ Infants and Children up to age 12
- ☐ Teens / Adolescents ages 13 -17
- ☐ Young adults 18-25
- ☐ Adults 25-64
- ☐ Seniors ages 65 and over

14. Do CHWs in your health center work directly with individual patients?
- ☐ Yes
- ☐ No (skip to 17)

15. Please select the types of activities engaged in by CHWs who work directly with individual patients (Please check all that apply)
- ☐ Conduct health insurance enrollment
- ☐ Connect people with non-medical services or programs
- ☐ Coordinate patient referrals
- ☐ Develop patient goals and action plans
- ☐ Promote treatment adherence
- ☐ Provide care navigation and coordination
- ☐ Provide language translation and interpretation services
- ☐ Teach health promotion and prevention behaviors and skills
- ☐ Transport people to appointments
- ☐ Visit patients at home
- ☐ Work with family members in support of patient needs
- ☐ Other (Please describe) _____

16. If you indicated above that CHWs may connect individual patients with non-medical services or programs, please indicate below the nature of those services. Otherwise please continue with Q 17. (Please check all that apply)

- ☐ Education assistance
- ☐ Employment
- ☐ Food security
- ☐ Housing
- ☐ Legal help
- ☐ Vocational or job training
- ☐ Other (Please describe) _____

17. Do CHWs work with groups of patients at the health center?

- ☐ Yes
- ☐ No (skip to 19)

18. Please select the types of activities engaged in by CHWs who work with groups of patients at the health center (Please check all that apply)

- ☐ Advocacy
- ☐ Casefinding
- ☐ Lead support groups
- ☐ Participatory research
- ☐ Provide health education to groups
- ☐ Provide information about services or coverage to groups
- ☐ Staff health center events
- ☐ Other (Please describe) _____

19. Do your health center's CHWs work with the broader community in your neighborhood or area?

- ☐ Yes
- ☐ No (skip to 21)

20. Please select the types of activities engaged in by CHWs who work with the broader community in your neighborhood or area (Please check all that apply)
- ☐ Advocacy
- ☐ Casefinding
- ☐ Collaborate on projects with other health providers or agencies (i.e., Department of Health)
- ☐ Community organizing or mobilization
- ☐ Community needs assessment
- ☐ Outreach
- ☐ Participatory research
- ☐ Provide health education to groups
- ☐ Provide information about services or coverage to groups
- ☐ Public health needs assessment
- ☐ Staff community events
- ☐ Other (describe) _____

21. Do CHWs in your health center work in multidisciplinary teams with other staff?
- ☐ Yes
- ☐ No (skip to 24)

22. Who else works on the multidisciplinary team along with CHWs? (Please check all that apply)
- ☐ Primary care physician
- ☐ Primary care nurse practitioner (NP)
- ☐ Other physicians or NPs
- ☐ Physician's assistant
- ☐ Registered nurse
- ☐ Case manager
- ☐ Dietician
- ☐ Nutritionist
- ☐ Medical assistant
- ☐ Other CHWs
- ☐ Social Worker
- ☐ Other (Please specify) _____

23. What is the role of the CHW in the multidisciplinary team? (Please write in below)

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PLEASE CONTINUE TO NEXT SECTION

TITLES, QUALIFICATIONS AND TRAINING

The next several questions ask you to indicate the titles used for CHWs who work in your health center and to describe the qualifications required of CHWs in your organization, as well as training.

24. Please select the title or titles used to refer to CHWs in your health center (Please check all that apply)
- ☐ Community Health Worker
- ☐ Promotor (a) de salud
- ☐ Community outreach worker
- ☐ Health (or community health) advocate
- ☐ Health ambassador
- ☐ Community health advisor
- ☐ Lay health advisor
- ☐ Community health representative
- ☐ Community health aide
- ☐ Community health navigator
- ☐ Outreach worker
- ☐ Peer educator
- ☐ Community health liaison
- ☐ Other (Please specify) _____

25. If you indicated that multiple titles are used, please describe below how titles vary by program or population served. Otherwise, please continue with Q 26.

26. Is proficiency in specific languages required of CHWs who work in your health center?
- ☐ Yes
- ☐ No (skip to 28)

27. Please indicate which language or languages are required of CHWs in your health center. (Please check all that apply)

- ☐ English only
- ☐ Arabic
- ☐ Chinese
- ☐ French
- ☐ Russian
- ☐ Somali
- ☐ Spanish
- ☐ Tagalog
- ☐ Vietnamese
- ☐ Other (Please specify) _____

28. Does your health center require that CHWs have prior health-related work experience?

- ☐ Yes
- ☐ No (skip to 30)

29. How much prior health related work experience is required?

- ☐ less than 1 year
- ☐ 1 year
- ☐ 2 years
- ☐ 3 or more years
- ☐ No specific # of years required

30. Does your health center require that CHWs be members of the community that is being served?

- ☐ Yes
- ☐ No (skip to 32)

31. If you require that CHWs be members of the community, is this defined as (Please check all that apply):

- ☐ Member of the target community defined by age, race/ethnicity, gender, sexual orientation or other characteristics.
- ☐ Resident of specific neighborhood or geographic area served.
- ☐ Have themselves experienced the same medical condition as the target population?
- ☐ Other (Please describe) _____

32. Does your health center require that CHWs have prior experience working with the community?
- ☐ Yes
- ☐ No (skip to 34)

33. How much prior experience working with the community is required?

- ☐ less than 1 year
- ☐ 1 year
- ☐ 2 years
- ☐ 3 or more years
- ☐ No specific # of years required

34. What education requirements must CHWs meet in order to work at your health center?
- ☐ No specific educational requirement
- ☐ HS Diploma or GED
- ☐ Some College
- ☐ Associate's Degree
- ☐ Bachelor's degree
- ☐ Other (Please specify) _____

35. Does your state currently have a process for CHW certification or credentialing?
- ☐ Yes
- ☐ No
- ☐ No, but my state is developing such a process

36. Do you require that CHWs receive: (Please check those that apply)
- ☐ Core competency-based training
- ☐ Program - specific training
- ☐ Certification
- ☐ Other training (please describe) _____

37. Does the health center offer any type of training or continuing education for CHWs?
- ☐ Yes
- ☐ No (skip to 39)

38. Please describe the type of CHW training or continuing education your health center provides

PLEASE CONTINUE TO LAST SECTION

PROGRAM FUNDING, REIMBURSEMENT AND EVALUATION

The final group of questions ask about compensation, how your program is funded and evaluated and also asks about program partnerships, as well as about program continuation or expansion.

39. If your center has paid/employed CHWs, please indicate below the average compensation and/or compensation range. (If no paid CHWs, please skip to Q 40)
  - Average compensation _____
  - Compensation range _____

40. How are CHW services offered by your health center funded? (Please check all that apply)

  - ☐ Federal grants
  - ☐ State Agency grants
  - ☐ Local agency/local government grants
  - ☐ Private foundations
  - ☐ Non-profit organization
  - ☐ Self-generated revenue
  - ☐ Other funding source(s) (Please describe) _____

41. Does your health center receive reimbursement from public or private insurers or other payers for the services CHWs provide?

  - ☐ Yes
  - ☐ No (skip to 41)

42. Indicate the source (s) of reimbursement for your health center's CHW services. (Please check all that apply)
  - ☐ State Children's Health Insurance Program
  - ☐ Medicaid
  - ☐ Medicare
  - ☐ Medicaid Managed Care
  - ☐ Commercial al HMO
  - ☐ Private/Commercial Insurer
  - ☐ Other (Please specify) _____

43. Has a formal evaluation been conducted of your health center's CHW services?
  - ☐ Yes
  - ☐ No (skip to 44)

44. Was the evaluation conducted by:

- ☐ College or university
- ☐ Program Staff
- ☐ Private consultant
- ☐ Funder
- ☐ Other (please describe below)

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45. Does your health center partner with any other organization(s) to deliver CHW services? (Please check all that apply)

- ☐ community organization
- ☐ hospital
- ☐ other health providers
- ☐ managed care plan
- ☐ public health department
- ☐ faith-based organization
- ☐ other (Please describe) _____
- ☐ The CHC does not partner to deliver CHW services

46. Please describe below the benefit that CHWs provide to your health center:

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47. Are THERE ANY barriers to CONTINUING the existing CHW services at your health center?

- ☐ Yes
- ☐ No (skip to 47)

48. What are the barriers to continuing the existing CHW services? (Please check all that apply)
- ☐ Lack of stable funding
- ☐ Services not reimbursable
- ☐ Shortage of qualified applicants
    - o   If checked please describe what qualification is lacking

    [   ]

- ☐ Lack of training resources
- ☐ Turnover of Staff
- ☐ Other (Please describe below)

    [   ]

49. Are there any barriers TO *EXPANDING* the existing CHW services at your health center?
- ☐ Yes (please proceed to 49)
- ☐ No   - **THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY. WE APPRECIATE YOUR PARTICIPATION.**

50. What are the barriers to *EXPANDING* the existing CHW services at your health center? (Please check all that apply)
- ☐ Lack of stable funding
- ☐ Services not reimbursable
- ☐ Lack of training resources
- ☐ Turnover of Staff
- ☐ Shortage of qualified applicants
    - o   If checked, please describe what qualification is lacking

    [   ]

- ☐ Other (Please describe below)

    [   ]

    THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY. WE APPRECIATE YOUR PARTICIPATION.

51. You indicated that your health center does not presently utilize CHWS and has not utilized CHWs in the past but is considering doing so in the future. Please describe the reasons that your center is considering utilizing CHWs

THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY. WE APPRECIATE YOUR PARTICIPATION.

52. You indicated that your health center does not utilize CHWs now but did so in the past. Please indicate the reason(s) the CHW services were discontinued. (Please check all that apply)

☐ Lack of stable funding

☐ Services not reimbursable

☐ Lack of training resources

☐ Turnover of staff

☐ Shortage of qualified applicants

 o If checked, please describe what qualification is lacking

☐ Other (Please describe below)

THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY. WE APPRECIATE YOUR PARTICIPATION.

53. You indicated that your health center does not utilize CHWs now and is not considering utilizing CHWs. Please indicate the reasons(s) your CHC is   not considering utilizing CHWS. (Please check all that apply)

- ☐ Lack of stable funding
- ☐ Services not reimbursable
- ☐ Lack of training resource
- ☐ Shortage of qualified applicants
  - o   If checked, please describe what qualification is lacking

- ☐ Other **(**Please describe below)

THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY. WE APPRECIATE YOUR PARTICIPATION.

APPENDIX C - Key Informant Interview Guide

COMMUNITY HEALTH WORKERS IN THE COMMUNITY HEALTH CENTER CONTEXT APPROACHES IN THE PACIFIC NORTHWEST
Key Informant Interview Guide

Welcome and Introduction (start at _____ min end at _____)

- Thank you for agreeing to this interview. My name is Feygele Jacobs I am a candidate for the DrPH at the UI-C School of Public Health and I'll be talking with you today about community health workers.
- This project is being undertaken in conjunction with the NWRPCA to better understand how community health workers are utilized in health centers and how they can best be supported.

Purpose of the interview

- The purpose of our interview today is to learn more about how CHW services are provided in your health center and hear your thoughts about and recommendations related to CHWs.
- For purposes of this project we are interested in the broad range of titles that refer to front line public health workers engaged in the delivery of community health-related service, which may include
  > *Community Health Worker*
  > *Promotor(a) de salud*
  > *Community outreach worker*
  > *Health (or community health) advocate*
  > *Health ambassador*
  > *Community health advisor*
  > *Lay health advisor*
  > *Community health representative*
  > *Community health aide*
  > *Community health navigator*
  > *Outreach worker*
  > *Peer educator*
  > *Community health liaison*

- Throughout the survey, when we use the term "community health worker" or CHW" we are referring to this broader range of titles.
- Also, I am interested in capturing information about paid CHWs as well as those who may work in a voluntary capacity.
- The interview will last about 1 hour.

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- Did you read the consent form that was sent to you?
- Do you have any questions?

Ground rules

- Everything you tell us will be confidential. To protect your privacy nothing will be personally attributed to you.
- At any time during our conversation, please feel free to let me know if you have any questions or if you would rather not answer any specific question. You can also stop the interview at any time for any reason.
- Please remember that we want to know what you think and that there are no right or wrong answers, only different points of view.
- Is it OK if I audiotape this interview today?

[Turn on recording equipment.]

Background

(start at _____ min end at _____)

I'd like to begin by asking you some questions about your role at [CHC name].

1) What is your position at [organization]?

   Probe: What are your major responsibilities in your current position?

2) How long have you been with [organization]?
3) Can you tell me a bit about your work and experience as it relates to CHW services at your health center?

   Probe for *aspects of current job that relate to CHWs, OR if the respondent has worked as a CHW*

(start at _____ end at _____)

Now, let's talk about the CHW services at your health center

4) When did your health center first start utilizing community health workers?

5) Why does your organization utilize community health workers?

6) Please describe what you are looking for when you engage CHWs, as either paid or

   volunteer staff.

Probe: Are CHWs both paid and volunteer? Or one or the other?

Probe: What training, experience or background do you require for CHWs?

Probe: what sort of relationship to the community do you look for?

7) How are CHWs recruited to your CHC?

8) How are CHWs utilized today in your organization?

9) Are you utilizing CHWS as part of a health care team? Can you describe that for me?

Probe: How do other members of the team engage with the CHWs? Do you think they are supportive of the CHW role?

10) Are you utilizing CHWs to provide services in the general community, outside the health center?

Probe: Would you please describe that for me

11) How have you evaluated the CHWs services at your health center?

Probe: How have you changed the CHW services based on evaluation or feedback?

12) Have you received feedback about CHWs in your center?

13) Has anything changed over time in how you utilize CHWs, or how and where you recruit them?

14) How would you describe the benefits of utilizing CHWs?

15) Does the organization face barriers in recruiting CHWs?

16) Does the health center experience barriers in utilizing CHWs??

17) What about barriers in sustaining the CHW service(s)?

Probe: what about funding? Does this create a challenge?

18) Do you have any specific recommendations for how other CHCs might best utilize CHWs, based on your experience?

19) Is there anything else that you would like to add about any of the topics that we've discussed or other areas that we didn't discuss but you think are important?

20) What is the most important message that you want us to take away from this interview?

Thank you very much for your time and participation in this interview. The information that you provided to me will be very helpful in this project.

(Record end time)

APPENDIX D - IRB Exemption

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Exemption Granted

January 19, 2016

Feygele Jacobs, MPH, MS
Public Health
DrPH Leadership Program
310 West 85th Street, Apt 4B
New York, NY 10024
Phone: (917) 612-0066

RE: **Research Protocol # 2016-0036**
"Community Health Workers in the Community Health Center Context:
Population Health and Engagement Approaches in the Pacific Northwest"

Sponsor(s): None

As per the UIC Information Technology Security Program (http://security.uic.edu/policies/),
"The Workforce, including select student employees as identified by a Unit in Policy *PER.2 Job
Descriptions, Responsibilities, and Training*, **must** use university administered messaging
systems (e.g. email, instant messaging, document sharing) to conduct university business."
Consistent with this campus-wide policy**, OPRS strongly encourages investigators to ONLY
use UIC email for conducting human subject research**, including completion of investigator
training, submission of research applications, communications with OPRS and ALL conduct of
human subject research. Under the Illinois Freedom of Information Act (FOIA), any written
communication to or from University employees regarding University business is a public record
and may be subject to public disclosure.

Dear Feygele Jacobs:

Your Claim of Exemption was reviewed on January 15, 2016 and it was determined that your
research protocol meets the criteria for exemption as defined in the U. S. Department of Health
and Human Services Regulations for the Protection of Human Subjects [(45 CFR 46.101(b)].
You may now begin your research.

Exemption Period: **January 15, 2016 – January 15, 2019**
Performance Site: URIC
Subject Population: Adult (18+ years) subjects only
Number of Subjects: 100

The specific exemption category under 45 CFR 46.101(b) is:

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (I) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

You are reminded that investigators whose research involving human subjects is determined to be exempt from the federal regulations for the protection of human subjects still have responsibilities for the ethical conduct of the research under state law and UIC policy. Please be aware of the following UIC policies and responsibilities for investigators:

Amendments You are responsible for reporting any amendments to your research protocol that may affect the determination of the exemption and may result in your research no longer being eligible for the exemption that has been granted.

Record Keeping You are responsible for maintaining a copy all research related records in a secure location in the event future verification is necessary, at a minimum these documents include: the research protocol, the claim of exemption application, all questionnaires, survey instruments, interview questions and/or data collection instruments associated with this research protocol, recruiting or advertising materials, any consent forms or information sheets given to subjects, or any other pertinent documents.

Final Report When you have completed work on your research protocol, you should submit a final report to the Office for Protection of Research Subjects (OPRS).

Information for Human Subjects UIC Policy requires investigators to provide information about the research protocol to subjects and to obtain their permission prior to their participating in the research. The information about the research protocol should be presented to subjects in writing or orally from a written script. When appropriate, the following information must be provided to all research subjects participating in exempt studies:

The researchers' affiliation; UIC, JBVMAC or other institutions,

The purpose of the research,

The extent of the subject's involvement and an explanation of the procedures to be followed,

Whether the information being collected will be used for any purposes other than the proposed research,

A description of the procedures to protect the privacy of subjects and the confidentiality of the research information and data,

f.   Description of any reasonable foreseeable risks,

Description of anticipated benefit,

A statement that participation is voluntary and subjects can refuse to participate or can stop at any time,

A statement that the researcher is available to answer any questions that the subject may have and which includes the name and phone number of the investigator(s).

A statement that the UIC IRB/OPRS or JBVMAC Patient Advocate Office is available if there are questions about subject's rights, which includes the appropriate phone numbers.

Please be sure to:

→Use your research protocol number (listed above) on any documents or correspondence with the IRB concerning your research protocol.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact me at (312) 355-2908 or the OPRS office at (312) 996-1711. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Charles W. Hoehne, B.S.

Assistant Director, IRB #7

Office for the Protection of Research Subjects

cc: Paul Brandt-Rauf, Public Health, M/C 923

        Eve C. Pinsker, Public Health, M/C 923

APPENDIX E - Coding Schema

Level 1	Level 2	PRIMARY FAMILY	Secondary
Barriers to using			
Certification			
Challenges			
	Challenges sustainability		
Characteristics of CHWS			
	Characteristics Passion	Interpersonal	
	Characteristics Trust	Interpersonal	
Competencies	*also - Rationale*		
	Competencies - advocacy	Advocacy	
	Competencies - leadership	Advocacy	
	Competencies - outreach	Advocacy	
	Competencies - communication	Communication	
	Competencies - language	Communication	
	Competencies - Cultural competence	Communication	
	Competencies - medical assisting	Content/ Role Based	
	Competencies - community assessment	Content/ Role-Based	
	Competencies - special populations	Content/ Role-Based	
	Competencies - understand social determinants	Content/ Role-Based	
	Competencies - soft skills	Interpersonal	
	Competencies - peer support	Interpersonal	
	Competencies - data	Organizational/ Workplace	
	Competencies - organizational skills	Organizational/ Workplace	
	Competencies - computers	Organizational/Work place	
	Competencies - popular education	Teaching	
	Competencies - Customer service	Organizational/ Workplace	
	Competencies - capacity building	Teaching	
	Competencies - Problem Solving		
Evaluation of CHW Services/Programs			
FUNDING of CHW Services/Programs			
History of CHW Services/Programs			

How CHWs Utilized - -			
	How CHWS Utilized - Address Social determinants	Resource Identification	
	How CHWs Utilized - Advocacy	Outreach/Advocacy/ Access	
	How CHWs Utilized - Case Management	Coordination of Clinical Services	
	How CHWs Utilized - Civic Engagement	Outreach/Advocacy/ Access	
	How CHWs Utilized - oral health/ dental	Coordination of Clinical Services	
	How CHWs Utilized - for patients with chronic illness	Coordination of Clinical Services	
	How CHWs Utilized - address disparities	Resource Identification	
	How CHWs Utilized - engage with assigned but unengaged	Coverage/ Enrollment	
	How CHWs Utilized - establish primary care relationships	Resource Identification	Coordination of Clinical Services
	How CHWs Utilized - Events	Health Promotion Education Prevention	
	How CHWs Utilized - Groups	Health Promotion Education Prevention	
	How CHWs Utilized - Health ED	Health Promotion Education Prevention	
	How CHWs Utilized - home visit	Coordination of Clinical Services	
	How CHWs Utilized - Insurance Ed	Coverage/ Enrollment	
	How CHWs Utilized - liaison	Coordination of Clinical Services	
	How CHWs Utilized - maternal child health	Coordination of Clinical Services	
	How CHWs Utilized - Navigation	Outreach/Advocacy/ Access	Coordination of Clinical Services
	How CHWs Utilized - Outreach	Outreach/Advocacy/ Access	
	How CHWs Utilized - Paraprofessional	Coordination of Clinical Services	
	How CHWs Utilized - Schools	Health Promotion Education Prevention	
	How CHWs Utilized - Screening	Health Promotion Education Prevention	

	How CHWs Utilized - self management	Coordination of Clinical Services	
	How CHWs Utilized - tailoring	Coordination of Clinical Services	
	How CHWs Utilized - targeted intervention	Coordination of Clinical Services	
	How CHWs Utilized - wellness	Health Promotion Education Prevention	
	How CHWs Utilized - working with community not exclusively patients	Health Promotion Education Prevention	Coverage/Enroll ment
	How CHWs Utilized - Motivational Interviewing	Coordination of Clinical Services	
Impact of CHW Services/Programs			
	Impact - Benefits	Rationale	
Job description			
Model			
	Model - Promotoras		
	[Model - Public Health]		
	Model - CHR/ CHA		
Employment status			
	Employment status- Paid employment		
	Employment status- Volunteer		
Community Partnerships			
PCMH			
Public Health			
Qualifications -			
	Qualifications-Education		
	Qualification- general		
	Qualifications - education -college		
Rationale -			
	Rationale - Innovation		
	Rationale - Bring into health home		
	Rationale - CHW as Bridge		
	Rationale - CHWS remove barriers to care		
	Rationale - respond to social determinants		
Recruitment -			
	Recruitment - based on culture	*Communication*	
	Recruitment - based on experience	*Content/ Role-Based*	

	Recruitment - Community service	*Advocacy*	*Teaching*
	Recruitment - in house	*Organizational/ Workplace Skills*	
	Recruitment - Natural Leaders	*Interpersonal*	*Communication*
	Recruitment - empathy and understanding	*Interpersonal*	
Reimbursement of CHW Services/Programs			
Work in Teams		Coordination of Clinical Services	
Titles			
Training			
	Training - Trauma informed care training		

APPENDIX F - Representative Quotes, By Research Question

Research Question:

1. What are the characteristics of the CHW models in use today?

1. a (Sub) How are these defined with respect to Titles, Work Focus, Roles/Functions;

Settings/Programs; Competencies

Construct	Quotes
TITLE/ NOMENCLATURE CHW is an umbrella term that may encompass a large number of titles. What are CHWS called in CHCs? Do the different titles reflect meaningful differences in the work performed/ Or are they an artifact of setting or program?	We do frame that work as community health workers, but we have really landed on the fact that we like the term advocate because it also implies a perspective that as a champion not just the taking the clinic message to the community but bringing back the community's message to the clinic staff. (WA)
	Yes, so we are using different titles for the different kinds of jobs and tasks in different sort of divisions of health services where these jobs appear. (OR)
	We call them Community Health Outreach Workers. I don't think that we have anything that is strictly called the community health worker. The community health outreach workers are working with us on a more primary care focused health services to reach out to and engage patients who are experiencing barriers to primary care. (OR)
	We do have some with that [CHW] title officially. We usually call them other things like, for example, we typically call them Healthy Living Coordinators because we have a Chronic Disease Health Management Program. (WA)

	In the health promotion division had what we called community wellness advocates and these were non-licensed individuals who were trained in the basics of community health and local health initiatives. (AK)
	We do use the term community health worker. We have kind of two tracks for community health workers. Some worked on our mobile health unit. And all of those individuals are identified as community health workers and they've received training and certification as community health workers. But their function is to provide immediate assistance when we're out in the community and somebody will have a question about, you know, where is the food resource for me or, how do I – who do I contact in the community about housing? So they can deal with that kind of in the moment. (OR)
	The clinic recognizes the name promotor or promotora – we usually don't classify it under a community health worker. For community health worker – to me, that would be someone I guess that has at least some knowledge of nursing. (WA)
	We call it outreach and enrollment now. (ID)
	Their titles in our organization are case managers, outreach workers, navigators and community workers. We have all of those titles in our organization that serve different functions. (Washington)
	We have the CHR, community health

	representative. (AK)
	I don't feel that community health worker is a job title. And there's no one job description necessarily. And you can call whenever you want to. But they have to have the heart of a health worker. (OR)
	People say that is a new concept, but the role has been around for a very long time and many organizations have had the role for a very long time and people shouldn't get hung up on the name. (Washington)
	And you're going to hear me call our community health workers navigators, they are community health workers but they're functioning in the role of navigators, because when I started the program …. there was this different vision of wording than there is now in the state. And in my community, in my organization, navigator makes sense. (OR)
WORK FOCUS Is the program focused on individuals and improving individual health metrics? On communities or populations and addressing community health outcomes?	One of the things that I think makes our program a little different is that because we're embedded in both primary care and public health, we have the opportunity to walk across the continuum of services. (OR)
	They're doing health care access, legal access, insurance navigation, pulling people in, and some of it is one-on-one, some of it with groups. (ID)
	Part of it has to do with the patient-centered medical home, PCMH, initiative and it's part of the requirement to actually do some follow-up and have the patient to be more interactive

	with their care. (ID)
	[One of our CHWS} is really working with patients and their providers to help them develop that care plan a little bit more, you know, one on one care kind of like a pre-visit with them before they go to their doctor, a follow-up visit afterwards and things like that so it's – it's a little bit different and is working a lot with our folks that are most complex patients or folks that have, multiple chronic illnesses and maybe perhaps like a mental health issue and also like frequent emergency visits so really our – with our complex patients that need more one on one care. (WA)
	It is really an effort to engage the patient population as well as the communities and trying to identify area/s that we may see as disparity or gaps within a certain population and figure out how we actually reach out to them. (ID)
	They will – they'll spend their time engaging teams, making phone calls with community partners, community peers, seeing how events are taking place, how they can be involved. I know they'll take business out to the farm work camps as well as the homeless shelters, and just be a resource for them. Their main goal is trying to bring our clinic's missions outside the clinic walls. (ID)
	We have a lot of activities you know, things like a walking group, community gardening, community kitchen and an after-school nutrition program with the kids that are in the

	tutoring program in the community, so a lot of – a lot of it is like population kind of (stuff) that's going on. (WA)
	We define community health worker really around care managers, case management. (ID)
	It's almost like account managers, you know, if you have like a private banker or something, you know, they've got a panel of patients that they're working with to make sure that we get through all of our preventive activities, all the follow-up appointments all the care, you, knocking down in barriers like you don't have a ride to the clinic today so let's get you connected with our transportation service. (ID)
	The health aides are down the medical path where they work under a doctor, and they do things in the clinic. The community health representatives do things outside the clinic, and actually they are the extension from the Health Aide to go into the community. So the main purpose is to do the providers' work outside of their clinic walls. (AK)
ROLES and FUNCTIONS - Functions or tasks and how these fit together to describe or define the work performed. How does the role fit in the organization	They work as basically a liaison between the provider and the patients so offering patient education and helping to reduce any barriers – whether it be language barriers, whether it be like access barriers. (ID) They're doing a lot of warm hands-off to the eligibility folk. (WA)

	They work with our providers at the clinics, seeing what our -- some of our patients' needs. And from there, go out and help with whatever they can. [AK]
	Part of what they're doing is outreach and engagement to let people know about us, to try to engage them and bring them into our practice and get people into care. The second is really about education and engagement about preventative services, about preventative screenings and really some basic disease education. And then our third is really moving the dial on particularly during health measures or specific patient and patient measures. (ID)
	.
	We do huddle here in the bigger clinics and they're included in the huddle with the behavioral health, medical, and dental and the case managers and stuff. They're listening too and then when they say, "Hey, you've got to go out and get a blood pressure from here," or "You go and check the medication of that person," or "what's the welfare of that person's whatever", you know, they take their commands from the care team over everything. (AK) [see also Model- team]
	When I first started here 10 years ago, it was outreach, and now that we have the ACA, the Affordable Care Act, we have an outreach and enrollment person, a CHW to assist with signing people up for insurance, for the Affordable Care Act. (ID)

	This is kind of an experiment, that we're working through this year, to help remove barriers, to establishing primary care relationships for patients that experience pretty intense barriers around establishing primary care. (OR)
	I think patient education is a big topic and we're trying to find what the boundary is between the care team versus the outreach and community health worker team. (ID)
	We provide those services in the community all the way up to organizing much more complex needs assessments using local community data to determine, you know, things like injury prevention or morbidity and mortality, what's really going on in a community that's – that we need to act collectively on. (AK)
	Community health worker came up in the migrant health conversations, came from that migrant realm. I have never heard or been in a conversation where community health worker was used in another context. And my outreach workers -- what they do is more of a social services role as opposed to a health worker role. So to me, the care managers, the people who are actively involved in some part of the care are closer to what I think of when I think of a community health worker. My bias on the definition of a community outreach worker may have been started with the combination of discussion of migrant health and promotoras. (Idaho)

SETTINGS AND PROGRAMS What are the different settings in which CHWS work? On site at the center? Off site in the community?	Some of our good examples would be our outreach workers going to, the elementary schools to connect people to our school-based health center. (ID)
	And so they're doing outreach all the time. They're helping and working with our clinic staff as well in setting mobile sites up at the farms for dental health and primary care and immunizations and getting them through the systems. (WA)
	So they're definitely out and about in the community with the home base at whatever clinic they're tied to. (ID)
	They are doing a home visit to kind of assess their environment. (OR)
	I receive a lot of positive feedbacks from the providers about the rich information that community health workers provide to the care team when they're able to go out and do something like a home visit. (OR)
	Their office is in the clinic. But they spend a fair amount of their time out in the community doing wellness-related activities, health promoting activities and a really primary function that they serve is to partner up with local schools and other health minded organizations because when you're talking about community health it's so much more than just, I have a good idea. (AK)

	We also reach out to the community as a whole, and not just migrant or seasonal migrant workers. (WA)
	We are remote. We're out here. You know, it takes a while to get to our clinics and you know .. It takes a few hours to get where you're going. In some days, it's hard to get an airplane. Some days we won't see the plane for a week. Yes. But life goes on, we could be without a phone for a day or two. …. Most of our communities are just like that. And then we've actually used our [CHRs] to help transport elders, do some patient care advocate work, staying at homes with the elders and stuff like that. So their scope of work is really various from one end to another. (AK)
	We have a program that serves the homeless in our service area and then we also have a school-based health center and we have mobile units that travel through the community. (ID)

Research Question:

2. How do CHWs address staffing competencies and skills that health centers need to meet the requirements of rapidly evolving healthcare marketplace, emphasizing care teams, patient-centered care, & medical homes?

2a. (Sub) How are the core CHW competencies defined?

2b. (Sub) Do CHW competencies or skills differ across programs, functions, settings?

Or are they consistent?

2c. (Sub) Which competencies are essential for meeting defined CHC needs?

Construct	Quotes
COMPETENCIES and SKILLS How are competencies – or the perceived skills - required for effective work - defined? What knowledge base is incorporated in the competencies?	We need just a high degree of ability to build trust and resiliency. And to do problem solving, be socially engaging, do data managing. (OR) They have to be part of the community. They have to understand the mechanics of the site, the town, the clinic and staff, and they have to - - we prefer, too - if they know the elders in the community. (AK) I guess the main message is - there's a need to be sensitive to having a diversity of skills so that people can help navigate different communities, navigate these similar needs with different resources depending on where your clinics are located. (WA) Service coordination, advocacy and leadership, documentation and organizing their own schedules and then cultural awareness and sensitivity. (WA)

	Advocacy
	We have a separate role – called community mobilizer. They are focused much more on civic engagement, really identifying opportunities for voter registration and voter education. In the context of, that's one of the few ways we can empower our patients and communities to actively participate in addressing what we called the social determinants of health for our patients – you know, this is how you can get engaged in impacting the way your live, learn, work and play. But the community health advocates [CHWs] really are, in my mind, an advocate in that level as well - reinforcing messages about the community needs - so we kept it. (WA)
	They get to advocate for their community. They're advocating for themselves and I think what a great way for a clinic, for example, to know the community and to be hiring from the same community that you're serving. (WA)
	We can influence policies in many ways that don't involve law-making bodies at all. So we will definitely work toward organizational policies like workplace regulations and just practices. (AK)
	. We need to tell our truth and our community's truth with the hope that things will change if we tell the truth or we say this the truth or that our advocacy can change things for the betterment of our community. (WA)
	They'll spend their time engaging teams, making phone calls with community partners,

	community peers, seeing how events are taking place, how they can be involved. I know they'll take business out to the farm work camps as well as the homeless shelters, and just be a resource for them. There are – their main goal is trying to bring our clinic's missions outside the clinic walls. (ID)
	Communication, including Language & Cultural Competence:
	The strongest criteria are communication skills and interpersonal skills and all of those soft skills that are really hard to teach. (WA)
	They must just be pretty friendly and engaging. One way that I have begun to think about this community health outreach worker program is essentially as a sales position. (OR)
	We look for people with either experience or a natural ability in motivational interviewing, and in that particular role, we look for people who are bilingual and bicultural. (WA)
	We're just aware that this is an individual that's grounded in the community and then we can train them for the other types of specific messaging that we need them to understand. (WA)
	They are mostly local to the community, and then if they're not then they're local to Alaska so they know the Alaskan way, and Alaskan culture, and the needs and stuff. (AK)

	Our community health workers may come from varying backgrounds. They speak languages from Somali, Vietnamese to English. But it's not just the language. There's interpersonal skills, a lot of it is kind of communication skills, are they passionate about health, you know, bringing it to the community, are they willing to learn more about different ways that you can bring health education to the communities whether it's learning more about motivational interviewing and different phases of change and just willingness to learn, really. (WA)
	It's really important for us to stay connected to local wisdom and to have it be part of our clinical process as much as we can. (AK)
	One of the biggest things we require is that they'd be bi-lingual. Fifty percent – yes fifty percent – of our patients are monolingual Spanish speakers, so it's important that they're able to communicate and build that trust with the patient. (ID)
	So in my mind, community health workers are educators, they are case managers but they are primarily people who are a similar culture and background of the people that they're meeting to serve. And so that's to me what they do and who they are. (WA)
	The most essential things that we look for is if they are a resident of the community that we're looking to serve and that makes it a little bit challenging to find sometimes. But it's always rewarding when you find someone who is

wanting to be that advocate for their family and their friends and their neighbors. So really, we're looking for folks that are residents, that speak the languages of the communities that we're serving. (WA)

Content/Role Based Knowledge

The other thing that I will add to that, though, is that we do like to have people who have an understanding of poverty. We live in a fairly high poverty area. And so understanding that and what that means for people who are living in poverty, is something that we look for when we're recruiting. (OR)

They need to be able to do a health needs assessment and see what their needs are, what their concerns are and what they want to learn about. (WA)

Well, I think that we were looking for somebody with either a medical assisting or, you know, some kind of clinical background looking, for somebody that can speak Spanish, so bilingual. (ID)

Our CHR is actually documenting the case management section of the medical record. They have access to the medical records. (AK) [see Org/Workplace]

Interpersonal

Do they have the passion? and are they doing it for the community? Are they bringing what they know into the job? (WA)

	The strongest criteria are communication skills and interpersonal skills and all of those soft skills that are really hard to teach. (WA) [see also Communication]

They need to be caring, self-motivated. (AK)

They have - the relationships and the trust to be able to really work with those particularly vulnerable populations. (WA)

We're really looking for -- I think the two main things that we're looking for -- is the right personality, the right fit and somebody who is respected in the community. So somebody who is well thought of and who -- you know, if they went into your home, you would feel like this is a good thing. (OR)

To me, health workers essentially are about having people that our patients can connect with as an empathetic peer, somebody with a similar background, of experience, or of culture. (OR)

It has to do with human connections and community. (OR)

So, that's part of what I was looking for is somebody who, you know, is warm and genuine and really interested in helping to solve problems and remove barriers and obstacles and could really effectively engage |

	with folks. (OR)
	Whether you call them community health workers or outreach workers it was really about the relationship. (Oregon)
	I think it's imperative that one would find a leader in the community, one would find somebody who has, as we have touched on earlier, that mission-driven attitude. Some things can't be taught, and you've got to find that person that really has a compassionate, caring attitude toward health and [the] patient. (ID)
	If you have the heart of a community health worker, that's what I want. And so that's what I'm really looking for. I'm really looking for who you are inside. (OR)
	The passion pieces are I think one of the things that's very central to what promotoras are about. (WA)
	We are focused on the relationships. So I need really good people from our community that are respected that have great people skills, that are organized, you know, they know how to get this work done but in a way that, you know, it's building relationships. (ID)
	We're looking for somebody with excellent customer service, somebody who understands the community because we have a very economically and ethnically diverse

	community that we serve. (WA)
	I think that when we went to hire the community health worker, it was kind of eye-opening because we definitely had a list of criteria that we thought was important for this role, and then when we started to kind of look at what we wanted in terms of somebody that was compassionate, that people could relate to, that they could integrate into the communities that they were working with. It became less about whether they had clinical or some background, and more about how they would fit with our patient population. (ID)
	Our promotora here has a natural gift, you know, and she is a great example of how a promotora starts. She has all these, you know, gifts through experience and then gains all this clinical knowledge and she is like the perfect promotora because she loves the community work. (WA)
	It's about making a human connection (OR)
	I figure we can train pretty much anybody but it's really hard to train somebody to be nice, to have those core competencies of, you know, customer service and truly caring, you know. If you come to us with that skill set, we can provide you the tools to be very successful. (WA)
	The strongest criteria are communication skills and interpersonal skills and all of those soft skills that are really hard to teach. (WA) [see Communication]

	Organizational/Workplace
	I was looking for at least one person who had some good experience handling data because I knew that we were going to get essentially data excerpts from the coordinated care organizations about the folks that they wanted us to engage with. (OR)
	One of the pieces that has been important for us is to get our community health outreach workers the ability to go mobile with the intake process and with scheduling the first PCP visit. (OR)
	They need at least basic computer skills. (WA)
	And to do problem solving, be socially engaging, do data managing. (OR)
	Teaching
	We use the model that's called popular health education. It's a technique we used to help people understand. When you can kind of make it visual as you're talking about the subject. Giving examples and utilizing them, they retain it more when they become part of the presentation instead of just being observers or hearing it. (WA)
	It is really kind of moving away from [outreach workers] as an extension of the marketing program and really placing them in a paraprofessional health education role where they were much more actively engaged and healthy eating, active living, health system

	navigation, messaging and services. (WA)
	You're building capacity to be effective and to serve. You know, it really resonates with our purpose because our mission is to advance health and social justice for all members of our community. (OR)
	...built upon principals of popular education and it's very social, it's very engaging, They cover a broad range of topics from, you know, what your chronic illness is, diet, exercise, familial and peer support, stress management, there's a yoga class, -- it's a pretty broad ranging curriculum that they go through and so they're able to lead on. (OR)

Research Question:

3. To what extent do CHW models vary, or how are they similar? what are the key unifying elements?

Construct	Quotes
MODELS Overarching construct encompassing titles, roles & functions, setting competencies. How do these fit together in practice?	I think, you know, you get, you know, where the promotoras are more organic in nature, they're more community based, more passionate. (WA) It is really kind of moving away from [outreach workers] as an extension of the marketing program and really placing them in a paraprofessional health education role where they were much more actively engaged and healthy eating, active living, health system navigation, messaging and services. (WA) [see also Teaching] Promotoras are from the community they serve and do a much broader scope of work if they are paid. They do more collaboration with the clinical staff, involved with patient care and clinic work. (WA) I've been calling it a model. And I've done that on purpose and very strategic. But as I said at the very beginning, this is tailorable to what you need at your clinic. This is how we do it at my clinic, but these are the things that aren't going to change about the community health worker, these are the things she does, she can do and she can't do. (OR) We've always had outreach workers and case

managers that's nothing new for us, but the job is shifting as we're shifting the way that we're delivering health care. You know, a more preventive team-based approach. (ID)

I guess, I'm kind of thinking of the model of a Community Health Worker who really comes from the community, and already kind of embedded in the community, and is not just working with the patient of a health center, but is also out in the community promoting health, and educating, you know, groups in the community, and engaging with community organizations that -- where those members are part of, and kind be in that almost informal advocate for health and someone who can kind of help navigate the system resources, but who can also work one-on-one with people and do things like go into somebody's house and visit with them, and provide a deeper level of -- have a deeper discussion than you can typically have in a clinic environment. (WA)

We're not doing the traditional promotora work where we take groups of teams out into the community and have health fairs. We don't really do that kind of work so much. We do health fairs, we participate in health fairs but we're usually there with our booth, or with our dental. (OR)

I also want to say because really when they started talking about community health workers, they started talking about Promotoras. And it's sort of gone from Promotoras to community health worker and I'm very concerned in my own way I guess about what is happening there. Promotoras are very different individuals who are community

leaders and volunteers. (WA)

They're being asked to the table where decisions are being made and that they're being included as part of leadership. (WA)

There could almost become two different types of community health workers. There is the one that are doing the reimbursable encounters and then there could be a whole another cohort that's doing the types of community awareness and community engagement and community, sort of development kind of work that still needed in order to bring about sort of the broader perspective of a healthier community. (WA)

Team Based Care

They are embedded within our care teams (OR)

So our care teams are an interdisciplinary team that's comprised of medical provider, a nurse case manager, behavioral health support staff and the community health worker. (OR)

I think our team is working hard to try and integrate [CHW] in the care team, but when they're not in the day to day clinic flow, it creates a little bit of a disconnect that we're trying to overcome. (ID)

We do huddle here in the bigger clinics and they're included in the huddle with the behavioral health, medical, and dental and the case managers and stuff. They're listening too and then when they say, "Hey, you've got to

	go out and get a blood pressure from here," or "You go and check the medication of that person," or "what's the welfare of that person's whatever", you know, they take their commands from the care team over everything. (AK)

In the past, I think a lot of their time was focused on general outreach and engagement with us as a practice, which is really about bringing new people in our clinic, it's about working with new people that need to engage and be part of the system. Now I think what we're doing is shifting the dial so it's really more engaging with the care team, and the clinicians to say how we move the dial on managing the patients that are currently in our practice. (ID)

I think it's an extension of the team. It's a unique role and typically the community health worker role is a step up they have a little bit more independence than for example an entry level positions. (WA)

You know, as part of the clinic structure then, they're part of our regular routine of team meetings and check-ins and working with providers locally and things like that. (AK) |

Research Question:

4. How can CHW competencies be leveraged to meet new workflow needs as health centers develop medical homes and respond to other demands in this changing environment?

4a. (Sub) To the extent that their core community-dependent attributes of CHWs, how can these be maintained, strengthened or incorporated effectively into CHC settings.

b. How are these attributes, skills, programs evaluated?

Construct	Quotes
BARRIERS or CHALLENGES Perceived impediments or issues related to program stabilization or expansion	There still a whole different market of health care opportunities and I think that we are generally competitive but it is sometimes, harder to get a diversity of candidates with, you know, high caliber experiences, but I feel that we do still get high caliber. I guess it's just that there's – it's not as competitive as it could be, maybe. (WA) Well, I guess, the biggest barrier to extending them, when we talk about someone like a community health worker who would have one-on-one patient interaction, is that we've built almost every single one of our clinics under this physical structure that does not assume that you have these staff – or that level of intensity of resources. (WA) You have to have administration and an organization that's ready for them that's going to support them and have staff and especially people who are going to oversee the programs, they have to know it, they have to understand it and you have to be flexible, super flexible with your team and understand and also have a great respect for the passion that people have. (WA)

	I don't believe that our organization understands the depth and breadth of what they do. (ID) The major challenges is really to kind of showcase that the impact of the community health worker. (WA) It's kind of faddish and the problem with fads is that fads come and go So, I think the key point, the takeaway is that everything we do has to be more accountable. And, you know, at some level, because these are paid positions, we all have to justify our existence. (OR) We have a nice hybrid right now where the training is available and yet, it's not a requirement, it's not yet a barrier. I'm no longer a staunch advocate for "we must certify and we must get recognition" only because I've just heard it from my staff that this is – this would be a barrier if it went across the board, so I kind of remain open to what their perspective is. And I do worry that our flexibility might shift if certification becomes a requirement. (WA) So you have the Promotoras, then you have people with an associate degree, then you have a bachelor's degree, you have a master's degree. And they're all talking about being community health workers. Which - and my concern is this - once they start certifying community health workers then you're not

| | going to have the same person, you're not – you're going to be focused on all of the paper work and all of this, and all of that, and being monitored and regulated. (Washington)

I think my worry is that if you build in a certification that you create a workforce shortage. Right now, we can look and recruit somebody that meets our expectations and it's a fit for our patient practice and our patient panel. But when you create a certification, then you create a limiting factor about who can be considered to be a community health worker. And on one hand you want to say, well that creates consistent standards and so, I think my fear would be, taking something that was well intended about raising the bar, and actually creating a workforce barrier that meant that we didn't have a workforce that we could draw from to do community health activities. (ID)

As I think about like what types of community outreach or community health engagement would be supported by a health plan, it feels like -- and again, this is my perspective -- but it feels like it would be much more individual oriented as opposed to a little bit more community oriented. (WA)

What we're working on right now is without a Medicaid expansion, how you fund this sort of service at a level that makes sense. But because they've been such a key part of the team, you know, it's a real priority for us. (ID)

Financial, for one thing. We've got to keep the doors open and I don't know if we can afford to hire more people. Financial is the big one. |

	(ID)
	We're always looking for new sources of funding to keep sort of keep the momentum going so that from the community standpoint, there isn't an interruption of service. Because our clients don't generally care what grant pays the salary. (AK)
	I think the biggest barrier that we have is the wage range for our community health workers. (OR)
	I think it calls for a reality check on the payer mix of community health centers. So I'll start with that. So, the reality is that when your payer mixes that are in the 60, 65 percent uninsured and even tipping it to 70 percent uninsured, there's a lot of things that we would love to have and we don't get to have… So I would say community health workers are in a bigger category, and that is – that sometimes just we're trying to run community health centers on really limited means and that's really unfortunate for our patients. (Idaho)
	I think the challenge has been that we've gone through this hamster wheel if you will, where you build up a program and there's no funding to sustain it, so you shut down the program or take it to a minimum, a bare minimum. And then, we find a way to fund it and we're able to ramp it back up and then that funding disappears and so it dies. And so, for us, the community health worker has gone through a number of iterations. It's always been a part of the organization, it's just not necessarily been as sustaining, consistent to the way that we want. (Idaho)
	I have to have staff who resigned this position

	because it's intense. It's hard, -- they're in a really small community so essentially, they're on 24/7. They never get to be off work, they are being stopped in the grocery store. They -- some of them have experienced heightened criticism, accusations of hypocrisy even. Like, "Why are you buying ice cream, you just told me that I should have a balanced diet?" And not many us could withstand that level of scrutiny, quite frankly. I wouldn't frame it as a barrier per se but I think it definitely plays into how we're able to recruit. (AK) I think that if there becomes an opportunity for reimbursement that it will change how we utilize them. (WA)
EVALUATION	Internally, we try to do some quality evaluation work just to see how things are going. Our programs are grant funded so we're on a quarterly basis we're trying to report with what we're doing. (WA) Wow, that is the – that is the million-dollar question right now. And we don't have a formal mechanism in place. (Oregon) I would say that today, it's been very informal and/or driven by our external funders, so the evaluation is not comprehensive per se. It's more like these are the strategy for you to be certain deliverables and, you know, more of a lessons learned approach. (Washington) Typically, our approach has been if we're going to pick an evidence-based program and use that, let's assume that that evidence holds and let's not try to recreate the evidence. We just kind of figure, if we are having good fidelity toward that model, then we can assume that we're going to have, on average, that type of impact, whether or not we can measure it ourselves or not. (Washington)

| | You know, you have a logic plan. You have a logic model. You do evaluations. You do pre- and post- tests.   You do community needs assessment. You set up your plan for the year using that information and then you evaluate your information, the numbers that you saw, the quality care of people that you saw, you use measurements and you bring that information back to show that your program is not only great but it's making progress and enrolls with your most chronic patients. Nobody else can say that.   Nobody else can prove that. (Washington)

Anecdotally, we have so many great conversations about the good work that community health workers do and we all feel so good about it, but we don't really have the hard evidence to back that up. (OR)

But even absent any concrete data that supports the effectiveness of the work that community health workers do, I really think that the way we're utilizing community health workers a [CHC] is – has really been beneficial. (OR)

It's not something that we've done well, frankly, but it's something that's definitely on our radar and we feel like with the electronic health record we're on that we have the tools to do a better job and so we have a couple of initiatives under way. (OR)

We have a dearth of quantitative data. But we are intent over the course of, say the next 12 |

	months, being much, much better at that. (OR)
	So we have not undertaken a formal evaluation of that sort. However, we do endeavor to evaluate our work with more qualitative evaluations. So for example, in the last couple of years we did undertake a series of focus groups in various communities talking about what's their definition of health.(AK)
	We have plenty of things that we can count in terms of how many visits, how many calls, how many gatherings, things like that. But I think our qualitative evaluation wants to take that a step further and say well what did it matter, did it change anything? (AK)
	I think one of the things that I would like to see is just – is to hear more information about, what is successful and how is that success measurable and just, a little bit more structure I guess around the role of the community health workers and not to take away from the good work that they do but just to provide us some direction in terms of how we grow and best utilize as valuable resource. (OR)
VALUE What are the perceived benefits of using CHW staff?	I think the community health workers are going to be seen as a low-cost, high-value model where you know they are improving the health of folks who they're bringing in, you know, folks are getting their prevention, they're getting their screenings in on time. They're getting their annual visits in on time. (WA)

	And once you've engaged, then, everything else is better, right? You can have conversations that are more candid. You can be more persuasive as you discuss, you know, the things that you need to do in your care plan to achieve your, you know, goals, be it a successful pregnancy or, you know, bringing your blood sugars down or whatever it is. (OR)
	We have seen an increase in adherence to preventive screenings due to actually calling some of these patients to get them to come in. (ID)
	I think the community health workers or the outreach workers they honestly can be the heroes of the health care system because they are the only people that have the time to work with patients at this -- at this level of intensity. (WA)
	So what we are trying to do as an organization is to say how we are best going to get paid. Well, we have to be PCMH-NCQA certified, recognized. We have to be ready for payment transformation, whatever, payment change. We have to be ready for all of these things. That's where these staff come in. (ID)
	You know, healthier people make better consumers, better citizens. And I think, trying to eliminate a lot of these health disparities or lower these health disparities - if you follow up and do education - those workers play a

	key role in getting that accomplished. (ID)
	We knew that we couldn't just address social determinants by, you know, giving our providers more directives or doing something different with existing staff. (WA)
	They're just so at central on our organization. I can't imagine being without them. (WA)
	We see them as a key part of the future health care delivery system. I mean I don't know how you do this without folks like these care managers, community health workers. They just really are going to be a big part of it. (ID)
	[We have a] desire just to try to get a little bit upstream on the health issues and not just always be in a mode as a health center of treating an issue kind of, you know, prescribing and then telling patients what they should be doing to improve, but to try to get them to be active in their own health, and fully educated about their health in much deeper way than what we can do in 15-minute appointments. (WA)
	I feel like the thing that's been lost inside the health care system is the relationship between the patient and the provider. I mean because everybody is so busy. You know, you got 20 minutes to get through building a relationship, solving problems, delivering care that really comes from your heart. And, you know, we want to really get back to that level of relationship where patients really know and understand that we care about them. And,

	given the restraints that come from the payment system that we operate under, under a fee-for-service model, I don't know any other way to do it to give, you know, providers and patients more time together. So, we want to make sure that there structures in place that can begin to replicate that level of relationship. [CHWS are] being very efficient and the provider doesn't have to feel so out in the cold when a patient comes to them with a problem that is so complex. (ID)
	They're almost like a liaison or bridge between the community and the clinic and they're both reinforcing messages regarding health and health system navigation but they're also able to kind of report back on, you know, these are the needs that we're seeing or these are the services that a lot of our community members are asking for that we don't have a resource for. (WA)
	But I would say that the [center] of today definitely stands on the shoulders, of those community health workers. [AK]

Feygele Jacobs

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Education

University of Illinois, Chicago, IL

Certificate, Public Health Informatics (completed summer 2011)
DrPH, Public Health Leadership (candidate 2017) thesis: "Community Health Workers in the Community Health Center Context: Approaches in the Pacific Northwest

Massachusetts Institute of Technology, Cambridge, MA
Department of Urban Studies and Planning Doctoral studies (1984-1985)
- Recipient, Upham Scholarship award in support of doctoral research

Columbia University, New York, N.Y.

Master of Science, Urban Planning, Graduate School of Architecture, Preservation and Planning (1984)
Masters of Public Health (MPH), School of Public Health (now Mailman School), Health Policy and Management (1984)
- Recipient, Thesis Fellowship, Brookdale Institute on Aging and Adult Human Development, for thesis entitled "A Social Cost Minimizing Approach for Economic Development in the Bronx: An Alternative Planning Base for Aging and Services- Dependent Populations."
- American Planning Association, New York Metropolitan Chapter, Award for Student Achievement in Student Studio Presentation

Oberlin College, Oberlin OH

Bachelor of Arts (1981)

Professional Experience

RCHN Community Health Foundation (RCHN CHF), New York, N.Y.   10/2005 – Present
President and CEO (effective September 2013)
Previously Chief Operating Officer / Executive Vice President
RCHN CHF is the nation's only foundation devoted solely to community health centers (CHCs), non-profit, community-governed healthcare providers offering primary and preventive care to underserved populations.

Ryan Community Health Network (RCHN), New York, N.Y.   5/1997 – 9/2005

Executive Vice President/Chief of Staff

A not-for-profit corporation supporting and linking the major activities of subsidiary organizations, including three federally qualified health centers, a prepaid health services plan (CenterCare) and MSO.

St. Luke's-Roosevelt Hospital Center, New York, N.Y.   11/1987 – 5/1997

- Vice President | Program Development (6/1996 – 5/1997)
- Vice President | Ambulatory Care Development (7/1994 – 6/1996)
- Assistant Vice President | Professional Affairs and Ambulatory Care (1/1991 – 6/1994)
- Associate Vice President | Planning (11/1987 – 12/1990) | Director of Planning (1987)

St. Luke's-Roosevelt Hospital Center, an academic affiliate of Columbia University College of Physicians and Surgeons, a full-service teaching and tertiary care hospital, now merged into the Mt. Sinai System.

New York City Health and Hospitals Corporation (HHC), New York, N.Y.   8/1985-11/1987

- Senior Health Care Planner, Office of Strategic Planning
- Health Care Planner, Office of planning and Long Term Care

The New York City Health and Hospitals Corporation (HHC) is an integrated healthcare delivery system providing medical, mental health and substance abuse services through its 11 acute care hospitals, four skilled nursing facilities, six large diagnostic and treatment centers and more than 70 community clinics, and is the largest municipal healthcare organization in the country.

Boston City Hospital/ BOSTON HEALTH PLAN, Boston MA   1/1985 – 6/1985

- Planning Consultant, Division of Planning and Marketing (part time)

Based at the Boston City Hospital, a public hospital in Boston's South End neighborhood, Boston Health Plan was a not-for-profit managed care organization serving Boston's low-income and Medicaid population.

New York City Department of Health, New York, N.Y. 01/82-8/84

- Planning Analyst, Office of Planning and Evaluation (part time)

Originally the New York City Board of Health, and now the NYC Department of Health and Mental Hygiene, the entity chartered with the mission of protecting and promoting the health of all New Yorkers.

<div align="center">Recent Publications</div>

"Deployment of Analytics into the Healthcare Safety Net: Lessons Learned" Hartzband, David and Jacobs, Feygele. On-Line Journal of Public Health Informatics. Vol 8, No 3 (2016) http://ojphi.org/ojs/index.php/ojphi/article/view/7000

"Understanding Data as an Asset, Not a Luxury." Hartzband, David and Jacobs, Feygele. Community

Health Forum. Summer/Fall 2016.

"Can Electronic Health Records Systems Support New Payment Methods for Health Centers?" Shin, P., Jacobs, F., Barnes, J. Welsh, J. Morgan, S. and Perry, L. Geiger Gibson RCHN Community Health Foundation Research Collaborative Policy Research Brief # 41. April 15, 2015.

"Taking the Full Measure of Health Center Enabling Services." Hartzband, David and Jacobs, Feygele. Community Health Forum. Fall/ Winter 2014.

"Provision of Telemedicine Services by CHCs." Shin, Peter, Sharac, Jessica and Jacobs, Feygele. On-Line Journal of Public Health Informatics. Vol 7, No 2 (2015) .http://ojphi.org/ojs/index.php/ojphi.

"Data Strategies for a Changing Healthcare System." Hartzband, David and Jacobs, Feygele. Community Health Forum. Spring /Summer 2013.

"Telemedicine and Telehealth: What's happening and what's ahead."   Hartzband, David and Jacobs, Feygele. Community Health Forum. Fall /Winter 2012.

"An HIT solution for clinical care AND disaster planning: How one health center in Joplin, MO survived a tornado and avoided a Health Information disaster." Shin, Peter and Jacobs, Feygele." Online Journal of Public Health Informatics. Vol 4, No 1 (2012)
http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/ojphi/article/view/3818

 "Building a National Health Data Repository to Measure and Improve Health Care Quality," Shin, Peter; Jones, Emily; Jacobs, Feygele; Tuckson, Reed. Journal of Ambulatory Care Management. 33(4):307-313, October/December 2010.

Recent Presentations

National Association of Community Health Centers Community Health Institute. *"Leveraging a data warehouse to address health disparities for Asian Americans, Native Hawaiian and other Pacific Islanders".* August 25, 2015, Orlando FLA)

National Association of Community Health Centers Community Health Institute *"Outreach and Enrollment Best Practices"* (August 24, 2015, Orlando FLA)

Association of Clinicians for the Underserved - *Introduction and moderator of Keynoter Karen DeSalvo M.D., MPH, MSc HHS Office of the National Coordinator* (June 26, 2014, Alexandra VA)

Association of Clinicians for the Underserved, with Dr. David Hartzband "*A Path to Analytics for Under Resourced Healthcare Organizations"* (June 25 , 2014, Alexandria VA)

Midwest Stream Forum, with Nicole Rodriguez-Robbins *"Chronicles - The Community Health Center Story"* (Nov 22, 2014, San Antonio, Texas)

National Farmworker Health Conference *"CHC Entry-Level Workforce Projects: Lessons Learned"* and *"Chronicles: The Community and Migrant Health Center Story"* (May 7, 2014, San Antonio TX)

National Association of Community Health Centers Webinar "Building the Roles of Entry Level Clinical Support of Health Center Care Teams" Presentation titled: *"Strategies for Strengthening Entry Level Workforce."* (March 6, 2013.)

Capitol Hill Steering Committee on Telehealth and Healthcare Informatics, Moderator for an expert roundtable entitled, *"Issues and Opportunities Toward Interoperable EHRs for Rural and Underserved Healthcare Organizations."* (June 20, 2013, Washington D.C.)

National Center for Health in Public Housing, Webinar, Presentation: *"FQHC Emergency Preparedness and Importance of Planning for Recovery of Patient Electronic Health Records."*(October 22, 2012)

National Association of Community Health Centers Policy and Issues Forum, "Supporting Health Centers through Workforce Development" presented at session entitled, *"Strengthening Your Incumbent Clinical Workforce."* (March 23, 2012 Washington D.C)

Capitol Hill Steering Committee on Telehealth and Healthcare Informatics,

Moderator for an expert roundtable entitled, *"HITECH: Strategies for Delivering on the Promise to Rural and Underserved Communities."* (June 17, 2010 Washington D.C.)

"Changing pO2licy: The Elements for Improving Childhood Asthma Outcomes," Participant in expert roundtable. (February 23, 2010, Washington, D.C.)

"Childhood Asthma and Health Reform," Participant in national webinar co-hosted by Merck Childhood Asthma Network, Inc. (MCAN), The George Washington University School of Public and Health Services and RCHN Community Health Foundation. (September 15, 2009)

PROFESSIONAL LEADERSHIP and AFFILIATIONS

- Member, Board of Directors, Community Health Ventures (appointed 2013)
- Member, Board of Directors of the National Center for Farmworker Health (appointed 2013, and previously, advisor beginning 2008) and Board member of their 501 (c)(3) affiliate, Call for Health/UNA VOZ PARA LA SALUD (2010 – present)
- Member, Dean's Advisory Board, Milken Institute School of Public Health, The George Washington University (appointed 2012)
- Member, Board of Directors, Care for the Homeless (2012-2015). Member of Nominations and Governance, Supportive Housing, and CQI Committees.
- National Advisory Board, Geiger Gibson Research Collaborative, GW (2007-ongoing).
- NACHC (National Association of Community Health Centers) - Leadership Development Institutes Steering Committee (2009 - ongoing).
- NACHC Health Information Technology Advisory Group (2008- 2012)
  - National Ad-Hoc Survey Advisory Group (December 2010) for HRSA/ NACHC / GW survey on meaningful use of HIT. Published as Geiger Gibson/

RCHN Community Health Foundation Research Collaborative policy Research Brief #27, November 3, 2011, "Results from the 2010-11 Readiness for Meaningful Use of HIT and Patient Centered Medical Home Recognition Survey," available at http://www.rchnfoundation.org/wp-content/uploads/2013/01/Readiness-Databook-Corrected-Table-1-12-12-11_v2.pdf

- Treasurer, Board of Directors, CommunityCare Partners, Inc. New York State HIV Special Needs Plan (2003-2006)
- Online Journal of Public Health Informatics (OJPHI), peer reviewer (ongoing)
- External subject matter expert and grant reviewer, AETNA Foundation (2010)
- Member: eHealth Initiative, Grantmakers in Health, HIMSS, New York Association for Ambulatory Care, New York Society for Health Planning, Women in Health Management.
  - eHealth Initiative Workgroup (Transforming Care Delivery at the Point of Care(2009/2010), Data and Analytics (2013-2014)

TEACHING

Milken Institute School of Public Health, GWU Department of Health Policy and Management   2017
Baruch College, CUNY, Field Preceptor   1988-1990
Queens College, CUNY, Adjunct Lecturer   1986-1987

Consolidated Endnotes

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[2] See "Health Centers Have a Powerful National Impact," Capital Link . Published January 2016 http://www.caplink.org/images/stories/Resources/reports/Infographic-National-EIA-2016.pdf

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 " Planning and Delivering a Better Health System: Community Health Workers in a New Environment." Center for Health Innovations, Hidalgo Medical Services, Silver City."

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http://www.hca.wa.gov/hw/Documents/taskforceconvening082815.pdf

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