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Delivering Preventing Health Services through Health Fairs: A Clinical-Community Partnership in Los Angeles County

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Delivering Preventive Health Services through Health Fairs:

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by

Tanya Teresa Olmos-Ochoa

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ABSTRACT OF THE DISSERTATION

Delivering Preventive Health Services through Health Fairs:

A Clinical-Community Partnership in Los Angeles County

by

Tanya Teresa Olmos-Ochoa

Doctor of Philosophy in Health Policy and Management

University of California, Los Angeles, 2017

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Chronic diseases are the leading cause of poor health, disability, and death in the U.S. Efficient delivery of recommended preventive health services may significantly impact chronic disease burden, yet only a fraction of eligible adults receive preventive care. Therefore, innovative strategies are needed that extend the reach of the health care system into community venues, particularly for those with limited access to traditional health care settings. This dissertation examines how community health fairs organized through clinical-community partnerships can supplement the health care system in delivering preventive health services. Health fairs organized through the Faith Community Health Partnership (FCHP), a community benefit program of Providence Health and Services, were studied.

The first study utilized administrative data from FCHP health fairs to construct a profile of participants (n=5,274), and the preventive health services they received including referrals for those with positive findings. Overall, screening rates for a standard battery of tests were high. FHCP health fairs served an at-risk population as evidenced by the large proportion of

participants who screened positive on multiple tests. Also reached were large numbers of uninsured and racial/ethnic minorities.

The second study conducted a survey of 315 FCHP health fair participants to identify barriers to health care access, motivations for attending the health fairs, services received, and preferences for additional services. Common barriers to access included cost, lack of timely appointments, and long wait times in the doctor's office. Free and convenient health fairs may address most identified barriers to care. Fewer than 33% of participants with positive screenings reported receiving referrals to follow-up care.

The third study conducted qualitative interviews with FCHP partners (Providence, health ministries, and vendors), to identify the factors that underlie successful and sustainable collaboration in clinical-community partnerships. Perceived value, leadership buy-in, trust, and collaborative learning were key factors in promoting collaboration.

The FCHP clinical-community partnership provided preventive health services to substantial numbers of health fair participants from populations of interest. However, for health fairs to serve as effective extenders of traditional primary care, the partners must also commit to providing linkages to primary care and adequate follow-up for participants with positive screenings.

The dissertation of Tanya Teresa Olmos-Ochoa is approved.

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DEDICATION

This dissertation fulfills a quiet promise I made to my parents, Armando and Maria Olmos, to honor the love, hopes, and dreams that empowered them to leave everything cherished and familiar of Colonia Piloto, Mexico City, to come to the U.S. Thank you for your courage and your unwavering support, they have made everything in my life possible. To my younger brothers, Armando and Danny, this dissertation is for you. Everything I do, is for you. Know that there is nothing too difficult nor too uncertain we cannot tackle together. Dream on! Finally, this dissertation is also dedicated to my partner and confidant, Juan Carlos. Thank you for always believing that I can and will, especially when I do not. Your love anchors me.

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LIST OF ACRONYMS

Acronym	Definition	Acronym	Definition
FCHP	Faith Community Health Partnership	USPSTF	U.S. Preventive Services Task Force
SFV	San Fernando Valley	SCV	Santa Clarita Valley
BMI	Body Mass Index	ACA	Affordable Care Act
CDC	Centers for Disease Control and Prevention	CAHPS	Consumer Assessment of Healthcare Providers and Systems
CPR	Cardiopulmonary resuscitation	PCP	Primary Care Provider
SPA2	Service Planning Area 2	EKG	Electrocardiogram
CPS	Clinical Preventive Services	MEPS	Medical Expenditure Panel Survey
WCFI	Wilder Collaboration Factors Inventory	NHIS	National Health Interview Survey
ER	Emergency Room		

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CHAPTER 1: Introduction

1.1 Introduction to the Dissertation

This dissertation examines how community health fairs can supplement and support the health care system in delivering preventive health services, particularly to medically underserved populations. Every year, only a portion of adult patients receive nationally recommended preventive care, such as health screenings (e.g. blood pressure readings), immunizations (e.g. flu shot), and health education (e.g. smoking cessation classes) (McGlynn et al., 2003). To increase access, researchers have suggested interventions that promote strategic delivery of preventive health services within the health care system, such as during both wellness and illness visits (Hahn & Olson, 1999). However, these interventions presuppose patients' access to the health care system. To increase delivery for patients who have limited access to the health care system, the Centers for Medicare and Medicaid Services (CMS) and other national health agencies have called for demonstration projects to examine the potential benefits to health outcomes and cost-savings of programs that link the health care system with community organizations (Alley, Asomugha, Conway, Sanghavi, & others, 2016; Centers for Medicare & Medicaid Services, 2016).

Community health fairs are one example of a clinical-community strategy to supplement access to preventive health services outside the health care system. Community health fairs may be strategically equipped and geographically well situated to improve access to preventive health services for adults in the general population, especially for those with limited or no health care access. The focus of this dissertation is on community health fairs organized in partnership with faith-based and other community organizations through the Faith Community Health Partnership (FCHP), a community benefit program of Providence Health Services (Providence), a non-profit hospital system in Southern California.

This dissertation uses three distinct data sets to examine Providence's partnership-based community health fairs – administrative health fair data, participant survey data, and data from semi-structured interviews with stakeholders in the community health fair partnership. Each of the following chapters explores the role of Providence's community health fairs in supplementing access to preventive health services outside the health care system, by: (1) developing a profile of health fair participants and the preventive health services they received through the community health fairs; (2) identifying health fair participants' barriers and facilitators to accessing health care, motivation for attending the community health fairs, and overall satisfaction with the health fair services received; and (3) assessing the perspectives of stakeholders in the community health fair partnership [faith-community nurses from the FCHP, health ministry leaders from faith-based organizations, and representatives from community organizations (vendors)] to identify the factors that underlie successful and sustainable partnerships between health care systems and community organizations.

1.1.1 Chronic Disease Outcomes and Health Care Spending

Chronic diseases in the U.S. are the leading cause of poor health, disability, and death (Bauer, Briss, Goodman, & Bowman, 2014), accounting for more than 86% of health care spending nationally (Gerteis et al., 2014) and for seven out of ten deaths annually (National Center for Chronic Disease Prevention and Health Promotion, 2009). The National Center for Health Statistics defines a chronic condition as one that is "a departure from a state of physical or mental well-being" and that lasts more than three months[1] or is not cured once acquired (National Center for Health Statistics & Research, 2011). Heart disease, cancer, diabetes, obesity, stroke, and arthritis are among the most common and costly chronic health conditions, with heart disease and cancer jointly accounting for almost 48% of all deaths in the U.S.

[1] Excluding pregnancy and pregnancy-related conditions (National Center for Health Statistics & Research, 2011).

(Centers for Disease Control and Prevention, 2015) and for more than $470 billion in total care costs in 2010 (Go et al., 2014).

In California, health care spending to treat six common chronic conditions (arthritis, asthma, cardiovascular disease, diabetes, cancer, and depression) accounted for 42% ($98 billion) of the total health care expenditures in 2010 (Brown et al., 2015). In Los Angeles County, the geographic focus of this dissertation, the estimated health care costs for chronic diseases were approximately $25.4 billion in 2010, or 41.4% of total health care expenditures for the county that year (Brown et al., 2015). Preventable hospitalizations for problems associated with chronic diseases were higher in the county compared to the State average for long-term complications of diabetes (141 per 100,000 compared to 108 for the State) and for hypertension (51 per 100,000 compared to 31 for the State) (Los Angeles County Department of Public Health, 2015). Both diabetes and hypertension are risk factors associated with heart disease, one of the leading causes of death in Los Angeles County (Los Angeles County Department of Public Health, 2015).

1.1.2 Chronic Disease Prevention and Management

Preventive health services (immunizations, routine disease screening tests, health education, and behavioral counseling) are designed to prevent illness and detect illness in its early stages (U.S. Department of Health and Human Services, 2014), leading to improved health outcomes and reduced health care costs (Farley, Dalal, Mostashari, & Frieden, 2010; Krist et al., 2013). To this end, the U.S. Preventive Services Task Force (USPSTF), makes national recommendations for delivery of preventive health services in primary care (Agency for Healthcare Research and Quality, 2012b). These recommendations, summarized by a letter

grade[2] (See Figure 1.1), inform practice guidelines in the health care system (Agency for Healthcare Research and Quality, 2012b).

Recommended preventive health services for adults include, influenza and pneumococcal vaccinations, breast, cervical and colorectal cancer screening, cholesterol, blood pressure, and glucose screenings among others (Agency for Healthcare Research and Quality, 2012a, 2012b). Blood pressure, glucose, cholesterol, and Body Mass Index (BMI) screenings make up the standard battery of preventive health services offered by Providence staff at its community health fairs. Chapter 2 examines receipt of preventive health services among health fair participants and assesses the extent to which services received are consistent with USPSTF recommendations (See Table 1.1).

1.1.3 Disparities in Receipt of Preventive Health Services

Use of preventive health screenings is a necessary first step in preventing disease and detecting early onset of disease. Prior research has shown that improvements in the use of preventive health services can have significant impact on population health by reducing the number of preventable deaths in the U.S. annually (Farley et al., 2010). However, disparities in receipt of preventive health services exist, limiting their benefit.

Racial and ethnic disparities resulting in lower rates of awareness and receipt of blood pressure, cholesterol, and glucose testing for Hispanics/Latinos compared to African-Americans and non-Hispanic Whites are well documented. In 2013, the Centers for Disease Control and Prevention (CDC) reported that Mexican-Americans had the lowest rates of hypertension awareness (68.7%), treatment (58.7%), and control (35.5%) compared to their Black/African-American and non-Hispanic White counterparts (Centers for Disease Control and Prevention, 2013). Although there has been a significant increase in hypertension control in the U.S. (Yoon,

[2] A letter grade of A or B from the USPSTF represents a high certainty that the benefit of providing the preventive health service is moderate (for B grade) to substantial (for A grade).

Burt, Louis, & Carroll, 2012), a 2013 CDC report suggested that additional efforts were needed to increase hypertension awareness, treatment, and adherence, especially among Mexican-Americans (Centers for Disease Control and Prevention, 2013).

In 2005 the CDC also called for “public health campaigns to raise awareness of the cardiovascular disease risk associated with high blood cholesterol levels” among racial and ethnic minorities, including Mexican Americans (Centers for Disease Control and Prevention, 2005). Kenik and colleagues (2014) found differences in cholesterol screening rates between Hispanic/Latino and non-Hispanic White respondents, explained by differences in socioeconomic status, access to care, and Spanish language. These findings suggest that for the 20.7% of Hispanics/Latinos who reported having no history of cholesterol screening (compared to 10.6% of Black/African-American and 6.9% of non-Hispanic White respondents), greater access to care along with culturally and linguistically competent care could improve cholesterol screening and treatment (Kenik, Jean-Jacques, & Feinglass, 2014).

In addition, diabetes and diabetes-related complications disparately affect Hispanics/Latinos (Agency for Healthcare Research and Quality, 2001; Centers for Disease Control and Prevention, 2011; Peek, Cargill, & Huang, 2007), with Hispanics/Latinos 70% more likely to be diagnosed with diabetes than their non-Hispanic White counterparts (American Diabetes Association, 2016). Glucose screening has the potential to improve these disparities through early detection and treatment. Despite improvements in diabetes care (Huang et al., 2007; Wagner EH et al., 2001), disparities in rate of receipt for glucose and other diabetes prevention screenings, such as screening for metabolic syndrome, exist and vary by Hispanic/Latino subgroups (López & Golden, 2014), uninsured status and access to care (Bailey et al., 2015).

The service area covered by Providence’s community health fairs encompasses primarily under-resourced communities with a majority Hispanic/Latino population. Exploring new pathways for delivery of preventive health services that address the challenges of the

uninsured and of Hispanics/Latinos in culturally and linguistically appropriate ways may improve receipt of preventive health services for these populations (Dymek et al., 2013; Krist et al., 2012, 2013) and ameliorate disparities.

1.1.4 Limitations of the Standard Model for Delivery of Preventive Health Services

The prevailing model for delivery of preventive health services is within the traditional medical encounter. However, only about 50% of Americans receive recommended preventive health services each year (McGlynn et al., 2003). The time-limited nature of the medical encounter and the prerequisite access to the health care system may exacerbate disparities in access and receipt of preventive health services between ethnic minorities and non-Hispanic Whites (Agency for Healthcare Research and Quality, 2013; “Health policy brief: Achieving equity in health,” 2011; Krist et al., 2012, 2013).

Relying exclusively on primary care providers within the health care system to deliver preventive health services greatly limits opportunities for delivery. To deliver preventive health services to patients consistent with USPSTF recommendations, primary care providers would require an estimated 7.4 hours per day (Yarnall, Pollak, Østbye, Krause, & Michener, 2003). Yet competing demands on provider time, such as prioritizing acute health needs and managing staffing shortages (Jaen, Stange, & Nutting, 1994), often take precedence in primary care. Even when primary care practices make prevention a priority, competing clinic priorities and patient needs may supersede the delivery of preventive health services, making it challenging for primary care practices to delivery USPSTF recommended services (Crabtree et al., 2005).

Preventive health services are often offered during wellness visits (e.g. annual physical exams) (Preisser et al., 1998). However, only one third of adult patients receive a wellness visit in any given year (Mehrotra & Prochazka, 2015). Furthermore, wellness visits may only improve the delivery of some preventive services (blood pressure, fecal occult blood testing, and Papanicolaou smear) while showing limited improvement for others (cholesterol,

mammography, and preventive counseling) (Boulware et al., 2007). Relying on “opportunistic delivery during illness visits” (Crabtree et al., 2005; Hahn & Olson, 1999), has also been suggested as a strategy to improve receipt of preventive health screenings.

Nevertheless, the benefits of delivering preventive health screenings to patients during both wellness and illness visits would accrue mainly to patients with health care access. A 2010 study found that expanding health care coverage (such as through universal coverage) would produce substantial health benefit among U.S. adults. However, this benefit would not be fully realized without consistent use of preventive health services among newly insured patients (Farley et al., 2010). In the existing health care system, which falls short of universal health coverage and faces limitations on provider time, strategies that expand the delivery of preventive health services beyond the health care system hold promise.

1.1.5 Clinical-Community Linkages: Delivery of Preventive Health Services Outside the Health Care System

In 2014, the Centers for Disease Control and Prevention (CDC) outlined four domains of chronic disease prevention to effectively and efficiently address the burden of chronic conditions: (1) coordination of prevention efforts through epidemiology and surveillance, (2) environmental approaches to support healthy behaviors, (3) health system interventions to improve the use of preventive health services, and (4) linkages between community resources and clinical services to improve and sustain chronic disease management (Bauer et al., 2014).

Clinical-community linkages (domain 4 above) are partnerships between health care providers, community organizations, and public health agencies that promote healthy behavior, fill gaps in needed services, and connect patients with health resources, including primary care referrals and follow-up (Agency for Healthcare Research and Quality, 2015). Clinical-community linkages can increase the overall number of adults receiving preventive health services by expanding delivery outside the health care system. In addition, clinical-community linkages that

develop strategies to serve the medically underserved, including racial and ethnic minorities, can alleviate disparities in receipt of preventive health services.

There is growing literature on the potential success of clinical-community linkages to reduce the burden of disease and improve receipt of preventive health services for vulnerable populations (Dymek et al., 2013; Koh & Sebelius, 2010; Ockene et al., 2007; Redhead & Williams, 2010) through improved care coordination. To expand clinical-community linkages as a strategy for improved delivery of preventive health services, it is important to explore how clinical-community linkages are formed, organized, and sustained. This understanding may provide helpful insights for delivery of preventive health services in non-clinical settings. Community health fairs that are organized in partnership through clinical-community linkages represent a strategic opportunity to supplement delivery of preventive health services outside the health care system and to link patients with the health care system through referrals. The diversity of services partnership-based community health fairs can provide allows for better integration of care and needed follow-up services for health fair participants.

1.1.6 Community Health Fairs: A Supplemental Model for Delivery of Preventive Health Services

A community health fair has been defined as “a voluntary, community-based, cost-effective event used to detect health problems, identify risk factors, and provide education information and supportive resources to promote healthy lifestyles of its participants” (Dillon & Sternas, 1997). The goal of community health fairs is to meet the health-education and prevention needs of the health fair participants, often the medically underserved and other socioeconomically disadvantaged populations (Dillon & Sternas, 1997; Murray, Liang, Barnack-Tavlaris, & Navarro, 2014).

In general, community health fairs are venues that can support and supplement delivery of preventive health services by eliminating the need for a traditional medial encounter.

Typically, health fair participants are not required to make an appointment, to have medical insurance, or to have received a medical referral or approval from an insurance provider prior to participation. The services are usually offered at low or no cost at locations convenient for the community being targeted.

Nonetheless, health fairs are often limited to same-day services provided at a single event. Health fair organizers are seldom able to extend their efforts beyond the single event to create opportunities for follow-up care and referrals. Compared to independently organized health fairs, community health fairs organized in partnership with health care organizations may be able to attract larger numbers of potential participants by pooling their resources and networks. Additionally, health fairs organized through clinical-community partnerships can provide additional care coordination in the form of follow-up care and referrals.

In his seminal article, Donald Berwick (1985) explored the benefits, risks, and costs of conducting health screenings in community health fairs. He found that in the 1980s almost two million Americans visited a community health fair annually to receive screenings ranging from blood pressure, cholesterol, and vision, to Papanicolaou smears, fecal occult blood testing, electrocardiograms, and stroke. Berwick highlighted the role of health fairs in delivering preventive health services outside the health care system and concluded that community health fairs were a significant complement to the health care system when they screened for preventable conditions with known benefits from early detection (Berwick, 1985).

Berwick also suggested that although health fairs can offer unnecessary health screenings, these screenings may have the benefit of acting as a “drawing card” to encourage participants to receive health education and other potentially beneficial health services (Berwick, 1985). However, it is important to emphasize that, for health fairs to serve as effective extenders of traditional primary care, they need to have in place efficient systems to assure that individuals who screen positive receive adequate follow-up. This follow-up is most appropriately conducted in a traditional health care setting such as a community clinic or other primary care facility. One

study demonstrated promising results of blood pressure screening in nurse-operated health fairs, finding that participants with high blood pressure screenings who received a referral to primary care providers from the nurses at the health fairs were motivated to seek follow-up care – 93% made appointments or followed-up in person (Lucky, Turner, Hall, Lefaver, & de Werk, 2011). Therefore, a referral system for follow up of positive screens should be an essential component of community health fairs that purport to serve as alternatives to traditional primary care.

1.1.7 Faith-based Organizations: Strategic Partners in Community Health Fairs

Faith-based organizations have a long history of promoting health and healthy behaviors (Campbell et al., 2007; DeHaven, Hunter, Wilder, Walton, & Berry, 2004; Peterson, Atwood, & Yates, 2002), particularly for the disenfranchised and underserved (Newlin, Dyess, Allard, Chase, & Melkus, 2012; Sauaia et al., 2007). Not surprisingly, faith-based organizations in the community are natural partners (Monay, Mangione, Sorrell-Thompson, & Baig, 2010; Wilson, 2000) for organizing partnership-based community health fairs.

Faith leaders such as clergy and lay members are partners for delivery of preventive health services in the community. Faith leaders' (e.g. pastors, priests, other clergy, and lay church leaders) familiarity with their faith-based organizations and surrounding communities allows them to align health and wellbeing principles with faith principles (He et al., 2013). Moreover, the credibility of faith based-organizations in the community and their ability to reach large numbers of people are strategic advantages when including them as partners (Greenwald, 2003; Rydholm & Kirkhorn, 2005). To this end, substantial efforts have been made to explore the value of faith-based organizations as partners in addressing the health needs of Black/African-American (Lumpkins, Greiner, Daley, Mabachi, & Neuhaus, 2013; Newlin et al., 2012) and Hispanic/Latino congregations (Davis et al., 1994; Michael, Farquhar, Wiggins, & Green, 2008) such as those that participate in the Providence partner-based community health

fairs that are the subject of this dissertation. However, research is needed that explores the barriers and facilitators to successful partnerships between faith-based organizations and traditional health care delivery systems to deliver preventive health services.

The following section provides additional detail about the Providence health system, the roles of stakeholders in the community health fairs (Providence faith-community nurses, health ministries, and vendors), and the services offered through the community health fair partnership.

1.2 Study Site - Providence Health and Services

Providence Health and Services (Providence) is the third largest not-for-profit health system in the United States, operating 34 hospitals and employing more than 73,000 caregivers to serve communities across Alaska, California, Montana, Oregon, and Washington (Providence Health and Services Southern California, 2016a). In 1856 the Sisters of Providence, a Catholic order founded in Montreal, Canada in 1843 by Emilie Gamelin, set out to open schools, hospitals, and other institutions for the care of the poor and vulnerable in the Pacific Northwest (Sisters of Providence, 2016a). This tradition of caring for the underserved continues today in the Mission and Values of the Providence health system — “As people of Providence, we reveal God’s love for all, especially the poor and vulnerable, through our compassionate service. Together we answer the call of every person we serve: Know me, care for me, ease my way ®” (Providence Health and Services Southern California, 2016b).

The Sisters of Providence continued their efforts in the United States for over a century, founding their last hospital — Providence St. Joseph’s — in Southern California in 1942 (Sisters of Providence, 2016b). Then in the early 1990s the Sister’s transferred administrative control of their hospitals to a Board of Directors and the Providence Health System emerged. Through its community benefit funding, Providence Health & Services sustains the community health fairs and clinical-community linkages that are the focus of this dissertation.

Providence's core values of respect, compassion, justice, excellence and stewardship (Providence Health and Services Southern California, 2016b) are evident in its community benefit spending. Providence's community benefit programs connect families in Providence's service area with preventive care and fill gaps in community services (Providence Health and Services Southern California, 2015). In 2013, Providence provided nearly $42.8 million of its $183 million community benefit budget in free and discounted care to the uninsured and underinsured (Providence Health and Services Southern California, 2015).

The Faith Community Health Partnership (FCHP) is the community benefit program that operates the community health fairs that are the focus of this dissertation. The FCHP connects Providence's resources to other faith-based organizations (e.g. churches) and other community organization in the San Fernando and Santa Clarita Valleys (Providence Health and Services Southern California, 2010), two large areas in Los Angeles County. The FCHP staff includes the director, administrative personnel, and faith-community nurses – registered nurses who complete additional training to provide health care services within faith-congregations. The *faith-community nurses* are responsible for forming and sustaining partnerships with lay congregants of faith-based organizations in the areas of greatest need within Providence's service area. They are also responsible for conducting the preventing health screenings at the health fairs and overseeing other volunteers. The faith-based organizations that partner with Providence are required to establish a *health ministry* from its lay congregants. The goal of each health ministry is to build its capacity to improve the health and wellbeing of its congregation and surrounding community, with the support of Providence faith-community nurses. In addition, the faith-community nurses and the health ministries also partner with staff from other community and health organizations known in the partnership as vendors. The *vendors* are organizations that support the Providence partnership by providing additional preventive health screenings not offered by the faith-community nurses, referrals to follow-up primary (e.g. community clinics)

and specialty care (e.g. dental and vision), and health education material on various topics (e.g. Alzheimer's, cancer prevention, mental health hotlines, oral health, etc.).

1.2.1 Faith-Community Nurses

Faith-community nursing is a specialty nursing practice that provides holistic health care with "an intentional care of the spirit" within a faith community (American Nurses Association, 2012; Aponte, Cruz, Arce, & Durso, 2013; Hickman, 2006). The certification process varies across programs, but is based on the four major concepts of spirituality, professionalism, holistic health, and community developed by the International Parish Nurse Resource Center, the National League of Nursing, and the American Nurses Association Credentialing Center. The goal of certification is to develop nurses skilled in providing both clinical nursing care and spiritual care. Faith-community nurses help to expand the delivery of preventive health services, and they contribute to chronic disease management and health maintenance through health education and counseling that focuses on the spiritual, mental, physical, and social aspects of health (Balint & George, 2015; Elwell, 2015; Monay et al., 2010).

The FCHP director at Providence manages a small team of faith-community nurses modeled on the tradition of faith-community nursing introduced in the 1980s by Granger Westburg, a Lutheran minister who founded the movement (Balint & George, 2015) and on which the current specialty is based. True to the faith-community nurse model, the FCHP faith-community nurses support members of the health ministries by providing administrative and clinical expertise to organize and implement health events, including health fairs, throughout the year. The faith-community nurses have supported more than 35 health ministries in this capacity since 1990. Clinically, the nurses provide health education resources (e.g. workshops and speaker series) in addition to the preventive health services offered at the health fairs. The nurses also extend administrative support to the health ministries in the form of subsidized

printing, testing and screening supplies, and networking with additional community and health organizations that supplement Providence resources at the community health fairs.

1.2.2 Health Ministries

A health ministry is defined as “the promotion of health and healing as part of the mission and service of a faith community to its members and the community it serves” (American Nurses Association, 2012). In the FCHP partnership, health ministries are groups within each faith-based organization (e.g. church or parish) that are composed of lay congregation members who have a special interest in promoting the health and wellbeing of their church community. The health ministries include lay congregants from a variety of backgrounds, including nurses, doctors, other health professionals, and members with no clinical background.

A faith-community nurse from the FCHP is assigned to each health ministry and acts as the main liaison between the faith-based organization and Providence. With the administrative and clinical support of the FCHP faith-community nurses, the health ministries establish a presence in their churches and in their communities by organizing community health fairs and other recurring health events. An added benefit to the health ministries of partnering with the faith-community nurses is access to the network of health and community organizations, or vendors, with which Providence partners.

1.2.3 Vendor Network

The faith-community nurses’ network of vendors offer resources that include assistance with enrollment to public and private medical insurance, health screenings and health education that the FCHP faith-community nurses do not provide, and referrals to a network of low- and no-cost clinics, among other miscellaneous services. Currently the vendor network is made up of 65 vendors that are integral to the success of the FCHP community health fair partnership. The

wide variety of resources provided by the vendors help to attract participants to the health fairs from the health ministries' congregations and the surrounding community. In turn, participation in the health fairs allows the vendors to achieve their organizational missions to provide needed care to communities in need.

1.2.4 FCHP's Community Health Fair Partnership

In order to host the annual community health fairs and the other health events organized by the health ministries in partnership with FCHP faith-community nurses and vendors, the health ministries must enter into a contractual agreement with the FCHP. The agreement ensures that the leadership of the faith-based organizations (e.g. pastors, priests, ministers, etc.) understands the role of the health ministries and of the FCHP faith-community nurses. In addition, the leadership agrees to support their health ministries' activities by providing physical space for the health events to be carried out and any other resources the leadership can provide. In addition, the FCHP requests that the faith-based organizations it partners with make a $300 annual contribution to the FCHP. This contribution is waived for faith-based organizations that are in low-income communities and that experience financial hardship. No faith-based organization is denied the opportunity to partner with the FCHP for lack of financial resources to pay the contribution.

Once the agreement is signed, the FCHP faith-community nurse assigned to that health ministry begins the capacity building process with health ministry members, usually lay persons. Often, the health ministries are started with only a few interested individuals who then recruit additional members through announcements during services and word-of-mouth. In collaboration with the faith-community nurse, the health ministry conducts a needs assessment of the church in the form of a short survey, to understand the health needs and interests of their congregation. The survey is distributed to as many congregants as possible (usually during Sunday or Saturday service) and collected. The survey includes questions about the health

needs of the survey respondents and questions about the perceived health needs of the broader community.

The results of the surveys inform the health events the health ministries organize. These health events are developed in partnership with the FCHP nurse, utilizing the resources available from the FCHP and the vendor network. Each health ministry determines the level of participation of the faith-community nurse and the FCHP's resources and vendor network to be utilized. Health ministries that have health care providers as part of their membership and health ministries in higher-resourced faith-based organizations may rely less on FCHP nurses. In contrast, health ministries in lower-resourced settings may need more support from the FCHP.

Most health ministries organize an annual community health fair. Health ministries may also organize weekly or monthly blood pressure checks and cholesterol testing, bi-annual blood drives, speaker series on various health topics, and cardiopulmonary resuscitation (CPR) and first aid workshops. The process of forming health ministries and developing health events has been an ongoing Providence FCHP program since 1990, with 33 health ministries active in 2016. The following two sections will describe in more detail the service area in which the community health fairs are organized and the services they provide.

1.2.5 Community Health Fair Service Area

The FCHP's community health fairs are primarily held in the San Fernando and Santa Clarita Valleys in Southern California. The FCHP's 26-year presence in this region has facilitated the formation of partnerships with over 35 faith-based organizations in this region. Since 2010, the FCHP has also partnered with six non-faith-based, community organizations for one-time community health fairs in the same region.

The San Fernando Valley is an area in Los Angeles County that includes 34 diverse neighborhoods (Los Angeles Times, 2016) (see Figure 1.2). When divided into quadrants, the Northeast and parts of the Southwest quadrants of the San Fernando Valley differ significantly in

demographics and in the health care needs of their populations compared to the remainder of the San Fernando Valley (Valley Care Community Consortium, 2013). In the 2010 Census the region had a population of more than 1.8 million and a median age of 36 (U. S. Census Bureau, 2010). In a 2013 needs assessment conducted in the San Fernando Valley, the vast majority of the population identified as either non-Hispanic White (42%) or Hispanic/Latino (41.1%), with a smaller percentage identifying as Asian (10.6%) and Black/African-American (3.4%) (Valley Care Community Consortium, 2013). Almost 40% of the total SFV population is foreign born, with 49.3% born in Latin America and 40.3% in Asia. In addition, in 10 of the San Fernando Valley's 34 neighborhoods more than 30% of the population speaks English "less than very well," with estimates ranging as high as 47.4% for one city in the Northeast quadrant of the San Fernando Valley (Valley Care Community Consortium, 2013).

The Santa Clarita Valley consists of several small communities, including the cities of Santa Clarita, Valencia, Saugus, Newhall, Canyon Country, and Stevenson Ranch. The total population in 2012 was estimated at over 280,000 (Valley Care Community Consortium, 2013), with a median age of 35 (U. S. Census Bureau, 2010), and a median household income of $80,000 (U. S. Census Bureau, 2015). In the same 2013 needs assessment referenced above, a majority of the population self-identified as non-Hispanic White (52%), 29.7% as Hispanic/Latino, 10.9% as Asian, and 4.2% as Black/African-American (Valley Care Community Consortium, 2013). Only 20% of the population identified as foreign-born, with 50% born in Latin America and 37% born in Asia.

The San Fernando and Santa Clarita Valleys are in Service Planning Area 2 (SPA2). The Los Angeles Department of Health Services has divided Los Angeles County into eight geographic Service Planning Area in order to facilitate delivery of health services to specific regions (Los Angeles County Department of Public Health, 2016). In 2013, 27% of adults 18-64 years old in SPA2 did not have health insurance, 28.9% had difficulty accessing medical care (Valley Care Community Consortium, 2013), and 25.1% had no regular source of care (the third

highest percentage among the eight SPAs) (Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology, 2013). The large size of SPA2 may likely mask areas of high-need when data is averaged for the region. Neighborhoods such as Pacoima, San Fernando, Canoga Park, and Reseda often fare worse than the SPA2 average on income and health indicators (Valley Care Community Consortium, 2013). Despite the diversity of SPA2, it nonetheless had the lowest score on an indicator for whether residents have access to quality and affordable health care (9.6) compared to the other SPAs and the County as a whole (12.3) (Los Angeles County Health Survey, 2011). Consistent with the racial and ethnic makeup of the San Fernando and Santa Clarita Valleys, health fair attendees are primarily Hispanics/Latinos of Mexican and Central American heritage.

The faith-based organizations that partner with Providence are in the San Fernando and Santa Clarita Valleys. However, some health fair participants may reside outside of these two regions. A goal of the partnership-based community health fairs is to serve all health fair participants irrespective of whether they reside in Providence's service area or belong to the faith-based organization hosting the health fair. The next section identifies the individual faith-based organization sites in more detail and provides a list of preventive health services offered at the community health fairs.

1.2.6 Community Health Fair Sites and Services Offered

The FCHP faith-community nurses typically organize health fairs at locations convenient to each partner. Community health fairs organized in partnership with faith-based organizations are nearly always held on site at the faith-based organization itself, usually on the church parking lot or in a hall. The health fairs are recurring, annual events. When the partner is a community organization other than a faith-based organization, the location is usually a park, community center, or other location, and these health fairs are one-day events that do not recur annually. For one-day community events, the FCHP faith-community nurses are invited to

provide preventive health screenings at the organizers request and are not expected to provide administrative or planning support.

In its current partnerships, the FCHP mainly partners with Catholic and other Christian churches of various denominations including Methodist, Presbyterian, Episcopalian, and 7th Day Adventist. Table 1.2 provides additional details about participating church sites, including the year the health ministry was established and the corresponding years the church has been an FCHP partner, the size of the church, the languages in which the services are held at the church, and the location of the church.

The services provided at the community health fairs also vary by health fair and are dependent on the preferences of the organizing partner. Table 1.3 and Table 1.4 provide examples of the preventive health screenings and additional services available for selection by the health ministries for the community health fairs. Faith-community nurses are involved with the planning of the community health fairs at varying levels, also dependent on the needs and preferences of the organizing partner. Community health fairs organized by health ministries typically require that the faith-community nurses take on a more active and engaged role.

The vendor selection process has two phases. In the first phase, the faith-community nurses circulate to the vendor network a calendar with the health fair dates for the year. The dates of the health fairs are agreed upon previously with the health ministries. The vendors respond to the faith-community nurses via e-mail with their availability for the year. From this response, the faith-community nurses generate a list of vendors that are available to participate at each health fair and present each health ministry with the names of the vendors available on their health fair date. A vendor's availability on a specific event date does not guarantee their participation. In the second phase of the selection process, the health ministries review the list of vendors for their health fair and select those that the health ministries believe are most in line with the needs and interests of their congregations and surrounding communities. The health ministries have the final decision on the vendors. For any health fair event, the final list of

vendors will vary based on vendor availability and on health ministries preferences, making each health fair unique in the number and types of services provided.

Although a single faith-community nurse will assist its health ministry with scheduling vendors from their network, all or most of the FCHP staff faith-community nurses will participate on the day of each health fair, year-round. In this capacity, the team of faith-community nurses are responsible for administering some of the preventive health screenings at the health fair and most of the health education and counseling. The team of faith-community nurses provides a standard set of preventive health screenings at each health fair that includes blood pressure, cholesterol, glucose, body mass index (BMI), and bone density. This standard battery of tests does not overlap with services provided by other vendors. The faith-community nurses also deliver on-site, same-day, health education counseling to health fair participants with borderline or abnormal screening results. For participants with no access or limited access to primary or specialty care, faith-community nurses also provide immediate referrals to safety net clinics, as well as enrollment information for participants who may be eligible for public or private insurance programs.

A second opportunity for referrals, insurance enrollment, and brief counseling occurs at the time of follow-up, usually a week post-health fair. The faith-community nurses and health ministry members coordinate additional follow-up for health fair participants with borderline or abnormal screening results on a standard battery of test (blood pressure, cholesterol, and glucose primarily). The follow-up consists of a phone call scheduled for the first week following the health fair event until the participant is reached. Only a registered nurse can conduct the follow-up. Depending on the clinical expertise on the health ministry team, either the FCHP faith-community nurse assigned to the church conducts the follow-up or a nurse on the health ministry team. The FCHP provides the nurse conducting the follow-up with a list of community clinics in the San Fernando and Santa Clarita Valleys to which un- and under-insured health fair participants with abnormal results can be referred for primary and specialty care.

1.3 Dissertation Aims

This dissertation broadly examines the FCHP community health fair program as an example of a clinical-community linkage between a health care system (FCHP), its clinical providers (faith-community nurses), faith-based organizations (health ministries) and other community organizations (vendors) that partner to deliver preventive health services outside the health care system and link participants to the health care system. Specifically, this research aims to: (1) develop a profile of health fair participants and the preventive health care services, including referrals, they received through the FCHP community health fairs – **Aim 1**; (2) identify health fair participants' barriers to health care access, their motivation for attending the FCHP community health fairs, and their overall preferences for additional services and communication with the health fair nurses – **Aim 2**; and (3) assess the perspectives of stakeholders in the community health fair partnership (faith-community nurses, health ministries, and vendors) to identify the factors that underlie successful and sustainable collaboration among partners in clinical-community partnerships – **Aim 3**. Chapters 2, 3, and 4 in this dissertation correspond to Aims 1, 2, and 3 respectively. Each chapter will provide more detail about the study design and methodology used to explore each aim, as well as results. The following section of this chapter describes the conceptual framework and theoretical context for this research.

1.4 Conceptual Framework

The goal of the FCHP community health fairs is to target medically underserved populations to provide preventive health services for chronic disease prevention and to improve chronic disease management to reduce complications. As a result, this research draws from existing relevant conceptual frameworks including the Chronic Care Model and adaptations of the model.

The Chronic Care Model (see Figure 1.3) was developed by Edward Wagner to address the complexities of caring for patients with chronic illness in a health care system designed to

deliver acute care (Wagner, 1998). The model identifies six distinct components of health care delivery for chronic care management. Three of the components are practice level strategies (delivery system design, decision support, and clinical information systems) that together enhance the delivery of evidence-based chronic care by reorganizing work flow and team function to help support providers while tracking patient progress toward positive health outcomes. The remaining component (self-management support) is a patient-centered strategy to improve patients' skills and confidence in disease self-management. Although chronic care delivery strategies modeled after the Chronic Care Model have shown improvements in disease management and cost-effectiveness (Huang et al., 2007; Wagner EH et al., 2001), the "locus of care" remains with the providers within the health care system (Wagner, 1998). As such, the Chronic Care Model is most appropriate for conceptualizing care delivery among patients already accessing the health care system.

In an effort to conceptualize chronic disease prevention and control more broadly, Krist and colleagues proposed an extension of the Chronic Care Model to incorporate the delivery of clinical preventive services (CPS) (Krist et al., 2012; Wagner, Austin, & Von Korff, 1996). The Integrated Community-Clinical Model proposed by Krist et al. identifies six key stakeholder groups that create one broad system in which to deliver CPS[3] (see Figure 1.4). By integrating the roles and resources of the six stakeholder groups, the model illustrates how potential barriers (e.g. lack of authority) that a single stakeholder may encounter in delivering CPS can be avoided. The six stakeholder groups include (1) funders, payers and purchasers, (2) national and state leadership, (3) local leaders, (4) the community, (5) clinicians, and (6) spanning personnel:

[3] The Integrated Community-Clinical Model uses the term clinical preventive services (CPS) to define the types of services conceptualized in the model. The focus of this dissertation is to understand delivery of a broader definition of services and uses the term preventive health services instead.

1. *Funders, payers, and purchaser* are those sources that can collectively fund the infrastructure to provide preventive care and the care itself.
2. *National and state leadership* are organizations that have the authority and resources to support integration across regions.
3. *Local leaders* are regional organizations that can facilitate integration activities at the local level.
4. *Community* is "the settings where individuals live and work and the organizations that service those settings."
5. *Clinicians* are the entities that are necessary to deliver CPS.
6. *Spanning personnel* help support the delivery of CPS by connecting the community to clinical settings; they are primarily found at the community and clinician levels. *Spanning support* includes the delivery systems, resources, tools, data, and policies necessary to sustain clinical-community integration for all the participants.

The model further defines the overall process of CPS delivery resulting from the integration of the six stakeholder groups into three distinct phases – engagement, delivery, and follow-up. *Engagement* is defined as all the steps preceding the actual deliver of CPS, including identifying the populations in need of CPS, increasing their awareness of CPS and encouraging receipt through education, and coordinating logistics and transportation. *Delivery* of CPS varies in level of effort (e.g. time, resources, etc.) depending on the type of CPS. Delivery includes administering and interpreting screening tests, administering immunizations, counseling and supporting the adoption of healthy behaviors, and prescribing medication as a result of risk and benefit assessments. *Follow-up* is an essential part of CPS delivery and includes documenting CPS delivery and results, referring those with abnormal results to additional care and management, ensuring follow through on referrals provided, supporting maintenance of healthy behaviors over time, including medication adherence and reminders when services are due.

Though ideal, the integration of the six stakeholder groups in Krist's Integrated Community-Clinical Model is not always possible and more often, attempts to deliver preventive health services are carried out by partnerships with a smaller number of stakeholder groups. This dissertation uses an adapted version of the model (see Figure 1.5) that focuses on three of the six stakeholder groups — clinicians, community, and spanning personnel. In this adaptation of the Integrated Community-Clinical Model, the community stakeholder group refers to the faith-based organizations that host the FCHP community health fairs, the health ministry teams, including the volunteer clinicians, and the community organizations, or vendors, that participate in the community health fairs by providing additional preventive health screenings and health resources. The FCHP director and administrative staff, the vendors, and the network of no- and low-cost community health clinics to which health fair participants are referred, make up the clinical organizations stakeholder group.

As previously described, the spanning personnel are the individuals that bridge the clinical and cultural divide between the clinical organizations and the community. The spanning personnel function as a shared resource by being able to operate between and within the two stakeholder groups. The faith-community nurses exemplify the spanning personnel role. On one hand, the faith-community nurses provide clinical care on behalf of the clinical organizations stakeholder group by providing preventive health services at the community health fairs and at the health events put on by the health ministry teams. In this role, the faith-community nurses also help sustain an active network of vendors and resources. On the other hand, the faith-community nurses also have a designated role in the community stakeholder group helping the health ministry teams to build their capacity to improve the health and wellbeing of their congregations and surrounding communities. By traversing between and operating within the clinical and community stakeholder groups, the faith-community nurses are vital to the sustainability of the FCHP's clinical-community linkage to provide preventive health services and referrals in the community.

This dissertation also draws on partnership collaboration and sustainability literature to better understand clinical-community partnerships as conceptualized in the Krist et al. model (Figure 1.4) and in this dissertation through the FCHP partnerships (see Figure 1.5). Collaboration is the process through which organizations "exchange information, alter activities, share resources, and enhance each other's capacity for mutual benefit and a common purpose by sharing risks, responsibilities, and rewards" (Himmelman, 2002). Successful collaboration is characterized by many factors. This dissertation used the Wilder Collaboration Factors Inventory (WCFI), which identifies six categories of factors that affect the success of collaborative relationships – *environment, membership, process and structure, communication, purpose,* and *resources* – as the organizing theoretical framework in Chapter 4 (Mattessich, Murray-Close, & Monsey, 2001). Partnership sustainability also plays a role in the success of collaboration between partners and employs a variety of activities and attributes, including resource availability, shared mission and goals among partners, equitable distribution of work, leadership and governance, and connections to other organizations (Alexander et al., 2003). Chapters 2 and 3 (see Aims 1 and 2) focus on the health fair participants who benefit from the FCHP health fair partnership, depicted in the conceptual model as a clinical-community linkage. Chapter 4 focuses on identifying the factors that contribute to successful and sustainable collaboration between partners in clinical-community partnerships (see Aim 3).

1.5 Tables and Figures

Table 1.1 USPSTF Screening Guidelines for Body Mass Index (BMI), Blood Pressure, Glucose, and Cholesterol

	***BMI*[1]**	***Blood Pressure*[2]**	***Glucose*[3]**	***Cholesterol*[4]**	
Eligibility conditions	All adults 18 years or older	Adults 18 years or older	Adults aged 40-70 who are also overweight or obese	Men 35 years or older Women 45 years or older	Men 20-35 and Women 20-45 at an increased risk of coronary heart disease (CHD)[4a]
Grade	B	A	B	A	B
Year of Recommendation	2012	2015	2015	2008[4b]	2008[4b]

[1](US Preventive Services Task Force, 2012); [2](US Preventive Services Task Force, 2015a); [3](US Preventive Services Task Force, 2015b); [4](US Preventive Services Task Force, 2014); [4a] The USPSTF defines increased risk as having any one or a combination of the following risk factors: diabetes, tobacco use, hypertension, obesity (BMI >= 30), a family history of cardiovascular disease before age 50 in male relatives or age 60 in female relatives, or previous personal history of CHD or non-coronary atherosclerosis (e.g. abdominal aortic aneurysm, peripheral artery disease, carotid artery stenosis) (US Preventive Services Task Force, 2014); [4b] Recommendation being updated in 2016.

Table 1.2 Community Health Fair Site Characteristics

Site Type[1] *Catholic Churches (n=16)*	Years in Partnership with FCHP[2]	Site Size	Primary Languages	Location[3]
Site 1	19	7,000	English, Spanish	SCV
Site 2	17	6,000	English, Spanish, Tagalog	SFV
Site 3	8	4,000	English, Spanish	SFV
Site 4	6	3,500	English	SFV
Site 5	11	3,000	Spanish, English	SFV
Site 6	7	2,900	Spanish, English	SFV
Site 7	4	2,800	Spanish, English	SFV
Site 8	2	2,500	English, Spanish	SFV
Site 9	12	2,000	Spanish, English	SFV
Site 10	23	1,800	Spanish, English, Vietnamese/Tagalog	SFV
Site 11	14	1,500	Spanish, English	SFV
Site 12	19	450	English, Croatian	Other LA
Site 13	24	7,000	Spanish, English	SFV
Site 14	6	1,800	Spanish, English, Tagalog	SFV
Site 15	2	3,000	English, Armenian	SFV
Non-Catholic Christian Churches (n=17)				
Site 16	6	500	Spanish	SFV
Site 17	24	420	English	SCV
Site 18	19	150	English	SFV
Site 19	2	150	English	SFV
Site 20	1	140	English, Spanish	SFV
Site 21	16	120	English, Spanish	SFV
Site 22	21	120	English	SFV
Site 23	25	80	English	SFV
Site 24	5	70	English	SFV
Site 25	20	50	English	SFV
Site 26	26	30	English, Spanish	SFV
Site 27	16	<500	English	SFV
Site 28	7	<500	English	SCV
Site 29	4	<500	English	SFV
Site 30	4	<500	English	SFV
Site 31	16	<500	English	SFV
Site 32	2	<500	English, Spanish, Vietnamese	SFV
Site 33	16	<500	English	SFV
One Day Community Event (n=6)	**Year Event Held**			
Site 34	2011	N/A	English, Spanish	SFV
Site 35	2010	N/A	English, Spanish	SFV
Site 36	2011	N/A	English, Spanish	SFV
Site 37	2012	N/A	English, Spanish	Other LA
Site 38	2011	N/A	English, Spanish	Other LA
Site 39	2014	N/A	English, Spanish	Other LA

[1] The “Other Christian Churches” designation includes Christian churches of all denominations that are not Catholic. One-day community events were not sponsored by faith-based organizations; [2] Partnership years were calculated from the year the health ministry was established to 2016; [3]San Fernando Valley (SFV) and Santa Clarita Valley (SCV).

Table 1.3 Preventive Health Screenings Provided at FCHP Community Health Fairs

Screening Name[1]	Positive Screen Cutoffs	Eligibility Criteria	USPSTF Grade
BMI[2]	Underweight ≤18.5 Normal: 18.5-24.9 Overweight = 25-29.9 Obese = 30+	Adults 18+ Adolescents and Children 6+	B
Blood Pressure[3]	Normal: <120/80 Borderline: 120-139/80-89 Abnormal: ≥140/90	Adults 18+	A
Glucose[4]	*Fasting:* <100 (Normal), 100-125 (Borderline), ≥126 (Abnormal) *Not Fasting:* <140 (Normal), 141-200 (Borderline), ≥200 (Abnormal)	Adults 40-70	B
Cholesterol	Normal: < 200mg/dl Borderline: 200-239 mg/dl Abnormal: ≥240mg/dl	Men 35+ Women 45+ at increased CHD risk Men 20-35 at increased CHD risk Women 20-45 at increased CHD risk	A[5] A[5] B[5a] B[5a]
Bone Density[6]	Normal: > -1 Borderline (Osteopenia): -1 to -2.5 Abnormal (Osteoporosis): < -2.5	Women 65+ Men 70+	B I
Chagas (blood draw)	Positive/negative results, post-health fair	N/A	N/A
Flu Shot[7]	Received –Yes/No	N/A CDC – annually for adults	N/A
HIV+[8]	Participant is informed about positive/negative results post-health fair	Adults and adolescents 15-65 Pregnant women	A A
Mammography (imaging and/or referral)[9]	Participant is informed about positive/negative results post-health fair	Women 50-74 Women 40-49 Women 75+	B C I
Stroke (Carotid Artery Ultrasound – Thickness)[10]	Normal/Mild (<2.0 mm), Moderate (2.1-4.0 mm), Severe (>4.0 mm)	Adults 18+	D
Vision[11]	Far: Anything other than 20/20 on Left and Right Eye Near: Anything other than 20/20 on Left and Right Eye	Adults Children 3-5	I B

[1] Not all screenings are available at each health fair. [2](US Preventive Services Task Force, 2012); [3](US Preventive Services Task Force, 2015a); [4](US Preventive Services Task Force, 2015b); [5](US Preventive Services Task Force, 2014); [5a] (US Preventive Services Task Force, 2014); [6]("Final Update Summary: Osteoporosis: Screening - US Preventive Services Task Force," 2011). [7]("Vaccination: Who Should Do It, Who Should Not and Who Should Take Precautions | Seasonal Influenza (Flu) | CDC," 2016). [8]("Final Update Summary: Human Immunodeficiency Virus (HIV) Infection: Screening - US Preventive Services Task Force," 2013). [9]("Final Update Summary: Breast Cancer: Screening - US Preventive Services Task Force," 2016). [10]("Final Update Summary: Carotid Artery Stenosis: Screening - US Preventive Services Task Force," 2014). [11]("Final Update Summary: Visual Impairment in Children Ages 1-5: Screening - US Preventive Services Task Force," 2011).

Table 1.4 Additional Services Provided at FCHP Community Health Fairs

Information/ Health Education	Screenings/Referrals	Other
Burn center	Dental screenings & services	Adult and senior day care centers & programming
Disaster preparedness	EKG exams	Blood drive
Health plans & insurers	Optometry – Eye exams	Energy efficient resources & products
Influenza	No- and low-cost clinics	Financial resources
Substance use and prevention	Patient care coordinators	Interfaith councils
Gym memberships	Tattoo removal	Legal and social resources
Tobacco prevention	Teen services	Preschool program
Cancer information and resources	Alzheimer's memory classes	Autism research
Kidney disease information and resources	Mental health classes	Chagas research
Nutrition		
Organ donation		

Figure 1.1 USPSTF Letter Grade Definitions

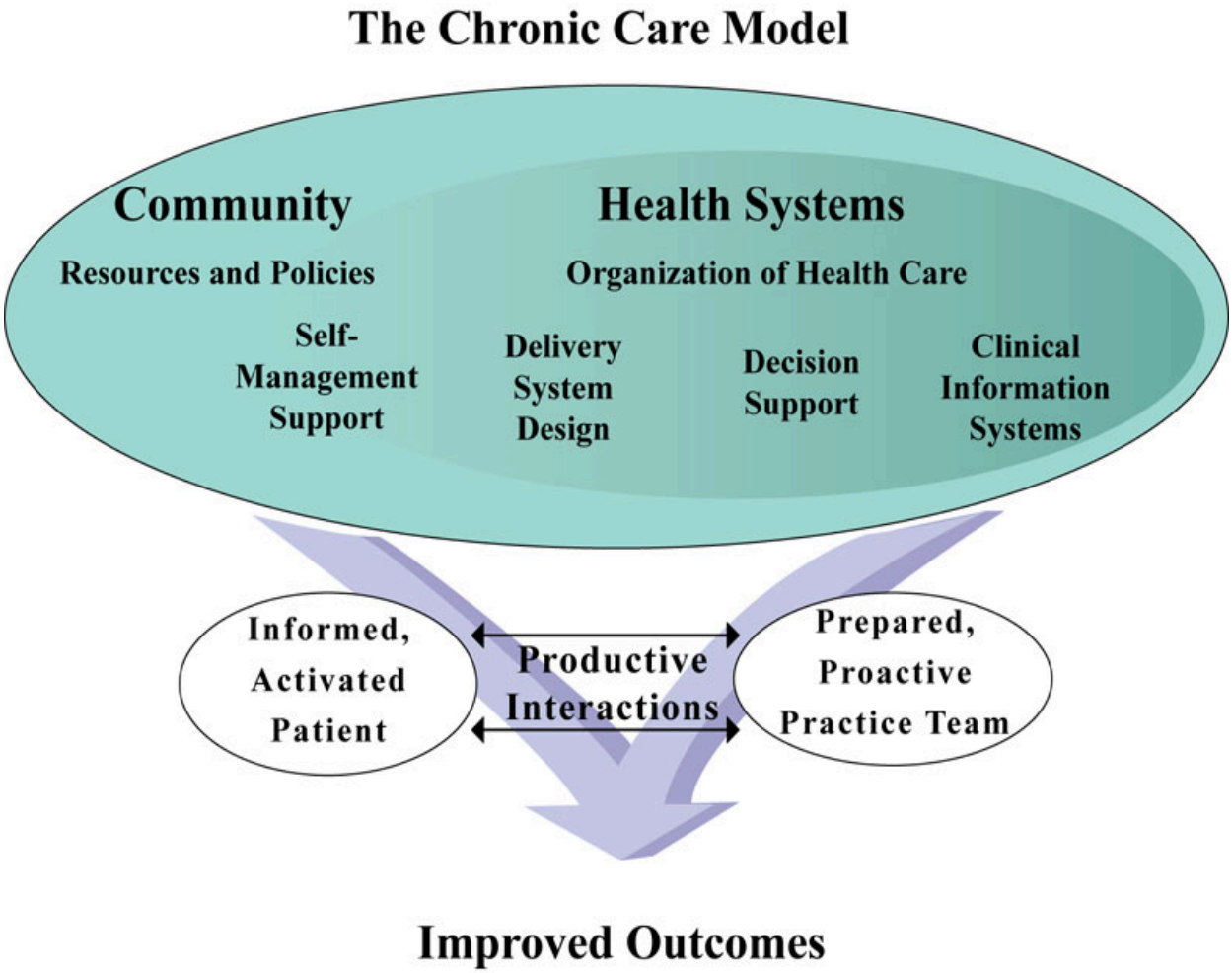
GRADE	Definition	Suggestions for Practice
A	Service recommended with high certainty the net benefit is substantial.	Offer and provide service.
B	Service recommended with high certainty the net benefit is moderate.	Offer and provide service.
C	Service recommended for selective offering based on professional judgement and patient preferences. Moderate certainty that the net benefit is small.	Offer selectively depending on individual circumstances.
D	Service not recommended. Moderate or high certainty that the service has no net benefit; harms outweigh the benefits	Discourage use of this service.
I	Current evidence is insufficient; balance of benefits and harms cannot be determined.	If service is used, patients should understand the uncertainty about the potential harms and benefits.

(Agency for Healthcare Research and Quality, 2012b)

Figure 1.2 Map of the San Fernando and Santa Clarita Valleys

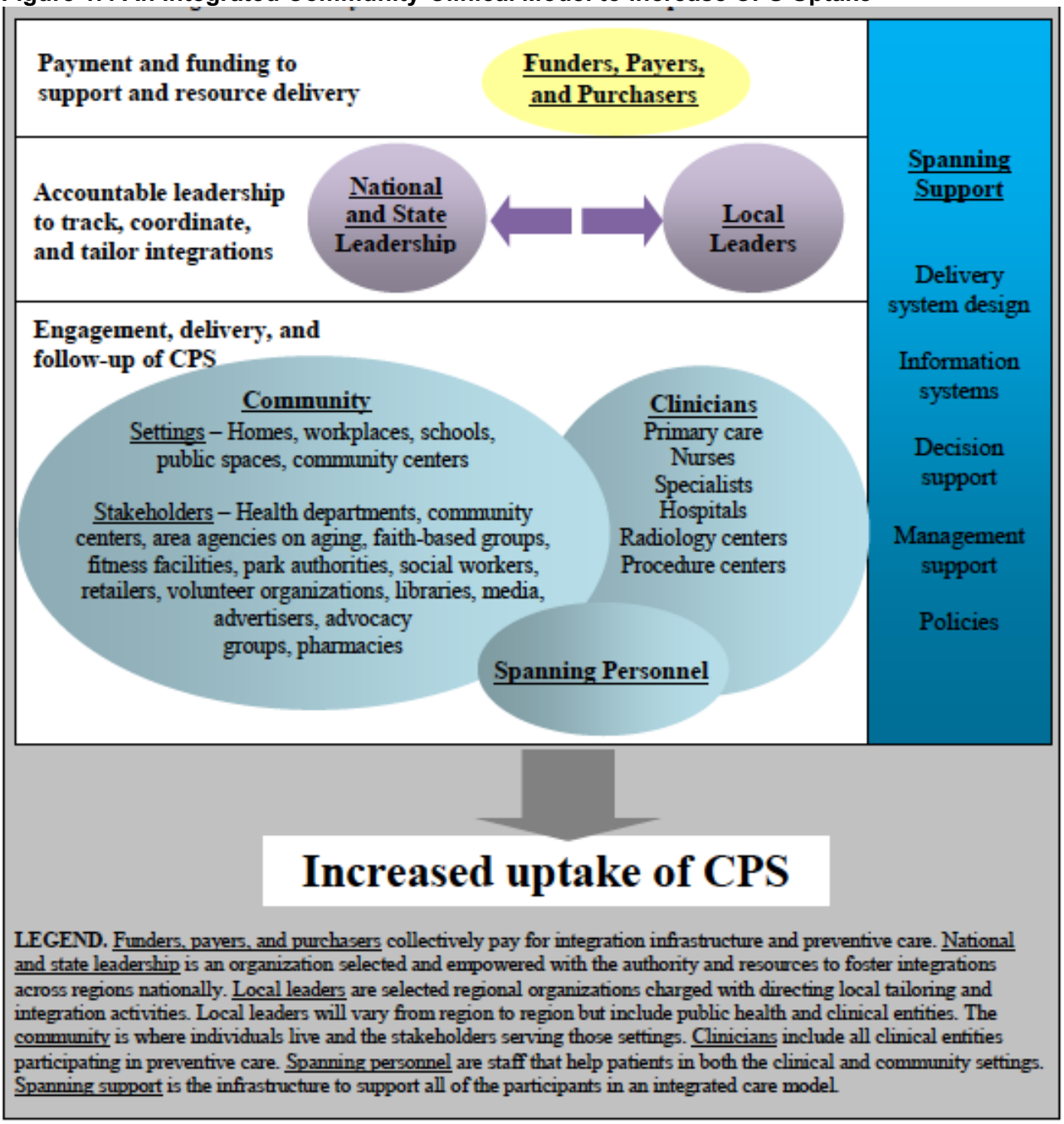
("San Fernando and Santa Clarita Valleys Map," 2016)

Figure 1.3 The Chronic Care Model



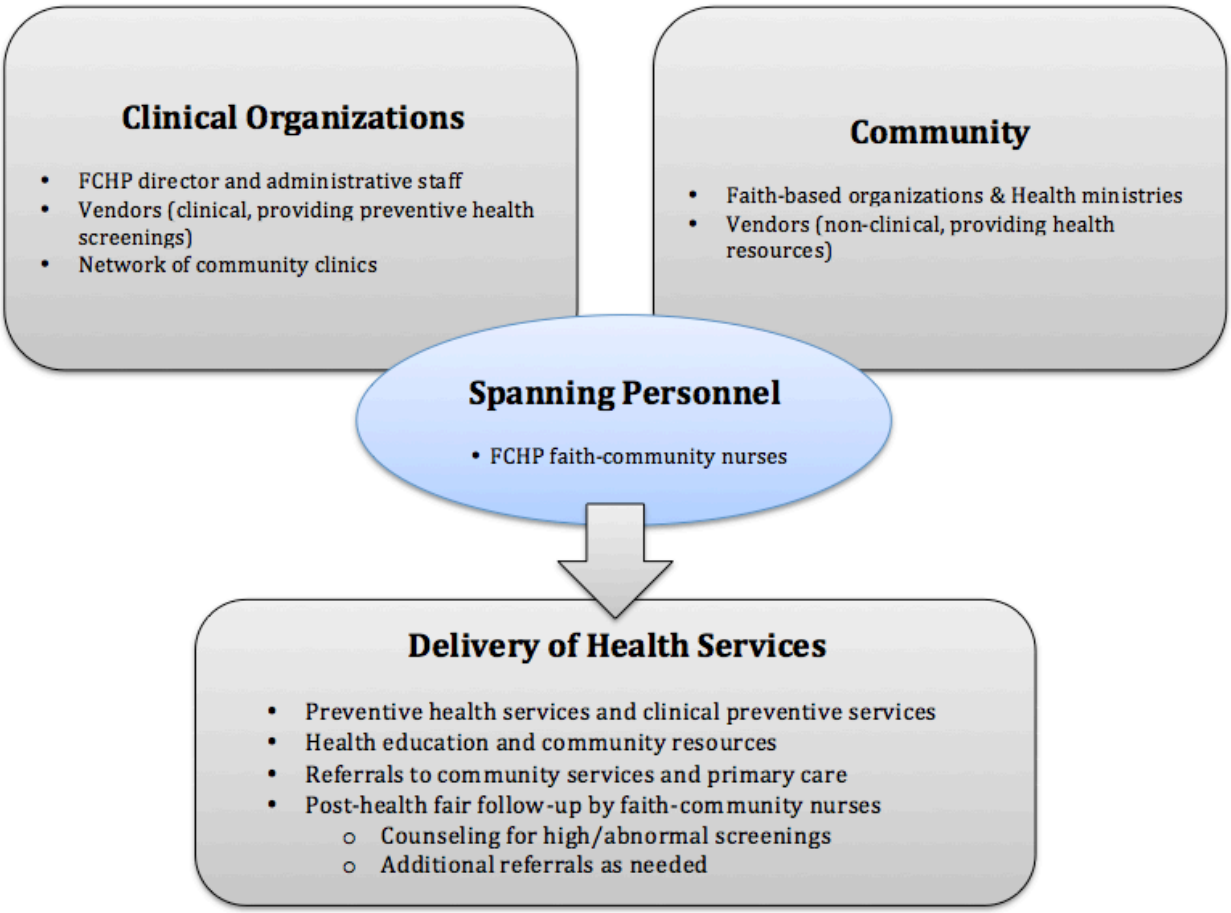
(Improving Chronic Illness Care, 2016)

Figure 1.4 An Integrated Community-Clinical Model to Increase CPS Uptake



(Krist et al., 2012)

Figure 1.5 Partial Framework to Integrate Clinical and Community Care for Delivery of Preventive Health Services



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CHAPTER 2: Overall and Appropriate Preventive Health Screenings in Community Health Fairs Organized by a Clinical-Community Partnership in Los Angeles County, 2009-2014

2.1 Chapter Introduction

Chronic diseases are a leading cause of poor health, disability, and death resulting in exorbitant costs for the U.S. health care system (Bauer, Briss, Goodman, & Bowman, 2014). In California and in Los Angeles County specifically (the geographic focus of this dissertation), health care spending to treat chronic conditions accounted for over 41% of the total health care expenditures in 2010 (Brown et al., 2015; Los Angeles County Department of Public Health, 2015), with much of the spending focused on providing care for patients with cardiovascular disease, diabetes, obesity, and cancer. Successful efforts to prevent new diagnoses would both improve population health and reduce costs. To that end, the U.S. Preventive Services Task Force and other health agencies like the Centers for Disease Control and Prevention (CDC) develop and update national clinical recommendations to address chronic disease prevention within the health care system (Agency for Healthcare Research and Quality, 2012).

The health care system is limited in its ability to deliver preventive health services to the entire population that may benefit. Notwithstanding the recommendations, only about 50% of Americans receive recommended preventive health services (McGlynn et al., 2003). Multiple strategies have been suggested to increase the provision of preventive health care services to a greater percentage of Americans within the health care system, including delivering needed preventive services during annual wellness exams. Yet, only a third of patients consistently schedule and receive annual wellness exams (Mehrotra & Prochazka, 2015). Strategies focused on improving delivery in primary care can only benefit Americans with health care access. Although the passage of the Affordable Care Act (ACA) increased the number of Americans with health insurance (Uberoi, Finegold, & Gee, 2016), access barriers to care persist, including for the remaining uninsured. The potential repeal of the ACA and its provisions

that facilitate health care access, may further limit the benefit of strategies to deliver preventive health services within the health care system.

To address these challenges, the CDC has proposed the need for innovative models for delivery of preventive health services outside the health care system (Bauer et al., 2014). Community health fairs represent one potential alternative for preventive health services delivery for the medically underserved. They provide an easily accessible venue for screening and for identification of chronic disease risks factors. Health fairs are typically low-cost, community-based events organized to meet the health education and prevention needs of health fair participants (Dillon & Sternas, 1997; Murray, Liang, Barnack-Tavlaris, & Navarro, 2014). Typically, health fair participants are not required to make an appointment, to have medical insurance, or to have received a medical referral or insurance provider approval prior to participation. As such, the administrative and scheduling barriers to entry-level screening services are removed. Additionally, community health fairs provide health fair services in convenient community locations (Berwick, 1985), reducing transportation barriers.

Health fairs organized through partnerships, such as the Faith Community Health Partnership (FCHP) health fairs introduced in Chapter 1, typically offer more services than traditional, single-event health fairs. By pooling partner resources, the FCHP health fairs provide participants with referrals to additional specialty and primary care services as well as follow-up for abnormal or elevated screening results, which would be difficult and more limited without collaborating partners. Thus, health fairs with an ample network of community partners may represent an opportunity to connect health fair participants, especially those who screen positive on preventive health screenings, to the health care system for ongoing care.

To maximize the benefit and efficiency of preventive health screenings in the community, it is important for health fairs to adhere to recommendations and guidelines, such as those put forth by the USPSTF. Delivery of services according to recommendations can increase the likelihood of benefit to participants by minimizing missed opportunities for screening and referral

for abnormal findings, as well as avoiding inappropriate screening and referrals to follow-up care.

The purpose of this study is to gain an understanding of health fair participant characteristics and their receipt of preventive health services through community health fairs. More specifically, this study: 1) generates a profile of health fair participants; 2) examines participant characteristics as predictors of preventive health services receipt; and 3) explores predictors of appropriate preventive health services receipt, based on national recommendations from the USPSTF.

2.2 Methods

2.2.1 Data Source

An administrative health fair database from the Faith Community Health Partnership (FCHP) (see Chapter 1), was used for this cross-sectional study. The database included demographic and preventive health screening information for 5,273 health fair visits to FCHP health fairs held from 2009 to 2014. The data were originally collected for programmatic purposes using hard-copy health fair registration forms (see Figure 2.1) from which the research team built a research database.

A registration form was created for each health fair participant that included: participants' contact information, demographic information, screenings received, screening results, and follow-up or referrals received (see Table 2.1). The contact and demographic information on the registration form was self-reported by the participants themselves or by health fair volunteers in the case of participants with mobility, literacy, and other limitations. Clinical staff at the health fairs, including FCHP faith-community nurses and other clinicians from the churches and the vendor organizations (typically nurses), reported the clinical information, including screenings received and results, notes, and follow-up and referral information. The readability, correctness, and completeness of the information on the registration forms depended on the penmanship of

the individual filling out the form and participants' willingness to provide demographic information. In addition, clinical information fields were left blank in cases when a participant did not use a service. Therefore, the assumption was made that no service was received if no information was provided.

2.2.2 Health Fair Settings and Preventive Health Services Offered

As described in Chapter 1, the FCHP community health fairs were organized by 39 health fair ministries in churches located in the San Fernando and Santa Clarita Valleys, two regions in Los Angeles County. Fifteen of the 39 health fair ministries were in Catholic churches, 18 were in other Christian churches of different denominations, and six sites were one-day community events held in partnership with community organizations that were not faith-based. In total 4,709 health fair visits were to churches and 483 to one-day community events. Additional information regarding characteristics of the health fair sites is available in Table 2.2.

The goal of the FCHP health fairs was to provide preventive health services to all health fair participants irrespective of participants' age, gender, race/ethnicity, membership in the faith-based organizations, or citizenship, insurance, or employment status. By not restricting eligibility, the FCHP health fairs provided broad access to participants, including poor participants, and those without documented legal status. No health fair participants were denied access to preventive health services, except when supplies were exhausted. As a result, preventive health screenings may have been delivered to participants who would not be considered eligible based on national recommendations.

The FCHP faith-community nurses provided a standard battery of screenings at each health fair that included BMI, blood pressure, cholesterol, and glucose screenings. Additional screenings varied by health fair and were provided based on vendor availability and the preferences of the churches' health ministries. In addition to preventive health screenings, non-clinical health and other resources were also offered (e.g. health brochures and pamphlets,

enrollment for low-income services, etc.). The use of non-clinical and other services by health fair participants was not recorded on the health fair registration forms. Tables 2.3 and 2.4 provide additional detail about the clinical and non-clinical services available at the health fairs.

2.2.3 Health Fair Participants

This study examines health fair visits (n=5,273) by adult individuals who participated in at least one of the FCHP health fairs held from 2009 to 2014 and who received at least one preventive health screening documented in their health fair registration form. Health fairs in the sample were held at 39 health fair sites, either church sites where the fairs were organized by health ministries in partnership with the FCHP (33 health fair sites) or at one-time community events organized by non-faith-based organizations where the FCHP was invited to participate (6 health fair sites). Additional analyses were performed on the sub-sample of health fair visits (n=4,790) held at churches (33 sites). Participants at all health fairs were encouraged, though not required, to access all available preventive health screenings at each health fair.

2.2.4 Variables Measured

Participants' Demographic Data

Health fair participants' demographic data were collected from participants' health fair registration forms.

Age and Gender. Participants' age was calculated using self-reported date of birth and health fair date. Participants with no date of birth or missing birth-year on their registration forms were considered missing *age* in the database. Participant gender was self-reported.

Race/Ethnicity. Participants self-reported their race/ethnicity. With many participants providing their nationality instead of a race/ethnicity category. Participants also often left the race/ethnicity field blank on the registration form. Race/ethnicity was inferred for some participants with missing data. Health fair participants with information written in Spanish on

their form were assumed to be Latino/Hispanic. Participants who wrote “Tagalog” or “Filipino” in the language field were assumed to be Filipino and categorized as Asian/Pacific Islander. In all other instances the race/ethnicity field was considered missing when blank.

Language. In 2013 and 2014 only, a preferred language field was added to the health fair registration forms. Participants who reported a language most often spoke English, Spanish, and Tagalog/Filipino. Language was inferred for some participants with missing data. Registration forms with notes or comments to participants in a language other than English were assumed to be in the participants’ preferred language. Only Spanish language comments were found. For these participants, Spanish was assumed to be their preferred language.

PCP and Insurance. An open-ended question on the registration form asked if the participants had a primary care provider (PCP). Responses varied and included: yes/no answers, medical providers name, and medical insurance name or type. Two categorical variables were created from these responses – PCP (yes/no) and Insurance type (private, public, and uninsured). Participants who provided a “no” answer were assumed to not have a PCP. Uninsured participants were those who wrote “uninsured” on their forms. Participants who did not provide any answer were coded as missing.

Zip code and Linear distance traveled. Health fair site zip code was available for all health fair sites. Health fair participant zip code of residence was available for 99.5% of participants. Linear distance travelled was generated for each health fair participant with available residential zip code. Zip code centroids corresponding to health fair participant zip codes and health fair site zip codes were used as end points to calculate linear distance. Calculations of linear distance travelled was not possible for participants who shared a zip code with the health fair site.

Church Characteristics

FCHP administrative data regarding the size of the churches and the years they had been partners in the FCHP clinical-community partnership were also included in descriptive and regression analyses.

Church Size and Years in Partnership. Church size was self-reported by the church and included the number of families registered as members of each church congregation. A church was considered small if it had fewer that 500 member families, medium if it had between 500 and 2,999 member families, and large if it had more than 3,000member families. The number of years each church had been in partnership with the FCHP at the time of analysis was used.

Clinical Data

Normal, Borderline, and Abnormal Screenings. The numerical value reported for each screening was used to determine whether the screening was *normal, borderline,* or *abnormal* based on the FCHPs cutoffs on the registration form (see Figure 2.1). These updated screening result categories were used.

BMI, Blood Pressure, Glucose, and Cholesterol Eligibility and Screening Receipt. FCHP faith-community nurses provided a standard battery of tests at all 39 health fairs that included BMI, blood pressure, glucose, and cholesterol. An eligibility measure (yes/no) was developed for each of the screenings based on national recommendations. A second binary measure of screening receipt was also constructed for each of the four preventive health screenings. Having received the preventive screening at the health fair was assigned a value of 1 and not having received the screening was assigned a 0 value.

USPSTF recommendations for preventive health screenings vary based on the amount of evidence available for each screening. Eligibility for BMI, blood pressure, cholesterol, and glucose was determined using the USPSTF's recommendations summarized in Table 2.3. Eligibility for BMI, blood pressure, and glucose screenings is age-dependent. All participants 18 years and older are eligible for BMI and blood pressure screenings and all participants aged 40-

70 are eligible for glucose screening. All participants in the overall and church-only samples are adults and thus eligible for blood pressure and BMI screenings. Eligibility for cholesterol screening is age and gender dependent. The age and gender cutoffs vary based on whether the Grade A or B recommendation for screening is used (see Table 2.3). Participants eligible for cholesterol screening using the Grade A recommendation are women aged at least 45 years old and men aged at least 35 years old. The Grade B recommendation is for any adult over the age of 20 years old. In the overall sample, 763 health fair registration forms were missing age and 16 were missing gender. In the church-only sample, 682 forms were missing age and 15 were missing gender. Cholesterol and glucose eligibility could not be determined for health fair registration forms missing age and/or gender. As a result, only complete cases in both samples were used in analyses related to screening eligibility and receipt.

Appropriate and Inappropriate Receipt. A third binary measure for appropriate and inappropriate receipt was constructed for each of the four preventive health screenings of interest. Variables for screening eligibility (yes/no) and screening receipt (yes/no) were used to determine appropriate versus inappropriate receipt of each test. Participants were determined to have "appropriate receipt" if either of two conditions were true: having received the test when eligible or having not received the test when ineligible. Participants with "inappropriate receipt" were those who did not receive the test when eligible or who did receive the test when ineligible.

2.2.5 Statistical Analyses

All data were analyzed using STATA version 12.1. Descriptive statistics were used to characterize the sample. Simple percentages were calculated for discrete variables and means for continuous variables to generate a profile of health fair participants and the preventive health services they received. Logistic regression was used to assess factors potentially associated with receipt (yes/no) and appropriate receipt (as defined earlier) of preventive health screenings

for BMI, blood pressure, cholesterol, and glucose (the standard battery of tests provided at each health fair by the FCHP).

Descriptive statistics. All participant level variables are summarized in Table 2.5. The table includes statistics for the overall sample (n=5,273) and for the church-only sample (n=4,790). Participants' age is presented in ordinal data categories and was included as a continuous variable in multiple regression analyses. Race/ethnicity categories included non-Hispanic White, Latino/Hispanic, and Other as explained earlier. Latino/Hispanic and non-Hispanic, White participants made up most of the overall sample. The proportion of Asian/Pacific Islander (6.1%), Black/African-American (2.4%), and Other/Mixed (1.9%) groups were relatively small to include as separate categories and were instead grouped into a unique "Other" category. Language (English/Spanish) and gender (Male/Female) were categorized as dichotomous. The number of years each church's health ministry has been in partnership with the FCHP (continuous variable) and church size (small, medium, and large) were also included.

Overall screening receipt and results for the four preventive health screenings of interest (BMI, blood pressure, cholesterol, and glucose) are presented in Table 2.6. Screening results were categorized as normal, borderline, or abnormal using the positive screen cutoffs on the health fair registration form and summarized in Table 2.3. Three dichotomous variables were created to assess (1) eligibility for each screening (yes/no), (2) receipt of each of the four preventive health screenings of interest (yes/no), and (3) appropriate and inappropriate receipt consistent with recommendations from the USPSTF for the overall (see Table 2.7) and the church-only samples (see Table 2.8). Given that eligibility for all tests is age-dependent (and gender-dependent for cholesterol), only participants with known age and gender were included in analyses related to screening eligibility and receipt (Tables 2.7-2.11). In addition, although cholesterol screening can follow two eligibility parameters (Grade A or B), only the more conservative Grade A recommendation is used in analyses for the church-only sample. Table

2.9 provides additional detail about the appropriate and inappropriate receipt of cholesterol and glucose screenings determined by eligibility and screening receipt.

Multiple regression analyses. Multiple logistic regression was used to examine participant level factors potentially associated with overall receipt (yes/no) and appropriate receipt (yes/no) of preventive health screenings for BMI, blood pressure, cholesterol, and glucose. Logistic regression models were tested to understand predictors of overall screening receipt for each test. Given that all participants were eligible for BMI and glucose screenings, models for appropriate receipt were run only for cholesterol and glucose. Predictor variables in the models included participant age (for overall screening receipt only), gender, race/ethnicity, distance travelled to the health fair, church size, and the church's years in partnership with the FCHP. Multivariate models were run including and excluding the "Other" category with minimal changes to the statistical significance and relationship of the predictor variables to the outcome. Thus, multivariate results included the three race/ethnicity groups: Latino/Hispanic, White, and Other.

Overall screening receipt. Participant age, gender, and race/ethnicity were treated as predictors in the logistic regression models related to overall receipt (yes/no) of preventive health screenings (model 1). Three additional models explored the relationship of distance travelled (model 2), church size (model 3), and church years in partnership (model 4) on the outcome of interest.

Appropriate receipt. Two separate multiple logistic regression models were used to examine potential predictors of appropriate receipt for cholesterol and glucose tests. Participant age was not included in the appropriate receipt models since screening eligibility is age dependent. Participant gender and race/ethnicity were included in the first model for each test. Subsequent models included additional predictor variables (distance travelled to the health fair, church size, and church years in partnership), with the final model including all variables.

Results of the multiple logistic regression models are reported as adjusted odds ratios and 95% confidence intervals (see Tables 2.10 and 2.11). When interpreting results, a $p < 0.05$ was used.

2.3 Results

Health Fair Participants

Table 2.5 contains descriptive statistics for the overall sample (n=5,273) of participants and for a sub-sample of 4,790 participants who attended church health fairs. The results for the overall sample are discussed here. The mean age of participants was 50 years. Sixty-six percent (66%) of participants were female and 58% self-identified as Latino/Hispanic. Thirty-four percent of participants resided in the same zip code as the health fair they attended, while 45.6% travelled less than 10 linear miles, and fewer than 4% travelled more than 20 linear miles to attend a health fair. The church-only sample was representative of the overall sample, only minimally older (51.1 average age versus 50.4), with fewer women (65.3% versus 66%) and Latinos/Hispanics (57.6% versus 57.9%) represented.

The fast-paced nature of the health fairs may have impeded systematic collection of participant demographic and clinical data. FCHP community health fairs are heavily staffed by volunteers, and the number of volunteers available and their levels of experience with documentation varied at every health fair. As a result, high levels of missingness were observed on several variables including, participant language (49.2%), access to a primary care provider (50.7%), and insurance type (65.3%). In total, 41% of participants listed Spanish as their preferred language, 43.6% had a primary care provider, and 20.4% were uninsured, 11% privately insured, and 3.34% publicly insured. Participant level variables missing more than 25% of values were not included in multivariate analyses.

Church Characteristics

The analytic sample for multiple regression analyses was restricted to participants attending health fairs at church sites (n=4,790), because the one-time community events are not typical of the FCHP partnership. On average, the church sites had been in partnership with the FCHP for 13.2 years. Small (<500 member families) and large (500 – 2,999 member families) churches were equally represented in the sample having served about 36% of participants, while health fairs at medium (≥3,000 member families) churches made up 28.7% of the sample.

Overall Screening Receipt by Test

The percentage of health fairs participants who received each of the four screenings (BMI, blood pressure, cholesterol, and glucose) is presented in Table 2.6. Overall screening receipt was high across the four tests. Participants' screening values were used to assign participants into result categories for each test: BMI (underweight, normal, overweight and obese) and blood pressure, cholesterol, and glucose (normal, borderline and abnormal). Overall, a majority of participants had results in high-risk categories for BMI (59.6%) and blood pressure (62%).

BMI. Almost 82% of all health fair visits included receipt of a BMI screening. Results of screening revealed 21.2% of sample was normal weight; 32.8% was overweight; and 26.8% was obese. In summary, nearly 60% of participants were overweight or obese, exacerbating existing conditions.

Blood pressure. A total of 89.3% of health fair visits included receipt of a blood pressure screening. Overall 37.2% of participants had borderline readings and 24.8% had abnormal readings.

Cholesterol. Over 78% of health fair visits included receipt of a cholesterol screening. Of those visits, 21.3% were borderline and 9.8% were abnormal readings. In all, more than 30% of health fair visits resulted in an abnormal or high risk reading.

Glucose. Eighty percent (80%) of health fair visits included receipt of a glucose screening. Screening results were determined for fasting and non-fasting participants at the time of screening. Screening results were categorized independently using fasting and non-fasting positive screen cutoffs. Results from the fasting and non-fasting groups were aggregated for clarity. Of participants receiving a glucose screening (both fasting and non-fasting), 14% had a borderline reading and 3.8% had an abnormal reading.

Screening Eligibility

The proportion of health fair participants eligible for each preventive health screening is summarized for the overall sample in Table 2.7 and for the church-only sample in Table 2.8. As previously mentioned, only participants with known age and gender were included in analyses related to screening eligibility and receipt: 4,501 participants in the overall sample and 4,100 in the church-only sample. All health fair participants included in this study were adults and as a result 100% of participants were eligible for BMI and blood pressure screenings. In the overall sample, 71.3% of participants were eligible for Grade A cholesterol, 98.9% for Grade B cholesterol, and 65.8% for glucose screenings. The percent of male and female participants in the overall and church samples eligible for each screening is also shown in Tables 2.7 and 2.8. Among church sample participants, slightly higher percentages were eligible for Grade A cholesterol (73.2%) and glucose (67.1%).

Proportion of Sample with Appropriate Receipt. "Appropriate receipt" for a given test was determined using USPSTF screening recommendations and included two sub-groups: participants receiving screenings for which they were eligible and participants not receiving tests for which they were ineligible. Appropriate receipt based on these two conditions was calculated for each participant in the church-only sample. All participants are eligible for BMI and blood pressure. The percent screened among eligible participants for all tests was high for BMI (82.2%), blood pressure (89.0%), cholesterol (79.3%) and glucose (84.3%) (see Table 2.8). The percent of ineligible participants not screened was 15.8% for cholesterol and 17.4% for glucose.

Proportion of Sample with Inappropriate Receipt. To be classified as having "inappropriate receipt" for a given test, one of two conditions had to be met: participant received tests for which they were ineligible (over-screening) or participant did not receive tests for which they were eligible (under-screening). Over screening was very high for cholesterol and glucose (see Table 2.8). Eighty-four (84%) percent of ineligible participants were screened for cholesterol and 82.6% of ineligible participants were screened for glucose. All participants are eligible for BMI and blood pressure and thus cannot be over screened. Cholesterol represented the largest missed opportunity for screening, with 20.7% of eligible health fair participants not receiving a cholesterol screening. Under-screening for BMI was (17.8%), glucose (15.7%), and blood pressure (11%).

Appropriate and Inappropriate Receipt of Cholesterol and Glucose Tests. Table 2.9 shows in more detail the relationship between appropriate and inappropriate receipt for cholesterol and glucose tests. The table for each test shows the four possible scenarios: (1) eligible and screened (Scenario 1); (2) eligible and not screened (Scenario 2); (3) ineligible and screened (Scenario 3); and (4) ineligible and not screened (Scenario 4). Scenarios 1 and 4 represent participants with "appropriate receipt" and scenarios 2 and 3 represent participants with "inappropriate receipt."

For cholesterol screening, participants were distributed as follows in each scenario: (1) 79.3% eligible and screened (n=2,380/3,001); (2) 20.7% eligible and not screened (n=621/3,001); (3) 84.2% ineligible and screened (n=925/1,099); and (4) 15.8% ineligible and not screened (n=174/1,099). Sixty-two (62.3%; 2,544/4,100) percent of participants had appropriate receipt of cholesterol screening (Scenarios 1 and 4), while 37.7% (1,546/4,100) had inappropriate receipt. Scenario 1 (screened when eligible) accounted for 93.2% of appropriate receipt, with Scenario 4 (not screened when ineligible) accounting for 6.8% of appropriate receipt. Scenario 2 (under-screened) accounted for 40.2% of inappropriate receipt, and Scenario 3 (over-screened) for 59.8%.

For glucose screening, participants were distributed as follows in each scenario: (1) 84.3% eligible and screened (n=2,320/2,752); (2) 15.7% eligible and not screened (n=432/2,752); (3) 82.6% ineligible and screened (n=1,114/1,348); and (4) 17.4% ineligible and not screened (n=234/1,348). Sixty-two percent of participants had appropriate receipt of glucose screening (Scenarios 1 and 4) and 38% had inappropriate receipt (Scenarios 2 and 3). Scenario 1 (screened when eligible) accounted for 90.8% of appropriate receipt, with Scenario 4 (not screened when ineligible) accounting for 9.2%. Scenario 2 (under-screened) accounted for 27.9% of inappropriate receipt, and Scenario 3 (over-screened) for 72.1%.

Multiple Regression Analyses

Multiple logistic regression was used to examine participant and church characteristics (church size and years in partnership with the FCHP) associated with: overall screening receipt (yes/no) and "appropriate receipt" as defined above. The multiple regression analyses used age, gender, race/ethnicity, distance travelled, church size, and church years in partnership with FCHP, as potential predictors of screening receipt (see Table 2.10). Analyses with "appropriate receipt" as the outcome of interest were limited to cholesterol and glucose, given that all participants are eligible for BMI and blood pressure screenings (see Table 2.11). In addition, age was not included as a covariate in analyses for appropriate receipt, given that outcomes of "appropriate receipt" are defined by age.

Predictors of Overall Screening Receipt (Table 2.10). Being Latino/Hispanic was associated with higher odds of overall screening receipt for all four tests in the full model: BMI (OR: 1.75; 95%CI: 1.33 – 2.31), blood pressure (OR: 1.59; 95%CI: 1.14 – 2.21), cholesterol (OR: 2.54; 95%CI: 1.96 – 3.30), and glucose (OR: 3.59; 95%CI: 2.73 – 4.71). The significance of other factors in the models varied by screening test. Lower odds of BMI receipt were observed for medium (OR: 0.46; CI: 0.64 – 0.59) and small churches (OR: 0.36; CI: 0.28 – 0.46), compared to large churches. Each additional partnership year with the FCHP was associated with higher odds of BMI and glucose screening. Female (OR: 0.71; 95%CI: 0.55 –

0.91) participants and participants from small churches (OR: 0.67; 95%CI: 0.51 – 0.87) had lower odds of being screened for blood pressure. Participating in a small church's health fair was associated with higher odds of glucose (OR: 1.64; CI: 1.27 – 2.12) and cholesterol (OR: 2.46; CI: 1.92 – 3.13) screening. Identifying as Other was also associated with higher odds of screening receipt for cholesterol and glucose.

Predictors of Appropriate Receipt (Table 2.11). Females compared to males had higher odds of appropriate cholesterol screening (OR: 1.99; CI: 1.71 – 2.33). No other factors were associated with appropriate cholesterol screening. Latino/Hispanic and participants representing other race/ethnicities had lowers odds of appropriate glucose receipt (Latino/Hispanic OR: 0.63; CI: 0.52 – 0.78; Other OR: 0.61; CI: 0.47 – 0.80) compared to non-Hispanic, Individuals participating in health fairs at small churches had higher odds of appropriate glucose receipt (OR: 1.28; CI: 1.08 – 1.53).

2.4 Discussion

Delivery of recommended preventive health screenings in a primary care setting is complicated by competing demands on provider and patient time, and by variations in patient access to and use of primary care. Community health fairs represent one opportunity to supplement primary care efforts to improve receipt of preventive health services in the population as a whole, especially the medically underserved. By providing preventive health services and appropriate referrals to primary and specialty care in community settings, community health fairs can benefit participants who cannot or do not otherwise access the health care system.

Identifying individuals with borderline and abnormal screening results is the first step in preventing major health complications related to chronic conditions. For example, addressing high blood pressure early is beneficial, as blood pressure contributes to heart attacks, heart failure, and is the number one modifiable risk factor for stroke (Los Angeles County Department

of Public Health, 2011c). Cholesterol is also a major risk factor for heart disease (Los Angeles County Department of Public Health, 2011a). In general, participants were screened at high rates for the FCHP's standard battery of preventive health services: BMI (81.7%), blood pressure (89.3%), cholesterol (78.1%), and glucose (80.1%). More than half of participants had at least a borderline result (screened positive) for BMI (59.6%) and blood pressure (62%), suggesting that participants with risk factors for additional health complications were overrepresented at the health fairs. Thirty percent (30%) of participants screened positive for cholesterol and 17.8% for glucose.

Racial/ethnic minorities were also overrepresented in the sample (68%). This is likely an underestimate because race was missing in over 20% of the sample, and it is probable that a large proportion of this sub-group was also comprised of ethnic minority participants. In multiple regression analyses, Latino/Hispanic ethnicity was associated with higher odds of overall screening receipt across all tests. Latinos attending the health fairs received screenings for all tests at higher rates than their White and Other counterparts. The positive association between Latino/Hispanic ethnicity and overall screening receipt provides some support for the role that community health fairs may play in supplementing the health care system to screen the medically underserved and reduce health disparities in screening receipt.

However, Latinos were less likely than non-Hispanic Whites to receive appropriate glucose screening. Latinos in the sample were, on average, younger than their non-Hispanic White counterparts (47.8 years of age on average versus 62.3). Although more Latinos were eligible for glucose screening than Whites (67.9% versus 58.8%), anecdotally, the FCHP nurses believed Latino participants may have been hesitant to seek glucose screening for fear of a diabetes diagnosis. Alternatively, Latinos/Hispanics in our sample may have opted out of being screened because they may be more likely to have a pre-existing diabetes diagnosis.

Appropriate receipt varied by test and was high for BMI (82.2%) and blood pressure (89%), with more room for improvement for cholesterol and glucose screenings (62.3% for

both). Glucose and cholesterol screenings require a small blood prick to obtain results. Although the time to results is relatively short (between 2-5 minutes), the wait time for these screenings can be significant at large health fairs where hundreds of participants are screened. Participants may be less likely to wait for cholesterol and glucose screenings, perhaps accounting for the lower rate of overall and appropriate screenings. The wait times could also explain why smaller churches had higher odds of appropriate glucose screening. In general, smaller churches had fewer participants and likely shorter wait times. As such, more participants were likely to receive the screening overall at small churches, improving the odds of participants receiving the screening appropriately.

For appropriate cholesterol screening receipt, only one predictor, being female, was significant and associated with higher odds of appropriate receipt (OR: 1.99; CI: 1.71-2.33). Though not entirely clear why gender emerged as significant, one potential explanation is that women in general tend to receive preventive services, including cholesterol, at high rates overall (Sambamoorthi & McAlpine, 2003). Suggesting that women may be more nuanced in their use of preventive health screenings at a health fair and only seek out the screenings for which they believe they are eligible.

This study has several limitations. A main limitation was lack of standardization in the documentation of health fair processes. The health fair registration forms, for example, were developed for non-research purposes and changed over time. Important demographic and clinical information on the registration forms were not always filled out. In addition, the brief medical history most FCHP and volunteer nurses solicit from all participants was not consistently recorded on the registration forms. Better documentation of medical history would provide important context about the appropriateness of preventive health screenings for participants. For example, some patients may be eligible for screening due to risk factors even though not within the recommended age range for a given test.

The referral process for participants with a positive result on any of the screenings was not standardized nor well documented. All referrals were provided at the exit-counseling table at each health fair, limiting referrals to participants who stopped at the table before leaving the health fair. Participants who received a referral and participants with abnormal screenings were followed-up with a phone call one week post-health fair. Information related to the follow-up and to the referrals was not available for this study. Given the lack of available data, the second study in this dissertation surveyed health fair participants about the referrals they received.

Additional follow-up and referrals to primary and specialty care is a necessary component of effective clinical-community partnerships like the FCHP health fairs. For health systems to capitalize on clinical-community partnerships that organize health fairs, they must design a clear follow-up and referral system with proper and standardized documentation, at the onset of the partnership. Understanding the role of clinical-community partnerships in coordinating and facilitating additional needed care for health fair participants is necessary to evaluate potential health fair benefits beyond screening receipt.

For clinical-community partnerships to maximize their value, they must encourage appropriate screening receipt based on national recommendations and plan for a standardized and well-documented referral process for participants with elevated screening results. The results of this study show that community health fairs organized through clinical-community partnerships can deliver preventive health screenings at high rates to target populations. However, the FCHP clinical-community partnership needs to make additional investments in the follow-up and referral process for the health fairs to be truly valuable.

The study nonetheless provides a profile of health fair participants and the screenings they received, to inform the role that community health fairs play in preventive health screening receipt outside the health care system. More specifically, the study allows the FCHP to adapt the role it plays in providing preventive health screenings in the community. The data reported here capture detail not previously evaluated by the FCHP and its partners about the health fair

participants who attend their health fairs, how far they travel to attend, and which services they receive overall and appropriately.

2.5 Tables and Figures

Table 2.1 Health Fair Participant Data Elements, 2009-2014

Health Fair Information	Contact Information	Demographic Information	Screening Services Used (Modality) & Results	Follow-up & Referral
Site ID Date	Full Address (when available) Zip code Phone Number	Age Gender Race/ethnicity Language PCP/Insurance	***Onsite screenings:*** BMI Vision (eye-chart) Blood pressure (BP monitor cuff) Cholesterol (portable blood test device) Blood sugar (glucose meter) Bone density (bone densitometer) Mammogram[1] (mobile imaging unit) Chagas[2] (blood draw) ***Referral screenings:*** Mammogram[1] Chagas[2] Other (e.g. stroke)	***Onsite:*** More evaluation needed for specific screening (Y/N) Referral provided at the time of health fair (Y/N) ***Post-health fair:*** Referral provided at follow-up (Y/N)

[1] Onsite mammograms or mammogram referrals were offered on a limited basis to low-income and uninsured women at a small number of health fairs.
[2] Chagas screening is a blood test performed onsite at the health fair, with the lab work conducted off site. The Chagas vendor informs health fair participants about their results post health fair.

Table 2.2 Community Health Fair Site Characteristics

Site Type[1] *Catholic Churches (n=16)*	Years in Partnership with FCHP[2]	Site Size	Primary Languages	Location[3]
Site 1	19	7,000	English, Spanish	SCV
Site 2	17	6,000	English, Spanish, Tagalog	SFV
Site 3	8	4,000	English, Spanish	SFV
Site 4	6	3,500	English	SFV
Site 5	11	3,000	Spanish, English	SFV
Site 6	7	2,900	Spanish, English	SFV
Site 7	4	2,800	Spanish, English	SFV
Site 8	2	2,500	English, Spanish	SFV
Site 9	12	2,000	Spanish, English	SFV
Site 10	23	1,800	Spanish, English, Vietnamese/Tagalog	SFV
Site 11	14	1,500	Spanish, English	SFV
Site 12	19	450	English, Croatian	Other LA
Site 13	24	7,000	Spanish, English	SFV
Site 14	6	1,800	Spanish, English, Tagalog	SFV
Site 15	2	3,000	English, Armenian	SFV
Non-Catholic Christian Churches (n=17)				
Site 16	6	500	Spanish	SFV
Site 17	24	420	English	SCV
Site 18	19	150	English	SFV
Site 19	2	150	English	SFV
Site 20	1	140	English, Spanish	SFV
Site 21	16	120	English, Spanish	SFV
Site 22	21	120	English	SFV
Site 23	25	80	English	SFV
Site 24	5	70	English	SFV
Site 25	20	50	English	SFV
Site 26	26	30	English, Spanish	SFV
Site 27	16	<500	English	SFV
Site 28	7	<500	English	SCV
Site 29	4	<500	English	SFV
Site 30	4	<500	English	SFV
Site 31	16	<500	English	SFV
Site 32	2	<500	English, Spanish, Vietnamese	SFV
Site 33	16	<500	English	SFV
One-Day Community Event (n=6)	**Year Event Held**			
Site 34	2011	N/A	English, Spanish	SFV
Site 35	2010	N/A	English, Spanish	SFV
Site 36	2011	N/A	English, Spanish	SFV
Site 37	2012	N/A	English, Spanish	Other LA
Site 38	2011	N/A	English, Spanish	Other LA
Site 39	2014	N/A	English, Spanish	Other LA

[1] The “Other Christian Churches” designation includes Christian churches of all denominations that are not Catholic. One-day community events were not sponsored by faith-based organizations; [2] Partnership years were calculated from the year the health ministry was established to 2016; [3]San Fernando Valley (SFV) and Santa Clarita Valley (SCV).

Table 2.3 Preventive Health Screenings Provided at FCHP Community Health Fairs

Screening Name[1]	Positive Screen Cutoffs	Eligibility Criteria	USPSTF Grade
BMI[2]	Underweight ≤18.5 Normal: 18.5-24.9 Overweight = 25-29.9 Obese = 30+	Adults 18+ Adolescents and Children 6+	B
Blood Pressure[3]	Normal: <120/80 Borderline: 120-139/80-89 Abnormal: ≥140/90	Adults 18+	A
Glucose[4]	*Fasting:* <100 (Normal), 100-125 (Borderline), ≥126 (Abnormal) *Not Fasting:* <140 (Normal), 141-200 (Borderline), ≥200 (Abnormal)	Adults 40-70	B
Cholesterol	Normal: < 200mg/dl Borderline: 200-239 mg/dl Abnormal: ≥240mg/dl	Men 35+ Women 45+ at increased CHD risk Men 20-35 at increased CHD risk Women 20-45 at increased CHD risk	A[5] A[5] B[5a] B[5a]
Bone Density[6]	Normal: > -1 Borderline (Osteopenia): -1 to -2.5 Abnormal (Osteoporosis): < -2.5	Women 65+ Men 70+	B I
Chagas (blood draw)	Positive/negative results, post-health fair	N/A	N/A
Flu Shot[7]	Received –Yes/No	N/A CDC – annually for adults	N/A
HIV+[8]	Participant is informed about positive/negative results post-health fair	Adults and adolescents 15-65 Pregnant women	A A
Mammography (imaging and/or referral)[9]	Participant is informed about positive/negative results post-health fair	Women 50-74 Women 40-49 Women 75+	B C I
Stroke (Carotid Artery Ultrasound – Thickness)[10]	Normal/Mild (<2.0 mm), Moderate (2.1-4.0 mm), Severe (>4.0 mm)	Adults 18+	D
Vision[11]	Far: Anything other than 20/20 on Left and Right Eye Near: Anything other than 20/20 on Left and Right Eye	Adults Children 3-5	I B

[1] Not all screenings are available at each health fair. [2](US Preventive Services Task Force, 2012); [3](US Preventive Services Task Force, 2015a); [4](US Preventive Services Task Force, 2015b); [5](US Preventive Services Task Force, 2014); [5a] (US Preventive Services Task Force, 2014). [6] ("Final Update Summary: Osteoporosis: Screening - US Preventive Services Task Force," 2011). [7]("Vaccination: Who Should Do It, Who Should Not and Who Should Take Precautions | Seasonal Influenza (Flu) | CDC," 2016). [8]("Final Update Summary: Human Immunodeficiency Virus (HIV) Infection: Screening - US Preventive Services Task Force," 2013). [9]("Final Update Summary: Breast Cancer: Screening - US Preventive Services Task Force," 2016). [10]("Final Update Summary: Carotid Artery Stenosis: Screening - US Preventive Services Task Force," 2014). [11]("Final Update Summary: Visual Impairment in Children Ages 1-5: Screening - US Preventive Services Task Force," 2011).

Table 2.4 Additional Services Provided at FCHP Community Health Fairs

Information/ Health Education	Screenings/Referrals	Other
Burn center	Dental screenings & services	Adult and senior day care centers & programming
Disaster preparedness	EKG exams	Blood drive
Health plans & insurers	Optometry – Eye exams	Energy efficient resources & products
Influenza	No- and low-cost clinics	Financial resources
Substance use and prevention	Patient care coordinators	Interfaith councils
Gym memberships	Tattoo removal	Legal and social resources
Tobacco prevention	Teen services	Preschool program
Cancer information and resources	Alzheimer's memory classes	Autism research
Kidney disease information and resources	Mental health classes	Chagas research
Nutrition		
Organ donation		

Table 2.5 Health Fair Participant Characteristics in Overall and Church-Only Samples

	Overall Sample[1] (N=5,273) % (n)	Church Sample[1] (N=4,790) % (n)
Female	66.0 (3,480)	65.3 (3,130)
Missing	0.3 (16)	0.3 (15)
Age, (mean yrs. ± SD)	50.4 ± 15.0	51.1 ± 15.0
18-24	3.3 (173)	3.3 (159)
25-34	8.9 (471)	8.0 (385)
35-44	18.5 (975)	17.6 (845)
45-54	22.2 (1,169)	22.2 (1,064)
55-64	18.1 (952)	19.1 (914)
65+	14.6 (770)	15.5 (741)
Missing	14.5 (763)	14.2 (682)
Race/Ethnicity		
Non-Hispanic White	9.9 (522)	10.6 (506)
Latino/Hispanic	57.9 (3,052)	57.6 (2,760)
Other[2]	9.9 (520)	10.4 (498)
Missing	22.4 (1,179)	21.4 (1,026)
Language		
English	10.0 (528)	10.9 (522)
Spanish	40.8 (2,149)	40.3 (1,929)
Missing	49.2 (2,596)	48.8 (2,339)
Primary Care Provider		
Yes	43.6 (2,299)	45.3 (2,170)
No	5.7 (302)	5.6 (266)
Missing	50.7 (2,672)	49.1 (2,354)
Insurance Type		
Uninsured	20.4 (1,076)	20.3 (972)
Private insurance	11.0 (580)	11.6 (557)
Public insurance[3]	3.3 (176)	3.6 (171)
Missing	65.3 (3,441)	64.5 (3,090)
Distance Travelled[4]		
Residence in same zip code as health fair	34.2 (1,804)	33.8 (1,619)
Within 10 miles	45.6 (2,404)	45.5 (2,180)
Within 20 miles	14.6 (767)	15.3 (735)
More than 20 miles	3.4 (178)	3.5 (168)
Missing	2.3 (120)	1.8 (88)
Health Fair Event Type		
Single-day community events	9.2 (483)	--
Small Church (<500 member families)[5]	--	35.6 (1,703)
Medium Church (500 – 2,900 member families)[5]	--	28.7 (1,376)
Large Church (≥3,000 member families)[5]	--	35.7 (1,711)
Years in partnership with FCHP, (mean yrs. ± SD)[5]	--	13.2 ± 7.6

Data are percentages. [1] Overall sample includes participants of one-day community health fairs (n=483). [2] Includes Black/African-American, Asian/Pacific Islander, and Other/Mixed. [3] Includes Medicare, Medicaid, VA, and My Health LA. [4] Linear distances from health fair zip code to participant zip code. [5] Only pertinent to church sample; Church size is based on the number of member families registered with the church.

Table 2.6 Overall Screening Receipt and Results

Screenings Received	Overall Sample (N=5,273)[1]		Church Sample (N=4,790)[1]	
	Total Screened % (n)	Results for participants screened % (n)	Total Screened % (n)	Results for participants screened % (n)
BMI[2]	81.7 (4,307)		81.8 (3,917)	
Underweight		0.8 (43)		0.9 (42)
Normal weight		21.2 (1,120)		22.1 (1,056)
Overweight		32.8 (1,729)		32.4 (1,552)
Obesity		26.8 (1,415)		26.5 (1,267)
Not screened		18.3 (966)		18.2 (873)
Blood Pressure[3]	89.3 (4,708)		88.7 (4,251)	
Normal		27.4 (1,444)		25.9 (1,242)
Borderline		37.2 (1,959)		37.7 (1,805)
Abnormal		24.8 (1,305)		25.1 (1,204)
Not screened		10.7 (565)		11.3 (539)
Cholesterol[4]	78.1 (4,116)		79.5 (3,806)	
Normal		46.9 (2,472)		47.8 (2,290)
Borderline		21.3 (1,125)		21.5 (1,030)
Abnormal		9.8 (519)		10.2 (486)
Not screened		21.9 (1,157)		20.5 (984)
Glucose[5]	80.1 (4,226)		82.3 (3,943)	
Normal		62.3 (3,285)		63.4 (3,040)
Borderline		14.0 (739)		14.9 (714)
Abnormal		3.8 (202)		4.0 (189)
Not screened		19.9 (1,047)		17.7 (847)

Data are percentages.[1] Overall sample includes participants of one-day community health fairs (n=483) and includes participants missing age and/or gender (n=772); Church sample excludes participants of one-day community health fairs and includes participants missing age and/or gender (n=690) among church sample. [2]Underweight ≤18.5, Overweight = 25-29.9, Obese >30.[3]Normal: 120/80, Borderline: 120-139/80-89, Abnormal: ≥140/90. [4]Normal: < 200mg/dl, Borderline: 201-239 mg/dl, Abnormal: ≥240mg/dl. [5]*Fasting:* <100 (Normal), 100-125 (Borderline), ≥126 (Abnormal); *Not Fasting:* <140 (Normal), 141-200 (Borderline), ≥200 (Abnormal).

Table 2.7 Proportion of Overall Sample Eligible & Screened by Test Type

Screening	Male (N=1,478)[2] % (n)	Female (N=3,023)[2] % (n)	Overall (N=4,501)[2] % (n)
% of Sample Eligible by Screening Test[1]			
BMI	100 (1,478)	100 (3,023)	100 (4,501)
Blood Pressure	100 (1,478)	100 (3,023)	100 (4,501)
Cholesterol (Grade A and B)			
Grade A (Men ≥ 35; Women ≥ 45)	85.5 (1,263)	64.4 (1,948)	71.3 (3,211)
Grade B (adds Men 20-34; Women 20-44)	99.1 (1,464)	98.9 (2,989)	98.9 (4,453)
Glucose	65.2 (964)	66.1 (1,998)	65.8 (2,962)
% of Sample Ineligible by Screening Test[1]			
BMI	0.0 (0)	0.0 (0)	0.0 (0)
Blood Pressure	0.0 (0)	0.0 (0)	0.0 (0)
Cholesterol (Grade A and B)			
Grade A (Men ≥ 35; Women ≥ 45)	14.5 (215)	35.6 (1,075)	28.7 (1,290)
Grade B (adds Men 20-34; Women 20-44)	0.9 (14)	1.1 (34)	1.1 (48)
Glucose	34.8 (514)	33.9 (1,025)	34.2 (1,539)
Proportion of Sample with Appropriate Receipt			
% Screened among eligible			
BMI (n=4,501 eligible)	82.4 (1,218)	82.2 (2,484)	82.2 (3,702)
Blood Pressure (n=4,501 eligible)	91.2 (1,348)	88.9 (2,687)	89.6 (4,035)
Cholesterol			
Grade A (n=3,211 eligible)	80.4 (1,016)	76.8 (1,497)	78.3 (2,513)
Grade B (n=4,453 eligible)	80.9 (1,184)	78.6 (2,349)	79.3 (3,533)
Glucose (n=2,962 eligible)	82.8 (798)	81.8 (1,635)	82.1 (2,433)
% Not screened among ineligible			
BMI (n=0 ineligible)	--	--	--
Blood Pressure (n=0 ineligible)	--	--	--
Cholesterol			
Grade A (n=1,290 ineligible)	16.7 (36)	18.4 (198)	18.1 (234)
Grade B (n=48 ineligible)	21.4 (3)	26.5 (9)	25.0 (12)
Glucose (n=1,539 ineligible)	18.1 (93)	20.3 (208)	19.6 (301)
Proportion of Sample with Inappropriate Receipt			
% Not screened among eligible			
BMI (n=4,501 eligible)	17.6 (260)	17.8 (539)	17.8 (799)
Blood Pressure (n=4,501 eligible)	8.8 (130)	11.1 (336)	10.4 (466)
Cholesterol			
Grade A (n=3,211 eligible)	19.6 (247)	23.2 (451)	21.7 (698)
Grade B (n= 4,453 eligible)	19.1 (280)	21.4 (640)	20.7 (920)
Glucose (n=2,962 eligible)	17.2 (166)	18.2 (363)	17.9 (529)
% Screened among ineligible			
BMI (n=0 ineligible)	--	--	--
Blood Pressure (n=0 ineligible)	--	--	--
Cholesterol			
Grade A (n=1,290 ineligible)	83.3 (179)	81.6 (877)	81.9 (1,056)
Grade B (n=48 ineligible)	78.6 (11)	73.5 (25)	75.0 (36)
Glucose (n=1,539 ineligible)	81.9 (421)	79.7 (817)	80.4 (1,238)

Data are percentages. [1]Eligibility for tests consistent with USPSTF recommendations for BMI, blood pressure, cholesterol, and glucose. [2]There were 772 (14.6% of overall sample, N=5,273) health fair participants with unknown age and/or unknown gender; eligibility and receipt appropriateness was determined for 4,501 (85.4% of overall sample, N=5,273) participants with known age and gender.

Table 2.8 Proportion of Church-Only Sample Eligible & Screened by Test Type

Screening	Male (N=1,374)[2] % (n)	Female (N=2,726)[2] % (n)	Overall (N=4,100)[2] % (n)
% of Sample Eligible by Screening Test[1]			
BMI	100 (1,374)	100 (2,726)	100 (4,100)
Blood Pressure	100 (1,374)	100 (2,726)	100 (4,100)
Cholesterol (Grade A only)[3]	85.7 (1,177)	66.9 (1,824)	73.2 (3,001)
Glucose	65.9 (905)	67.8 (1,847)	67.1 (2,752)
% of Sample Ineligible by Screening Test[1]			
BMI	0.0 (0)	0.0 (0)	0.0 (0)
Blood Pressure	0.0 (0)	0.0 (0)	0.0 (0)
Cholesterol (Grade A only)[3]	14.3 (197)	33.1 (902)	26.8 (1,099)
Glucose	34.1 (469)	32.2 (879)	32.9 (1,348)
Proportion of Sample with Appropriate Receipt			
% Screened among eligible			
BMI (n=4,100 eligible)	82.7 (1,136)	81.9 (2,233)	82.2 (3,369)
Blood Pressure (n=4,100 eligible)	90.9 (1,249)	88.0 (2,398)	89.0 (3,647)
Cholesterol[3] (n=3,001 eligible)	81.6 (960)	77.9 (1,420)	79.3 (2,380)
Glucose (n=2,752 eligible)	85.6 (775)	83.6 (1,545)	84.3 (2,320)
% Not screened among ineligible			
BMI (n=0 ineligible)	--	--	--
Blood Pressure (n=0 ineligible)	--	--	--
Cholesterol[3] (n=1,099 ineligible)	15.7 (31)	15.9 (143)	15.8 (174)
Glucose (n=1,348 ineligible)	16.2 (76)	18.0 (158)	17.4 (234)
Proportion of Sample with Inappropriate Receipt			
% Not screened among eligible			
BMI (n=4,100 eligible)	17.3 (238)	18.1 (493)	17.8 (731)
Blood Pressure (n=4,100 eligible)	9.1 (125)	12.0 (328)	11.0 (453)
Cholesterol[3] (n=3,001 eligible)	18.4 (217)	22.1 (404)	20.7 (621)
Glucose (n=2,752 eligible)	14.4 (130)	16.4 (302)	15.7 (432)
% Screened among ineligible			
BMI (n=0 ineligible)	--	--	--
Blood Pressure (n=0 ineligible)	--	--	--
Cholesterol[3] (n=1,099 ineligible)	84.3 (166)	84.1 (759)	84.2 (925)
Glucose (n=1,348 ineligible)	83.8 (393)	82.0 (721)	82.6 (1,114)

Data are percentages. [1]Eligibility for tests consistent with USPSTF recommendations for BMI, blood pressure, cholesterol, and glucose. [2]There were 690 health fair participants with unknown age and/or unknown gender; 14.4% of church sample (N=4,790); eligibility and receipt appropriateness was determined for the remaining 4,100 participants with known age and gender; 85.6% of church sample (N=4,790). [3]Only the Grade A cholesterol recommendation was used for the church-sample and for multivariate analyses.

Table 2.9 Appropriate and Inappropriate Receipt of Cholesterol and Glucose Tests

CHOLESTEROL		***Eligible***		
		Yes	**No**	**Totals**
Screened	**Yes**	*(Scenario 1)* **72.0%** → ***"Appropriate"*** (n=2,380) **79.3%** ↓	*(Scenario 3)* **28.0%** → ***"Inappropriate"*** (n=925) **84.2%** ↓	→ **100.0%** **"Total Screened"** (n=3,305) **80.6%** ↓
	No	*(Scenario 2)* **78.1%** → ***"Inappropriate"*** (n=621) **20.7%** ↓	*(Scenario 4)* **21.9%** → ***"Appropriate"*** (n=174) **15.8%** ↓	→ **100.0%** **"Total Not Screened"** (n=795) **19.4%** ↓
	Totals	↓ **100%** **"Total Eligible"** (n=3,001) **73.2%** →	↓ **100%** **"Total Ineligible"** (n=1,099) **26.8%** →	↓ **100%** **"Total Church-Only Sample"** (n=4,100)[1] → **100.0%**

"Appropriate" Receipt		**% Appropriate of Total Sample (N=4,100)[1]**	***"Inappropriate" Receipt***		**% Inappropriate of Total Sample (N=4,100)[1]**
% of eligible who were screened (Scenario 1)	% of ineligible were not screened (Scenario 4)		% of ineligible who were screened (Scenario 3)	% of eligible who were not screened (Scenario 2)	
79.3% (2,380/3,001)	15.8% (174/1,099)	62.3% (2,554/4,100)	84.2% (925/1,099)	20.7% (621/3,001)	37.7% (1,546/4,100)

[1] There were 690 health fair participants with unknown age and/or unknown gender; 14.4% of church sample (N=4,790); eligibility and receipt appropriateness was determined for the remaining 4,100 participants with known age and gender; 85.6% of church sample (N=4,790).

- % of *appropriate* receipt in *Scenario 1* (2,380/2,554): **93.2%**
- % of *appropriate* receipt in *Scenario 4* (174/2,554): **6.8%**

- % of *inappropriate* receipt in *Scenario 2* (621/1,546): **40.2%** [Under-screened]
- % of *inappropriate* receipt in *Scenario 3* (925/1,546): **59.8%** [Over-screened]

Table 2.9 Appropriate and Inappropriate Receipt of Cholesterol and Glucose Tests (Continued)

GLUCOSE		***Eligible***		**Totals**
		Yes	**No**	
Screened	**Yes**	*(Scenario 1)* **67.6%** → ***"Appropriate"*** (n=2,320) **84.3%** ↓	*(Scenario 3)* **32.4%** → ***"Inappropriate"*** (n=1,114) **82.6%** ↓	→ **100.0%** **"Total Screened"** (n=3,434) **83.8%** ↓
	No	*(Scenario 2)* **64.9%** → ***"Inappropriate"*** (n=432) **15.7%** ↓	*(Scenario 4)* **35.1%** → ***"Appropriate"*** (n=234) **17.4%** ↓	→ **100.0%** **"Total Not Screened"** (n=666) **16.2%** ↓
	Totals	↓ **100%** **"Total Eligible"** (n=2,752) **67.1%** →	↓ **100%** **"Total Ineligible"** (n=1,348) **32.9%** →	↓ **100%** **"Total Church-Only Sample"** (n=4,100)[1] → **100.0%**

"Appropriate" Receipt		**% Appropriate of Total Sample (N=4,100)[1]**	***"Inappropriate" Receipt***		**% Inappropriate of Total Sample (N=4,100)[1]**
% of eligible who were screened (Scenario 1)	% of ineligible were not screened (Scenario 4)		% of ineligible who were screened (Scenario 3)	% of eligible who were not screened (Scenario 2)	
84.3% (2,320/2,752)	17.4% (234/1,348)	62.3% (2,554/4,100)	82.6% (1,114/1,348)	15.7% (432/2,752)	37.7% (1,546/4,100)

[1] There were 690 health fair participants with unknown age and/or unknown gender; 14.4% of church sample (N=4,790); eligibility and receipt appropriateness was determined for the remaining 4,100 participants with known age and gender; 85.6% of church sample (N=4,790).

- % of *appropriate* receipt in *Scenario 1* (2,320/2,554): **90.8%**
- % of *appropriate* receipt in *Scenario 4* (234/2,554): **9.2%**

- % of *inappropriate* receipt in *Scenario 2* (432/1,546): **27.9%** [Under-screened]
- % of *inappropriate* receipt in *Scenario 3* (1,114/1,546): **72.1%** [Over-screened]

Table 2.10 Results of multiple regression analysis of overall screening receipt in church-only sample[1]

	Model 1 (n=3,390)		Model 2 (n=3,379)		Model 3 (n=3,379)		Model 4 (n=3,379)	
BMI	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**
Age	1.00	[0.99 – 1.01]	1.00	[0.99 – 1.01]	1.00	[0.99 – 1.01]	1.00	[0.99 – 1.01]
Gender								
Male (ref)	1	-	1	-	1	-	1	-
Female	0.90	[0.74 – 1.09]	0.88	[0.73 – 1.07]	0.89	[0.73 – 1.09]	0.91	[0.75 – 1.11]
Ethnicity								
White (ref)	1	-	1	-	1	-	1	-
Latino/Hispanic	**1.85*** **	**[1.42 – 2.40]**	**1.85*** **	**[1.42 – 2.41]**	**1.91*****	**[1.45 – 2.50]**	**1.75*****	**[1.33 – 2.31]**
Other	1.25	[0.90 – 1.72]	1.26	[0.91 – 1.74]	1.28	[0.92 – 1.78]	1.29	[0.93 – 1.80]
Distance travelled			1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]
Church Size								
Large (ref)					1	-	1	-
Medium					**0.54*****	**[0.42 – 0.69]**	**0.46*****	**[0.36 – 0.59]**
Small					**0.44*****	**[0.35 – 0.55]**	**0.36*****	**[0.28 – 0.46]**
Years in Partnership							**1.04*****	**[1.03 – 1.05]**

	Model 1 (n=3,390)		Model 2 (n=3,379)		Model 3 (n=3,379)		Model 4 (n=3,379)	
BLOOD PRESURE	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**
Age	1.01*	[1.00 – 1.02]	1.01*	[1.00 – 1.02]	1.01*	[1.00 – 1.02]	1.01*	[1.00 – 1.02]
Gender								
Male (ref)	1	-	1	-	1	-	1	-
Female	**0.72****	**[0.57 – 0.92]**	**0.71****	**[0.57 – 0.91]**	**0.71****	**[0.55 – 0.90]**	**0.71****	**[0.55 – 0.91]**
Ethnicity								
White (ref)	1	-	1	-	1	-	1	-
Latino/Hispanic	**1.73*** **	**[1.25 – 2.38]**	**1.77*** **	**[1.28 – 2.44]**	**1.60****	**[1.15 – 2.22]**	**1.59****	**[1.14 – 2.21]**
Other	1.27	[0.85 – 1.88]	1.27	[0.85 – 1.89]	1.18	[0.79 – 1.76]	1.18	[0.79 – 1.77]
Distance travelled			1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]
Church Size								
Large (ref)					1	-	1	-
Medium					1.15	[0.85 – 1.55]	1.14	[0.84 – 1.54]
Small					**0.68****	**[0.52 – 0.88]**	**0.67****	**[0.51 – 0.87]**
Years in Partnership							1.00	[0.99 – 1.02]

*p<0.05 **p<0.01 *** p<0.001

[1] Multiple regression models only include data from participants of health fairs held at churches with known age and gender(n=4,100). Data from health fairs visits to one-time community events are excluded (n=483).

Table 2.10 Results of multiple regression analysis of overall screening receipt in church-only sample (Continued)[1]

	Model 1 (n=3,390)		Model 2 (n=3,379)		Model 3 (n=3,379)		Model 4 (n=3,379)	
CHOLESTEROL	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**
Age	0.99*	[0.99 – 1.00]	0.99*	[0.99 – 1.00]	1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]
Gender								
Male (ref)	1	-	1	-	1	-	1	-
Female	0.86	[0.71 – 1.03]	0.85	[0.71 – 1.03]	0.85	[0.70 – 1.03]	0.85	[0.70 – 1.03]
Ethnicity								
White (ref)	1	-	1	-	1	-	1	-
Latino/Hispanic	**2.17*** **	**[1.69 – 2.77]**	**2.12*** **	**[1.66 – 2.72]**	**2.56*** **	**[1.97 – 3.32]**	**2.54*** **	**[1.96 – 3.30]**
Other	**1.56****	**[1.14 – 2.12]**	**1.55****	**[1.14 – 2.12]**	**1.79*** **	**[1.30 – 2.46]**	**1.78*** **	**[1.29 – 2.45]**
Distance travelled			1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]
Church Size								
Large (ref)					1	-	1	-
Medium					0.93	[0.76 – 1.15]	0.91	[0.73 – 1.13]
Small					**2.52*** **	**[1.99 – 3.19]**	**2.46*** **	**[1.92 – 3.13]**
Years in Partnership							1.00	[0.99 – 1.02]

	Model 1 (n=3,390)		Model 2 (n=3,379)		Model 3 (n=3,379)		Model 4 (n=3,379)	
GLUCOSE	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**
Age	0.99*	[0.98 – 1.00]	0.99*	[0.98 – 1.00]	0.99*	[0.99 – 1.00]	0.99	[0.99 – 1.00]
Gender								
Male (ref)	1	-	1	-	1	-	1	-
Female	0.84	[0.68 – 1.04]	0.84	[0.68 – 1.04]	0.84	[0.68 – 1.03]	0.85	[0.69 – 1.05]
Ethnicity								
White (ref)	1	-	1	-	1	-	1	-
Latino/Hispanic	**3.18*** **	**[2.46 – 4.11]**	**3.12*** **	**[2.41 – 4.04]**	**3.70*** **	**[2.82 – 4.85]**	**3.59*** **	**[2.73 – 4.71]**
Other	**1.66****	**[1.21 – 2.28]**	**1.66****	**[1.21 – 2.28]**	**1.89*** **	**[1.34 – 2.61]**	**1.86*** **	**[1.35 – 2.57]**
Distance travelled			1.00	[0.99 – 1.01]	1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]
Church Size								
Large (ref)					1	-	1	-
Medium					0.82	[0.65 – 1.04]	0.74*	[0.58 – 0.95]
Small					**1.82*** **	**[1.42 – 2.34]**	**1.64*** **	**[1.27 – 2.12]**
Years in Partnership							**1.03*** **	**[1.01 – 1.04]**

*p<0.05 **p<0.01 *** p<0.001

[1] Multiple regression models only include data from participants of health fairs held at churches with known age and gender(n=4,100). Data from health fairs visits to one-time community events are excluded (n=483).

Table 2.11 Results of multiple regression analysis of appropriate screening receipt in church-only sample[1]

	Model 1 (n=3,390)		Model 2 (n=3,379)		Model 3 (n=3,379)		Model 4 (n=3,379)	
CHOLESTEROL[2]	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**
Gender								
Male (ref)	1	-	1	-	1	-	1	-
Female	**1.98*** **	**[1.70 – 2.31]**	**2.00*** **	**[1.71 – 2.33]**	**1.99*** **	**[1.71 – 2.33]**	**1.99*****	**[1.71 – 2.33]**
Ethnicity								
White (ref)	1	-	1	-	1	-	1	-
Latino/Hispanic	1.12	[0.91 – 1.39]	1.12	[0.91 – 1.39]	1.11	[0.90 – 1.38]	1.11	[0.90 – 1.38]
Other	0.89	[0.67 – 1.17]	0.88	[0.66 – 1.16]	0.87	[0.66 – 1.16]	0.87	[0.66 – 1.16]
Distance travelled			1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]
Church Size								
Large (ref)					1	-	1	-
Medium					1.06	[0.89 – 1.27]	1.07	[0.89 – 1.28]
Small					1.06	[0.90 – 1.26]	1.07	[0.89 – 1.27]
Years in Partnership							1.00	[0.99 – 1.01]

	Model 1 (n=3,390)		Model 2 (n=3,379)		Model 3 (n=3,379)		Model 4 (n=3,379)	
GLUCOSE	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**	**OR**	**[95% CI]**
Gender								
Male (ref)	1	-	1	-	1	-	1	-
Female	0.93	[0.81 – 1.08]	0.94	[0.81 – 1.09]	0.94	[0.81 – 1.09]	0.93	[0.81 – 1.08]
Ethnicity								
White (ref)	1	-	1	-	1	-	1	-
Latino/Hispanic	**0.62*** **	**[0.51 – 0.76]**	**0.62*** **	**[0.50 – 0.76]**	**0.62*** **	**[0.51 – 0.77]**	**0.63*****	**[0.52 – 0.78]**
Other	**0.61*** **	**[0.47 – 0.80]**	**0.60*** **	**[0.46 – 0.79]**	**0.61*** **	**[0.47 – 0.80]**	**0.61*****	**[0.47 – 0.80]**
Distance travelled			1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]	1.00	[0.99 – 1.00]
Church Size								
Large (ref)					1	-	1	-
Medium					1.06	[0.88 – 1.26]	1.10	[0.91 – 1.32]
Small					**1.22***	**[1.04 – 1.45]**	**1.28****	**[1.08 – 1.53]**
Years in Partnership							0.99	[0.98 – 1.00]

*p<0.05 **p<0.01 *** p<0.001

[1]BMI and blood pressure screening tests were not included in analyses for appropriate screening because all participants are eligible for BMI and blood pressure; Multiple regression models only include data from participants of health fairs held at churches with known age and gender(n=4,100). Data from health fairs visits to one-time community events are excluded (n=483). [2]The Grade A recommendation for Cholesterol was used for multiple regression analyses.

Figure 2.1 Health Fair Registration Form

Improvement

Place/Lugar: _____ **Date/Fecha:** _____

Name/Nombre: _____ **Birth Date/Fecha de Nacimiento:** _____

Address/Domicilio: _____ **Sex/Sexo M:** _____ **F:**_____

City/Ciudad: _____ **Zip Code /Código Postal:** _____ **Race / Raza:** _____

Phone/Teléfono_____ **Cell/Celular:** _____ **Language/Idioma:** _____

Patient has Medical Care Provider?_____ **Referral given for low cost medical care?** _____

¿Paciente tiene proveedor de servicios médicos? ¿Se le entrego referencia de servicios médicos?

SCREENING EXAMEN	NORMAL RANGE/RANGO NORMAL	RESULTS/RESULTADOS	MORE EVALUATION MAS EVALUACION
HEIGHT ESTATURA	Normal depends on age and sex Los valores normales dependen de la edad y el sexo	_____ FT. _____ IN	Yes/Si _____ No _____ Comments/Comentarios:
Screener name:			
WEIGHT PESO	Normal Range for your height Rango Normal _____ -- _____	_____ LBS.	Yes/Si _____ No _____ Comments/Comentarios:
Screener name			
VISION	Glasses or Contacts Lentes o lentos de contacto 20/20 Yes _____ No _____	Screening with glasses or contacts Exámen con lentes o lentes de contacto Yes _____ No _____ Far: R= 20/____ L= 20/____ Near: R= 20/____ L= 20/____	Yes/Si _____ No _____ Comments/Comentarios:
Screener name:			
BLOOD PRESSURE PRESION ARTERIAL	Normal =/below/menos 120/80 Borderline/riesgo 120-139/80-89 Abnormal/anormal =/over/más 140/90	Right Arm / Derecho _____mmHg Pulse_____ Left Arm / Izquierdo _____ mmHg Pulse_____	Yes/Si _____ No _____ Comments/Comentarios:
Screener name:			
COLESTEROL CHOLESTEROL	Normal under/menos 200mg/dl Borderline/riesgo 201-239mg/dl Abnormal/anormal =/over/más 240mg/dl	_____ mg/dl	Yes/Si _____ No _____ Comments/Comentarios:
Screener name:			
BLOOD SUGAR GLUCOSA en SANGRE	Fasting Ayuno / Random Alimento Normal <100 / <140 Borderline/riesgo 100-125 / 141-200 Abnormal/anormal =/>126 x2 / >200 x 1	Fasting_____mg/dl Random_____mg/dl	Time of last meal? Ultimo alimento? _____ Yes/Si _____ No _____ Comments/Comentarios:
Screener name:			
BODY FAT GRASA CORPORAL	Normal depends on age and weight. Los valores normales dependen de la edad y el peso. **BMI**: _____	Underweight/peso bajo ____% Normal ____% Overweight/sobre peso ____% Abnormal/anormal ____%	Yes/Si _____ No _____ Comments/Comentarios:
Screener name			
BONE DENSITY DENSIDAD OSEA	Normal 1 a/to -1 Abnormal / Anormal -1 a/to >2.5	Normal: _____ Abnormal: _____	Yes/Si _____ No _____ Comments/Comentarios:
MAMMOGRAMS MAMOGRAMAS			
OTHER Screening/s: stroke, etc Otro Examen:	Normal and Abnormal Ranges:	Results:	Follow-up needed:
Screener name:			

COMMENTS / COMENTARIOS	REFERRALS / REFERENCIA

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CHAPTER 3: Preferences for and Utilization of Preventive Health Services among Adult Participants of Church-Organized Community Health Fairs in Los Angeles County

3.1 Chapter Introduction

Community health fairs promote prevention, health education, and the delivery of health services to the medically underserved (Dillon & Sternas, 1997; Murray, Liang, Barnack-Tavlaris, & Navarro, 2014) and the socioeconomically disadvantaged (Bonevski et al., 2014). The availability of medical providers and of low-cost preventive health services in geographically convenient settings, make community health fairs potentially advantageous venues to supplement the health care system. For health fairs to be valuable, they must do more than provide health education and screenings. Health fairs must also facilitate linkages to the health care system when appropriate, particularly for participants who test positive on a screening.

Prior research on community health fairs has focused on understanding the role and effectiveness of health fairs in delivering preventive health services (Berwick, 1985; Bryan, Deveraux, York, & Schoh, 1991; Burron & Chapman, 2011; Murray et al., 2014; Wilson, 2000), and on the type and utility of health screenings provided (Alpert, Greiner, & Hall, 2004; Berwick, 1985; Greenwald, 2003; Lucky, Turner, Hall, Lefaver, & de Werk, 2011; Macias & Morales, 2000). Less attention has been given to participants' motivations for obtaining health services through health fairs, their satisfaction with and preferences for health fair services, and the barriers to health care access they face. For community health fairs to create more effective linkages to primary and specialty care, a greater understanding of health fair participants' needs, barriers, and preferences will be critical.

A goal of the FCHP health fairs is to promote chronic disease prevention among healthy participants and to facilitate chronic disease management for participants with existing diagnoses. To this end, FCHP nurses provide participants with preventive health screenings, brief counseling, printed health education materials, primary and specialty care referrals, and

follow-up phone calls to participants with abnormal screening results within a week of the health fair. Despite the FCHP's 25-year presence in the community, formal exploration of participants' satisfaction with FCHP health fairs and preventive health services received had not been conducted.

This study used a health fair participant survey to explore health fair participants' barriers to accessing health care, their motivations for accessing health fair services, and their preferences for additional services and communication with FCHP nurses. For community health fairs to create linkages to the health care system, a better understanding of participant-level factors is essential. This study represents the only time Providence FCHP health fair participants have been surveyed. Results from this study may help FCHP staff obtain a general understanding of the health fair participants they serve and may lead to improvements in how the FCHP organizes its health fairs.

3.2 Methods

3.2.1 Data Source

This cross-sectional study is based on data from a health fair participant survey of 315 adults who received at least one preventive health screening at one of eleven FCHP community health fairs in 2015. Due to technical difficulties with the tablets and scheduling conflicts, the research team only conducted the survey in 11 of the 13 health fairs held in 2015. The goal of the survey was to understand health fair participants' barriers to health care access, their motivations for attending the health fairs, their satisfaction with and preferences for services received, and their communication preferences for FCHP nurse follow-up and referrals post health fairs. The participant survey was conducted on portable computer tablets (NeuTab N7 Pro) using Formhub, an open source online survey management platform created at Columbia University ("Formhub," 2016). Formhub allows for cloud storage of survey data without the need for a "live" Internet connection in the field. The offline feature allowed for data collection without

a data plan or Wi-Fi access at all health fair sites, which included church parking lots, parish halls, and church classrooms.

The interviewer-administered survey was made available to health fair participants in English and Spanish. Eight bilingual (Spanish-English) volunteers were trained to administer the survey using the tablet computer. The volunteers were responsible for "catching" health fair participants at "checkout" after they received all their screenings and services, and before they left the health fairs. The nature of the health fairs posed challenges to data collection, e.g., large numbers of participants accessing services at the same time and the use of volunteers rather than trained staff to administer the survey. It was often difficult for volunteers to determine which participants were leaving the health fair and which participants were still in the process of seeking additional services. As a result, the survey was conducted on a convenience sample of health fair participants who were approached and who agreed to participate. Of the 315 participants approached, only three participants refused to complete the survey (1.0%). Additional information about the health fair sites, the number of participants screened, and the number of participants who completed the survey is provided in Table 3.1.

3.2.2 Health Fair Participant Survey

The 46-item survey included questions about participants': 1) previous attendance and use of health fair services; 2) pre-existing medical and behavioral conditions and health status; 3) barriers to accessing health care; 4) satisfaction with and preferences for health fair services; 5) preferences for communication with health fair nurses, including communication about referrals and follow-up; 6) demographic information; and (7) questions of interest to the FCHP director and staff (see Figure 3.1). The survey included items adapted from existing measures, including the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Clinical and Group survey (Agency for Healthcare Research and Quality, 2016), the 2014 National Health Interview Survey (NHIS) (National Center for Health Statistics, 2015), the 2007 Medical

Expenditure Panel Survey (MEPS) (U.S. Department of Health and Human Services, 2015), and a CDC-funded study "Cancer Screening in Families Study" (Glenn, 2011) (see Table 3.2). The survey was anonymous; each participant was assigned a unique identification number.

3.2.3 Preventive Health Services Offered

As described in Chapter 1, the type and number of preventive health services provided varied. Nonetheless, the FCHP faith-community nurses do provide a standard battery of preventive health services at all health fairs that includes, BMI, blood pressure, cholesterol, and glucose screenings. This standard battery of tests was available to all participants in the study sample. Additional screenings were offered at some, but not all, of the 11 FCHP health fairs held in 2015. Additional screenings included: vision, bone density, stroke, Chagas, mammogram, prostate, flu shot, HIV, and glaucoma.

3.2.4 Data Analysis

All data were analyzed using STATA version 12.1. Descriptive statistics were used to characterize the sample and to generate a profile of health fair participants' barriers to accessing care, their motivations for attending the health fairs, and their preferences for and satisfaction with health fair services. Simple counts and percentages were calculated for categorical variables. Where appropriate, means and standard deviations were calculated for continuous variables.

3.3 Results

The overall sample included data for 312 health fair participants. Participant level variables, summarized in Tables 3.3 and 3.5, included: participant demographics, general health characteristics, and screenings and referrals received. Prior health fair attendance and participants' motivation for attending health fairs are summarized in Table 3.4. Participants' receipt of health information/education and nurse counseling, as well as preferences for

additional receipt of health education and follow-up post-health fairs are presented in Table 3.6. Information about participants' usual source of care, their health care use, and their barriers to health care access are shown in Tables 3.7 and 3.8.

3.3.1 Health Fair Sites and Health Fair Participants (Tables 3.1 and 3.3)

The survey was administered to health fair participants of 11 FCHP health fairs in 2015 (see Table 3.1). All health fairs were organized in partnership with churches located in the San Fernando and Santa Clarita Valleys, a geographic region of Los Angeles County labeled by the Los Angeles Department of Public Health as Service Planning Area 2 (SPA2) (Los Angeles County Department of Public Health, 2016). The churches ranged in membership size from small (fewer than 500 member families), medium (fewer than 3,000 member families), and large (greater than 3000 member families). Six (54.5%) of the health fairs were held in small churches, two (18.2%) in medium churches, and three (27.3%) in large churches. In 2015, when the health fairs were held, the churches had partnered with the FCHP for an average of 12.5 years, with partnerships ranging from one to 25 years.

In total, 312 health fair participants completed the survey (see Table 3.3). Participants were on average, 53 years of age, with a majority 45 years of age or older (52%) and female (64%). Most participants self-identified as Latino/Hispanic (72.4%) and foreign-born (71.8%). Forty-three percent (43.3%) of participants were born in Mexico and 18.9% in Central American countries. Only 28% of health fair participants were born in the United States. When asked about their preferred or primary language, 60.9% of participants preferred to communicate in Spanish. Sixty percent (60%) of participants reported speaking English "well" to "very well." More than 43% of participants had less than a high school education, 17.9% were high school graduates, and 38.5% had completed at least some college.

Most participants (68.3%) reported having some type of medical insurance. A larger percentage of participants were publicly insured (38.5%) than privately insured (29.8%), with

most publicly insured participants covered through Medicaid and Medicare. The remaining 31% of health fair participants reported being uninsured. More than 39% of health fair participants reported having a known chronic disease diagnosis at the time of the health fair, with 42.3% taking prescription medications for any condition. Sixty-six percent (65.7%) reported having good to excellent health, with 34.3% of participants reporting their health as fair or poor.

The data from the health fair participants in this study (n=312) was captured over one calendar year in 2015. Nonetheless, the survey sample is generally similar to the health fair database church sample presented in Chapter 2. The average age of participants in the larger church sample was 51.1 years, compared to 53.2 in the survey sample. The church sample also contained a similar percentage of women, 65.3% compared with 63.8% in this study. One difference was the proportion of Latinos in the survey sample (72.4%) compared to the church sample (57.6%). However, due to the high proportion of missing values in key variables (race/ethnicity, language, and insurance) in the church sample, caution should be exercised when comparing the two samples

3.3.2 Health Fair Participation and Prior Attendance (Table 3.4)

A goal of the FCHP clinical-community partnership is to provide preventive health services to the communities that need them. The health fairs are organized to that end, but publicity for the health fairs is not standardized. Instead, the level of marketing varies and depends on the resources available to each church. In developing the survey for this study, a primary interest of FCHP staff was to understand how participants found out about the health fairs and whether they were frequent participants.

Fifty-seven percent (57.1%) of health fair participants found out about the health fairs through a church announcement during service, suggesting that a majority of health fair participants were church members. An additional 21.7% were informed about the health fairs from family members and friends. Only 18% of participants reported having heard about the

health fairs from advertisements such as fliers posted in laundromats and stores in the community. Participants were also asked about their motivations for attending the health fairs: 48.7% were seeking a specific preventive health screening, 37.8% attended because it was convenient and 36.5% because it was free. Almost sixty-percent (58.3%) of health fair participants had attended an FCHP health fair in the past and 40% were first time attendees.

3.3.3 Preventive Health Screenings and Referrals Received (Table 3.5)

Seventy-one percent (71.2%) of participants reported having received a BMI screening. A higher proportion of participants received blood pressure (89.4%), cholesterol (88.1%), and glucose (83.3%) screenings. Receipt of additional screenings ranged between 0.96% for HIV screenings and 37.5% for bone density. Among participants screened, 63.8% had at least one abnormal screening. The highest rate of abnormal screens was for cholesterol (32.7%), followed by bone density (23.1%), blood pressure (21.9%), BMI (19.8%), and glucose (14.2%).

Despite the high percentage of participants with abnormal screens (63.8%; n=199), only 32.7% (n=65) of participants with an abnormal screening result reported having received a referral to follow up on this finding. Among referrals for abnormal screens, more than 76% of referrals were among uninsured (36.9%) or publically insured (40%) participants. The overall referral rate was relatively low, with 26.3% (n=82) of all participants receiving a referral of any type. The most common referral was to a medical doctor (36.0%), followed by referrals to health education (18%) and community clinics (15.7%). Of the 82 referrals made, 39% were provided to uninsured participants, 36.6% to participants with public medical coverage (e.g. Medicaid, Medicare, etc.), and 24.4% to privately insured participants.

3.3.4 Satisfaction with Nurse Counseling and Preferences for Nurse Follow-up (Table 3.6)

In addition to providing preventive health screenings, FCHP nurses also counsel health fair participants about making lifestyle and behavioral changes to improve their health. The

nurses take great care to provide brief counseling to all participants, especially to participants with abnormal screenings. The brief counseling can happen either immediately after a screening by the nurse performing the test, or at the exit-counseling table, a resource table managed by nurses where participants can ask questions about their screening results and receive additional services including referrals. Although 83.7% of participants stated that a nurse at the health fair had talked to them about their results, only 59.6% reported having visited the exit-counseling table. Referrals for additional care were only provided by the nurses at the exit-counseling table, thus limiting their receipt to participants who were aware of and visited the table.

A majority (64.4%) of participants found it helpful to very helpful to have an FCHP nurse follow-up with them two weeks after the health fair to discuss their abnormal screening results. Their preferred mode of contact ranged from phone calls to home visits. More than 77% of participants preferred to be followed-up with a phone call to their cell phone (48.4%) or land line (28.9%). A smaller percentage of participants requested follow-up via email (14.1%) or text message (17%). An even smaller percentage preferred a mailed letter (6.1%) or home visit (1.3%) as follow-up.

Participants were also asked about their plans to use the screening results and health information received at the health fairs. The most popular response was to make lifestyle changes to improve their health (37.8%), to make an appointment with their primary care provider (PCP) (21.5), and to find a PCP (4.8%). An additional 13.5% intended to share the information they received at the health fair with family and friends.

3.3.5 Usual Source of Care and Health Care Use (Table 3.7)

The goal of the FCHP health fairs is to provide preventive and other health services to the medically underserved, including the uninsured and the undocumented. To understand more about where health fair participants seek their care and with what frequency, the survey included questions about their usual source of care, their last routine check-up with a primary

care provider, and their use of emergency room care in the past 12 months. Overall, 70.8% (n=221) of health fair participants reported having a usual source of care. Among participants with a usual source of care, 55.2% accessed health care through a private doctor's office, 26.2% through a community clinic, and 11.8% through a hospital. Only 3.7% of participants used the emergency room (ER) or urgent care center as their usual source of care.

More than 80% of health fair participants in the sample had a routine check-up with their PCP within the past 2 years. Only 10.9% of participants had gone more than five years without a routine check-up. Uninsured participants differed in the timing of their last routine check-up, compared to the overall sample. The proportion of uninsured participants without a routine check-up in five or more years (22.9%) was more than double the proportion of the sample. Almost 64% of participants had not visited a hospital ER in the past 12 months. Nonetheless, 20.2% of participants had visited the ER at least once in the past 12 months, suggesting that the health fairs capture a significant proportion of participants with recent ER visits. The high rate of insured participants (68.3%) in the sample may account, in part, for the high percentage of participants with routine check-ups and no ER visits. However, being insured does not eliminate all barriers to health care access. Thus, health fair participants were also asked about the barriers to health care access they experienced.

3.3.6 Barriers to Health Care Access (Table 3.8)

Health fair participants were asked which of a series of statements was a problem in their ability to access needed health care. The barriers question was added to the survey after the first health fair took place in 2015. As a result, 51 participants were not asked about their barriers to health care access. The following results are for the 261 participants who were surveyed in the remaining health fairs. The most common barrier to health care access was worry over the cost of care (60.5%), followed by an inability to obtain appointments soon enough (40.6%), long wait times in the doctor's office or clinic (39.5%), potential changes in

health insurance coverage (39.5%), being too busy with work and other commitments (35.6%), and providers not speaking the same language as participants (29.5 %). A smaller percentage of participants did not know where to go to find care (18.8%).

3.4 Discussion

The purpose of administering the health fair participant survey was to inform future improvements to FCHP health fair services, including understanding how to create more effective linkages to primary and specialty care for participants. The survey questions were focused on participants' motivations to attend health fairs, their barriers to care, and their preferences for health fair services received. Health fair participants who completed the survey were on average 53 years of age, women, Latino/Hispanic, foreign-born, and insured.

Health fair participants in this sample reported multiple barriers to health care access, including worries about cost, lack of timely medical appointments, changes in health insurance, long clinic wait times, competing demands on their time (e.g. work), and language barriers. By offering preventive health services at no cost, in convenient weekend locations, with bilingual staff (Spanish and English), the FCHP community health fairs addressed many of the barriers to health care access reported by health fair participants in the survey. When asked about their reasons for attending the health fairs, participants’ responses also closely addressed their primary barriers to access. With participants attending the health fairs because they were free, convenient, and because they wanted a specific health screening. At the health fairs, participants could save time and money while being able to choose which preventive services to receive.

The FCHP health fairs were also effective in reaching an important proportion of uninsured participants (30.8%) and participants without a usual source of care (27.2%). The uninsured rate in Service Planning Area 2 (SPA2), the geographic region of Los Angeles County in which the health fairs were held, was 14.4% in the survey year (California Health Interview

Survey, 2016). Although most health fair participants reported having some form of insurance, the percent of uninsured participants in the sample was more than double that of SPA2. The overrepresentation of uninsured participants in FCHP health fairs suggests that the health fairs were reaching their targeted population of interest (the medically underserved) and highlights the potential for community health fairs to facilitate linkages to the health care system for these populations.

Administrative data regarding health fair-initiated referrals to additional health services, including linkages to primary and specialty care, were limited and unstandardized. Thus, questions were added to the survey regarding referrals received. Referral types included medical doctors, community clinics, health education and exercise classes, and other specialty care (e.g. dental, vision, etc.). Of the 312 participants surveyed, 82 (26.3%) received at least one referral. Among participants with an abnormal screen (n=199), 65 participants (32.7%) received at least one referral. Two potential explanations for the low referral rate include, having an established primary care provider or usual source of care, thus not requiring the referral, and purposely or inadvertently skipping the exit-counseling table at the health fair, where referrals were processed.

Although the overall referral rate was less than 30%, the percentage of participants who were uninsured or covered through a public insurance program that received referrals was high (75.6%). Of the 82 participants who received a referral, 39% (n=32) were uninsured and 36.6% (n=30) had public insurance. Among the 65 participants with abnormal screens who received a referral, the proportion of uninsured (36.9%) and publically insured (40%) participants receiving a referral, was also high (76.9%). These findings suggest that although general improvements to the referral rate are warranted, the referrals that were provided were given to participants for whom primary, specialty, and behavioral care, may be more difficult to access or cost-prohibitive.

A primary limitation of the study, that affects generalizability of results is the fairly small convenience sample studied. Results from the participant survey represent a subset of health fair participants attending FCHP health fairs in 2015. The total sample (n=312) represented only 31.7% of total participants at the health fairs. Variations in the size of the health fairs vis-à-vis the size of the volunteer team administering the survey, limited the number of participants approached and surveyed. Nonetheless, 99% (312/315) of health fair participants approached to complete the survey agreed to participate. Despite the limitations of the sample, participants are fairly representative of the larger church sample (n=4,790) discussed in Chapter 2 with respect to basic demographic variables such as age and gender.

A valuable contribution of this study was our ability to provide information on referrals provided through the health fairs. This is an important function of health fairs and essential for realizing the full potential of this alternative source for providing preventive health services. However, the survey data did not provide the level of detail necessary to discern why some participants received referrals over others. Better documentation of the referral process by FCHP nurses, may help identify the causes of missed opportunities for referral and improve the ability of the FCHP to facilitate linkages for participants. More research is needed to determine to what extent participants with health fair-generated referrals are successfully linked to the health care system or other appropriate services.

Nevertheless, the results of this study demonstrate that community health fairs reach an important proportion of the medically underserved and provide a high percentage of referrals to uninsured and publically insured participants. In addition, data regarding participants' barriers to health care access, their preferences for health screenings and nurse follow-up, may inform important programmatic changes and improvements to existing and future FCHP health fair activities.

3.5 Tables and Figures

Table 3.1 Community Health Fair Site and Participant Information

Site ID	Health Fair Date	# of Years in Partnership	Church Size	Total # of Participants	# of Participants Surveyed (315 approached)	Proportion of Participants Surveyed from total sample[1]
002	10/18/15	8	4,000	59	24	40.7%
012	11/01/15	30	50	67	23	34.3%
014	10/10/15	21	120	59	15	25.4%
021	4/18/15	25	80	108	53	49.1%
024	9/26/15	7	<500	39	18	46.2%
025	8/16/15	4	<500	52	10	19.2%
026	8/23/16	17	6,000	200	37	18.5%
027	7/12/15	2	3,000	85	20	23.5%
030	3/15/15	14	1,500	108	51	47.2%
039	3/22/15	10	4,000	150	34	22.7%
999	11/8/15	1	<500	57	27	47.4%
TOTAL				**984**	**312**	**31.7%**

[1] As many health fair participants as possible were approached at each health fair. Of 315 participants approached, only 3 refused to participate.

Table 3.2 Participant Survey Constructs

Survey Constructs	
Motivation for attending health fairs	Existing medical and behavioral conditions
Frequency of health fair use	Usual source of care
Use of preventive health services	Barriers to health care access
Abnormal screening results	Referral preferences and modality (e.g. online class, group session, etc.)
Preferences for additional preventive health services	Follow-up preferences and modality (e.g. text, call, etc.)
Participants' intended use of screening results and health information received, post-health fair	Technology access and communication preferences
General satisfaction with health fair	Demographic information
Health status	

Table 3.3 Health Fair Participant Characteristics & General Health Information

	N=312 % (n)
Female sex	63.8 (199)
Age, years	Avg. age 53.2 ± 13.1
18-24	0.64 (3)
25-34	6.7 (21)
35-44	19.9 (62)
45-54	28.2 (88)
55-64	23.7 (74)
65+	20.8 (65)
Race/Ethnicity	
Non-Hispanic White	18.3 (57)
Latino/Hispanic	72.4 (226)
Other[2]	9.3 (29)
Country of Birth	
U.S. Born	28.2 (88)
Foreign Born	71.8 (224)
Mexico	43.3 (135)
Central America	18.9 (59)
Other	9.6 (30)
Preferred Language	
English	38.1 (119)
Spanish	60.9 (190)
Other	0.96 (3)
English Speaking Ability	
Not at all	14.7 (46)
Not well	25.3 (79)
Well	23.1 (72)
Very well	36.9 (115)
Education Completed	
8th grade or less	26.6 (83)
Some High School (HS)	16.7 (52)
HS Graduate or GED	17.9 (56)
Some College (≤ 2 years; AA)	16.7 (52)
College Graduate	13.8 (43)
Professional/Graduate School (> 4yrs)	8.0 (25)
Missing	0.3 (1)
Employment Status	
Full-time	33.0 (103)
Part-time	11.5 (36)
Unemployed ≤ 1 year	4.8 (15)
Unemployed > 1 year	10.9 (34)
Self-employed	7.1 (22)
Homemaker	11.5 (36)
Retired	16.4 (51)
Disabled/Unable to work	4.8 (15)

(continued)	N=312 % (n)
Marital Status	
Single	26.9 (84)
Married/Living as married	53.9 (168)
Divorced/Separated	12.5 (39)
Widowed	6.7 (21)
Living Arrangement	
Own	28.9 (90)
Rent	63.1 (197)
Other	8.0 (25)
Distance Traveled to Health Fair, miles[1]	
Residence in same zip code as health fair[1a]	26.9 (84)
Less than 2 miles	12.8 (40)
2 – 4.9 miles	26.0 (81)
5 – 9.9 miles	20.5 (64)
10 – 14.9 miles	8.3 (26)
More than 15 miles	3.9 (12)
Missing	1.6 (5)
Health Insurance	
None	30.8 (96)
Private insurance	29.8 (93)
Public insurance	38.5 (120)
Other (e.g. primary care provider (PCP) in different country)	1.0 (3)
Chronic disease diagnosis, prior to health fair	
Yes	39.4 (123)
No	60.6 (189)
Taking prescription medications, prior to health fair	
Yes	42.3 (132)
No	57.7 (180)
In general, how would you rate your overall health?	
Excellent	6.4 (20)
Very good	18.6 (58)
Good	40.7 (120)
Fair	29.8 (93)
Poor	4.5 (14)

Data are percentages. When missingness is not reported, there is no missing data for that category.
[1] Determined by linear distances between zip code centroids from health fair site zip codes to participant zip codes.
[1a] Participants who traveled from the same zip code as the health fair sites.
[2] Includes participants who self-identified as Black/African-American, Asian/Pacific Islander, and Other/Mixed.

Table 3.4 Prior Health Fair Attendance and Motivation to Attend

Survey Questions	N=312 % (n)
How did you find out about the health fair?[2]	
Church announcement during service	57.1 (178)
Family member/Friend	21.7 (68)
Advertisement (e.g. flier, banner, etc.)	18.0 (56)
Other (e.g. driving by, participant is vendor/volunteer)	6.4 (20)
Why did you come to the health fair? Is it because…[1]	
It is free	36.5 (114)
It is convenient	37.8 (118)
I was already at the church	16.4 (51)
I wanted a specific screening	48.7 (152)
I have been feeling ill or worried about my health	12.8 (40)
Other (e.g. accompanied someone else, volunteer/vendor)	8.3 (26)
Have you been screened at a Providence health fair before?	
Yes	58.3 (182)
No	40.1 (125)
Don't know/Don't remember	1.6 (5)

Data are percentages. When missingness is not reported, there is no missing data for that category.
[1] Does not add up to 100% - participants could select more than one answer.

Table 3.5 Screenings and Referrals Received

Screening Tests	Total Sample (N=312)		*% Abnormal of Total Sample*
	Proportion Screened % (n)	*% Abnormal* % (n)	
BMI[1]	71.2 (222)	19.8 (44)	14.1 (44)
Blood Pressure[1]	89.4 (279)	21.9 (61)	19.6 (61)
Cholesterol[1]	88.1 (275)	32.7 (90)	28.9 (90)
Glucose[1]	84.0 (262)	14.1 (37)	11.9 (37)
Vision	28.5 (89)	11.2 (10)	3.2 (10)
Bone Density	37.5 (117)	23.1 (27)	8.7 (27)
Stroke	9.6 (30)	6.7 (2)	0.6 (2)
Chagas[2]	16.4 (51)	--	--
Mammogram referral[2]	4.8 (15)	--	--
Flu Shot[2]	3.8 (12)	--	--
HIV[2]	1.0 (3)	--	--
Glaucoma[2]	2.2 (7)	--	--

Abnormal Screenings and Referrals Received			N=312 % (n)
Participants with abnormal screening results			
Yes			63.8 (199)
No			35.9 (112)
Missing			0.3 (1)
Participants who received referral(s):	In Total Sample (n=312)[4]		Among Participants w/Abnormal Screens (n=199)
Yes	26.3 (82)		32.7 (65)
No	73.7 (230)		67.3 (134)
Referrals received, by insurance type	In Total Sample (n=82)[4]		Among Participants w/Abnormal Screens (n=65)
Uninsured	39.0 (32)		36.9 (24)
Public Insurance (Medicaid, Medicare, etc.)	36.6 (30)		40.0 (26)
Private Insurance	24.4 (20)		23.1 (15)
Types of referrals received[3] (n=89; total)			
Medical Doctors			36.0 (32)
Community Clinic			15.7 (14)
Health Education			18.0 (16)
Exercise Class			14.6 (13)
Other			15.7 (14)

Data are percentages. When missingness is not reported, there is no missing data for that category.
[1]Standard battery of tests provided at every health fair. Availability of other screenings varied by health fair.
[2]Results for these screenings were not immediately available. Participants who received these screenings at the health fairs were given their results post-health fair by the vendor that performed the screening.
[3]Participants could receive more than one referral.
[4]Participants could receive a referral without an abnormal result, such as to a health education or exercise class, or to a community clinic if uninsured.

Table 3.6 Exit counseling, Nurse Follow-up, and Health Education Preferences

Survey Questions	N=312 % (n)
Did anyone at the health fair talk to you about your results?	
No	16.3 (51)
Yes	83.7 (261)
The nurse who conducted the screenings	58.7 (183)
The nurse who gave me a referral	34.0 (106)
Did you visit the exit-counseling table?	
No	40.1 (125)
Yes	59.6 (186)
Missing	0.3 (1)
Did you receive any health information materials at the exit-counseling table?	
No	5.1 (16)
Yes	54.5 (170)
Did not answer	40.4 (126)
How do you plan to use the screening results and the health information you received?	
I plan to make an appointment with my PCP to follow up	21.5 (67)
I plan to make changes to my lifestyle to improve my health	37.8 (118)
I plan to share this information with family members and friends	13.5 (42)
I will find a primary care doctor	4.8 (15)
I do not have any plans based on the information I received	4.8 (15)
How helpful would it be to have a nurse follow up with you about your abnormal screenings in the next two weeks?	
Very helpful	34.9 (109)
Helpful	29.5 (92)
Somewhat helpful	4.2 (13)
Not helpful	14.7 (46)
Not interested	16.7 (52)
Preferred mode of contact[1]	
Call to my home phone	28.8 (90)
Call to my cell phone	48.4 (151)
Text message	17.0 (53)
E-mail	14.1 (44)
Mailed letter	6.1 (19)
Home visit	1.3 (4)
Would you be interested in participating in a health education class specific to the screenings you obtained during the health fair?	
No	31.4 (98)
Yes	68.6 (214)
In-person group class	55.8 (174)
Online/Webinar class	20.2 (63)

Data are percentages. When missingness is not reported, there is no missing data for that category.
[1] Does not add up to 100% - participants could select more than one answer.

Table 3.7 Participant Usual Source of Care, and Health Care Use

Survey Questions	N=312 % (n)
Is there a particular doctor's office, health center, or other place that you usually go if you are sick or need advice about your health?	
Yes	70.8 (221)
No	27.2 (85)
More than one place	1.0 (3)
Don't know	1.0 (3)
Which of the following best describes where you usually go for your health care? (n=221)	
A private doctor's office	55.2 (122)
A community health center	26.2 (58)
An emergency room	2.3 (5)
An urgent care center	1.4 (3)
A hospital	11.8 (26)
An outpatient clinic in a hospital	2.7 (6)
A health fair	0.4 (1)
How long has it been since you last visited a doctor for a routine check-up?	
Within the past year	68.6 (214)
Within the past 2 years	12.8 (40)
Within the past 5 years	4.8 (15)
5 or more years ago	10.9 (34)
Don't know	1.0 (3)
Never	1.9 (6)
Timing of last check-up among uninsured participants (n=96)	
Within the past year	45.8 (44)
Within the past 2 years	21.9 (21)
Within the past 5 years	6.3 (6)
5 or more years ago	22.9 (22)
Don't know	1.0 (1)
Never	2.1 (2)
During the past 12 months how many times have you gone to a hospital emergency room?	
0 times	63.5 (198)
At least 1 time	20.2 (63)
Did not answer	*16.3 (51)*

Data are percentages. When missingness is not reported, there is no missing data for that category.

Table 3.8 Participants' Barriers to Health Care Access

For each of the following, is it a problem for you in getting the health care you need?[2]	N=261[1] No. %
You worry about the cost	60.5 (158)
You can't get an appointment soon enough	40.6 (106)
Change in health insurance	39.5 (103)
Have to wait in the office or clinic too long	39.5 (103)
You are too busy with work or other commitments to take the time	35.6 (93)
The doctors don't speak the same language that you do	29.5 (77)
You don't know where to go, can't find doctor, or can't use doctor of choice	18.8 (49)
Transportation problems	16.5 (43)
It takes too long to get to the doctor's office or clinic from your house/work	15.4 (40)
Caring for family members	14.2 (37)
You are too sick	9.2 (24)
Other	3.4 (9)

Data are percentages. When missingness is not reported, there is no missing data for that category.
[1] This question was added to the survey after the first health fair in 2015; 51 health fair participants of that first health fair were not asked about their barriers to health care access.
[2] Participants could select more than one answer.

Figure 3.1 Health Fair Participant Survey

Section A – Interviewer and Site Information

Interviewer initials: Site ID: Participant ID:

Section B – Health Fair Participation Questions

1. How did you find out about the health fair? (Check all that apply)
   - ☐ Church announcement during service
   - ☐ From a family member or friend
   - ☐ Advertisement (ex. Flier, banner, etc.)
   - ☐ Do not remember
   - ☐ Other, please specify:
2. Why did you come to the health fair? Is it because… (Check all that apply)
   - ☐ It is free
   - ☐ It is convenient
   - ☐ I was already at the location
   - ☐ I wanted a specific screening, please specify:
   - ☐ I have been feeling ill or worried about my health
   - ☐ Other, please specify:
3. Have you been screened at a Providence health fair before? (Select one)
   - ☐ No, this is my first Providence health fair
   - ☐ Yes, at this same location
   - ☐ Yes, at a different location
   - ☐ Don't know/Don't remember

Section C – Existing Health Conditions

4. Are you currently taking prescription medications for any medical conditions that have lasted for more than 3 months? (Select one)
   - ☐ Yes, please specify:
   - ☐ No
5. Are you currently taking prescription medications for any medical conditions?
   - ☐ Yes
   - ☐ No

Section D – Health Screenings and Results

6. Which of the following health screenings did you complete today? (Check all that apply)
   - ☐ BMI/Body Fat
   - ☐ Height/Weight
   - ☐ Blood Pressure
   - ☐ Cholesterol
   - ☐ Blood Glucose
   - ☐ Vision
   - ☐ Bone density
   - ☐ Stroke
   - ☐ Chagas
   - ☐ Mammogram screening or appointment
   - ☐ Prostate screening or appointment
   - ☐ Other, please specify:
7. Did you have screenings that were abnormal? (Check all that apply)
   - ☐ BMI/Body Fat
   - ☐ Height/Weight
   - ☐ Blood Pressure
   - ☐ Bone density
   - ☐ Stroke
   - ☐ Chagas

☐ Cholesterol
☐ Blood Glucose
☐ Vision
☐ Mammogram screening or appointment
☐ Prostate screening or appointment
☐ Other, please specify:

Section E – Referrals and Results Explanation

8. Did you receive any referrals for additional medical care or for health education classes?
   ☐ No
   ☐ Yes, who?
      ☐ Medical doctor
      ☐ Community clinic
      ☐ Emergency Room
      ☐ Health education class
      ☐ Exercise class
      ☐ Other, please specify:
9. Did anyone at the health fair talk with you about your results?
   ☐ No
   ☐ Yes, who?
      ☐ The nurse who conducted the screening
      ☐ The nurse who gave me a referral and/or health education material
      ☐ Other, please specify:
10. How easy to understand were this person's explanations?
   ☐ Very easy
   ☐ Easy
   ☐ Somewhat easy
   ☐ Difficult
   ☐ Very difficult

Section F – Exit Counseling

11. Did you visit the exit-counseling table?
   ☐ Yes
   ☐ No
12. Did you receive any health information materials such as pamphlets, literature, or fliers at the exit-counseling table?
   ☐ Yes
   ☐ No
13. Now that you have participated in the health fair, how do you plan to use the screening results and the health information you received? (Check all that apply)
   ☐ I plan to make an appointment with my PCP to follow
   ☐ I plan to make changes to my lifestyle to improve my health
   ☐ I plan to share this information with family members and friends
   ☐ I will find a primary care doctor
   ☐ I do not have any plans based on the information I received

Section G – Nurse Follow-up and Classes

14. How helpful would it be to have a nurse follow up with you about your abnormal screenings in the next two weeks?
   ☐ Very helpful
   ☐ Helpful

☐ Somewhat helpful
☐ Not helpful. Please specify why?
☐ I am not interested in the follow up. Please specify why?

15. If a health fair nurse needed to contact you about your screening results, how would you prefer to be contacted? (Check all that apply)
☐ Call to my home phone
☐ Cal to my cell phone
☐ Text message
☐ Email
☐ Letter
☐ Home visit

16. Would you be interested in participating in a health education class specific to the screenings you obtained during the health fair?
☐ In-person group class
☐ Online/Webinar class
☐ Other

Section H – Health Fair Rating and Suggestions

17. Using any number from 0 to 10, where 0 is the worst health fair possible and 10 is the best health fair possible, what number would you use to rate this health fair? (Select one)
☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

18. Please give me a brief explanation about why you gave the health fair a rating of # from Q17 (Open-ended)

19. Which additional screenings or services would you like to see at the next Providence health fair that you did not see today?

Section I – Health Status

20. In general, how would you rate your overall health?
☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor

Section J – Usual Source of Care

21. Is there a particular doctor's office, health center, or other place that you usually go if you are sick or need advice about your health?
☐ Yes
☐ No
☐ More than one place
☐ Don't know

22. Which of the following places best describes where you usually go for your health care?
☐ A private doctor's office
☐ A community health center
☐ An emergency room
☐ An urgent care center
☐ A hospital
☐ An outpatient clinic in a hospital

☐ A health fair
☐ Other, please specify:

23. Do you receive any of your health care from a Providence institution?
☐ No
☐ Yes
If Yes, at which Providence institution do you receive care?
☐ Providence Holy Cross
☐ Providence St. Joseph's
☐ Providence Tarzana
☐ Providence Medical Institutes (PMI)
If Yes, what kind of care do you normally receive?
☐ Primary Care
☐ Emergency Room
☐ Urgent Care
☐ Specialty Care
☐ Health Education/Classes

Section K – Health Care Use

24. About how long has it been since you last visited a doctor for a routine checkup?
☐ Within the past year
☐ Within the past 2 years
☐ Within the past 5 years
☐ 5 or more years ago
☐ Don't know/Not sure
☐ Never

25. During the past 12 months, how many times have you gone to a hospital emergency room?
☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 or more

Section L – Access to Care Issues

26. During the past 12 months, was there any time when you didn't get medical care you needed?
☐ Yes
☐ No

27. People often have trouble getting health care for different reasons. For each of the following, please tell me if it is a problem for you in getting the health care you need
☐ You worry about the cost?
☐ Change in health insurance?
☐ You can't get an appointment soon enough?
☐ Have to wait in the office or clinic too long?
☐ The doctors don't speak the same language that you do?
☐ You are too busy with work or other commitments to take the time?
☐ It takes too long to get to the doctor's office or clinic from your house or work?
☐ Transportation problems?
☐ Caring for family members?
☐ You are too sick?

☐ You don't know where to go, can't find a doctor, or can't use doctor of choice?
☐ Other

Section M – Patient Demographics

28. What is your age?
29. What is your sex?
    ☐ Male
    ☐ Female
30. What is your race/ethnicity?
    ☐ White/Caucasian
    ☐ Black/African American
    ☐ Asian/Pacific Islander
    ☐ Hispanic/Latino
    ☐ American Indian
    ☐ Mixed
    ☐ Other, please specify:
31. In which country were you born?
    ☐ USA
    ☐ Mexico
    ☐ Central American Country
    ☐ Philippines
    ☐ Other

Section N – Patient Demographics Continued

32. What is your marital status
    ☐ Single, never married
    ☐ Married
    ☐ Widowed
    ☐ Divorced
    ☐ Separated
    ☐ Living as married
33. Are you currently…?
    ☐ Employed full-time
    ☐ Employed part-time
    ☐ Self-employed
    ☐ Out of work for 1 year or more
    ☐ Out for work for less than 1 year
    ☐ A homemaker
    ☐ A student
    ☐ Retired
    ☐ Unable to work/Disabled
    ☐ Other, please specify:
34. Do you own or rent your home?
    ☐ Own
    ☐ Rent

☐ Other arrangement
☐ Don't know/Not sure

35. In which zip code do you live?

Section O – Language and Education Level

36. What is your preferred language?
☐ English
☐ Spanish
☐ Chinese
☐ Japanese
☐ Russian
☐ Farsi
☐ Tagalog/Filipino
☐ Other

37. How well do you speak English?
☐ Very well
☐ Well
☐ Not well
☐ Not at all

38. What is the highest grade or level of school that you have completed?
☐ 8th grade or less
☐ Some high school, but did not graduate
☐ High school graduate or GED
☐ Some college or 2-year degree
☐ 4-year college degree
☐ More than 4-year college degree

Section P – Health Insurance

39. What kind of health insurance or health coverage do you have? (Check all that apply)
☐ Private health insurance
☐ Medicare
☐ Medicaid/Medical
☐ My Health LA
☐ Military Health Care
☐ No coverage or any type
☐ Don't know

Section Q – Cell Phone Use

The next few questions are intended to help us understand your communication preferences so that we can adapt how we communicate with our health fair participants.

40. Do you have a cellular telephone?
☐ Yes
☐ No

41. Please indicate the primary ways in which you use your cell phone on a regular basis
☐ To send or receive text message

☐ To send or receive email
☐ To use the Internet
☐ To use social networking sites such as Facebook, Twitter, WhatsApp, etc.

42. Do you ever use your cell phone to look up health or medical information?
☐ Yes, How often do you use your cell phone to look up health or medical information?
☐ Always
☐ Very often
☐ Sometimes
☐ Rarely
☐ Never
☐ No

43. Does your cell phone have any software applications or “apps” that help you track or manage your health?
☐ Yes, How often do you use these apps?
☐ Always
☐ Very often
☐ Sometimes
☐ Rarely
☐ Never
☐ No

Section R – Computer Use

44. Do you have access to a computer that is connected to the Internet?
☐ Yes
☐ No

45. Please indicate the primary ways in which you use your computer on a regular basis
☐ To send or receive email
☐ To use the Internet
☐ To use social networking sites such as Facebook, Twitter, WhatsApp, etc.
How often do you use your computer to look up health or medical information?
☐ Always
☐ Very often
☐ Sometimes
☐ Rarely
☐ Never

46. Do you ever use any websites or online resources to help you track or manage your health?
☐ Yes
☐ No, How often do you use these websites and online resources?
☐ Always
☐ Very often
☐ Sometimes
☐ Rarely
☐ Never

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CHAPTER 4: Stakeholders' Perspectives on a Clinical-Community Partnership to Expand the Delivery of Preventive Health Services Outside the Health Care System

4.1 Chapter Introduction

Competing demands on providers' time and resources limit delivery of preventive health services within the health care system (Crabtree et al., 2005; Jaen, Stange, & Nutting, 1994; McGlynn et al., 2003; Yarnall, Pollak, Østbye, Krause, & Michener, 2003). Establishing supplemental avenues for delivery can support the health care system and increase the number of people receiving recommended preventive health services. In 2010, more than $100 million in federal *Community Transformation Grants* were allocated to community-based organizations and state and local governments to design and implement evidence-based chronic disease prevention programs (Centers for Disease Control and Prevention, 2014). Clinical-community partnerships involving bi-directional resource and networking sharing between health care providers, community organizations, and public health agencies represent one of multiple evidence-based strategies being utilized to expand delivery of preventive health services (Centers for Disease Control and Prevention, 2016). Partnership goals and activities can vary significantly; however, such partnerships are increasingly being promoted by public health leaders and funders as a strategy for promoting healthy behaviors and connecting community members to needed care (Agency for Healthcare Research and Quality, 2015).

The Faith Community Health Partnership (FCHP), a community benefit program of Providence Holy Cross Hospital that funds and coordinates community health fairs in Los Angeles County, is one example of a clinical-community partnership (see Chapter 1). Specifically, the FCHP is a partnership between a health system (Providence Holy Cross Hospital, hereafter referred to as Providence), members of faith-based organizations (church health ministry teams), and other community-based organizations (vendors such as representatives from national chronic disease associations providing health education). Like

other community health fairs, FCHP's community health fairs focus on promoting no- and/or low-cost health education and needed preventive health services in underserved communities (Murray, Liang, Barnack-Tavlaris, & Navarro, 2014). However, FCHP's health fairs, which are delivered via long-standing clinical-community partnerships, address two traditional critiques of health fairs: (1) that health fairs are temporally limited, and (2) that they do not facilitate linkages to the health care system.

Most health fairs occur as single, non-recurring episodes, with no services or follow-up provided beyond the initial event (Berwick, 1985), and thus, little to no continuity of care for participants. Evidence also suggests that the quality of preventive services provided at health fairs can be mixed. For example, health fairs have been criticized for insufficiently counseling patients about the potential financial and health consequences of abnormal test results, the possibility of false-negative and false-positive results, the age-appropriateness of screenings based on evidence-based clinical guidelines, and the subsequent steps to take in the event of an abnormal result (Kamerow, 2011; Wallace, Schumann, & Weinberger, 2012). Proponents argue that even if health fairs offer screenings that are not necessary or of high value, they can serve as a "drawing card" to encourage community members to receive preventive health services and health education. However, in order to yield this benefit, community health fair services must allow for appropriate follow-up and referrals, either provided directly by health fair organizers or facilitated by health care systems and other clinical partners involved in the health fair (Berwick, 1985).

FCHP's clinical-community partnership model represents one potential strategy for overcoming these two traditional critiques of health fairs. As discussed in Chapter 1, the FCHP tasks its faith community nurses with establishing partnerships with community faith-based organizations. These partnerships lead to the development of health ministry teams within churches that the FCHP faith community nurses support in efforts to improve the health and wellbeing of their congregations and surrounding communities. The FCHP clinical-community

partnership includes the faith community nurses, the health ministries at each church, and the vendors (other community organizations). The FCHP partners have delivered health education and preventive health screenings since 1990, with some of the original health ministries remaining active in the partnership for more than 20 years.

The length and number of partnerships the FHCP maintains is evidence that the community health fairs it organizes are not one-time events or temporally limited. Instead, the health ministry teams and the faith community nurses are present at the churches throughout the year, increasing their visibility in the community and in the faith-based organizations by arranging other recurring health-related events in addition to the annual community health fairs. In this way, the faith community nurses and the health ministry teams become a constant and reliable health resource for their communities. In addition, by promoting resource sharing with other health organizations in the community (vendors), the FCHP secures a wide range of referral pathways for health fair participants, such as to vision and dental clinics, to Alzheimer's and Cancer organizations, and to primary care in community clinics. In addition, the FCHP health fairs are supervised by registered nurses (from the FCHP and from the churches) who provide clinical oversight to other clinical and non-clinical volunteers, to ensure the safety and appropriateness of screenings provided.

Existing research has focused on describing the services offered by clinical-community partnerships and the health outcomes experienced by patients as a result of those partnerships (Ackermann, 2010; Etz et al., 2008; Frank, Kietzman, & Wallace, 2014; Krist et al., 2012; Porterfield et al., 2012; Statewide Health Improvement Program, 2014). However, less is known about how partnerships may adapt and evolve to successfully collaborate over time. Additional research is needed that identifies specific characteristics of clinical organizations, community organizations, and other health organizations that result in successful clinical-community partnerships (Agency for Healthcare Research and Quality, 2013). This study draws on interview data from key stakeholders involved in FCHP's clinical-community partnership to

identify the factors contributing to successful and sustainable collaboration between partners. Understanding the factors that contribute to successful and sustainable collaboration between clinical-community partnerships is important to guide implementation of similar clinical-community strategies.

4.1.1 Theoretical Framework

Collaboration is defined as “a process in which organizations exchange information, alter activities, share resources, and enhance each other’s capacity for mutual benefit and a common purpose by sharing risks, responsibilities, and rewards” (Himmelman, 2002). Successful collaboration, therefore, entails a clearly defined and trusting relationship between two or more organizations characterized by mutually beneficial and agreed upon goals, jointly defined structure and responsibility, mutual authority and accountability for success, and tangible benefits for all partners (Seifer, 2006). Many factors contribute to successful collaboration between partners. The Wilder Collaboration Factors Inventory (WCFI), which was developed following a comprehensive review of the literature on collaboration, identifies six categories of factors shown to affect the success of collaborative relationships: *environment, membership, process and structure, communication, purpose, and resources* (Mattessich, Murray-Close, & Monsey, 2001).

The *environment* is defined by a history of collaboration, favorable political and social context, and perceived legitimacy of the partnership. *Membership* includes respect, understanding, and trust among an appropriate cross-section of partners, as well as partners recognizing value in the collaboration. *Process and structure* pertains to partners’ participation, roles, flexibility, adaptability, and ownership of processes and outcomes. *Communication* includes established communication links for open and frequent communication between partners. The *purpose* is defined by a shared vision of mutually defined and agreed upon goals and objectives. *Resources* are the finances, materials, and skills needed to reach the

partnership goals. (Mattessich et al., 2001). This study draws on these six WCFI categories to identify factors contributing to successful collaboration between FCHP partners in delivering preventive health services and referrals in the community.

4.2 Methods

This study utilized qualitative methods to understand the perspectives of the FCHP faith community nurses, health ministry members, and vendors that organize the community health fairs that are the subject of this dissertation. Specifically, key stakeholders involved in the FCHP clinical-community partnership were interviewed regarding organizational characteristics and enabling factors perceived to underlie successful and sustainable collaboration between partners.

4.2.1 Participant Eligibility

Eligible participants included all adults over the age of 18 who had participated in the implementation of at least one community health fair in their capacity as a member of the FCHP staff, a health ministry team, or a vendor organization. The study criteria were purposely broad to encourage the participation of a wide range of stakeholders. Nonetheless, all participants in the final sample had implemented at least five health fairs.

4.2.2 Recruitment Procedures and Sample

A non-proportional quota sampling approach was used to ensure that study participants were recruited from within each stakeholder category – FCHP faith community nurses, health ministry members, and vendors. The existing communication practices between stakeholders governed the sampling. Due to the large number of stakeholders involved, e-mail was the FCHP's preferred method of communication, allowing for large numbers of stakeholders to be reached with minimal effort. The FCHP accommodated stakeholders without e-mails through personal phone calls. For purposes of this study, only stakeholders with e-mails were contacted

since they represented the most typical stakeholder and only stakeholders with working emails were reached.

The FCHP Director facilitated the recruitment of health ministry members and vendors by providing a list of 39 e-mail addresses for potential participants for the study. Potential participants were selected by the Director based on whether they were actively participating in the partnership at the time of the study (i.e. vendors responding to partnership emails) and whether they had an active health ministry team. The research team emailed an invitation letter and description of the study to potential participants. Interested participants responded to the email and interview dates and locations convenient for the participants were set on an individual basis. Of the 39 eligible participants, seven were FCHP staff members, 16 were health ministry members representing twelve churches, and 16 were vendors. The final sample included 18 participants; six from each stakeholder group (see Figure 4.1).

4.2.3 Data Collection Methods

A total of 18 interviews involving 6 participants from each stakeholder group were conducted between March and May 2016 in Los Angeles County, CA. Interviews were conducted by a single interviewer in respondents' language of choice (English or Spanish) using a semi-structured interview guide tailored to key stakeholders' role (e.g., FCHP staff, health ministry member, vendor). Interview questions were informed by the partnership collaboration literature, and specifically by the six WCFI categories shown to affect collaboration success (see Table 4.1). Stakeholders were asked interview questions pertinent to their role in the partnership (see Table 4.2). Participants were asked about: the characteristics and health needs of their communities, the partnership's history, and the political and social context (*Environment*); the trust and respect among partners, including power differentials and conflicts (*Membership*); the level of involvement among partners, leadership, administration, governance of the partnership, and partnership efficiency (*Process and Structure*); the connections between

the partners (*Communication*); the partnership's mission and goals (*Purpose*); and the skills, expertise, information, and financing for the partnership (*Resources*). Participants were also asked about their views on the future of the partnership and the community health fairs. Full copies of the data collection instruments are provided in Figure 4.2.

Interviews were conducted at a location of the interviewees' choosing and lasted between 30 minutes and two hours. Six FCHP staff participants elected to be interviewed in their private office. One FCHP nurse was unable to participate due to personal reasons unrelated to the study or to her role as an FCHP nurse. Six health ministry members were also interviewed and primarily chose their home residence or work place. Six vendors agreed to participate, with five preferring a phone interview and only one vendor opting to be interviewed at their place of work. A total of 17 interviews were conducted in English and 1 in Spanish.

All interviews were audio recorded with the participants' permission. Interviews were transcribed from the digital recordings by the interviewer and three research assistants. The single Spanish interview was transcribed and translated by the interviewer. The interview transcripts were returned to each participant for review and validation. Participants were encouraged to request edits, including clarifications and omissions to the transcript. Participants primarily provided additional details to better explain their statements in the transcript. Omissions were few and were generally requested when participants were unsure of the veracity of a statement in their transcript. All changes to the transcripts were completed prior to the start of the coding analysis.

4.2.4 Data Analysis Methods

Atlas.ti, a qualitative data analysis software, was used to organize the analysis of the data into thematic sections. Each transcript was coded twice, first for the factors of interest and secondly to identify any additional information. Open coding was used to first create temporary labels that explain or summarize the meaning emerging from the data. From these open codes,

connections were made through an iterative process to identify sub-themes and overarching themes to understand the nature and processes of clinical-community partnerships.

To ensure the quality of the analysis two independent coders coded a preliminary set of transcripts and compared results. The two coders met multiple times to discuss discrepancies in coding until consensus was reached. A working set of codes was used to code the remaining transcripts. Weekly meetings between the two coders ensured that new codes were discussed, and that the coding of each transcript was reconciled and agreed upon.

4.3 Qualitative Themes and Results

Major themes and sub-themes emerged from the data reflecting vital elements of successful collaborative and sustainable clinical-community partnerships consistent with the six categories of the WCFI: environment, membership, process and structure, communication, purpose, and resources. Additional themes included continuity and sustainability of the partnership, and advice for other health and community organizations initiating clinical-community partnerships. Themes that overlapped within and between groups were especially noteworthy as they provided an insight into the variable nature of the partnership, its challenges and successes.

4.3.1 Partnership Purpose

To understand the relationships among the partners, participants were asked about the goals of the community health fairs and the role of each stakeholder in the clinical-community partnership. The quality of the relationships among partners is a central component to the success of the FCHP clinical-community partnership. Sharing a similar mission and set of values was articulated numerous times across respondents and within stakeholder groups as facilitating the organization of the community health fairs through partnership. Three main sub-

themes emerged that highlight components of partnership purpose: an expanded definition of health, a motivation to serve, and finding value in collaboration.

Expanded Definition of Health

For the partners organizing the community health fairs, health is more than the clinical definition of physical and mental wellbeing. The health ministry members mentioned often the need to provide spiritual care to health fair participants in conjunction with the battery of tests and services offered at the health fairs. The faith-community nurses also identified with a more holistic definition of health because of their training:

> *"So, way back, before anyone was speaking holistic health, before health centers were saying we need to affect the mind, body and spirit, parish nursing already understood that. That we really needed to engage the whole person…"*
> [Participant 1, FCHP Faith-Community Nurse]

The proclivity to care for the spiritual health of participants stemmed from different sources and varied by stakeholder group. For health ministry members, the religious teachings of their faith informed their understanding of health and wellbeing. For faith community nurses (as the previous quote illustrates) the care of the spirit is essential to their training. Having a congruent definition of health among stakeholders in the partnership extends the roles of the stakeholders beyond the organization of the event and the delivery of preventive health services and clinical follow-up. Their role is also to provide a safe outlet for health fair participants to learn about their health and to be able to explore options (including spiritual ones) by which to practice self-care.

For the faith-community nurses and the health ministry members, providing spiritual care is a natural continuation of their belief system and training. The vendors however, are primarily unaffiliated with religious organizations. When vendors become partners, they are made aware that most health fairs take place in faith-based organizations, but they do not necessarily participate in the partnership because of the spiritual component. Nonetheless, none of the

vendors interviewed gave any indication of being fazed by the inclusion of spirituality in the partnership's definition of health. Instead, one vendor recalled:

> *"I remember when I went to the first health fair, I saw [a faith community nurse] …ministering someone. She was talking to them about God and about health and all of that. It was wonderful to watch..." [*Participant 12, Vendor]

A definition of health that includes participants' spirituality is necessary to sustain the engagement of the health ministry teams and their congregations, who often see their work in the health fairs as an extension of their personal faith:

> *"I like to think that we are doing what God wants us to do…You are not going to get to heaven just because we have health fairs…but because it's the work that we do."* [Participant 8, Health Ministry Member]

The health ministry teams are largely responsible for recruiting health fair participants and marketing to their communities. As such, the health ministries' buy-in is instrumental in the partnership's continued success. Without them, the faith community nurses and vendors would find themselves without a steady stream of health fair participants and without the physical space in which to hold the health fairs.

When working in partnership to provide care outside the health care system, it is necessary for the partners to negotiate and respect the partnership's working definition of health. Outside the health care system, definitions of health and wellbeing need to be more fluid to consider the extrinsic and intrinsic factors that might affect how partners define the terms outside of the partnership.

Motivation to Serve

Finding a shared purpose can also improve collaboration among partners. The goal of the FCHP partnership is to serve the underserved and to provide preventive health services to those who most need it and are least able or likely to access it. As a result, partners must be willing to meet health fair participants "where they are" [Participant 1, FCHP staff]. Meaning that

health fair participants' preferences and needs often drive health fair interactions, including when and where the health fairs are held and the services and referrals offered.

The FCHP partners exhibited a great degree of flexibility and motivation to provide care under less than ideal conditions. A fundamental calling to provide care to the underserved motivated their actions. One faith-community nurse and a vendor explained:

> *"If you have the passion to make a difference, change someone or be able to bring some help to someone who really needs it, that's what moves the group."* [Participant 2, FCHP Faith-Community Nurse]

> *"No one gets paid to come out to any of this outreach, which is pretty amazing…my volunteers get nothing but the satisfaction and gratitude of the people that we are serving."* [Participant 11, vendor]

This calling to serve others as the primary motivation to participate in the partnership is especially true of the health ministry members. Of the three stakeholder groups, health ministry members are the only group that is made up entirely of volunteers. Although a small number of vendors are also not financially compensated for their time, a majority of the vendors are paid by their employers to attend the health fairs and increase awareness of their services in the community. All the faith-community nurses are paid employees of the FCHP, which is funded through Providence's community benefit budget. Although financial considerations for participating in clinical-community partnerships will undoubtedly be important for all partners, it is important to also consider additional, non-monetary motivations, and to provide an outlet for those motivations when they further partnership goals.

It is equally important to consider that partners may also have motivations for participating in the partnership that may negatively influence partnership outcomes. One example of this in the FCHP partnership is how and why vendors are selected as partners. For the faith-community nurses and the health ministry members, it is imperative that the health fair participants be the focus of the partnership. As a result, they have established non-negotiable

criteria for inviting vendor partners. These criteria limit the vendors' ability to monetarily profit from the health fair participants by requiring that all services offered at the health fairs be free. Vendors are also not allowed to solicit contact information from the health fair participants, limiting opportunities for vendors to sell additional services after the health fair.

As one faith-community nurse observed, these criteria are not always easily understood or espoused by vendor partners, but they are essential to maintaining the trust of the community and for facilitating additional linkages to medical referrals and health resources:

> *"So if the vendor wants to attend one of Providence's health events…they need to know that they are not allowed to take names…to take phone numbers, because we don't want the people being harassed…[Vendors] may not see it as harassing, but…when [participants] see Providence…they know that everything is free and they're not going to be harassed…these…churches are…a safe haven for them and if they see us and we're at…their church where they feel safe, they're more likely to give [faith-community nurses] their information for callback purposes."* [Participant 3, Faith-community nurse]

To this end, faith-community nurses and health ministry members are selective of the vendors on which they rely. However, the nurses and ministry members are also cognizant that vendors have individual expectations for the partnership.

Value in Collaboration

The partners are careful to balance the needs of the community with the needs of the partners. There is a general understanding that all partners benefit from collaborating with each other, and a concerted effort is made by all to ensure that each partner is satisfied with the partnership and guarantee their continued participation. One faith-community nurse shared feedback from vendors that speaks to the value of collaboration:

> *"So [vendors] say, I get to meet my quota…just by coming to your events alone…It highlights their work…their organizations…their program. They get to come to all the communities of the Valley. They really get to affect change. They're partnering with an organization [FCHP] that has credibility, that aspires for excellence, and so I think all those things make a good relationship."* [Participant 1, FCHP staff]

As the example shows, collaboration is important and fundamental to the success of the partnership. However, partners had a difficult time explaining precisely how collaboration comes about. One vendor reflected that being able to rely on the other partners and being involved in partnership activities helped to establish collaboration:

> *"I think we're very collaborative but I don't know what we have done to achieve that. I think our missions are the same, which is the key factor and being available. If we weren't available every time [the faith-community nurses] called…we wouldn't have the collaboration that we have. So being accessible I think makes a big difference."* [Participant 11, Vendor]

The general sentiment among partners was that to reach collaboration the goal of the partnership must be agreed upon and mutually sought. In other words, it is insufficient to only share a common definition of health and a motivation to serve the community at large. Also essential is equitable involvement in partnership activities, respect among the partners, and a willingness to make the partnership work. In other words, the success of the partnership itself must be important to the partners involved and not only the intended outcome of said partnership.

4.3.2 Membership, Process and Structure, and Communication

Shared beliefs, mutual respect, and involvement in the partnership are three factors that contribute to collaborative partnerships. Understanding how the partnership is administered and how partners negotiate roles and power differentials is also imperative. To explore these concepts the partners were asked about their processes for making partnership-related decisions. Repeatedly participants recounted instances of having to negotiate between and within stakeholder groups to define partner roles and responsibilities. Although these negotiations were commonplace in all phases of the partnership and among all stakeholders, they were frequently reported when supporting the health ministry teams, when deciphering the role of church leadership, and when translating knowledge between stakeholders.

Supporting the Health Ministry Teams

The Faith Community Health Partnership's (FCHP) goal has always been to partner with faith-based organizations through health ministry teams made up of lay congregants in building capacity within the church to promote the health and wellbeing of the church community. One faith-community nurse explained:

> *"…the point was to bring in a nurse to guide and set out the rules and help recruit people. After, when the church itself started working together, the nurse was to be pulled out and brought out to another church and start building there. So, the intention was never to keep the nurse in that church, it was to help build and start their own resource…"*
> [Participant 4, Faith-community nurse]

However, the role of the FCHP faith-community nurses has evolved according to the needs of the health ministries and their surrounding communities. The degree of capacity building has varied across health ministries.

> *"We'll go support but they're within themselves able to give health education classes, do a diabetes support group. So, we're helping them build those groups so that they can help their own. Kind of like train the trainer and then they can keep helping the parish and keep doing those things, ongoing and just call us for support."*
> [Participant 5, Faith-community nurse]

Some health ministry teams, as the previous example illustrates, require very little support from the faith-community nurses and could put on the annual health fairs and other recurring health events with little to no support from the FCHP. The more common scenarios have been health ministry teams that require a substantial amount of support from the FCHP nurses. In fact, in none of the parishes has the faith-community nurse been "pulled out" because the health ministries are dependent on the nurses to varied extents.

The faith-community nurses operate between two roles – those of grantor and consultant. As the grantors, they can provide the health ministry teams with financial and other resources to deliver preventive health services in the community. The financial resources are

not awarded to the health ministries in the form of monetary funds. Instead, the FCHP employs the faith-community health nurses and covers the cost of blood pressure, glucose, cholesterol, and bone density screenings offered at the health fairs. Their role as grantor is limited by the community benefit budget the hospital grants the FCHP.

As consultants, the faith-community nurses provide clinical guidance to the health ministries. They support the health ministries in identifying the health needs in their church communities and support the development of health events to address those needs. In this role, the faith-community nurses are exceptionally flexible. There is no set standard for the composition of a health ministry or for the content and number of health events the ministries must put on. These decisions are left to the heath ministries themselves. One faith-community nurse describes:

> *"Now, whether or not that health ministry is two people, three people, or 30 people…we can put on a health fair. As long as there's a need we can put on a health fair. As long as we have that contract with the church, we can put on a health fair."*
> [Participant 3, Faith-community nurse]

Thus, the faith-community nurses defer to the heath ministries in most non-clinical decision-making related to the administration and role of the health ministries within the churches.

Translating Knowledge

When organizing the health fairs, the faith-community nurses are more likely to take an active role in planning and decision-making if requested to do so by the health ministries or if the health ministry has limited experience and/or is overextended. Yet, this is not the only role faith-community nurses adopt. The nurses also function as translators of clinical and experiential knowledge.

Their clinical training allows the faith-community nurses to support the health ministries whether or not the ministry teams include lay congregants with a clinical background. Their clinical training and the backing of the Providence Holy Cross Hospital bring credibility and

security to the health events. One health ministry member explained that without the faith-community nurses, the health ministry would be unable to hold a health fair, stating:

> *"There is a lot of liability. People think they can just make a health fair… You can get your church in trouble. You need to know what you can do and cannot do."* [Participant 17, Health ministry member]

Perhaps the most important role of the faith-community nurses is to translate experiential knowledge for the vendors and other clinicians who are unfamiliar with partnering with faith-based organizations. The ability to translate experiential knowledge from a 26-year history of partnering with faith-based organizations is especially salient when the ability of vendor and clinician partners to deliver preventive health services at the health fairs is limited by the religious principles espoused by the health ministries.

> *"…I'm planning a health fair coming up next weekend and we're having HIV testing there and they're so excited about that. But…I know they have issues sometimes with…can we give out condoms at a church? So sometimes their religious beliefs will get in the way of some of the services we think are useful."* [Participant 6, Faith-community nurse]

Although not all health ministries limit the health services that can be provided to their communities, the faith-community nurses play an important role in negotiating with the health ministries that do. The negotiations include identifying which vendors best match the health ministries' needs and respect the ministries' religious principles. As well as discussing how less acceptable services (for some ministries), such as Yoga for stress relief, can be appropriate when divorced of their religious history. Yet role negotiations are not limited only to interactions between stakeholder groups.

The Role of Church Leadership

Role negotiations are especially challenging within stakeholder groups, particularly for the health ministries. On the one hand, the health ministry teams are faced with the challenge of generating buy-in for their ministries within their churches as a basic requirement to joining the

FCHP partnership. On the other, the health ministry teams are also faced with maintaining that buy-in and garnering long-term support for their activities from church leadership.

As a basic requirement to joining the FCHP partnership, lay congregants of faith-based organizations who are interested in forming a health ministry are required to have support from church leadership – priests, pastors, ministers, etc. However, the degree to which church leadership is required to support the health ministry is primarily contractual. In other words, church leadership is expected to sign a partnership contract with the FCHP and pay a $300 fee that signals to the FCHP that this faith-based organization is committed to the partnership. Beyond the initial support from church leadership to agree to the partnership, additional support for the health ministries is not contractually required, though it is suggested.

It is commonplace for church leadership to only be involved at the annual singing of the partnership contract. It is much less common for church leadership to be directly involved in the work of the health ministries throughout the year. As a result, health ministry members are often unsure of the role of the health ministry within the church. Each health event, including the health fair, must be negotiated vis-à-vis other church priorities and often, with little to no financial support or even awareness from church leadership. One faith community nurse noted:

> *"I feel that some of the churches…need to have a little more ownership…so that they feel it's something that belongs to them and more of the church finds out. In some of the churches…the only ones involved or the only ones that are aware of the events are the core leaders and not necessarily the pastors, the different committees, the church as a whole…That's something we need to work on."* [Participant 4, Faith-community nurse]

From the perspective of health ministry members, increasing the visibility of the health ministry within the church and garnering buy-in from church leadership while organizing health events and maintaining health ministry membership can be frustrating and overwhelming. One health ministry member lamented:

> *"I would like to feel valued. I think we [the ministry] are taken for granted. I think if we stopped doing things, no one would care. I have really grown the ministry in the sense of having all these different things that [the church] can now take part in…I sure don't have a feeling that anybody cares from the parish."* [Participant 9, Health ministry member]

Although the previous example of feeling under-valued is the most extreme, it captures the general sentiment that the greater church community did not always provide much needed support:

> *"It would be really neat…to have somebody from [the faith-community nurses] who could come in [to our church] and just talk about our health ministry…And ask them, you know, do you want this health ministry to continue? I mean, I love it, you know, I love it and I have a passion for it but it could be gone tomorrow. I could be gone tomorrow."* [Participant 8, Health ministry member]

Most health ministry members interviewed also identified limited support and resources from church leadership as a problem. Especially frustrating to the health ministry members was the acknowledgement from church leadership that successful health fairs and health fair events were positive marketing for the church in the community, but experienced no direct benefit to the health ministry itself. Nonetheless, health ministries continue the often, under-appreciated work of organizing health fairs and health events because of the benefits to their communities. Several health ministry members stressed that their work was unsustainable without support from other church congregants and church leadership.

4.3.3 Resources

The principal benefit the partners receive from the FCHP partnership is the sharing of resources, including the sharing of skills and expertise, information, and connections to other people, groups, and organizations. Resource sharing is a key component of collaborative partnerships and one that was overwhelmingly discussed by participants in the interviews. There were numerous examples of how being part of the partnership positively affected each partners' communities and organizations beyond the benefit each partner could individually

deliver. The diversity of the resources shared also gave the partners leverage to justify the time and resources expended on the partnership to administrators in their organizations.

The FCHP partnership allows each stakeholder group to input resources that are readily available to them and extract from the partnership resources that would otherwise be difficult for each stakeholder group to obtain. Thus, one of the benefits of the partnership is that partners can amplify their ability to serve the underserved because of the skills and expertise that the partnership brings together (internal benefit). However, the partnership also benefits individual partners differently and allows them to achieve individual goals (external benefits). The next section focuses on internal and external benefits of the partnership for the partners.

Internal Benefits

The success of the FCHP partnership relies heavily on the strength and reliability of the resource sharing between the partners and on the ability of the partnership to fulfill partnership goals. First by ensuring that each partner can make a specialized contribution to the partnership (e.g. clinical skill, specialty screening tests, community trust). Second by promoting the health fairs in such a way that the resources and time expended by the partners to organize and attend the health fairs is validated by the number of health fair participants served at each health fair. Thus, the motivations, expectations, and activities of the partners must support the partnership goals with equitable contributions of resources, including specialized skills and information, for the partnership to be successful.

As such, the faith-community nurses provide needed clinical-expertise during the health fairs, expertise that many the vendors and health ministries would struggle to acquire. The vendors in turn provide specialized screenings and educational material at the health fairs that the faith-community nurses and health ministries could not provide. Similarly, the health ministries bring with them community trust, visibility, and the physical space to hold the health fairs, without which the faith-community nurses and vendors would be rendered ineffective. One faith-community nurse provided the following reflection on the value of the partnership:

> *"Well, [the partners] are in a community that [the health fair participants] trust, in a setting that they trust. [The partners] are available when [the health fair participants] are already going to make time to be present and [the faith-community nurses] are known in the community…Plus, we engage [the health fair participants'] own parishioners [health ministry members] that want to give back to their church communities and so [the health ministry members] have a vested interest in their own community. So, it's kind of nice."* [Participant 1, Faith-community nurse]

Many the health ministries for example, though well intended, lack the clinical expertise and the financial backing from their churches to deliver preventive health services. Vendors, likewise, may have the clinical expertise and even the financial resources to provide the services, but lack the resources and skills to build partnerships with faith-based organizations that can recruit participants. Two vendors explained how the faith-community nurses facilitate the vendors' delivery of services:

> *"[The faith-community nurses are] the lead in the community. We couldn't just go set up a table on the street corner and say come lets draw your blood. So, it's giving us access to the population, the community that we wouldn't otherwise have."* [Participant 11, Vendor]

> *"…I mean to me, that's efficiency. Why should we go out and create an opportunity if [the health fair nurses are] already doing it? We'll just tag on."* [Participant 13, Vendor]

At the same time, the faith-community nurses understand that the health fairs need to be inclusive to be sustainable. The vendors' participation relies on the ability of the faith-community nurses and the health ministries to attract a consistent number of health fair participants. The health fairs must be worth the vendors' time and resources to be sustainable. Thus, to motivate health fair participants to use the health fair services, all participants can access any of the services, even when a service is not recommended. One nurse provides the following example:

> *"…medical centers…come in and say, we'll do your glucose and cholesterol. And they may have a vested interest only in the folks that need the actual disease management but in nobody else. Whereas, we're interested in everybody."* [Participant 1, FCHP staff]

The overarching goal of the partnership is to provide preventive health services to the underserved. To meet this goal, the faith-community nurses understand that an excess of services must be provided, including to health fair participants who may not be clinically indicated to receive the tests. The rationale is that the larger the number of health fair participants who receive available testing, the more likely it is that health fair participants with health problems will be identified and linked to available post-health fair resources, including medical referrals and follow-up. For the partnership itself, larger numbers of health fair participants allow all partners to justify the amount of time and resources spent organizing and attending the FCHP partnership health fairs.

External Benefits

The benefits of participating in the partnership are not limited only to internal aspects of the partnership. The partners also benefit individually from the partnership (external benefits), such as when the partnership allows partners to also fulfill their organizations' missions and goals. The partners interviewed also appeared to be fully aware of how the partnership benefitted the other partners, beyond the goals of the partnership itself. Although this knowledge was likely not the result of formal disclosures, there seemed to be a general understanding of transparency between the partners.

For the faith-community nurses, partnering with faith-based organizations through the health ministries facilitates their access to underserved populations in their hospital's service area – a main objective of the hospital's mission and goals which also overlaps with the partnership's mission and goals. However, as the following vendor and health ministry members describe, the hospital and the FCHP program also benefit from the partnership:

> *"…in order to keep their non-profit status, [the Hospital has] to be able to prove that they give enough benefits to the community to make up for the taxes that they are not paying. Every non-profit has to do that…The other thing [the hospital] get[s]*

> *out of it is that it is part of their mission…to raise the health status of the community. That's their vision."* [Participant 9, Health ministry member]

A vendor highlighted the benefit the hospital receives from being affiliated with high-profile organizations in the community. This vendor stressed that not only did the community benefit from the vendor's expertise, but the hospital as well. The vendor's participation added credibility to the health fair itself and to the hospital's ability to put on high-impact health fairs:

> *"I think having experts that understand a particular area is really the key. You can't know everything. We are experts with 35 years' experience in Southern California…so if you partner with us, we will be able to handle it for you…What we can refer on is so wide that it just expands how much the hospital can do and affiliation is really positive."*
> [Participant 13, Vendor]

An added external benefit of the partnership is the visibility the health fairs afford the partners. The faith-community nurses can promote the hospital and their work, thereby increasing the possibility of forming additional partnerships with faith-based organizations and other community organizations through exposure. Likewise, the health ministries bolster their churches' presence in the community and promote the ministries' existence within the church. For the vendors, the external benefits also revolve around marketing their organizations and being able to meet their organizations' mission and goals. A health ministry member provided an example of how the vendors benefit from the partnership, saying:

> *"Again, visibility, advertising, recruiting patients, that type of thing. It's a win-win for everybody."* [Participant 10, Health ministry]

Overwhelmingly the partners interviewed focused on how the partnership benefited the health fair participants and their communities. Nonetheless they were cognizant that the partnership also benefitted their individual organizations, with several partners pointing out that it was the external benefits that allowed them to continue participating in the health fairs. Thus, although the partners were tasked by their individual organizations to outreach to the

underserved, this alone was not sufficient motivation to partner with other organizations. Particularly for the vendors, the external benefits of partnering with other organizations needed to outweigh the benefit of the partnership itself to make the time commitment worthwhile. These are only a few of the important considerations that partners need to address to ensure the continuity of the partnership.

4.3.4 Environment, Partnership Sustainability, and Opportunities for Growth

The FCHP partnership began in 1990 with one health ministry and a limited number of vendor partners. Since then, more than 35 health ministries have been formed and the network of vendor partners has grown to more than 50 organizations. Over the past 26 years the partnership has also evolved to adapt to changes in its geographic area, to church closures and openings, and to local and national policy like the passage of the Affordable Care Act in 2010. The partners have been successful in sustaining the partnership throughout these changes, in great part because of the uninterrupted financial support that the faith-community nurses receive from their hospital's community benefit budget. However, other factors have also guided the sustainability of the partnership. All the interviewees identified opportunities to continue to sustain the partnership into the future and more importantly they highlighted opportunities for partnership growth.

National Health Policy

One factor affecting the sustainability of the partnership is the effect of the Affordable Care Act (ACA) on the FCHP health fair partnership. All partners expressed excitement in the promise of the ACA to insure more community members and increase their access to care. However, the faith-community nurses were the most vocal about how the ACA, or as they frequently referred to it "Obamacare," would affect the FCHP partnership's role in the community. Their reactions ranged from skepticism about the need for the health fairs in the

future, to relief that with the ACA the faith-community nurses could finally focus on providing services other than preventive care.

One faith community nurse expressed hope that the passage of the ACA would make the FCHP partnership more necessary, stating:

> *"I think that as more and more people get health insurance…we're actually going to be in a position of growth because people are going to be saying, 'I can't get to my doctor's appointment there's too many people getting appointments and there's not enough organizations…' And we may actually be in a good position where people need this resource."* [Participant 1, Faith-community nurse]

In this scenario, there would still be an underserved population in the community even if they were insured. The FCHP partnership would seek to meet the needs of insured community members who were unable to obtain speedy medical appointments and who were unable to afford their copayments, in addition to continuing to provide care for the uninsured. However, a second faith-community nurse expressed more trepidation:

> *"I don't know with this health care reform…I see numbers dwindling in some churches and yet I see numbers remaining the same in others…we're still seeing illegal immigrants because unfortunately they can't get health insurance…and other people who can get health insurance but can't afford it because it's expensive. So, same people, different circumstances."* [Participant 3, Faith-community nurse]

This statement highlighted the uncertainty that partners, specifically the faith-community nurses are experiencing about the effect of the ACA on the need for their health fair services. Notwithstanding the uncertainty, the sentiments that there is still a need for the partnership, persisted. One nurse emphasized how the ACA could alter the partnership's provision of care, stating:

> *"I think it's changing. I think it will change if health care becomes more affordable…I think that the health fairs provide…more basic health needs.*

> *So, if we can get past that…we are supposed to be providing spiritual health care for the people…I think it will allow us to go to higher levels of wellness."* [Participant 6: Faith-community nurse]

The potential that the ACA could improve the faith-community nurses' ability to deliver services beyond preventive services is a sentiment that was echoed by several health ministry members who were eager to expand the type of services the faith-community nurses provide to include spiritual and mental health.

Mobile Health

Health ministry members and vendors also expressed eagerness to improve their ability to link health fair participants with additional medical and referral resources. However, they were limited in their ability to brainstorm how these linkages could be improved. Perhaps because of the limited financial resources at their disposal, health ministries primarily suggested partnering with additional vendors who could provide these linkages post-health fairs.

Faith-community nurses on the other hand were more specific about how the FCHP could improve follow-up care and identified mobile health as an opportunity for partnership growth. The suggestion to improve mobile health strategies took on two potential forms. The first is mobile health through the FCHP Mobile Health Clinic, an initiative started in 2015 to offer primary care services to community members in the hospital's service area on a sliding scale basis. One faith-community nurse said the following about the potential of the mobile clinic:

> *"Well, my thinking is that [the health fairs] would lead…into our mobile clinic and providing the chronic patients…to getting medical services and then channeling them to a medical provider and not having to wait. So…the health fairs being a streamline to getting a stable medical home."* [Participant 4, Faith-community nurse]

In this scenario, the mobile health clinic would serve as a pipeline to a standard medical home. It would allow the faith-community nurses to track health fair participants who were referred to additional medical care from the health fairs.

The second suggestion to improve mobile health is to increase key staffing at the FCHP to include providers that can prescribe needed medication, such as nurse practitioners, physician assistants, or medical doctors:

> *"…if we had more actual practitioners…I can see it begin to work if they're really abnormal at a health fair, we can turn around and say ok now wait for the nurse practitioner to take care of you…at that moment...Because you'll talk to people, and they'll be like, 'Oh I haven't had medication for the last 6 months.' Well, why not? 'Well, I don't have an appointment until 3 months from now'…give her medication for one more month and them maybe that's the limit…to force them to go see a doctor."*
> [Participant 5, Faith-community nurse]

In this way, the health fairs would become not only a gateway for linking health fair participants to a medical home, but also a strategic opportunity to treat health fair participants in the interim when they are most likely to be lost to faith-community nurse follow-up.

The partners who suggested that the health fairs could be used as short-term primary care alternatives also highlighted that this would be a difficult option to implement given unknown issues with liability and financing. Nonetheless, the faith-community nurses' reflections about mobile health highlight the importance of timely linkages to primary care, especially when contact is made with underserved populations.

Expanding to Other Faiths

An opportunity for growth that was referenced less frequently but that merits mention is the faith-community nurses' interest in expanding the health ministry model to other non-Christian faiths. This opportunity is meritorious in that it emphasizes the non-insular nature of the partnership. Throughout the partnership's 26 years, the faith-community nurses have promoted the health fairs to provide preventive health services to the undeserved. Under this directive, they have even partnered with competing health systems, citing the care of the poor and underserved as a priority over competition:

> *"I'm not here to sell the name, I'm here to do the work and to do it to the best of my capability…because I'm not marketing, I say to [other health system], 'come on, we could use you. We've got some of your patients here…' They equally can't do the same with us, they can't just invite us because to them, we're the competitor. But I'm saying…We're at a church and we're all friends…Low risk and safe. Everybody is a friend and I hope… they've always felt that…it's nice and it's worked to our advantage."*
> [Participant 1, Faith-community nurse]

This same directive allows the faith-community nurses to seek opportunities for expanding the partnership with faith communities that do not espouse the Christian tradition on which the hospital was founded.

Perhaps most representative of the non-insular nature of the partnership is the excitement with which some health ministry members have received the news of a potential expansion of the partnership to non-Christian faiths. One health ministry member observed:

> *"Well, one of the things…that is a good thing for us is they have broken ground, at least with the Jewish temple…I see that in the horizon… [the rabbi] is going to speak to us and I really can't wait. I think that's really beneficial and really expands our minds…it gives us more understanding…I think that's a great thing that [the faith-community nurses are] able to do."*
> [Participant 8, HM]

This characteristic of the partners to be open to new and diverse options for growth is significant. It expands the partnership's network of heath ministries and includes a new demographic of community members to be served. Additionally, it challenges the faith-community nurses and vendors to reassess proven networking and service delivery strategies and improve on them to accommodate new partners.

Health Ministries and Collaborative Learning

Several of the health ministry members interviewed were interested in learning from other health ministries in the partnership. In its current form, the FCHP partnership has few opportunities for the health ministries and vendors to come together. Moreover, there are no

opportunities built into the partnership for the health ministries to share lessons learned with other health ministries. However, there was a lot of interest from the health ministries to generate opportunities to learn from other health ministries:

> *"I think there's a lot more potential…and I'm curious as to what works elsewhere [in other ministries] … What did they do, you know? How did they get the word out?...I don't think [the faith-community nurses] do a very good job of that."* [Participant 7, Health ministry member]

A second health ministry member recommended that vendors also take part in the learning process:

> *"…I was just thinking…that maybe there should be a yearly get-together of all the parishes and the parish nurses and…Everybody comes together and have speakers, and trade ideas."* [Participant 9, Health ministry member]

One of the motivations for trading ideas among the partners, specifically among health ministries, is a general feeling of isolation among health ministry members. The isolation was from the rest of the church and church leadership, and from other health ministries. One health ministry member stressed that the main way in which she benefitted from the partnership was the emotional support from the faith-community nurses. By providing structured space for the health ministries to interact, the faith-community nurses can distribute the responsibility of providing emotional and other types of support to partners among the health ministries.

4.3.5 Flexibility (Process and Structure)

The notion of flexibility as vital to the partnership emerged across all the themes presented in the previous sections. The general sentiment expressed by all partners was that without flexibility the partnership would dissolve. Vendors needed to be able to skip health fair events throughout the year, to arrive and leave earlier or later than scheduled, and not be disqualified from participating in future events. Health ministries needed to be able to reschedule the planning meetings leading up to health events and less frequently, the health

events themselves, including health fairs. They also needed the planning meetings to be during non-business hours for their membership to attend, which prompted the faith-community nurses to work odd hours. Likewise, the faith-community nurses required patience from the vendors, but especially from the health ministries.

The FCHP employs only six faith-community nurses who are responsible for supporting about 35 health ministries and their health events throughout the year. Only a couple of the faith-community nurses are employed full-time. As a result, two faith-community nurses are assigned to more than half of the active health ministries. This results in health ministry members often feeling like they need more time with their faith-community nurses, even though the limited time the nurses are available is highly valued by the ministries.

Similarly, the faith-community nurses and the health ministries were often frustrated with inconsistent vendors who were frequent "no-shows" at the health fairs and other events. The faith-community nurses and health ministries have learned to be flexible and tolerant, to a reasonable extent, to the needs of the vendors since they participate in the partnership on a volunteer basis. One faith-community nurse explained how she deals with vendors who never registered to participate in a health fair and show up unannounced:

> *"I feel that the community needs [the vendors'] services. So, for me to deny the community of their services…I can't do that. So…compromising at that point, but trying to prevent that from happening [again]."* [Participant 2, Faith-community nurse]

The health ministries as well required a lot of flexibility from the faith-community nurses. Primarily in terms of flexible scheduling of health events and meetings leading up to health events. Without flexibility and without and unwavering belief in the value of the other partners' contributions to the partnership, the partnership would not succeed. One faith-community nurses explained the relationship between the partners as follows, stating the partners needed to:

> *"…Appreciate that we have these vendors here, appreciate that we have these churches that you can come to, you know? It's a partnership, teamwork. And we all work together because they have a job, I have a job, and this is for their community…they're doing this on their own time, so that has to be remembered."* [Participant 3, Faith-community nurse]

However, there are also issues with the amount of flexibility required. For one, whenever there is nurse turnover in the FCHP, it is difficult for the program to find registered nurses who are willing and able to work non-business hours and who understand the level of commitment required of them in clinical-community partnerships. As a result, much of the burden to be flexible falls on the faith-community nurses. They are not only responsible for supporting the health ministries and for maintaining strong relationships with vendors, they are also uniquely positioned to manage the flexibility of the partnership. Nonetheless, most partners, including the faith-community nurses found value in this flexibility:

> *"… [the partnership] is flawed and it is perfect just the way it is…there's no strict 'this is what you do, this is how you do it, this is how it <u>has</u> to be done.' There's a certain set of guidelines that are very flexible as far as the health ministries and the health fairs…from my understanding, we have a church, we begin a health ministry, we can put on a health fair."* [Participant 3, Faith-community nurse]

Although a flexible structure works for the FCHP partnership, it is difficult to gauge the amount of flexibility that is necessary for a clinical-community partnership to function successfully.

In addition, though the FCHP partners seem to have found equilibrium in terms of the amount of flexibility that is acceptable and that will still allow the goals of the partnership to be met, the processes that led to that equilibrium are not clear. The interviewees ascribed the years in the partnership getting to know what works for the other partners as the main process by which collaboration and flexibility were achieved, but were unable to identify specific ways in which a flexible structure is achieved. However successful and sustainable the partnership has been over time, understanding the extent to which flexibility has contributed to that success and identifying how other potential partnerships can replicate a flexible structure is difficult.

4.3.6 Key Features of a Successful Collaborative Partnerships

Interview participants were asked to reflect on the aspects of the FCHP partnership they found successful and to provide advice for other health care systems and community organizations seeking to form similar clinical-community partnerships. The partners interviewed identified six key features of a successful clinical-community partnership: Agreement to partnership mission and goals; Key leadership buy-in; Relationship building; Commitment to the partnership; Protecting partnership; and continued learning. These six features will be explored in more detail in the following sections.

Mutually Defined Partnership Mission and Goals

Fundamental to the success of a clinical-community partnership is ensuring that all partners agree about the mission and goals of the partnership. One faith-community nurse suggested researching potential partners' organizational goals to gauge whether the partners' goals complemented the goals of the partnership:

> *"I would say to get to know what services they provide and why they provide them, where they get their funding…what their mission and values are...Because we want to make sure they're not just there to make a buck for themselves, that they have an interest in providing quality services at the lowest cost that they can to people who really need those services."* [Participant 6, Faith-community nurse]

Interviewed partners also suggested that each organization needed to determine whether the partnership was a good match for their own organizational goals and whether they had sufficient resources to meet partnership expectations. One vendor explains:

> *"[Partners] should consider what the [partnership] looks like and see if there is a match with what they can provide in terms of staffing and resources…I think determining if you have the scope to be able to fulfill is the key, and understanding what the hospital is going to be offering…What is the expectation?..."* [Participant 13, Vendor]

Once the partners determine that the partnership is a good match and advantageous to their cause, key roles and responsibilities for each partner should be negotiated and assigned. Being clear from the outset about each partner's duties can streamline partnership processes and ensure that partnership activities are completed:

> *"What are the minimums? You need a chairman, and probably a publicity person. And then, what do they do? And just be specific about it... What would make a new person do it? ...Well, just write out what they have to do...that kind of thing. Just a little bit more clarity as to what are the minimum titles needed, positions needed, for that [partner] and what they have to do."* [Participant 7, Health ministry member]

Partner roles and responsibilities should also be evaluated on an ongoing basis to identify partners that are reliable at meeting their commitments and those that are struggling. For partners that have trouble meeting their commitments the remaining partners can provide additional support and help to brainstorm solutions. More importantly, as one health ministry member explains, it is important not to become discouraged by failure and to keep trying:

> *"Yes, it's hard to get people to follow through…while to find out who is reliable and whose not, that's probably the biggest thing. So, try not to get discouraged. People will need support from you as a leader."* [Participant 9, Health ministry member]

Key Leadership Buy-In

Two levels of leadership buy-in are necessary to sustain the FCHP partnership. The first is buy-in from the leaders responsible for most the partnership activities (lead partner) and secondly, buy-in from the leaders of the other partner organizations. Partnerships between health care systems and community organizations often have the health care system as the lead organization. For the clinical-community partnership to be successful and sustainable, leadership buy-in from the lead organization is important through the life of the partnership and not only at the outset. One faith-community nurse explains:

> *"Administration backup. Truthfully that the people you work for believe in what you do, support what you do, and supply you with…the materials and the resources to be able to do that work."* [Participant 1, Faith-community nurse]

It is then the lead organization's responsibility to obtain buy-in from the other partner organizations' leadership. In the FCHP partnership, it was important for the faith-community nurses to identify key leadership from the churches and the vendors. However, as we discussed in a previous section about the role of church leadership, it is important to understand that a hierarchy exists within each organization. A second faith-community nurse describes the process as follows:

> *"It's getting the right buy-in and knowing the key people…If…the priest, the pastor, doesn't know what is the goal…he will not be able to support [the partnership's] ideas or the health ministry in a good way. And keeping the leader…involved and informed is very important so that it is an easier navigation…."* [Participant 4, Faith-community nurse]

Understanding whose buy-in is necessary along that hierarchy is key for the partners to complete partnership activities and meet partnership goals.

Relationship Building

The faith-community nurses stressed the importance of in-person, one-on-one meetings with potential and current partners to establish commitment and create trust between partners:

> *"I think one of the most important things is having face-to-face contact with them. Learning what their vision and their mission is and also you, letting them know what your vision and mission is and the overall purpose of doing these events or collaborations."* [Participant 4, Faith-community nurse]

One faith-community nurse utilized face-to-face meetings with vendors to dissuade non-attendance of health fair events. She recommended:

> *"Contact them and go meet them in person…so it's not just through email…go put a face to the name so that when you go out there and they don't show…you can hold someone accountable and they will be a little more hesitant to not want to show because 'oh she came in and she was so nice, I don't want to bail on her.'"*
> [Participant 5, Faith-community nurse]

Thus, in a world reliant on electronic communication, clinical-community partnerships still benefit from a personal touch. Personal relationship building skills are necessary to build and sustain commitment in the partnership.

Commitment to the Partnership

Establishing a clinical-community partnership can be exciting and frustrating, especially for the lead organization. Generating commitment to the partnership from the other partners can be as difficult in the beginning of the partnership as it is to maintain that commitment in later stages. However, the faith-community nurses identified several things that the lead organization can do to encourage commitment to the partnership – being present, flexible and appreciative. The faith-community nurses shared that it was essential for them to lead by example, to pursue the other partners with kindness and understanding, and to encourage their input. To be present, one faith-community nurse suggested the following approach:

> *"It's just I think connecting with them. My way of thinking is that no matter what it is, even if it's the smallest thing, even if it's just one meeting, I try to go to everything that I can when the church is having it because that just gives the credibility that I need for them to trust me and to be connected to them…"* [Participant 2, Faith-community nurse]

Most faith-community nurses identified with this notion of "being present," stating that only by being an active liaison to the health ministry was the partnership possible. Yet "being present" was not limited to the faith-community nurses. One vendor also discussed vendor commitment, stating:

> *"You have to value the person who organizes because it's a lot of work. And if I'm only going for a short while because all I care about is reaching my numbers and then I leave, that's not fair. It's not right and it's unacceptable. So, it really does have to be a true commitment. So that people can actually benefit and so your partner organizations feel valued for what they do."* [Participant 12, Vendor]

The partners that struggled the most with garnering commitment were the health ministries. The health ministry leaders were successful at "being present" for partnership meetings and

activities. Some health ministry member however, found it more difficult to commit and often played a passive role in the ministries, performing minor tasks and participating primarily on the day of the health fair.

Partners also have to be flexible and appreciative of other partners' time and effort. One faith-community nurse described how the FCHP Director trains the nurses to practice being appreciative of the health ministries and the vendors:

> *"…I mean we are hired to do this but…most of our health ministries…They're volunteering their time to help their church and their community and…if they feel appreciated and they feel valued they're going to go far and they're going to do what it takes to help their community and to help their church. So, I found that…if we say we are going to do something then we do it in a timely manner and we let them know that we appreciate their time."*
> [Participant 3, Faith-community nurse]

Protecting Partnership Trust

The faith-community nurses were also proactive about protecting the trust developed over time between partners as well as the trust developed between partners and the communities they served. One way in which faith-community nurses maintained trust was to be dependable and they encouraged trustworthiness for the success of the clinical-community partnership. One faith-community nurse recommended that organizations that want to start a clinical-community partnership do the following:

> *"If [partners] don't see that you're there to help them out I think they get discouraged. So, if you keep your word that you're going to do as you say you are, then do. Follow through with what you say... It's about trust...[Partners] are trusting you to bring the best for the community. You know? Don't take advantage."*
> [Participant 2, Faith-community nurse]

The other partners also have to find ways to show their dependability and commitment to the partnership. One vendor contextualized her desire to be reliable as a way to demonstrate the value her organization placed on its partnership with the faith-community nurses:

> *"I value the relationship that I have with Providence. I want to be reliable when it comes to my presence at their events. I do not like to skip certain events here and there."* [Participant 14, Vendor]

In these and other examples from the interview, words and actions helped the partners demonstrate their commitment to each other and to the partnership itself.

Continued Learning

The final advice that the interviewees gave to organizations starting a new clinical-community partnership relied on continued learning. All partners, but especially the faith-community nurses highlighted the importance of knowing their partners and the communities the partnership served. The faith-community nurses encouraged continuous evaluation and re-evaluation of partner and community needs to ensure that the partnership was effective, stating:

> *"…first of all, know the community and what their needs are. What resources are available …? And then put a health fair together based on those needs. Maybe this happens to be a group of healthy people and they really only need mental health services'…Do a survey, know the community."* [Participant 5, Faith-community nurse]

One faith-community nurse also stressed the need for formal training for health professionals:

> *"This isn't like a natural rule for nurses. We don't learn this sort of thing in nursing school, so we need to know what it is that we're trying to do here and understand how to make those partnerships happen. So, for health care organizations who want to bring in health professionals to this role, I think they need some education on it."* [Participant 6, Faith-community nurse]

Formal training would help health professionals like the faith-community nurses to better anticipate the knowledge and experiential differences of functioning within a health care system versus a community setting.

4.4 Discussion

Data from this study helped to identify characteristics and processes that improve the likelihood of collaboration and sustainability of clinical-community partnerships. These characteristics were consistent with the categories identified in the Wilder Collaboration Factors Inventory (WCFI) on which the interview guides were based. Specific factors within each category identified as influencing successful collaboration between FCHP partners included: shared mission and values among partners (purpose), negotiation of partnership roles, responsibilities, and partnership flexibility (process and structure), as well as partnership value, trust, and commitment (membership), shared resources (resources), and connections between partners (communication), within the partnership environment. Separately, interviewees also discussed opportunities for growth and partnership sustainability.

A principal finding was that partners needed to perceive value in the clinical-community partnership on two levels – for the intended outcome of the partnership and for the partnership itself. In other words, it was not enough for the partners to find value in the delivery of preventive health services to underserved populations. The partners also needed to value the partnership itself for the clinical-community partnership to withstand challenges and changes over time. To build value in the partnership, partners needed to demonstrate to each other that they were present, reliable, committed, and flexible.

Role negotiation and obtaining buy-in from leadership was another key theme that emerged in the study data. For a clinical-community partnership to function, it requires that the leadership for each of the partners be supportive of the partnership and contribute resources. However, the health ministry members stressed their frustration with church leadership, citing that their support for the partnership was only outward facing. By this the ministry members meant that the church leaders were invested in the partnership only so far as it contributed to the churches' visibility in their surrounding communities. The day-to-day activities of the partnership had little to no support from leadership, making them difficult for the health ministry members to sustain.

For the clinical-community partnership to evolve several partners cited a need for collaborative learning. For the health ministries especially, it was important to carve out time in partnership activities to meet with other health ministry members outside to share successes, challenges, and failures that might inform the work of their own health ministries. Faith-community nurses also identified the need for formal training of health care professionals that participate in clinical-community partnerships. A distinct skill set is needed to function both in the health care system and in the community setting that is not often part of clinical training. As a result, additional training, certification, and on-the-job support are necessary for health care professionals.

The implications of these findings are important for health care systems seeking to form new, or sustain existing, collaborative partnerships with community organizations. However, the generalizability of the results is somewhat limited by the sampling methodology. Participants in this study were recruited from a list of partnership staff, health ministries, and vendors who were active in the partnership, supplied by the FCHP Director. Partners who were active, were by extension high-resourced and able to participate, resulting in a study sample with an overrepresentation of successful partners. Nonetheless, the participants interviewed were able to identify areas for improvement and growth, suggesting that the results may be more indicative of characteristics of established partnerships.

Thus, the needs of organizations wanting to form new clinical-community partnerships may be different from the needs of the FCHP partners interviewed. The FCHP partnership has been active for more than 25 years with uninterrupted funding from the hospital's community benefit budget. In addition, the FCHP partners primarily with faith-based organizations; a partner with its own set of challenges and considerations. As a result, the processes that work for FCHP partners have been honed over time and found successful for their high-resourced and established partners.

This study revealed key features of successful clinical-partnerships that should be considered by the FCHP moving forward. Future research should focus on the needs of clinical-community partnerships within the context of shifting national health policy priorities, on partnerships with varying degrees and types of funding, and on partnerships with other community organizations that are not faith-based to determine which partnership features remain important.

4.5 Tables and Figures

Table 4.1 Determinants of Partnership Collaboration

Environment	Membership	Process and Structure	Communication	Purpose	Resources
Community characteristics & health needs *History* *Political and social context*	*Trust* *Respect* *Conflict* *Power differentials*	*Level of involvement* *Leadership* *Administration & management* *Governance* *Efficiency*	*Connections to people, groups, and organizations*	*Partnership mission & goals*	*Money* *Skills and expertise* *Information*

Table 4.2 Interview Domains by Stakeholder Group

Interview Domains	FCHP Admin	FCHP Staff	Health Ministry Leaders	Health Ministry Members	Vendors
Participant's role and involvement in the partnership	X	X	X	X	X
General partnership questions	X		X		
General health ministry questions			X	X	
General screening partner questions					X
Description of partnership's community	X	X	X	X	X
Community partnership building with health ministries and vendors	X	X	X	X	X
Role in the health fairs				X	X
Health ministries as partners	X	X			X
Vendors as partners	X	X	X		
Health fair follow-up		X	X	X	
Advice for other organizations looking to start a clinic-community partnership	X	X	X	X	X

Figure 4.1 Recruitment Strategy and Final Participant Sample

Figure 4.2 Data Collection Instruments by Stakeholder Group

FCHP Administrators Interview Guide

I. General Questions

The first set of questions is about your role and involvement in the health fair program.

1. In what capacity are you part of the program?
   Probe: What is your main role?
2. When did you first become involved with the program?
   Probe: How long have you been involved with the program?
   Probe: How has your role evolved, if at all, since you started with the program?
3. What do you see as the main purpose of the health fairs?
   Probe: In what ways does participating in the health fairs help Providence? The community?

II. Program Description

The second set of questions is about the program itself. In particular, I am interested in how the program came about.

1. Were you part of the founding group of administrators and staff who started the health fair program?
   Probe: If YES, please answer from your experience.
   Probe: If NO, please answer from what you know about the program. We can also skip any question to which you do not know the answer.
2. How did the health fair program first come about?
   Probe: What do you know about the planning stage of the program?
   Probe: If you were part of the planning, how long did it take to get this program started?
   Probe: How funded? Where housed? How long was the program to run?
3. Why was the program originally established? For what purpose?
   Probe: What was the program's original mission? Goals and objectives?
   Probe: Did any prior program or partnership inspire the formation of the health fair program?
4. Who was involved in the original planning?
   Probe: Who championed its creation?
   Probe: What were their roles? Have these roles evolved since the start of the program?

III. Description of Program's Community or Service Area

This set of questions is about the community the program serves.

1. What do you see as the greatest need in the communities your program serves?
   Probe: What are the greatest health needs?
2. In your opinion, how does your program help address these needs?
   Probe: Is there something else your program could be doing to address these needs?
3. Are there other health fair programs available to the community? Other programs providing clinical preventive services?
   Probe: IF YES: What does your program do differently?
4. What characteristics of the community help *facilitate* your program's ability to deliver health services? What characteristics of the community act as *barriers*?
   Probe: Culture; Race/Ethnicity; Socioeconomic status; Education; Documented status
5. What are common issues you face as an administrator in delivering health services to these communities?
   Probe: Resources; Financial barriers; sustainability; etc.

IV. Community Partnership Building

I understand the health fairs are conducted in partnership with other organizations within the community. This set of questions is about how your organization developed these partnerships.

1. Why was the health fair program implemented through partnerships with the community?
   Probe: Was the program organized in this way from the beginning?
   Probe: If YES, what was the thought process behind organizing the program in this way?
   If NO, why was the program changed to one that uses partnerships?
2. In the beginning, how did staff decide which organizations to reach out to?
   Probe: Were there any special characteristics you looked for in a community partner? Which?
   Probe: Who were the first partners and why were they chosen?
3. I understand that you also partner with organizations that conduct the preventive health screenings. How did program staff decide which screening organizations to partner with?
   Probe: Were there any special characteristics you looked for in a screening partner?
   Probe: Who were the first screening partners and why were they chosen?
4. What do you think the screening partners get out of participating in the health fair program? The church partners?
   Probe: What keeps them coming back to participate in the health fair?
5. Has the way you identify new partners (church and screening partners) changed over time?
   Probe: If YES, how and why has it changed?
   Probe: If NO, what do you think works about the way you identify new partners? What can be improved?

V. Faith Based Organizations as Partners

The next set of questions is about the faith-based organizations with whom you have partnered.

1. (If not previously addressed) What made you select churches as a key partner for delivering preventive health screenings in these communities?
   Probe: Were there any special characteristics you looked for in a church partner?
2. I understand that each church has a health ministry that is meant to organize the health fair events. Can you tell me about the health ministries and their purpose?
   Probe: How was the idea of the health ministry developed?
   Probe: Were the health ministries already in place at the churches or were they organized for the sake of the partnership? Please explain.
   Probe: Who makes up the health ministry? How are members recruited? What is the health ministry's role? Does Providence play a role in any of the health ministry's functions (e.g. recruitment, goals, etc.)?
3. Were there any common issues you encountered when forming these community partnerships with the churches? Common facilitating factors?
   Probe: If so, what were they? How did you work around these issues? With these facilitators?
4. Have you also partnered with any organizations that are not faith based to deliver preventive health screenings in these communities?
   Probe: If YES, What made you select these partners?

VII. Clinic-Community Partnerships

The final set of questions is about the partnership in general. This set of questions is meant to help us understand the important factors to consider when implementing and sustaining

these kind of community partnerships. Please answer the following questions as if you were advising a new partnership that is forming.

1. What advice would you give to another health organization wanting to form a partnership with community organizations to provide health services?
   Probe: What should the health organization know about these types of partnerships?
   Probe: Common barriers? Facilitators?
   Probe: Specific things to consider when partnering with faith-based organizations? With screening orgs?
2. How do you develop a collaborative environment between the organizations in the partnership?
   Probe: What are common facilitators? Barriers?
   Probe: How easy/difficult is it to get organizations to buy-in to the partnership?
3. What is necessary to make the partnerships successful?
   Probe: Necessary supports?
4. How is governance over the partnership decided?
   Probe: How is each partner/stakeholder accountable to the program?
   Probe: What happens when a partner/stakeholder does not uphold its commitment?
5. How efficient is the partnership in its current structure?
   Probe: How can this structure be improved?
   Probe: What would you change?
   Probe: What would you keep the same?
6. What do you see as the future for the health fair program?
   Probe: How will the partnerships need to evolve, if at all?
   Probe: What are the plans to sustain the program?
7. Is there any other advice you would give to a hospital/clinic organization wanting to start a community partnership with churches or screening organizations to deliver health services?

FCHP Staff Interview Guide

I. General Questions

The first set of questions is about your role and involvement in the health fair program.

1. In what capacity are you part of the program?
   Probe: What is your main role?
2. When did you first become involved with the program?
   Probe: How long have you been involved with the program?
   Probe: How has your role evolved, if at all, since you started with the program?
3. What do you see as the main purpose of the health fairs?
   Probe: In what ways does participating in the program help Providence? The community?

II. Description of Program's Community or Service Area

This set of questions is about the community the program serves.

1. What do you see as the greatest need in the communities your program serves?
   Probe: What are the greatest health needs?
2. In your opinion, how does your program help address these needs?
   Probe: Is there something else your program could be doing to address these needs?
3. Are there other health fair programs available to the community? Other programs providing clinical preventive services?
   Probe: IF YES: What does your program do differently?
4. What characteristics of the community help *facilitate* your program's ability to deliver health services? What characteristics of the community act as *barriers*?

Probe: Culture; Race/Ethnicity; Socioeconomic status; Education; Documented status

III. Community Partnership Building

I understand the health fairs are conducted in partnership with other organizations within the community. This set of questions is about how your organization maintains these partnerships.

1. I understand that Providence partners with faith-based organizations/churches. How does FCHP staff decide which faith-based organizations to partner with?
   Probe: Were there any special characteristics you looked for in a community partner? Which?
   Probe: Who were the first faith-based partners and why were they chosen?
   Probe: Have these partners changed over time?
2. I understand that you also partner with organizations that conduct the preventive health screenings. How does program staff decide which screening organizations to partner with?
   Probe: Were there any special characteristics you looked for in a screening partner?
   Probe: Who were the first faith-based partners and why were they chosen?
   Probe: Have these partners changed over time?
3. Has the way you identify new partners (church and screening partners) changed over time?
   Probe: If YES, how and why has it changed?
   Probe: If NO, what do you think works about the way you identify new partners? What could be improved?
4. Are there any common issues you encounter when working in partnership with faith-based organizations? Any common facilitating factors that help you when working in partnership with faith-based organizations?
   Probe: If YES, what? How are these issues resolved? What are those facilitating factors?
   If NO, what do you think works best/is most problematic about working with faith-based organizations?
5. Are there any common issues you encounter when working in partnership with screening organizations? Any common facilitating factors that help you when working in partnership with screening organizations?
   Probe: If YES, what? How are these issues resolved? What are those facilitating factors?
   Probe: If NO, what do you think works best/is most problematic about working with screening organizations?
6. Have you also partnered with any organizations that are not faith based to deliver preventive health screenings in these communities?
   Probe: If YES, What made you select these partners?

V. Faith Based Organizations as Partners

The next set of questions is about the faith-based organizations with whom you have partnered.

1. I understand that each church has a health ministry that is meant to organize the health fair events. Can you tell me about the health ministries and their purpose?
   Probe: Who makes up the health ministry? How are members recruited?
   Probe: What is the health ministry's role in the health fair program?
   Probe: What do the health ministries do in general? And specifically for the health fairs?
2. In what ways is the health ministry model successful in delivering health services to the community?
   Probe: Unique characteristics that make it successful?

3. In what ways can the health ministry model be improved to better deliver health services?
   Probe: What would you change about the current structure?
4. How are the health ministries supported? Sustained?
   Probe: Resources; Finances;
   Probe: How is membership maintained? Encouraged?

VII. Program Follow-Up

I understand that a unique part of your health fair program is that your nurses follow up with health fair participants who have a high or abnormal screening result at the health fair. The next set of questions is about this follow-up portion of the program.

1. How did the follow-up component of the program come about?
   Probe: Was it always part of the program?
   IF YES: What as the motivation for including this component?
   IF NO: When was it added? Why was it added?
2. What is the goal of following up with health fair participants?
3. How is the follow-up conducted?
   Probe: Who conducts the follow-up? (i.e. Always a nurse?)
   Probe: How long after the health fair do you follow up?
4. What works about the follow up process?
   Probe: How successful do you think the process is?
   Probe: What would make it more successful?
5. What does not work about the follow up process?
   Probe: How can the follow up process be improved?
6. With what type of resources do you connect health fair participants?
   Probe: What are some examples of resources you have connected participants to?
7. How do you confirm that the participants follow through with the resources you provide?
   Probe: Is there additional contact with the participants after the initial follow-up?
   Probe: IF YES: What does the additional contact entail?

VIII. Clinic-Community Partnerships

The final set of questions is about the partnership in general. This set of questions is meant to help us understand the important factors to consider when implementing and sustaining these kind of community partnerships. Please answer the following questions as if you were advising a new partnership that is forming.

1. What advice would you give to another health organization wanting to form a partnership with community organizations to provide health services?
   Probe: What should the health organization know about these types of partnerships?
   Probe: Common barriers? Facilitators?
   Probe: Specific things to consider when partnering with faith-based organizations? With screening orgs?
2. How do you develop a collaborative environment between the organizations in the partnership?
   Probe: What are common facilitators? Barriers?
   Probe: How easy/difficult is it to get organizations to buy-in into the partnership?
3. What is necessary to make the partnerships successful?
   Probe: Necessary supports?
4. How is governance over the partnership decided?
   Probe: How is each partner/stakeholder accountable to the program?
   Probe: What happens when a partner/stakeholder does not uphold its commitment?
5. How efficient is the partnership in its current structure?
   Probe: How can this structure be improved?
   Probe: What would you change?

Probe: What would you keep the same?

6. What do you see as the future for the health fair program?
   Probe: How will the partnerships need to evolve, if at all?
   Probe: What are the plans to sustain the program?
7. Is there any other advice you would give to a hospital/clinic organization wanting to start a community partnership with churches or screening organizations to deliver health services?

Healthy Ministry Leader Interview Guide

I. General Questions

The first set of questions is about your role and involvement in the health fair program with Providence.

1. In what capacity is your church part of the program?
   Probe: What is your church's main role?
2. When did your church first become involved with the program?
   Probe: How long has your church been involved with the program?
   Probe: How has your role evolved, if at all, since you started with the program?
3. What do you see as the main purpose of the health fairs?
   Probe: In what ways does participating in the health fair help your church? The community?

II. Health Ministry Description

The second set of questions is about the health ministry itself. In particular, I am interested to know more about how your health ministry came about and its role in your church.

1. Were you part of the health ministry when it first formed?
   Probe: If YES, please answer from your experience.
   Probe: If NO, please answer from what you know about the program. We can also skip any question to which you do not know the answer.
2. How did the health ministry first come about?
   Probe: What do you know about the planning stage of the health ministry?
   Probe: If you were part of the planning, how long did it take to get the health ministry started? (Include planning, funding piloting, etc.)
   Probe: Who championed/sponsored/supported its creation at your church?
3. Why was the health ministry originally established?
   Probe: For what purpose? Goals and objectives?
   Probe: Current programming? Is it only the health fair?
4. Who makes up the health ministry?
   Probe: Who are the members (specific characteristics)? How are they recruited?
   Probe: How is the membership maintained?
5. How is the health ministry managed?
   Probe: How are decisions made? Who has final say?
6. How is the health ministry sustained financially? (I.e. grants, discretionary funds, etc.)
   Probe: Is there any funding provided by the church? Providence? Other organization?
   Probe: Has the funding source changed since the program's inception?

III. Description of Program's Community or Service Area

This set of questions is about the community your church and the health fair program serves.

1. What do you see as the greatest need in the communities the health fair program serves?
   Probe: What are the greatest health needs?
2. In your opinion, how does the health fair program help address these needs?
   Probe: Is there something else the program could be doing to address these needs?
3. Are there other health fair programs available to the community? Other programs available to the community?

Probe: IF YES: What does your program do differently?

4. What characteristics of the community help *facilitate* the health fair program's ability to deliver health services? What characteristics of the community act as *barriers*?
   Probe: Culture; Race/Ethnicity; Socioeconomic status; Education; Documented status
5. What are common issues your health ministry faces in delivering health services to these communities?
   Probe: Resources; Financial barriers; sustainability; etc.

IV. Community Partnership Building

This set of questions is about how your health ministry partnered with Providence.

1. Was the health ministry already in place at your church before you partnered with Providence for the health fair program?
   Probe: If YES: How long had the ministry been in place? How did having an established heath ministry impact your church's partnership with Providence?
   Probe: If NO: Did the health ministry come about because of the partnership with Providence? Please explain.
2. What was the thought process for partnering with Providence for the health fair program?
   Probe: Was the health ministry/church addressing the health needs of the community before partnering with Providence?
3. What do you know about how Providence begins a new church/health ministry partnership for the health fair program??
   Probe: How do you think they decide which churches to reach out to?
   Probe: Which characteristics do you think they look for in a church partner?
4. What issues did your church/health ministry encounter when partnering with Providence? If any…
   Probe: Were there any barriers to forming the partnership? Anything that you wish would have gone more smoothly?
5. How does your church/health ministry benefit from partnering with Providence on the health fair program?
   Probe: What is made easier about delivering health services to your community by partnering with Providence?
6. What do you think Providence gets out of partnering with churches in the health fair program?
   Probe: What keeps Providence participating in the health fair program?

V. Screening Organizations

I understand that the health fair program also partners with organizations that conduct the preventive health screenings. The next set of questions is about these organizations and your church's/health ministry's partnership with them.

1. Did your church/health ministry have any existing partnerships with screening organizations that you brought into the partnership with Providence?
   Probe: If YES: How did you build these partnerships? Did you look for any specific characteristics in these partners? What prompted you to bring them into the health fair program?
   Probe: If NO: Tell me why you had not partnered with any other screening organizations in the past? Barriers?
2. What do you think the screening partners get out of participating in the health fair program?
   Probe: What keeps them coming back to participate in the health fair?
3. Has the way you and Providence identify screening partners changed over time?
   Probe: If YES: How and why has it changed?
   Probe: If NO: what do you think works about the way you identify new partners? What can be improved?

4. Other than organizations that provide health screenings, what other types of organizations have you partnered with to provide services at the health fairs? If any…
   Probe: What types of organizations? Which services do they provide?

VII. Clinic-Community Partnerships

The final set of questions is about the partnership in general. This set of questions is meant to help us understand the important factors to consider when implementing and sustaining these kind of community partnerships. Please answer the following questions as if you were advising a new partnership that is forming.

1. What advice would you give to another church wanting to form a partnership with a hospital/clinic to provide health services to its community?
   Probe: What should the church/health ministry know about these types of partnerships?
   Probe: Common barriers? Facilitators?
   Probe: Specific things to consider when partnering with hospitals/clinics? With screening orgs?
2. How do you develop a collaborative environment between the organizations in the partnership?
   Probe: What are common facilitators? Barriers?
   Probe: How easy/difficult is it to get organizations to buy-in to the partnership?
3. What is necessary to make the partnerships successful?
   Probe: Necessary supports?
4. How is governance over the partnership decided?
   Probe: How is each partner/stakeholder accountable to the program?
   Probe: What happens when a partner/stakeholder does not uphold its commitment?
5. How efficient is the partnership in its current structure?
   Probe: How can this structure be improved?
   Probe: What would you change?
   Probe: What would you keep the same?
6. What do you see as the future for the health fair program?
   Probe: How will the partnerships need to evolve, if at all?
   Probe: What are the plans to sustain the program?
7. Is there any other advice you would give to a church/health ministry wanting to start a community partnership with a hospital/clinic or screening organizations to deliver health services?

Healthy Ministry Member Interview Guide

I. General Questions

The first set of questions is about your role and involvement in the health fair program with Providence.

1. In what capacity is your church part of the program?
   Probe: What is your church's main role?
2. When did your church first become involved with the program?
   Probe: How long has your church been involved with the program?
   Probe: How has your role evolved, if at all, since you started with the program?
3. What do you see as the main purpose of the health fair s?
   Probe: In what ways does participating in the health fair help your church? The community?

II. Health Ministry Description

The second set of questions is about the health ministry itself. In particular, I am interested to know more about how your health ministry came about and its role in your church.

1. What is the health ministry's purpose?
   Probe: Goals and objectives? Role in the church/community?

Probe: What types of programming does the health ministry develop/provide? Only the health fairs?

Probe: Active all year?

2. Who currently makes up the health ministry?
   Probe: Who are the members (specific characteristics)? How are they recruited?
   Probe: How is the membership maintained?
3. How is the health ministry managed?
   Probe: How are decisions made? Who has final say?

III. Description of Program's Community or Service Area

This set of questions is about the community your church and the health fair program serves.

1. What do you see as the greatest need in the communities the health fair program serves?
   Probe: What are the greatest health needs?
2. In your opinion, how does the health fair program help address these needs?
   Probe: Is there something else the program could be doing to address these needs?
3. Are there other health fair programs available to the community? Other programs available to the community?
   Probe: IF YES: What does your program do differently?
4. What characteristics of the community help *facilitate* the health fair program's ability to deliver health services? What characteristics of the community act as *barriers*?
   Probe: Culture; Race/Ethnicity; Socioeconomic status; Education; Documented status

II. Community Partnership Building

This set of questions is about how your health ministry partnered with Providence.

1. What do you know about how Providence begins a new church/health ministry partnership for the health fair program?
   Probe: How do you think they decide which churches to reach out to?
   Probe: Which characteristics do you think they look for in a church partner?
2. What issues does your church/health ministry encounter when partnering with Providence? If any…
   Probe: Are there any barriers to maintaining the partnership? Anything that you wish would go more smoothly?
3. How does your church/health ministry benefit from partnering with Providence on the health fair program?
   Probe: What is made easier about delivering health services to your community by partnering with Providence?
4. What do you think Providence gets out of partnering with churches in the health fair program?
   Probe: What keeps Providence participating in the health fair program?
5. I understand that the health fair program also partners with organizations that conduct the preventive health screenings. What do you think the screening partners get out of participating in the health fair program?
   Probe: What keeps them coming back to participate in the health fair?

III. Health Fairs

This set of questions is about how your health ministry's role in putting on the health fairs.

1. Please briefly describe to me how your health ministry/church organizes a health fair from beginning to end.
   Probe: What parts of the process are done in partnership with Providence? On your own as a church? With the screeners? Providence on its own? Screeners on their own? Who is responsible for what?
   Probe: What amount of time and resources does your health ministry/church spend on organizing the health fair?

2. What do you think works well about the way your church/health ministry currently organizes the health fair?
   Probe: Processes they find successful. What needs to happen for these processes to stay the same?
3. What do you think could be improved about the way your church/health ministry currently organizes the health fair?
   Probe: What would you change? How? What is necessary to make these changes?

IV. Clinic-Community Partnerships

The final set of questions is about the partnership in general. This set of questions is meant to help us understand the important factors to consider when implementing and sustaining these kind of community partnerships. Please answer the following questions as if you were advising a new partnership that is forming.

1. What advice would you give to another church wanting to form a partnership with a hospital/clinic to provide health services to its community?
   Probe: What should the church/health ministry know about these types of partnerships?
   Probe: Common barriers? Facilitators?
   Probe: Specific things to consider when partnering with hospitals/clinics? With screening orgs?
2. How do you develop a collaborative environment between the organizations in the partnership?
   Probe: What are common facilitators? Barriers?
   Probe: How easy/difficult is it to get organizations to buy-in to the partnership?
3. What is necessary to make the partnerships successful?
   Probe: Necessary supports?
4. How is governance over the partnership decided?
   Probe: How is each partner/stakeholder accountable to the program?
   Probe: What happens when a partner/stakeholder does not uphold its commitment?
5. How efficient is the partnership in its current structure?
   Probe: How can this structure be improved?
   Probe: What would you change?
   Probe: What would you keep the same?
6. What do you see as the future for the health fair program?
   Probe: How will the partnerships need to evolve, if at all?
   Probe: What are the plans to sustain the program?
7. Is there any other advice you would give to a church/health ministry wanting to start a community partnership with a hospital/clinic or screening organizations to deliver health services?

Screening Partners Interview Guide

I. General Questions

The first set of questions is about your role and involvement in the health fair program with Providence.

1. In what capacity is your organization part of the program?
   Probe: What is your organizations' main role? Which screening do you provide?
2. When did your organization first become involved with the health fair program?
   Probe: How long have you been involved with the program?
   Probe: How has your role evolved, if at all, since you started with the program?
3. What do you see as the main purpose of the health fairs?
   Probe: In what ways does participating in the health fair help your organization? The community?

II. Screening Organization Description

The second set of questions is about your screening organization itself. I am interested to know more about how your screening organization became involved in the health fair program.

1. Was your organization one of the initial screening organizations in the health fair program when it first formed?
   Probe: If YES, please answer from your experience.
   Probe: If NO, please answer from what you've been told about the program. We can also skip any question to which you do not know the answer.
2. How did your organization's participation in the health fair program first come about?
   Probe: What motivate your organization's participation in the health fair program?
   Probe: How does your organization's participation in the health fair program align with your organization's mission/goals and objectives?
3. How is your organization's participation in the health fair program sustained? (i.e. grants, discretionary funds, etc.)
   Probe: Is there any funding provided by the church or Providence?
   Probe: Has the funding source changed since the program's inception?

III. Description of Program's Community or Service Area

This set of questions is about the community your organization services through the health fair program.

1. What do you see as the greatest need in the communities the health fair program serves?
   Probe: What are the greatest health needs?
2. In your opinion, how does the health fair program help address these needs?
   Probe: What does the program do well to address these needs?
3. Are there other health fair programs available to the community? Other programs available to the community?
   Probe: IF YES: What does this program do differently?
4. What characteristics of the community help *facilitate* the health fair program's ability to deliver health services? What characteristics of the community act as *barriers*?
   Probe: Culture; Race/Ethnicity; Socioeconomic status; Education; Documented status
5. What are common issues your screening organization faces in delivering health services to these communities?
   Probe: Resources; Financial barriers; sustainability; etc.

IV. Community Partnership Building

This set of questions is about how your organization partnered with Providence.

1. What was the thought process for partnering with Providence for the health fair program?
   Probe: Was your organization participating in any similar partnerships before partnering with Providence? If YES: Please explain. If NO: Why not?
2. What do you know about how Providence begins a new partnership for the health fair program with screening organization?
   Probe: How do you think they decide which screening organizations to reach out to?
   Probe: Which characteristics do you think they look for in a screening partner?
3. What issues does your screening organization encounter when partnering with Providence? If any…
   Probe: Are there any barriers to maintaining the partnership? Anything that you wish would go more smoothly?
4. How does your screening organization benefit from partnering with Providence on the health fair program?
   Probe: What is the motivation for partnering with Providence? What does your organization get out of the partnership?

5. What do you think Providence gets out of partnering with screening organizations in the health fair program?
   Probe: What keeps Providence participating in the health fair program?
6. I understand that the health fair program also partners with churches/faith-based organizations that provide the space for the health fairs. What do you think the churches/faith-based organizations get out of participating in the health fair program?
   Probe: What keeps them coming back to participate in the health fair?

V. Health Fairs

This set of questions is about your screening organization's role in the health fairs.

1. Please briefly describe to me what your organization's participation in a health fair entails.
   Probe: What does it take for you to prepare for a health fair? What amount of time and resources does your screening organization spend to participate in a health fair?
   Probe: How many Providence health fairs do you attend in a year?
   Probe: What parts of this process are done in partnership with Providence? On your own as a screening org? Any part done with the churches? Who is responsible for what?
2. What do you think works well about the way your screening organization currently participates in the health fairs?
   Probe: Processes they find successful. What needs to happen for these processes to stay the same?
3. What do you think could be improved about the way your health organization currently participates in the health fairs?
   Probe: What would you change? How? What is necessary to make these changes?

VI. Clinic-Community Partnerships

The final set of questions is about the partnership in general. This set of questions is meant to help us understand the important factors to consider when implementing and sustaining these kinds of community partnerships. Please answer the following questions as if you were advising a new partnership that is forming.

1. What advice would you give to another screening organization wanting to form a partnership with a hospital/clinic like Providence to provide health services to its community?
   Probe: What should the screening organization know about these types of partnerships?
   Probe: Common barriers? Facilitators?
   Probe: Specific things to consider when partnering with hospitals/clinics? With churches/faith-based orgs?
2. How do you develop a collaborative environment between the organizations in the partnership?
   Probe: What are common facilitators? Barriers?
   Probe: How easy/difficult is it to get organizations to buy-in to the partnership?
4. What is necessary to make the partnership successful?
   Probe: How is each partner/stakeholder accountable to the program?
   Probe: What happens when a partner/stakeholder does not uphold its commitment?
5. How efficient is the partnership in its current structure?
   Probe: How can this structure be improved?
   Probe: What would you change?
   Probe: What would you keep the same?
6. What do you see as the future of the health fair program?
   Probe: How will the partnerships need to evolve? If at all…
   Probe: What are the plans to sustain the program?

7. Is there any other advice you would give to any screening organization wanting to start a community partnership with a hospital/clinic or a faith-based organization to deliver health services?

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CHAPTER 5: Conclusion

5.1 Discussion

Each year, only about 50% of adult patients receive recommended preventive care, such as health screenings (e.g. blood pressure readings), or immunizations (McGlynn et al., 2003). To address this underutilization, much attention has focused on enhancing delivery of preventive health services in primary care, including during both wellness and illness visits (Hahn & Olson, 1999). However, such strategies presuppose patients' access to, and utilization of, the health care system. To increase preventive care delivery for patients who have limited access to the health care system, many national health bodies have called for approaches that involve strategic partnerships between the health care system and community organizations (Alley, Asomugha, Conway, Sanghavi, & others, 2016; Centers for Medicare & Medicaid Services, 2016).

This dissertation focused on one example of such community-clinical partnerships, the Providence Health System's Faith Community Health Partnership (FCHP), and specifically its utilization of health fairs as extenders of traditional primary care into the community setting. This dissertation employed mixed-methods to examine the role of FCHP community health fairs in the delivery of preventive health services. It is important to note that the hospital system that funds the FCHP receives credit for non-profit status partially from the community work performed through the partnership. The FCHP is funded through the hospital system's community benefit budget, providing the FCHP community health fairs with stable funding, resources, and leadership support. Despite stable funding, the FCHP faces challenges in providing screening within health fair settings including organization and implementation logistics, cost versus benefit of performing any given test, and ethical considerations of providing services without being able to ensure receipt of appropriate follow-up care. The impact of FCHP health fairs is closely tied to their ability to attract medically underserved participants,

to screen them appropriately, to refer participants with positive screens to appropriate primary and specialty care, and on the sustainment of established partnerships with faith-based and other community organizations.

5.1.1 Key Findings

Chapter 2 provides a profile of health fair participants and the preventive health services they receive. Descriptive analyses indicated that a slight majority of health fair participants were female, older than 45 years of age, and identified as Latino/Hispanic. Latino participants in our study were medically underserved, with 30% reporting being uninsured. Overall, between 78% and 89% of participants received each of the four screenings of interest – BMI, blood pressure, cholesterol, and glucose – with between 67% and 100% of participant eligible for said screenings. The large proportion of participants eligible for screening suggests that the FCHP health fairs are able to attract the participant population of interest. Multivariate analyses examining participant and church characteristics associated with overall and appropriate receipt of preventive health screenings found that compared to Whites, Latinos had higher odds of receiving BMI, blood pressure, cholesterol, and glucose screenings. These findings validate that community health fairs can be successful in providing preventive health services to racial/ethnic minorities and to the medically underserved.

Chapter 3 used survey data to understand the health care needs and barriers to health care access of health fair participants, their motivation for obtaining services through health fairs, and their preferences for preventive health services received at the health fairs. In addition, participants who received an abnormal result on any screening were asked about whether they received any referrals to follow-up on these findings. Among participants with an abnormal screening result, 32.7% received a referral to additional care. Survey results identified cost, lack of timely medical appointments, changes in health insurance, long clinic wait times, competing demands on their personal time, and a lack of language parity with providers, as

common barriers to health care access. The FCHP health fairs helped to address these common barriers by providing free services in trusted and convenient locations, with bilingual volunteers and nursing staff.

In addition, uninsured participants and participants without a usual source of care were overrepresented in the survey sample, compared to the overall proportion of uninsured and those lacking usual source of care in SPA2, the geographic area where the health fairs are held. This provides additional support for delivering preventive health services outside the health care system to reach underserved groups that may have limited health care access, and may benefit most from screenings provided in community settings. However, further research with a larger, non-convenience sample of health fair participants is needed to further understand the value of health fairs. Finally, an additional goal of the FCHP health fairs was to create linkages to primary and specialty care for participants who needed them. Yet, a substantial proportion of participants with abnormal screens did not receive a referral. Although the survey data does not provide sufficient detail to understand why some participants received referrals and not others, the study results suggest the need for improvement in the referral process and in documentation of the referral process.

Chapter 4 used qualitative interviews to identify characteristics of clinical-community partnerships that influence partnership collaboration and sustainability. Interviews were conducted with FCHP nurses and staff, church health ministry members, and vendors representing other community health organizations. The study found that perceiving value in the partnership itself and not just for the expected outcomes was important for the partnership to withstand challenges and changes over time. Obtaining leadership buy-in, negotiating roles and responsibilities, and establishing and maintaining partnership trust were essential for sustaining partnerships over time. Multiple suggestions for partnership improvement emerged, including additional opportunities for collaborative learning between partners.

5.2 Limitations

The dissertation employed three different data sources: an administrative health fair database (registration forms), a health fair participant survey, and partnership stakeholder interviews. Each data set and corresponding study presented unique challenges and limitations. The health fair database consisted of a large sample of health fair participants (n=5,237), with data collected over a five-year period. These data were collected for administrative purposes and were not intended for research. Delivery of preventive health services during the health fair was prioritized and less attention was placed on the standardization of data collection, and, as a result, the accuracy and completeness of information on the registration forms suffered. A high degree of missingness was observed for key participant demographics (e.g. medical insurance status, preferred language, etc.) preventing their inclusion in multivariate analyses.

Sampling methodology was a primary limitation of the participant survey. The survey was administered by a group of bilingual volunteers, at 11 health fairs held in 2015. The volunteers were expected to “catch” participants as they were leaving the health fair and extend an invitation to participate in the survey. Due to the crowded and somewhat chaotic nature of community health fairs, it was difficult for the volunteers to gauge which participants in a crowd had finished with their screenings and could be surveyed. Thus, the goal became to approach as many health fair participants as possible. Although only about a third of the total number of health fair participants were surveyed, due to the very low refusal rate, the sample represented 99% of health fair participants approached. Investing in a larger survey team, especially for large health fairs, may help capture a larger and more representative participant sample. Despite the difficulties faced in recruitment, the survey sample was comparable to the larger health fair database sample described in Chapter 2. Thus, although the survey findings may not be generalizable to other community health fair settings, they can still inform future FCHP efforts.

Representativeness of the sample was also one of the main limitations of the qualitative study of FCHP clinical and community partners. All FCHP nurses and staff members, except one, were interviewed to participate in the study. However, the FCHP Director generated a list of active health ministry leaders and vendor organizations from which to recruit participants for interviews with health ministry leadership and participating vendor organizations. This process likely resulted in an oversampling of higher-resourced and more engaged partners being interviewed. Although interviewing partners who were no longer active would have made the findings more robust, missing and incorrect contact information for inactive partners made inviting them to participate impossible. By triangulating data between the three stakeholder groups, data validity was improved.

5.3 Implications & Future Directions

The FCHP community health fairs screened substantial numbers of racial/ethnic minorities, uninsured participants, and participants without a usual source of care. This suggests that community health fairs organized through clinical-community partnerships may be well-equipped to serve the populations typically targeted by these types of programs. However, for health fairs to extend the traditional primary care model, the clinical-community partnerships that organize them must understand and commit to their role in providing linkages to primary care for health fair participants with positive screenings. Thus, additional research is needed to understand how well health fairs perform with respect to referrals to primary and specialty care.

This dissertation makes a substantive contribution to the literature on the role of community health fairs as extenders of primary care, for provision of preventive health services to the medically underserved. Findings from this work should be helpful in guiding other health care systems seeking to invest time and resources in establishing clinical-community partnerships. Particularly relevant in this process is the importance of understanding the characteristics that facilitate partnership collaboration and sustainment. The FCHP's 25-year

history has been as laborious as it has been fruitful, with numerous nurses and community members collaborating to sustain it for the benefit of the communities the health fairs serve. Future research on clinical-community partnerships should focus on diverse combinations of partners and resources to understand which partnership characteristics remain important.

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