EFFECTS OF COLLABORATION BETWEEN HOSPITALS AND HEALTH DEPARTMENTS AROUND ASSESSMENTS ON POPULATION HEALTH ACTIVITIES

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ABSTRACT

David S. Chang: Effects of Collaboration Between Hospitals and Health Departments Around Assessments on Population Health Activities
(Under the direction of Pam Silberman)

The United States healthcare system is the costliest in the world, yet health outcomes are worse than many developed countries and significant health disparities exist. The Patient Protection and Affordable Care Act (ACA) has been a major driver for creating a sense of urgency in controlling costs and investing in population health improvement activities. One provision of the ACA is an Internal Revenue Service (IRS) requirement that 501c3 nonprofit hospitals conduct Community Health Needs Assessments (CHNA) every three years and develop implementation strategies to address identified health needs within the hospital's service delivery area to retain tax-exempt status. Concurrently, Public Health Accreditation Board (PHAB), which was launched in 2005, mandates accredited local health departments (LHDs) to conduct a collaborative Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP) every five years. Despite these similar requirements to conduct community health assessments on a regular basis, the amount of engagement between LHDs and nonprofit hospitals in their assessments and plans is variable. There is growing literature that suggests that environmental factors and social factors influence health behaviors and health outcomes much more than access to care or the existing health care delivery system, making the case that hospitals and health departments should invest in upstream determinants of health. Nonprofit hospitals and LHDs can serve as backbone agencies to coordinate community health improvement activities to promote health equity and decrease health disparities. The purpose of this research study is to better understand the effect CHNA and CHA processes have had on population health activities. Specifically, the research study

aims to identify the level of collaboration between hospitals and health departments around assessment, planning, and operationalization of population health activities in Virginia, barriers and facilitators for collaboration, and to Identify and learn from communities in Virginia that are collaborating effectively on community health activities.

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LIST OF ABBREVIATIONS

ACA	Patient Protection and Affordable Care Act
ACHI	Association for Community Health Improvement
ASTHO	Association of State and Territorial Health Officials
CHA	Community health assessment
CHIP	Community health improvement plan
CHNA	Community health needs assessment
IHI	Institute for Healthcare Improvement
IRS	Internal Revenue Service
IS	Implementation strategies
LHD	Local health department
NACCHO	National Association of County and City Health Officials
PHAB	Public Health Accreditation Board
PHV	Partnering for a Healthy Virginia
SDOH	Social determinants of health
VDH	Virginia Department of Health
VHHA	Virginia Hospital and Healthcare Association

CHAPTER 1: INTRODUCTION AND OVERVIEW

Statement of the Issue and Background

The U.S. healthcare system is the costliest in the world (OECD, 2015). However, several health outcomes, such as the rate of infant mortality and life expectancy at birth, are worse than many developed countries (OECD Infant Mortality, 2016). In addition, significant socioeconomic and health disparities exist within the U.S. Between the top and bottom 1% of income distribution, life expectancy at age 40 differs about 15 years for men and 10 for women, with further disparities by geography, race, and ethnicity (Chetty et al., 2016). Researchers have also shown that life expectancy can differ by as much as 20 years in neighborhoods only five miles apart from each other, making the case that zip code is a stronger determinant of health than health services (Virginia Commonwealth University Center of Society and Health, 2015). A framework developed by the Institute for Healthcare Improvement (IHI) named the Triple Aim is a model used by the Centers for Medicare and Medicaid (CMS) and several large health systems for healthcare reform in the U.S (Institute for Health Care Improvement, 2010). The three components of the Triple Aim include improving population health, controlling costs, and improving patient experience. Achieving this aim will require the coordinated efforts of organizations beyond health care organizations, specifically health departments, social services, and community-based organizations (Kindig, 2011).

The Patient Protection and Affordable Care Act (ACA) has been a major driver for creating a sense of urgency in controlling costs and investing in population health improvement activities. While managed care and Accountable Care Organizations are cost containment strategies that are widely employed, a set of well-defined and widely adopted population health improvement strategies still

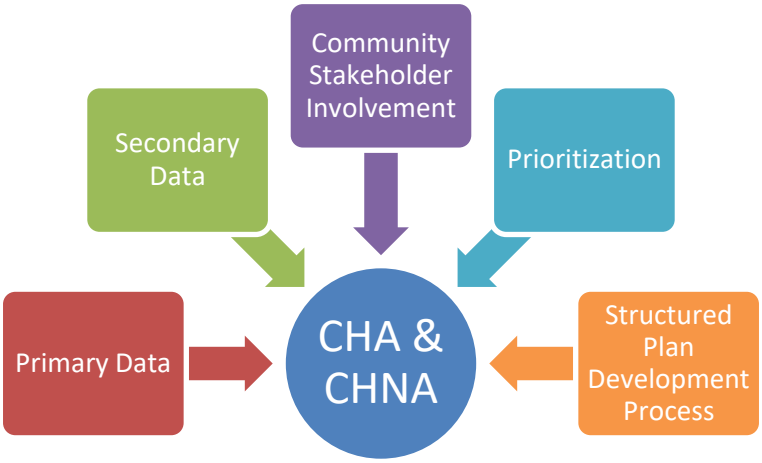
doesn't exist. Of the two primary definitions of population health, the broader interpretation defines it as accountability for health outcomes in populations defined by geography (Kindig, 2011) and the more limited interpretation defines it as accountability for health outcomes in populations defined by healthcare delivery systems (Institute for Health Care Improvement, 2010). Despite these differences in scope, there are several commonalities implicit in the two definitions. First, because it is difficult to improve health outcomes without addressing socioeconomic factors and prevention activities, population health considers a broad array of health determinants that include healthcare and public health measures which include social determinants of health (Frieden, 2010). Second, improving population health outcomes requires multi-sector involvement and strong partnerships. Third, managing population health requires measuring key health problems in the community and prioritizing population health activities. For the purpose of this dissertation, population health is defined as concerns for health outcomes of a defined group of people living in a specified geographic area or community.

New Population Health Requirements: Assessment and Planning

There are multiple population health components in the ACA, which was enacted in March 2010. One such provision is the requirement that 501c3 nonprofit hospitals conduct Community Health Needs Assessments (CHNA) every three years and develop implementation strategies to address identified health needs within the hospital's service delivery area to retain tax-exempt status (IRS, 2016). However, while the ACA directed nonprofit hospitals to start undertaking assessment activities beginning March 2012, final regulations were not released until December 2014. IRS final regulations *require* nonprofit hospitals to receive input from community members and public health experts in completing the CHNA and implementation strategy development processes. It also *encourages* collaboration with other organizations in CHNA and implementation activities. The goal of these collaborations is to improve population health in the communities served by the hospital (Rosenbaum, 2015).

Public Health Accreditation Board (PHAB), which was launched in 2005 in response to the 2003 Institute of Medicine report "The Future of the Public's Health", is also driving public health to focus more heavily on population health. While still not a mandatory process, most LHDs are encouraged at a national and state level to achieve certain standards associated with accreditation. Accredited local health departments (LHDs) are required to conduct a collaborative Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP) every five years inclusive of the needs of the whole population within the geographic jurisdiction served by the LHD. This process includes collection of quantitative and qualitative data, data analysis, and community input in decision-making, prioritization of health problems, and planning to address health problems, with the goal of improving population health (Public Health Accreditation Board, 2013).

Figure 1. Components of Community Health Assessment (CHA) and Community Health Needs Assessment (CHNA)



A LHD's CHA and CHIP and a nonprofit hospital's CHNA and implementation strategies are very similar (Figure 1), as both use comparable types of secondary and primary data, prioritization and plan development processes, and involvement of an almost identical set of community key stakeholders. However, in theory, the CHA/CHIP is more population health-focused and may be more inclusive of social determinants of health such as housing, violence, and education; whereas a CHNA and

accompanying implementation strategies may be more narrowly defined to direct patient care services (Laymon, Shah, Leep, Elligers, & Kumar, 2015).

Despite these similar requirements to conduct community health assessments on a regular basis, the amount of engagement between LHDs and nonprofit hospitals in their assessments and plans is variable. In 2013, of almost 2,000 LHDs surveyed nationally, approximately 58% had completed a CHA within the last 3 years, and of those, only 53% were collaborating on any level with a nonprofit hospital on a CHA (Laymon et al., 2015). Based on data collected by Virginia Department of Health (VDH) in February 2016, out of 35 health districts in Virginia, only 29% had completed a CHA within the past five years and were currently implementing their CHIP. Only one district reported completing the CHA/CHIP in partnership with a nonprofit hospital. Of the 30 LHDs that have a nonprofit hospital in their district, all reported participating in the hospital's CHNA process; however, this was mostly limited to providing health district data or for minimal consultation.

This information corresponds with data collected by Virginia Health Care Foundation and disseminated by Virginia Hospital and Healthcare Association (VHHA) in 2015 obtained from CHNA reports in Virginia. Out of over 60 hospitals that responded, only five CHNAs in Virginia specifically indicated collaboration with LHDs and an additional four described collaborating with community groups which may have included LHDs. Collaboration was defined as exchanging information and sharing resources to alter activities and enhance the capacity of the other partner. While several nonprofit hospitals conducted joint assessments with other hospitals within the geographical vicinity, only one nonprofit hospital conducted a joint CHNA/CHA with the health department that served the same geographic region (VHHA, 2016).

Data abstracted from the Virginia CHNA reports also indicate that approximately 75% of Virginia nonprofit hospitals utilized an external consultant to complete the CHNA report. These findings may indicate that hospitals did not have adequate time to plan or develop internal expertise to conduct

assessments due to the timing of IRS regulation, a general lack of existing partnerships between hospitals and LHDs, a deficit in assessment and planning capacity within Virginia LHDs, or a lack of awareness of LHD capacities in assessment. Possibly to address this issue, in 2016 the Virginia State Health Commissioner required every health district to complete a CHA/CHIP within a period of 3 years. Of the ten essential public health services that describe activities public health departments should be undertaking (Figure 2), two are related to assessment (APHA, 2013)

Figure 2. 10 Essential Public Health Services

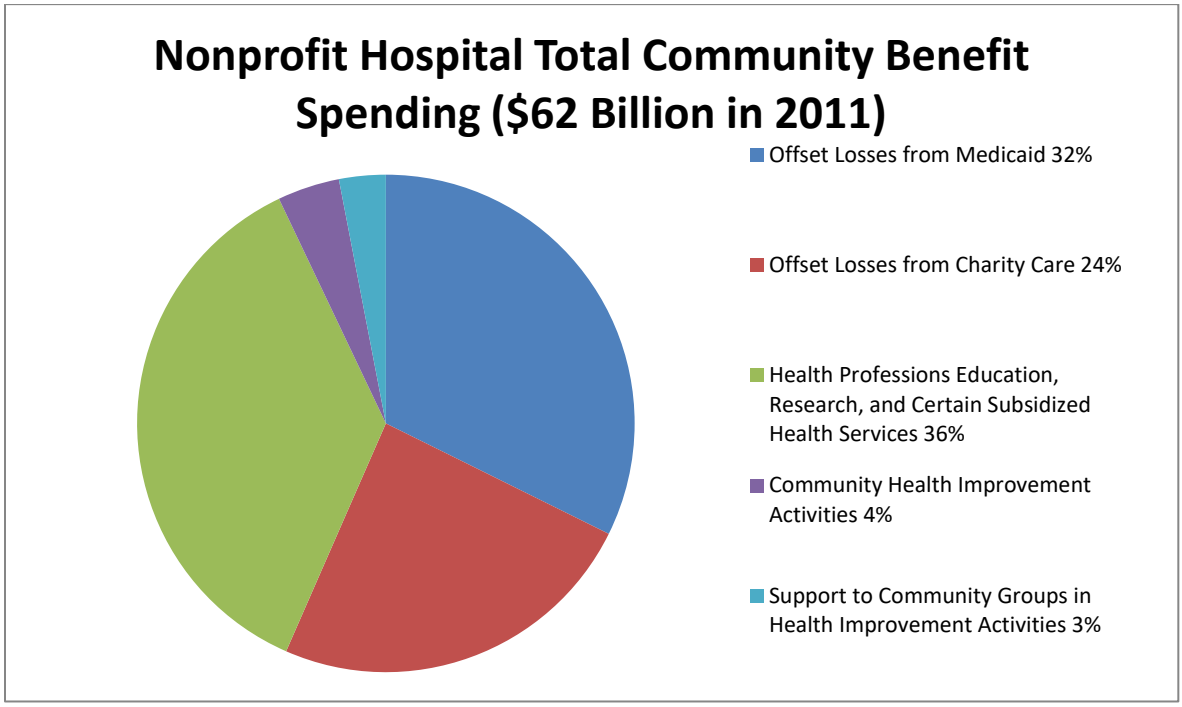
Source: APHA 10 Essential Public Health Services

<u>Resources to Address Population Health Improvement: Community Benefit</u>

One potential resource for population health improvement activities in the community is the local nonprofit hospital. In return for tax-exempt status, the IRS requires nonprofit hospitals to file the

Schedule H section of IRS Form 990. This form reports on efforts to improve community health in the hospital's service area or is otherwise known as community benefit. Analysis of Wisconsin hospitals (Bakken & Kindig, 2015) and nonprofit hospitals nationwide (Young, Chou, Alexander, Lee, & Raver, 2013) has indicated that hospitals in the U.S. receive approximately $24.6 billion dollars in annual tax exempt benefits. The most recent IRS estimates suggest that tax-exempt hospitals provided $62 billion dollars in community benefit in 2011. However, only approximately 7.5% of community benefit expenditures are invested in community health improvement activities and support to community groups in health improvement activities whereas 56% is being expended to offset losses from Medicaid and charity care (Figure 3). Altogether, investment in community health improvement activities amounts to less than one percent of all hospital expenditures for any purpose in 2011 (Rosenbaum, Kindig, Bao, Byrnes, & O'Laughlin, 2015). According to the 2017 Annual Report on Community Benefit distributed by VHHA, Virginia hospitals provided $2.29 billion of community benefit in 2015 of which $382 million (13.05%) was expended on supporting community programs ranging from mobile clinics to health professions education to provision of transportation for patients and $4.4 million (0.15%) was invested in community building (Virginia Hospital and Healthcare Association, 2017).

Figure 3. Nonprofit Hospital Total Community Benefit Spending



Source: Rosenbaum, Kindig, Bao, Byrnes & O'Laughlin

Health System and Public Health Transformation: Alignment of Priorities

There is growing literature that suggests that environmental factors and social factors influence health behaviors and health outcomes much more than access to care or the existing health care delivery system (Lecture & Schroeder, 2007). Today, as recognition grows that health care delivery that is episodic, sporadic, and provided in silos absent of other social and preventive services is both costly and inefficient, there is an argument for hospitals to invest in upstream determinants of health (Mattessich, Paul W; Rausch, 2014). Neal Halfon and Peter Long describe how hospitals and other healthcare delivery organizations are moving into a third era of community-integrated delivery of care that emphasizes achieving population health outcomes by working across sectors with community partners on upstream and socioeconomic determinants of health (Figure 4) (Halfon et al., 2014). The first era which spanned from the mid-1800s to the 1950s was characterized by the sick care system,

focused on acute care, treatment and control of infectious diseases, with little emphasis on population health improvement. The second era which started in the 1950s and extends until today focuses on managing and treating chronic diseases, with again little focus on the health of whole communities. Halfon and Long posit that we are beginning a third era during which health systems will need to take the necessary steps to improve health outcomes through collaborative work on the upstream determinants of health.

Figure 4. Health System Transformation

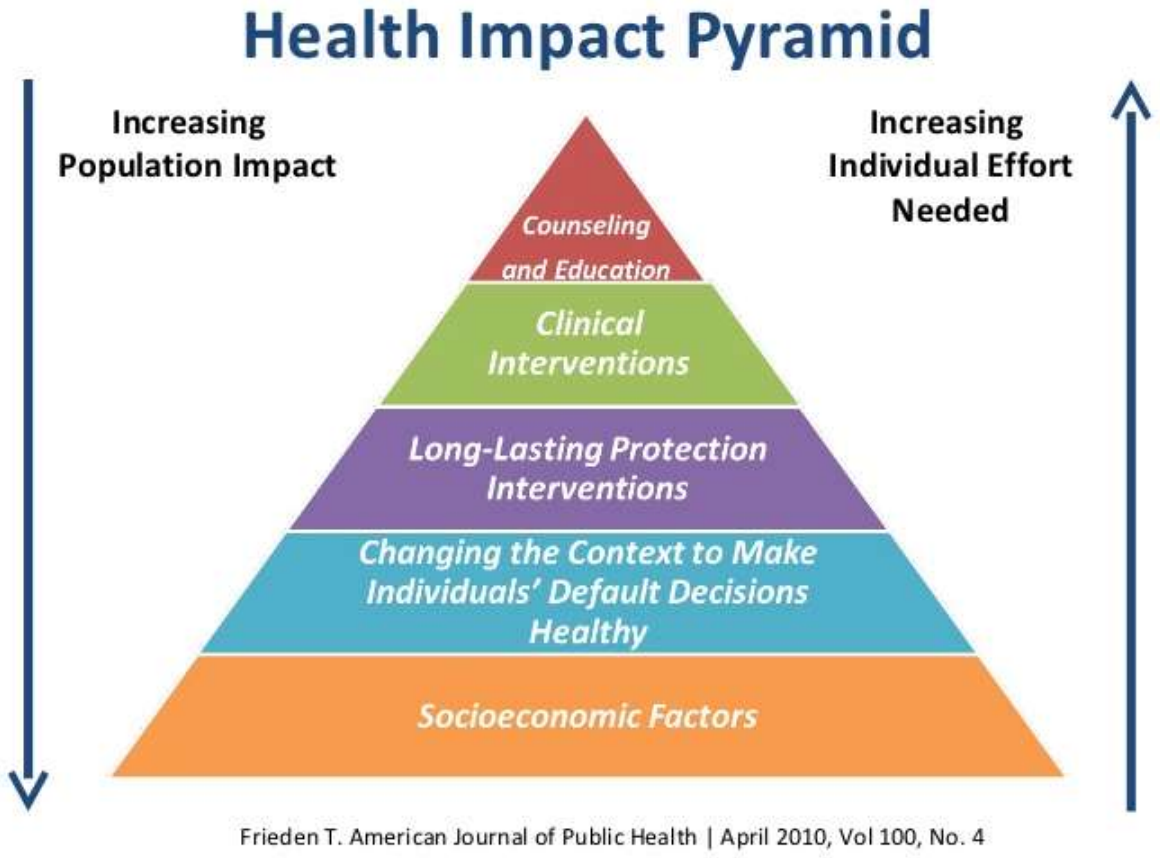
Health System Characteristic	Era 1.0 Sick Care System	Era 2.0 Coordinated Health Care System	Era 3.0 Community-Integrated Health Care System
Objective	Acute care and infectious disease focused	Patient-centered care; coordinating episodes of care across levels of care and managing chronic conditions	Population and community health outcomes, optimizing the health of populations over the life span and across generations
Organization of services	Independent health care providers; hospitals, clinics, primary care providers, and specialist operate separately	Systems of health care, such as accountable care organizations and medical homes; teams of health care providers accept collective responsibility for quality outcomes and overall cost of care	Community-integrated health system; integrated health care networks partner with public health and community organizations to both reduce community health risk factors and provide coordinated illness care
Care process	Little coordination between inpatient and outpatient medical care; dominated by an acute care treatment model	Coordinated care to better manage medical risk at each level (primary, secondary, and tertiary) of the health care delivery system	Integrated health, psychosocial services, and wellness care designed to optimize and maintain health and well-being across the life course
Payment methodology	Fee-for-service; rewards volume of services	Value-based payments: health care providers rewarded for better patient outcomes, better patient experience of care, and lower total cost of care	Recognize value with long-term horizons and capture multi-sector financial impacts outside of health care costs: sustainable financing alternatives such as population based global budgets; single budget for a broad scope of health care services combined with incentives
Health information technology	Separate paper medical records exist but are not connected	Electronic health care information exchanges connect various provider networks	Health and medical information follows the person: there is connectivity between the health and human service systems, and actors have access to real-time data on quality, costs, and outcomes for individuals and populations
Quality of care	Large variations in quality and low transparency	Consistent quality; using standard quality outcomes and improvement processes through collaborative learning	High and continuously improving quality through a learning health system
Population health improvement	Not addressed	Focused on health of patients/clients	Focused on health outcomes for geographically defined population, including upstream socioeconomic and developmental correlates of health

Source: Halfon and Long

There are remarkable similarities between the third era of health systems and the modern vision of public health. In a white paper published by the U.S. Department of Health and Human Services, former Assistant Secretary of Health Karen DeSalvo describes an upgrade in public health to version 3.0 which is also defined by cross-sector collaboration and an emphasis on environmental, policy, and systems-level actions that directly affect the social determinants of health (DeSalvo KB,

O'Carroll PW, Koo D, Auerbach JM, 2016). Both public health 3.0 and health system era 3.0 focus on selecting interventions that change environments, systems, and policies, and help to change the context to allow targeted populations to make healthier default choices. (Figure 5) (Frieden, 2010).

Figure 5. Population Health Impact Pyramid



Hospitals have historically focused on the two top tiers of the population health impact pyramid; public health has focused on the top three tiers. In order to make significant improvements in the population health of communities, both hospitals and LHDs need to move towards focusing on the bottom two tiers of the pyramid.

Recent external forces such as PHAB that are pushing LHDs to conduct CHA/CHIP work and the IRS that are requiring nonprofit hospitals to conduct CHNA/implementation strategy work can serve as a

shared launching platform to collaboratively assess and plan how to work together with the community to make default choices healthier and improve the socioeconomic factors that impact health. Hospitals and health departments appear to be ideal partners with complementary resources and skills to convene and work with other community agencies to improve population health.

Leveraging Assessment and Planning Processes to Improve Population Health

The collective impact model suggests that key stakeholders from different sectors must work together collaboratively to effectively address complex social issues such as health improvement. To be successful, key partner organizations across sectors must: develop a common agenda, use a shared measurement system, engage in mutually reinforcing activities, communicate consistently, and ensure there is backbone support for collaboration activities (Kania, John and Kramer, 2011).

Nonprofit hospitals or LHDs can serve as backbone agencies to coordinate community health improvement activities to promote health equity and decrease health disparities. LHDs can provide data, assessment resources, and coordinate multi-sector collaboration among community partners. Additionally, LHDs can help frame CHIP and implementation strategies with an emphasis on environmental, policy, and systems-level actions that directly affect the social determinants of health. Nonprofit hospitals may have community influence to gather stakeholders to address specific health issues. Hospitals can contribute new financial and other resources to community partnerships that may achieve CHIP/implementation strategies goals while also fulfilling community benefit requirements.

Separate CHA and CHNA processes result in duplicative work that can cause assessment fatigue among community members, confusion in the community due to disparate assessments that result from the use of different survey instruments and data sets, and wasting of valuable resources on multiple assessments and non-aligned health improvement and implementation plans

Furthermore and most importantly, trusted partnerships built through aligning assessment, planning, and health improvement actions and utilizing the collective impact process create

opportunities for nonprofit hospitals and LHDs to make a significant impact in population health within the communities they serve (WHO, 2013).

Purpose and Research Aims

The purpose of this research study is to better understand the effect CHNA and CHA processes have had on population health activities, and specifically, what effect, if any, have collaborative assessment and planning processes between health departments and hospitals had in Virginia.

The research aims are to:

1. Identify the level of collaboration between hospitals and health departments around assessment, planning, and implementation of population health activities in Virginia.
2. Identify the barriers and facilitators for more partnerships around assessment and planning between hospitals and health departments in Virginia.
3. Identify and learn from communities in Virginia that are collaborating effectively around assessment and planning to address population health activities and engaging in cross-sectorial collective impact activities.

CHAPTER 2: REVIEW OF THE LITERATURE

Both hospitals and health departments have engaged in assessment activity for decades. Much of this assessment activity was encouraged as part of strategic planning processes. However, the CHA and CHNA processes, as defined and required by PHAB and IRS, are relatively novel developments. As such, health department and hospital partnerships around assessments and plans are not likely to be common. Additionally, given the emerging emphasis on population health activities such as assuring health equity, undertaking collective impact activities, and focusing on the social determinants of health, hospital-health department partnerships that focus on population health activities are also likely to be limited. This literature review is designed to address the question: What has been the impact of CHNA and CHA processes on population health activities, and more specifically, has the level of collaboration between LHD and hospitals around assessment and planning had an impact on population health improvement activities?

Scope and Methodology

A systematic review of English articles using PubMed, SCOPUS, and EMBASE was conducted between July 29 and August 5, 2016. Additional studies and papers were identified by contacting experts in the fields of health assessment, health improvement planning, and community benefit, searching poster and presentation abstracts from Association for Community Health Improvement National Conferences, and publications by the National Academies Press of the National Academy of Sciences, Engineering and Medicine Health & Medicine Division. PubMed, SCOPUS, and EMBASE were selected as large and broad abstract and citation databases encompassing a range of life sciences, biomedical sciences, and social sciences journal articles. National Academies Press was selected as an authoritative source of science and health policy statements written by leading experts.

The following search terms were employed:

Table 1. Search Terms

Community Health Assessment	AND	Public Health	AND	Hospital	AND	Community Benefit
OR		OR				OR
Community Health Needs Assessment		Health Department				Population Health
OR						OR
Community Health Improvement Plan						Health Improvement
OR						OR
Implementation Plan						Partnership
OR						OR
Implementation Strategies						Collaboration

This literature search strategy yielded a total of 15 articles in PubMed, 14 articles in Embase, and 325 articles in Scopus for a total of 354 articles. Title review excluded four articles from PubMed, seven articles from Embase, and 302 articles from Scopus, for a total of 41 articles. Abstract review excluded an additional four articles from PubMed, four articles from Embase, and nine articles from Scopus resulting in 24 total articles. Removing duplicates yielded a total of 14 articles eligible for full review.

Due to the small number of articles, the search terms were revised to search specifically for health department and hospital partnerships absent of CHA, CHIP, CHNA, Implementation Strategies or Implementation Plan. Additionally, in PubMed and Embase, the following more general search strategy was used to decouple health departments and hospitals to identify the types of collaborations which resulted in population health work or health improvement (Scopus was exempted from this search strategy due to over 3,000 returned articles):

Table 2. Revised Search Terms

Community Benefit	AND	Public Health	AND	Partnership
OR		OR		OR
Population Health		Health Department		Collaboration
OR		OR		
Health Improvement		Hospital		

These search strategies combined with searching existing articles for additional possible articles, using a snowballing effect, resulted in 16 additional articles eligible for full review. A hand search was conducted of National Academies Press and Association for Community Health Improvement conference workshops searching for "community health assessment" or "community health improvement" or "community benefit" yielding a total one additional workshop summary brief. Altogether, 31 articles received a full text review. The findings were grouped into the following categories:

- Finding 1: Collaborative assessment activity and effect on population health improvement activities
- Finding 2: Collaborative planning activities and effect on population health improvement activities
- Finding 3: Facilitators for collaboration between hospitals and LHDs
- Finding 4: Barriers for collaboration between hospitals and LHDs

Results

Beyond a handful of case studies, there is very little existing literature that describes the impact of collaborative assessment and planning on population health improvement activities. However, the literature review contained several articles that discussed the potential for a CHA or CHNA to serve as a platform for hospitals and health departments to work more closely on social determinants of health such as housing, employment, and education or to invest more in population health activities (Pennel, Cara L, McLeroy KR, Burdine, JN, Matarrita-Cascante D, 2015), (Beatty, Wilson, Ciecior, & Stringer, 2015). Additionally, articles discussed how hospitals and health departments have the opportunity to

contribute towards community health improvement by working on population health initiatives in addition to the innovative clinical and traditional clinical interventions (Wizemann, 2015), (Somerville, M.H., Seef L., Hale D., 2015). However, given a hospital system's lack of financial incentives and capabilities to address the social determinants of health, in general, the CHNA/implementation strategies process has not resulted in hospitals making major investments in addressing complex population health priorities (Chen et al., 2016). Only a few case studies of hospitals taking on important roles in community coalitions created through the CHNA/CHA process that are aimed at population health improvement exist in the literature (Casalino L.P., Erb N., Joshi M.S., 2015).

Finding 1: Collaborative Assessment Activity and Impact on Population Health Improvement Activities

Several studies discussed collaborative assessment activity between nonprofit hospitals and other community agencies, including LHDs. Collaborative assessments were correlated with higher CHNA report quality and had the potential to result in better alignment of resources, although actual impact on health improvement was not studied (Pennel, McLeroy, Burdine, & Matarrita-Cascant, 2015). Collaborative assessments were also proposed to enable nonprofit hospitals to have a larger impact on population health activities. Two mixed methods studies in Missouri and Texas, which reviewed publicly available CHNA reports online to assess levels of collaborative assessments, reported that lower-than-anticipated levels of joint assessment have blunted the potential collaborative impetus of the ACA and PHAB accreditation, and that health improvement potential has not been fully realized with the first CHNA cycle that corresponds to the years 2011-2014 (Beatty et al., 2015), (Pennel, Cara L, McLeroy KR, Burdine, JN, Matarrita-Cascante D, 2015). Collaborating with public health and community-based agencies in the CHNA process was cited as an opportunity for hospitals to develop shared goals and allow public health and community development sectors to increase the impact of hospital community benefit investments (Somerville, M.H., Seef L., Hale D., 2015). All of these studies suggested that collaborative assessments could lead to better implementation of population health activities.

In California, a study conducted within four hospital systems determined that CHNAs that included a community-based participatory research (CBPR) approach resulted in increased collaboration that persisted after the CHNA was completed, and a greater sense of professional satisfaction and interpersonal connection between hospital representatives and community leaders (Ainsworth, Diaz, & Schmidtlein, 2013). Developing shared goals, agreeing on a guiding framework, establishing feedback loops, and intentional trust-building exercises all were shown to contribute to positive short-term outcomes, but no data on longer-term population health improvement outcomes were presented.

Finding 2: Collaborative Planning Activity and Impact on Population Health Improvement Activities

Early studies on collaborative planning activity have not found a link between partnerships around planning and more effective implementation of population health improvement activities. The literature that discusses collaborative planning activity and health improvement are restricted to case reports.

A mixed methods study in Texas indicated that several nonprofit hospitals had robust community engagement in CHNAs but this has not resulted in adequate levels of partnering around health improvement planning processes (Pennel, Cara L, McLeroy KR, Burdine, JN, Matarrita-Cascante D, 2015). In Missouri both collaborative assessment and health improvement activity were minimal between LHDs and nonprofit hospitals (Beatty et al., 2015).

Shared assessments did result in variable levels of shared health improvement planning activities in a handful of case study reports. Leaders in Wake County, North Carolina, reported findings that shared assessment and collaborative health improvement planning resulted in the identification of three shared priority areas for the community, but did not discuss joint implementation efforts (Alfano-Sobsey et al., 2014). In Trenton, New Jersey, it was reported that collaboration between over 40 partners, including nonprofit hospitals, LHDs, and Federally Qualified Health Centers, resulted in a unified city community health assessment and community health improvement plan which had the

direct engagement of citizens and resulted in unprecedented data sharing and collaborative allocation of resources on upstream factors including investment in housing and education (Perry & Stephenson, 2013). In a rural setting in Wisconsin, a shared planning process between a LHD and three nonprofit hospitals resulted in a shared set of priorities for the community that focused on the social determinants of health (Sampson, Gearin, & Boe, 2015). In the Quad Cities region in Iowa, the foundation of the successful shared multi-sector health improvement work and alignment of resources between hospitals and community agencies in the community was the shared assessment work which occurred over 15 years ago (Wizemann, 2015). However, while documenting investments in social determinants such as housing and education, none of these case studies were able to study the population health outcomes of the shared planning process.

In a small study in rural Western North Carolina, a local health department and three local hospitals partnered together on a CHA/CHNA and prioritization process, which resulted in the shared implementation of several new evidence-based interventions (Bruckner & Barr, 2014). The authors of the article state that the new programs have had a significant impact on population health, including decreasing five-year diabetes mortality rates. However, it is difficult to determine if other factors beyond the shared assessment and planning process caused the decrease in diabetes mortality rates.

Several articles discussed how hospitals can wield social and political capital to influence policy change. One article specifically mentioned initiatives such as utilizing hospital staff as volunteers in programs that address the social determinants of health or establishing policies to preferentially procure and contract services and goods from local or minority-owned businesses (King & Roach, 2015). In New York, a study determined that hospital involvement in programs impacting non-medical health determinants was not widespread owing to barriers such as a perceived lack of incentives and resources (Chen et al., 2016). However, several hospitals have recently developed programs addressing non-medical health determinants such as access to healthy foods and parks, housing, and employment by

partnering with community organizations such as LHDs and local government. “These programs require relatively little investment; they leverage the hospital’s key role and relationships in the community to catalyze change” (Chen et al., 2016).

Finding 3: Facilitators for Collaboration Around Assessment and Planning Between LHDs and Nonprofit Hospitals

NACCHO expects that PHAB accreditation and the ACA will increase shared assessment and health improvement planning activities between LHDs and nonprofit hospitals. Within the past few years, the number of accredited state and local health departments has risen so that currently accredited health departments cover approximately 80% of the US population (PHAB, 2019). Public health accreditation is placing an emphasis on all LHDs to develop further assessment capacity (Laymon et al., 2015).

Timing of the first CHNA cycle for nonprofit hospitals and the delayed issuance of the final regulations created very little lead time to engage partners and coordinate collaboration in the assessment and planning processes. Nonprofit hospitals are now in the process of conducting or have recently conducted a second round of CHNAs. The IRS released final regulations on December 31, 2014 that included more stringent requirements regarding the amount and level of community and LHD engagement in the CHNA process (Rosenbaum, 2015). Several changes in the final rules are noteworthy.

1. Regarding scope of the assessment, the final IRS rules are clear that the CHNA can assess significant health needs arising from the social determinants of health. This rule signals that the CHNA process is concerned with the broader definition of population health improvement including investments in community building, rather than limited to issues such as access to health care.
2. Regarding shared CHNA/implementation strategies work, the final rules clarify that joint planning activities are not only permissible, but encouraged, between hospitals and LHDs that serve the same community.

3. Regarding public health involvement, the final rules stipulate that hospitals should work with governmental public health organizations, specifically, input from the governmental public health agencies at the most appropriate level (state, local, regional, or tribal) must be solicited and any such input received must be taken into account in the CHNA process.

While assessment is a core function of public health and most LHDs have some epidemiology capacity, the majority of nonprofit hospitals in Texas, North Carolina, and Virginia utilized either in-house staff or outside consultants instead of the LHD on their CHNAs (VHHA, 2016), (Wade, 2015), (Pennel, McLeroy, Burdine, Matarrita-Cascante, & Wang, 2015).

In general, LHDs are more likely to successfully collaborate with community partners if there is strong leadership who are committed to finding financing mechanisms to sustain collaborative work, inclusive planning processes, and open communication (Cheadle A., Hsu C., Schwartz P.M., Pearson D., Greenwald H.P., Beery W.L., Flores G., 2008). Likewise, based on a case study report of a hospital-LHD partnership to reduce preventable readmissions in Maryland, hospitals are likely to collaborate if there are executives and hospital board members who are interested in fostering a culture in which collaboration with external partners is embraced (Kurtzmann, 2015). Because hospital staff members typically viewed sharing hospital data with the LHD as an additional task, hospital leaders needed to convey to staff the importance of the collaboration with the LHD in keeping patients healthy and safe in their communities. In addition, shared health information technology, clearly defined roles and consistent communication were noted to be facilitators for higher quality collaboration between LHDs and hospitals.

Medicaid expansion, and additional funding sources such as the Delivery System Reform Incentive Payment (DSRIP) program and Medicare's Accountable Health Community program have also been mentioned as possible facilitators for LHD and nonprofit hospital collaborations on the social determinants of health (Chen et al., 2016). An emphasis on managing populations, such as the recent

push for managed care, oftentimes also creates opportunities for LHD and nonprofit hospital collaborations. Private foundations such as the Robert Wood Johnson Foundation have focused grant-making efforts on promoting collaboration across all sectors to improve community health, and specifically have tapped hospitals to serve as anchor organizations to improve population health in their communities. These models have served as effective facilitators for stronger partnerships and can provide funding models that support hospital-LHD population health efforts as well as raise awareness of other examples of successful partnerships ongoing across the U.S (Chen et al., 2016).

Historically, partnership effectiveness between LHDs and community agencies such as hospitals have been predicted by having a budget or staffing dedicated to the shared work, a written agreement that stipulates terms and responsibilities, having several partners contribute financially to a project, having a broad array of organizations involved, and having a strong relationship between leaders that has developed over time (Zahner, 2005).

In establishing the Washington D.C. Healthy Communities Collaborative, several similar factors were mentioned as facilitators of hospital, LHD, and community health center collaboration. These included working to create consensus around common ground rather than simply fulfilling corporate compliance, establishing a formal affiliation agreement that outlined operational provisions and co-ownership of products, and a membership cost to join the collaborative (Merrill, Pollard, & Wright, 2014).

Finding 4: Barriers for Collaboration on Assessment and Planning Between LHDs and Nonprofit Hospitals

Studying the level of collaboration and strength of interdependence between hospitals and LHDs has yielded conflicting results. LHDs in Missouri that are conducting CHAs perceive a relatively high level of collaboration around assessment and planning activity with nonprofit hospitals in their jurisdictions (Wilson, Mohr, Beatty, & Ciecior, 2014); however, when these same nonprofit hospitals partners were surveyed, they rated comparatively lower levels of collaboration around assessment and

planning activity with their partner LHDs (Beatty et al., 2015). Studying the reasons behind this perception gap in levels of collaboration and partnership may reveal differences in power, perceived need for interdependence, prejudice against working with governmental agencies, or differing vocabulary regarding collaboration that could delineate root causes for why collaboration between public health and health care has been challenging.

Additionally, in New York, the study authors state that more hospitals might partner with LHDs and other community organizations on programs to improve non-medical determinants of population health if "this concept became better known to hospital executives and if examples were readily available" (Chen et al., 2016). Hospital executives reported other barriers such as the cost of developing population health programs that may not demonstrate a strong return on investment. Some community leaders are hesitant to partner with hospitals due to a lack of trust based on historical discrimination or other factors (Chen et al., 2016).

Other practical concerns that could create barriers to LHD-hospital collaboration include differences in the timing of assessments, geographical service area differences between LHDs and hospitals, and conflicting priorities. IRS requires nonprofit hospital CHNAs to be completed every 3 years, whereas PHAB requires accredited LHDs to complete a CHA/CHIP every five years which causes a timing mismatch. Geographically, hospitals and LHDs may have different service areas, which would necessitate a hospital to coordinate CHNA work with multiple LHDs and vice versa. Finally, hospitals have traditionally focused on improving quality and safety, whereas LHDs have focused on communicable disease control and safety net ambulatory services.

Limitations of the Literature Review

There are several common study characteristics and weaknesses shared among the studies. The studies related to shared assessment and planning are primarily case reports or limited in scope to a state (Missouri or Texas), raising significant concerns with external validity. For example, rural Wisconsin

collaboration around assessment and planning may not apply to larger, urban situations where there are multiple LHDs and dozens of nonprofit hospitals to coordinate collaborative assessment work (Sampson et al., 2015). Additionally, the lessons learned from urban areas with large human services agencies that have significant convening authority (Alfano-Sobsey et al., 2014) may not apply to more decentralized states with government agencies with less home rule authority (Perry & Stephenson, 2013).

Additionally, the mixed methods studies have common weaknesses related to internal validity, primarily due to self-report bias and sample size. For example, two studies assessed collaboration in assessment and planning activities by extracting key words from CHNAs (Beatty et al., 2015; Pennel, Cara L, McLeroy KR, Burdine, JN, Matarrita-Cascante D, 2015). These CHNAs are mostly self-reported accounts of assessment and planning with no external validation of the actual level of engagement of community members or LHDs. Only one study used comparison groups; however, this study, a qualitative analysis of key informant interviews was limited in size to only two hospitals each that were preselected by the authors as being “high”, “medium”, or “low” CHNA collaboration hospitals (Pennel, Cara L, McLeroy KR, Burdine, JN, Matarrita-Cascante D, 2015). The case reports were of single collaborative projects contained within a city or a region. The largest sample size of the mixed methods studies was 95 hospitals. There were no experimental design studies.

Selection bias was prevalent in several of the studies. Two studies depended on LHD leaders responding to an electronic survey sent via e-mail (Laymon et al., 2015; Wilson et al., 2014).While the response rate was relatively high in one study at 80%, there are concerns of higher response rates from LHDs already engaged more in collaborative work with nonprofit hospitals (Laymon et al., 2015).

Even a robust and broad literature review resulted in a very limited number of studies, and none in Virginia, focused on assessment and planning processes between LHDs and nonprofit hospitals, demonstrating that this is a new and evolving field. Finally, because of the complex nature of community

health improvement planning and activities, it is unrealistic to expect randomized controlled trials or any types of experimental design studies.

Gaps in the Literature and Considerations for Future Research

PHAB and the ACA are relatively new levers for the promotion of an increased focus towards population health improvement activities and more collaboration between the disciplines of public health and healthcare. Ideally, the outcome of successful collaborations on the CHA/CHIP process and the CHNA/implementation strategies process will be not only an increase in population health activities but also an overall improvement in the health of communities. However, there is very little literature studying the impact of shared assessment, planning, and implementation processes between LHDs and nonprofit hospitals with changes in population health activities in those communities.

In Missouri and Texas, study authors developed unique CHNA quality scales to assess collaboration on CHNAs. However, the vast majority of the data collected came from key word abstraction from CHNA reports. Additionally, the data on collaborative assessment and planning activity in Virginia has been restricted exclusively to extraction of CHNA reports. Further study of the amount and quality of collaboration in assessment is needed along with a qualitative assessment of the barriers and facilitators for collaboration specifically between Virginia LHDs and hospitals.

The impact of the assessment and planning processes on population health improvement activities has not been fully described. Further study of the population health impact of shared assessment and planning is needed because it would be reasonable to expect that collaborations between public health and health systems could help increase work around collective impact activities, focus efforts on addressing the social and economic determinants of health, and ultimately, to lead to better health outcomes and reduced health disparities.

Should the rapidly changing landscape of health care reform result in the repeal of the ACA, CHNA requirements for nonprofit hospitals may also be eliminated. However, if the CHNA requirements

are abolished, there will still be data from three cycles of assessment and planning processes to draw conclusions regarding the impact on population health activities. Specifically, for LHDs and health systems that are already working collaboratively on population health activities such as addressing health equity, this research may reveal benefits of the previous two CHNA processes that will encourage continued collaboration on population health activities after the regulations are gone. Finally, findings can inform future lawmakers about the impact of the CHNA and implementation strategy outcomes on population health activities if there is interest in reinstituting CHNA requirements with a different Congress or administration.

CHAPTER 3: RESEARCH QUESTIONS AND STUDY DESIGN

Conceptual Framework

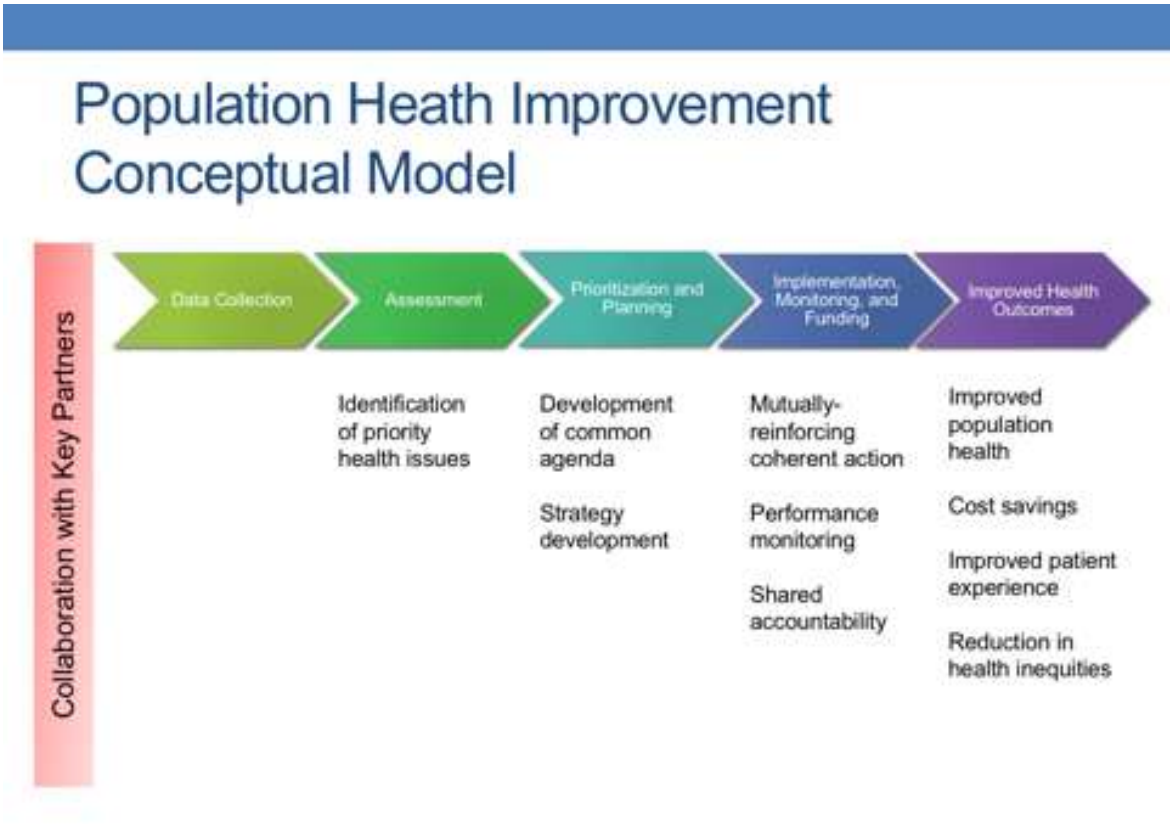
There are multiple overlapping components of the CHA/CHIP and the CHNA/implementation strategies processes. These include data collection, assessment, prioritization of health issues and development of an implementation plan, implementation, monitoring and evaluation. Collaboration of multiple diverse organizations is needed to address complex social issues, such as population health improvement. The collective impact model suggests that such collaborations are more effective if the partners develop a common agenda and a shared measurement system, engage in mutually reinforcing activities, communicate regularly, and have backbone support for the collaboration (Kania & Kramer, 2011)

My population health improvement conceptual model is a synthesis of CHNA/implementation strategies, CHA/CHIP, and collective impact models (Figure 6). Factors in the model related to assessment and planning are informed by the Kaiser Permanente CHNA Process Map and the Institute of Medicine Improving Health in the Community Framework. Health outcomes factors are informed by the Triple Aim. Finally, factors embedded within the process that are essential to successful collaborations to address complex issues are informed by the collective impact model.

This unique framework that incorporates several other models will be utilized to identify levels of collaboration between health departments and hospitals at different stages of the assessment and planning process. It will also be utilized to better understand the barriers and facilitators of partnering at each stage of the process. Finally, the framework will be utilized to assess whether each preceding step of the model actually leads to changes in specific short-term and medium-term population health

activities such as increased work around collective impact activities, work to reduce health disparities, or increased emphasis on working to address the social determinants of health.

Figure 6. Population Health Improvement Conceptual Model



Adapted from Kaiser Permanente CHNA Process Map and the Institute of Medicine Improving Health in the Community Framework (Durch, Bailey, & Stoto, 1997), (Permanente, 2015).

Research Question

What effect, if any, do hospital-health department partnerships around CHNAs and CHAs have on population health improvement activities in Virginia?

Hypothesis: Population health activities are limited in Virginia, but the required assessment and planning processes can create a blueprint for hospital and health department anchor institutions to address and invest in population health activities.

Study Overview

To obtain meaningful information that could guide a plan for change for health departments and hospitals, a two-step exploratory sequential mixed methods approach was used. Quantitative and qualitative research methods was used in the first phase to identify levels of assessment, planning, and implementation activity existing among local health departments and hospitals in Virginia. After analysis of the data obtained from phase one, seven local health department-hospital dyads were purposively selected for key informant interviews. The key informants came from communities that have been identified in the first step as having high or low levels of collaboration in the assessment, planning, and implementation processes. Approximately half of the communities selected were rural, and the other half urban. Qualitative methods were utilized in the second phase to better understand the barriers and facilitators of partnering, and how the process of assessment, planning, and implementation has been employed to drive population health activities.

Data from both phases were then analyzed to provide recommendations to health department and hospital leaders to better enable higher levels of partnership around health assessments, health improvement planning, and implementing population health improvement activities.

Study Participants and Recruitment

In the first phase, potential study participants included local health department directors from all 35 health districts in Virginia and 106 community health planners and community benefit managers from all hospitals listed on the 2015 Virginia Health Information database. Study participants included individuals with knowledge regarding the CHA and CHNA process in their communities. As Virginia is a centralized health department with all health departments operating under state authority, district health directors working for Virginia Department of Health (VDH) were identified through the district director contact list and recruited with assistance from the Virginia Deputy Commissioner of Community Health Services. These participants were former colleagues of the principal investigator. Hospital CHNA

and community benefit managers who have knowledge of the CHNA process were identified by searching CHNA reports, working with a list provided by the Virginia Health Care Foundation, and utilizing the networks of health directors, community partners, and other Virginia hospital partners that the principal investigator has worked with in the past on CHNA work in Eastern Virginia.

In the second stage of the research, key informant interview participants were identified from among the participants in the initial survey questionnaire. Key informants were purposively selected to be interviewed from both the health department and the hospital system in a community that has been identified as having either low or high levels of collaboration around assessment, planning, and implementation. Key informants were primarily be hospital executives, community benefit managers, local health district directors, and community health planners or other individuals who have extensive knowledge about the assessment and planning processes and outcomes associated with it. A goal of eight communities were to be identified to participate in the key informant interviews. Unfortunately, there it was difficult to identify highly collaborating rural communities. As a result, two urban and two rural communities reporting low levels of collaboration were interviewed to explore barriers to collaboration. Then three urban communities identified as having high levels of collaboration were interviewed to explore how the community has overcome barriers to collaboration and what were facilitators for collaboration.

Part One: Survey Questionnaire

Potential participants were contacted by the principal investigator via e-mail to request their participation. An attachment including an endorsement to take the survey from the Deputy Commissioner of Community Health Services at VDH went out to all district health directors. An attachment including an endorsement from the Deputy Commissioner of VDH and a senior hospital planner, and a member of the dissertation committee, went out to hospital staff. Additionally, a brief description of the study, definitions related to the study content, and a personalized Qualtrics weblink

to the survey tool was contained in the body of the e-mail (see Appendix A). The online survey tool allowed participants to save and return to the tool for completion. Additionally, the survey tool contained skip logic that gathered more information from communities that have worked more collaboratively on assessment, planning, and implementation processes, and shortened the survey for those who have not completed the CHA, CHNA, CHIP, or implementation strategies collaboratively. The survey was open for two weeks.

On Days 7 and 13 after initial dissemination of the survey questionnaire by e-mail, the principal investigator individually contacted health department directors and community health or community benefit planners who had not completed the survey via e-mail.

The survey questionnaire was developed with input from public health and hospital leaders. The survey was pilot tested on a director of community commitment and social engagement for a hospital system, a senior health planner for another health system, a staff member at Public Health Accreditation Board, and local health department staff engaged in community health assessment and community health improvement planning.

Questions were developed to assess different points in the assessment and planning processes. The first set of questions were designed to identify the organization's process for conducting an assessment and how the organization prioritized health needs. Additionally, questions were included to help identify collaboration around the assessment process, specifically with other hospitals or local health departments, and to identify barriers and benefits of collaborative assessments. The second set of questions were designed to identify an organization's process for developing implementation strategies or health improvement plans, and similarly to the first set of questions, probed specifically about collaboration with other local health departments or hospitals in the process and barriers and benefits. The third set of questions were similar to the first two sets but were designed to identify issues related to operationalization of implementation strategies or community health improvement plans.

The fourth set of questions were designed to identify the outcomes of assessment and planning processes on population health activities. The fifth and final set of questions gathered demographic information.

A copy of the survey questionnaires can be found in Appendix B.

Data Analysis and Data Management Plan for Survey Questionnaire

Data collected in Qualtrics was initially saved in an online Qualtrics account that was password protected. Statistical analysis of the discrete variables was done using Microsoft Excel and other quantitative analysis software. Minimum, maximum, mean, and standard deviations (when appropriate) was reported for variables such as whether an organization had completed a CHNA, whether the CHNA was completed in collaboration with the local health department, and whether the CHNA process had led to different population health activities.

Hand coding was used to analyze the qualitative data associated with free text responses that explored why organizations conducted assessments, plans, or implemented plans independently or in collaboration with other organizations. Textual analysis helped to identify key themes related to barriers and benefits of collaboration. Analysis of the discrete variables identified communities where health departments and hospitals are collaborating closely on assessment, planning, and implementation. Analysis of free text answers provided themes related to the barriers and benefits of collaboration.

Part Two: Key Informant Interviews

In the second stage of the research, the researcher contacted potential health department and hospital participants that reported low or high levels of collaboration around assessment, planning, and implementation of health improvement activities by e-mail. A fact sheet regarding the key informant interview process was shared with all potential participants. Each of the seven communities identified eventually provided a representative. A telephone appointment was scheduled at a time convenient to the participant. During the telephone interview, the principal investigator obtained consent and taped

the interview using an Apple iPhone application named VoiceRecorder. The fact sheet and e-mails requesting participation in key informant interviews can be found in Appendix C. The key informant interview guides are included in Appendix D.

Data Analysis and Data Management Plan for Key Informant Interviews

After the interview was recorded, the digitally recorded files were uploaded and saved electronically on a password-protect computer. The interview files were sent electronically to the executive assistant of the principal investigator for paid transcription services. Descriptors of key informants will be included, but in order to maintain confidentiality of the respondents, the participants' names were included in the file name. After verification of the accuracy of the transcription, the recordings were destroyed so that no responses can be linked to an individual. All results were presented in the aggregate so that the names of individuals were kept confidential.

After verifying the accuracy and integrity of the transcriptions, the investigator conducted a content analysis of transcripts using MaxQDA coding software. Additionally, applying qualitative data analysis strategies outlined by Miles and Huberman, the principle investigator identified themes and categories and compare and contrast responses across interviews by following the iterative process below:

1. Read and re-read transcripts for high-level understanding (Data Reduction).
2. Identify patterns and themes, while using skepticism to challenge perceptions and plausibility (Data Reduction).
3. Categorize data through coding using clustering (Data Display).
4. Use coding to identify themes, patterns, categories and concepts looking for connections, relationships, and divergent views among different types of respondents (health department vs. hospital or urban vs. suburban vs. rural) (Data Display).

5. Identify and link significant themes and concept link themes and concepts delineating remaining gaps in knowledge, alternative interpretations, and recommendations for how the findings might be used (Conclusion Drawing and Verification).

The principal investigator also identified a second coder which turned out to be another individual with a doctoral degree with working knowledge of health systems and public health departments. The two coders coded at least 10% of the text together and continued to code at 10% intervals until a high level of inter-rater reliability was achieved. After a high enough level of inter-rater reliability was achieved to be considered objective coding, the principal investigator proceeded with coding the remainder of the text. The second coder did not have access to information that linked individual participants to the responses from the survey questionnaire and interview.

Delimitations and Boundaries of Research

The research study focused specifically on community health needs assessments, community health assessments, community health improvement plans, implementation strategies, and implementation of community benefit plans or community health improvement plans. Other types of assessments and plans were not considered.

Additionally, the research study was limited to local health departments and hospitals. No survey questionnaires or key informant interviews were conducted with other community stakeholders.

The research study was limited to perceived changes in population health activities as a result of assessment and planning processes and did not determine if collaboration has had an impact on longer-term outcomes such as population health improvement.

The research study was primarily opinion-based research of subject matter experts and is subject to similar limitations in previous studies, including limited sample size and selection bias of respondents.

Finally, the research study was limited geographically to the state of Virginia and may not be generalizable to the rest of the country.

IRB and Confidentiality Issues

The dissertation proposal was reviewed by the University of North Carolina and Virginia Department of Health Institutional Review Boards (IRB) before data collection and analysis commences. IRB exemptions were sought and granted from both organizations.

To maintain confidentiality, the researcher listed as the "Principal Investigator" was the only person who had access to information that linked individual participants to the responses from the survey questionnaire and interview.

Any hard copy information linked to an individual's response to interview questions was stored in a locked file cabinet in the principal investigator's office. All electronic information was stored in password-protected files.

Proposed Plan for Change

Using the findings from the survey and key informant interviews of seven communities in Virginia that have rated low and high levels of collaboration, the principal investigator developed recommendations regarding how to address common barriers and strategies to enhance collaboration around assessment, planning and implementation processes between LHDs and hospitals in Virginia, an and potentially in other states.

From these recommendations, best practices were identified for collaborative assessment, planning, and implementation processes. Kotter 8 Step of Leading Change model was used to facilitate necessary changes within the VA public health and hospital systems (Kotter, 1996). As a former local health department director, the principal investigator has several strong partnerships with local and regional LHD and hospital partners. As a former state health department employee reporting to the Deputy Commissioner of Public Health, the principal investigator also has established relationships with

state public health and hospital association partners. Utilizing these networks and using Kotter's 8 steps for change as the vehicle, the principal investigator aimed advocate for change at both regional and state-wide meetings between hospitals and health departments directors on population health issues, and to work with VDH's Population Health Division to disseminate these findings.

The principal investigator has since moved from Virginia and is now working for both a county health department and large academic medical center in California. He also will use Kotter's 8 steps for change as a tool to implement change in these two systems. Additionally, the principal investigator will seek to reach early adopting LHD leaders through the National Association for County and City Health Officials, Association of State and Territorial Health Officials, Public Health Accreditation Board and early adopting healthcare system leaders through the Association for Community Health Improvement.

CHAPTER 4: RESULTS

Hospital Demographic Results

There are 106 hospitals in Virginia (VHHA, 2017). Of these, 62 are nonprofit 501c3 hospitals subject to the CHNA requirements. While the remaining governmental, for-profit, or proprietary hospitals are not legally required to conduct a CHNA, I attempted to contact all hospitals in Virginia to assess level of involvement in CHNA activities. I researched hospital websites and called each hospital at least three times to try to obtain contact information for community benefit or hospital planners. Thirty-one hospitals did not respond, or when contacted, could not provide a name and contact information of an individual who could answer questions related to community health needs assessments, implementation strategies, or community benefit. The majority of the nonprofit hospitals that did not respond were specialty hospitals such as rehabilitation hospitals, psychiatric hospitals, and long-term acute care hospitals. Most proprietary acute care hospitals also did not provide contact information. Of the 62 acute care nonprofit hospitals in Virginia that are not specialty hospitals, 61 provided contact information.

The survey was sent to 74 unique hospitals in Virginia, of which 56 hospitals accessed the survey and 49 hospitals completed the survey representing a 66% survey completion rate. Of the 49 hospitals that completed the survey, all were acute care nonprofit hospitals with the exception of one nonprofit long-term acute care hospital and one nonprofit children's hospital. Of the acute care nonprofit hospitals in Virginia, 47 out of 61 completed the survey representing a 77% completion rate. I sent a follow up e-mail request to complete the survey to hospitals that had not completed the survey one week into the survey and one day prior to the survey closing. Only three proprietary hospitals accessed

the survey. None of these hospitals completed more than 10% of the survey with their responses primarily limited to entering contact information.

Within the first two days of the survey response period, I received several requests from individuals who were responsible for multiple CHNAs for several hospitals within the same health system to complete only one survey on behalf of the hospital system. I then sent follow-up instructions to all individuals who were responsible for responding to multiple surveys that it would be permissible to only submit one survey response if (1) the CHNA and implementation strategy development and operationalization processes and (2) the interactions with local health departments during these processes were the same for all hospitals within the health system. Five survey respondents responded to me via e-mail that hospitals within their health systems met these criteria. These hospitals are included in the analysis.

As defined by Virginia geographic regional planning areas, nine respondents representing a total of 13 hospitals are located in Northwest Virginia, three respondents representing a total of eight hospitals are located in Northern Virginia, five respondents representing a total of five hospitals are located in Southwest Virginia, three respondents representing a total of six hospitals are located in Central Virginia, and 17 respondents representing 17 hospitals are located in Eastern Virginia. Only 36% of acute nonprofit Southwest Virginia nonprofit hospitals responded to the survey. In all other four Virginia regional planning areas, at least 75% of the acute care nonprofit hospitals responded to the survey.

Thirteen hospital respondents serve primarily rural areas and 36 hospital respondents serve primarily urban areas (using the Virginia Health Information county designation). This represented a 65% response rate from rural acute care nonprofit hospitals and a 92% response rate from urban nonprofit hospitals. Hospital respondents with larger bed sizes (100 or more beds) primarily are located in urban areas. Smaller hospital respondents with fewer than 100 beds are located in primarily rural areas.

Respondents generally reflected the same bed size distribution as reflected among all acute nonprofit hospitals.

Hospital CHNA Results

The overwhelming majority of hospital respondents (94%) reported involving the local health department (LHD) in identifying priority issues for the community as shown in Table 3. below. The most common services provided by a LHD during the CHNA process included identifying and proposing strategic priorities about significant needs in the community (81%), gathering community feedback about the health needs of the community (71%), and gathering input from community stakeholders (69%.) The least common services provided by the LHD during the CHNA process included writing the CHNA report and collecting and analyzing primary data. However, only a few of these findings were statistically significant when the analysis sub-divided the respondents by bed size, corporate structure, or teaching status of the hospitals.

In regard to writing of the CHNA report, while no urban hospitals had LHD involvement in writing the CHNA, approximately 30% of rural hospitals reported having a LHD assist in writing the report. Half of stand-alone hospitals had LHD involvement in writing the CHNA report compared to less than 10% of hospitals associated with a regional health system and no hospitals associated with a national health system, consisting of multiple hospitals in several states. These differences were statistically significant.

Mid-sized hospitals reported higher rates of involving LHDs in collecting and analyzing secondary data as compared to smaller or larger-sized hospitals, another finding that was statistically significant.

Table 3. Local Health Department Involvement in Hospital CHNA Process by Hospital Bed Size, Community Served, Corporate Structure, and Teaching Status of Hospital

	# of Beds			Community Served		Corporate Structure			Teaching Status			
LHD Involvement In:	< 100 (n=11 hospitals)	100-300 (n=11 hospitals)	>300 (n=9 hospitals)	Rural (n=14 hospitals)	Urban (n=17 hospitals)	Stand Alone (n=4 hospitals)	Regional Health System (n=22 hospitals)	National Health System (n=5 hospitals)	ACGME or CTH (n=6 hospitals)	None (n=17 hospitals)	Not Sure (n=8 hospitals)	Total
Establishing CHNA Team	36%	27%	56%	50%	29%	75%	32%	40%	33%	53%	13%	39%
Collecting Info on Underserved Populations	33%	82%	44%	43%	59%	50%	45%	80%	50%	53%	50%	52%
Collecting and Analyzing Secondary Data	33%*	82% *	33%*	36%	59%	50%	41%	80%	50%	41%	63%	48%
Collecting and Analyzing Primary Data	18%	45%	22%	36%	29%	50%	27%	20%	50%	29%	13%	29%
Gathering Input from Community Stakeholders	73%	83%	44%	73%	65%	80%	68%	60%	67%	67%	75%	69%
Gathering Input on Health Needs	64%	91%	56%	64%	76%	75%	68%	80%	83%	76%	50%	71%
Writing CHNA Report	11%	9%	11%	29% **	0% **	50% ***	9%***	0% ***	17%	18%	0%	13%
Identifying and Proposing Strategic Priorities	91%	48%	100%	87%	76%	80%	82%	80%	83%	89%	63%	81%

*** Mid-sized hospitals reported higher rates of involving LHDs in collecting and analyzing secondary data as compared to smaller or larger-sized hospitals (P < 0.05)**

**** Rural hospitals reported higher rates of involving LHDs in writing of the CHNA report as compared to urban hospitals (P < 0.05)**

***** Stand-alone hospitals reported higher rates of involving LHDs in writing of CHNA report as compared to regional and national hospitals (P < 0.05)**

Hospital and LHD Partnership in the CHNA/CHA:

Approximately half (46%) of respondents reported that the hospital initiated a joint CHNA/CHA process with a LHD, 18% reported that it was initiated by a LHD, 14% reported that it was jointly initiated, and 4% by a local nonprofit organization. Almost two-thirds of hospitals (61%) reported that the hospital served as the home for the CHNA process, 26% reported a LHD as the home, 9% reported that another local nonprofit organization was the home, and 4% reported that the process was housed jointly by the LHD and the hospital.

Only 19% of hospital respondents reported producing the same document for the LHD CHA and hospital CHNA. All four of these are rural hospitals.

While there were no significant differences based on hospital size, smaller hospitals tended to report initiating the CHNA process at a higher rate compared to mid-sized or larger hospitals (Table 4). Teaching hospitals reported the highest rates of LHD-initiated CHNAs (60%.) All (100%) of the jointly initiated CHNAs occurred in hospitals that reported to be members of regional health systems. Hospitals affiliated with a national health system were the least likely to report working on a joint CHNA with a LHD. These three findings were statistically significant.

Rural hospitals reported housing the CHNA process internally at a higher rate (69%) compared to urban hospitals (50%.)

Table 4. Initiation and Hosting CHNA Process by Hospital Bed Size, Community Served, Corporate Structure, and Teaching Status of Hospital

	# of Beds			Community Served			Corporate Structure		Teaching Status			
Initiator of Joint CHA/CHNA Process:	< 100 (n=8 hospitals)	100-300 (n=12 hospitals)	>300 (n=8 hospitals)	Rural (n=14 hospitals)	Urban (n=14 hospitals)	Stand Alone (n=5 hospitals)	Regional Health System (n=18 hospitals)	National Health System (n=5 hospitals)	ACGME or CTH (n=5 hospitals)	None (n=18 hospitals)	Not Sure (n=5 hospitals)	Total
Hospital	100%	25%	25%	71%	21%	40%	61%	0%	20%	61%	20%	46%
LHD	0%	17%	38%	7%	29%	20%	17%	20%	60%	11%	0%	18%
Local Nonprofit	0%	8%	0%	0%	7%	0%	0%	20%	0%	0%	20%	4%
Hospital + LHD	0%	25%	13%	14%	14%	0%*	22%*	0%*	0%	17%	20%	14%
No Joint Process	0%	25%	25%	7%	4%	40%	0%**	60%**	20%	11%	40%	18%
Home of Process												
Hospital	100%	44%	33%	69%	50%	33%	67%	50%	25%	69%	67%	61%
LHD	0%	33%	50%	15%	40%	33%	28%	0%	75%***	19%***	0%***	26%
Local Nonprofit	0%	22%	0%	8%	10%	0%	6%	50%	0%	6%	33%	9%
Hospital + LHD	0%	0%	17%	8%	0%	33%	0%	0%	0%	6%	0%	4%

***Regional health system hospitals reported co-initiating CHNA process with LHD at a higher rate than national health system and stand-alone hospitals (P < 0.05)**

**** National health system hospitals reported lower rates of joint CHNA processes as compared to regional health system hospitals (P < 0.05)**

***** Teaching hospitals reported that the LHD served as the home of the CHNA/CHA process at a higher rate than non-teaching hospitals (P < 0.05)**

Barriers to Hospital and LHD Partnership on CHNA Process

Of hospitals that reported working with a LHD on the CHNA process, only 32% listed barriers to identifying priority health issues in partnership with LHDs. The three most commonly identified barriers include lack of timing alignment of the CHNA/CHA processes, the challenge of aligning geographical service areas between the hospital and LHD, and low levels of participation from LHD leadership due to turnover or staffing shortages. Additionally, hospital respondents mentioned challenges with focusing on priorities with other partners at the table. One respondent stated difficulties with "*reaching consensus on prioritization with so many pressing needs*" and another stated that the hospital's "*CHNA implementation plan covered a broader set of health conditions than our local community health coalition's initiatives*."

Hospital Implementation Plan Results

Whereas 94% of hospitals reported that the LHD was involved in the CHNA development process only 64% of hospitals reported that a LHD was involved in the development of implementation strategies. Subsequently, fewer hospitals developed the implementation plan in partnership with LHDs (43%) as compared to the CHNA (66%).

Besides LHDs, the organizations that most commonly assisted hospitals in the implementation planning process include healthy community's coalitions which may also include LHD staff (90%), behavioral health agencies (90%), federally qualified health center or free clinics (77%), and social services agencies (76%.) Involvement from these organizations were reportedly higher than involvement from LHDs (64%), an unexpected finding. Further analysis revealed that the wording of the questions may have contributed to higher reported levels of engagement from these organizations. Hospitals were asked if LHDs "were involved in developing the implementation strategies"; alternatively, hospitals were asked "which other organizations assisted in developing the implementation plan and associated strategies." Additionally, this may reveal, to some extent, the issues which are most pressing for

hospitals, that might include mental health access for patients or referring emergency department patients to social services agencies. Organizations that were least likely to have assisted include health insurance companies (15%) and neighborhood associations (22%).

While not statistically significant, large hospitals with over 300 beds were more likely to report involving the LHD in the development of strategies compared to mid-sized or smaller hospitals (Table 5). Affiliation with ACGME or Council of Teaching Hospitals was also associated with LHD involvement in the development of implementation strategies (83%) compared to non-teaching hospitals. Also, hospitals that are members of national health care systems are much less likely to have LHD involvement in implementation strategy development as compared to all other hospitals.

Table 5. Implementation Planning Development Process by Hospital Bed Size, Community Served, Corporate Structure, and Teaching Status of Hospital

	# of Beds			Community Served		Corporate Structure			Teaching Status			
Process for Developing Implementation Strategies	< 100 (n=11 hospitals)	100-300 (n= 15 hospitals)	>300 (n=9 hospitals)	Rural (n=17 hospitals)	Urban (n=18 hospitals)	Stand Alone (n=5 hospitals)	Regional Health System (n=24 hospitals)	National Health System (n=6 hospitals)	ACGME or CTH (n=7 hospitals)	None (n=20 hospitals)	Not Sure (n=8 hospitals)	Total
Developed Independently	0%	27%	0%	12%	11%	20%	4%	33%	14%	10%	13%	11%
With Some Input	36%	40%	44%	41%	39%	0%	46%	50%	29%	40%	50%	40%
Collaboratively in Partnership	55%	27%	6%	47%	39%	60%	46%	17%	43%	50%	25%	43%
Other	9%	7%	0%	0%	11%	20%	4%	0%	14%	0%	12%	6%
LHD Involvement in Developing Implementation Strategies												
LHD Involved	82%	27%	89%	67%	63%	75%	70%	25%	83%	67%	43%	65%
LHD Not Involved	18%	55%	11%	20%	37%	25%	22%	75%	17%	28%	43%	29%
Not Sure	0%	18%	0%	13%	0%	0%	9%	0%	0%	6%	14%	6%

Barriers to Hospital and LHD Partnership on Implementation Planning Process

Barriers cited in partnering with LHDs around implementation strategies included inadequate LHD participation due to turnover, staffing shortages, or lack of LHD resources to implement activities, and the challenge of aligning geographical service areas of hospitals and LHDs. These reasons mirrored the challenges stated by hospitals in working on the CHNA planning process.

Several hospitals also mentioned that they did not fully collaborate with partners such as LHDs on development of implementation strategies because programs in implementation plans are internal to the hospital and not related to the community. One hospital reported, "*our organization does not provide many of the services that other community agencies provide, and therefore those community agencies fill the gap.*" Two hospitals reported that "*some implementation strategies are internal*."

Facilitators for Hospital LHD Partnership on Implementation Planning Process

Reasons cited by hospitals for partnering with LHDs in the implementation planning process included being able to accomplish more by combining resources, avoiding duplication of efforts, greater engagement in strategic efforts to address community needs, and also avoiding burdening community stakeholders by undertaking the same process twice. One hospital stated that "*we support the same community and can get more accomplished together*." Another stated "*working with the LHD and others, we get a broader understanding of the priority needs throughout the community*." Finally, one hospital stated that their organization "*saw early on that to be successful, it is in everyone's interest to collaborate from the start of the CHNA and also implementation strategies – from the community stakeholder engagement to ownership to resources to support…"*

Several hospitals reported using a community advisory board, that usually included LHD members to help identify priorities and key focus areas, to not only understand priorities, but also so other organizations are engaged in the acting on the implementation strategies.

Hospital Operationalization of Implementation Plan Results

Fewer hospitals (51%) reported that the LHD was involved in operationalizing implementation strategies compared to the 64% that reported a LHD was involved in the development of implementation strategies. The majority of hospitals (61%) indicated that the same organizations that most assisted hospitals in the implementation planning process also helped in operationalizing implementation plans.

Noted barriers to partnering on implementation plan activities included "*lack of LHD presence in the community*" and needing to fulfill hospital "*outreach commitments*." Hospitals cited again that implementation strategies are internal processes. One hospital stated that "*we are the only organization with the capacity and expertise to implement strategies – either financially or administratively."*

Reported facilitators for partnerships between LHDs and hospitals around implementation plan activities included an awareness of ongoing work already occurring in the community and a desire to "*partner to address the identified needs*" in the community.

Population Health Activity Outcomes of the CHNA/Implementation Plan Process

Hospitals were most likely to strongly agree that the CHNA/Implementation Plan process has led to more general population health activities (Table 6) such as defining major health issues in the community (59%), connecting more closely with the community (47%), developing a shared vision of health improvement with partners (44%), and developing more trust and communication with partners (41%.)

Hospitals were least likely to view the process as leading towards more of an emphasis on focusing on policy, systems, and environmental change (6%), identifying shared performance measures of health improvement for the community (15%), and seeking additional funding sources for population health activities (15%.)

No single stand-alone hospitals reported strongly agreeing to integrate population health activities into their strategic or operational plans or to make financial resources available for population heath activities as a result of the CHNA/Implementation Plan process. National health systems were most likely to integrate population health activities into the hospital's strategic or operational plan (50%) and regional hospitals were most likely to make financial resources available for population health activities (26%.) These findings were statistically significant.

Rural hospitals (25%) as opposed to urban hospital (11%); and regional hospitals (26%) as opposed to stand-alone and national hospitals (0%); are also more likely to strongly agree that the process has led to the development of funding opportunities for other community organizations. These findings were also statistically significant.

Table 6. Impact of CHNA/Implementation Plan Process on Population Health Activities by Hospital Bed Size, Community Served, Corporate Structure, and Teaching Status of Hospital

	# of Beds			Community Served		Corporate Structure			Teaching Status			
Strongly Agree that process led hospital to:	< 100 (n=11 hospitals)	100-300 (n= 14 hospitals)	>300 (n=9 hospitals)	Rural (n=16 hospitals)	Urban (n=18 hospitals)	Stand Alone (n=9 hospitals)	Regional Health System (n=23 hospitals)	National Health System (n=6 hospitals)	ACGME or CTH (n=7 hospitals)	None (n=20 hospitals)	Not Sure (n=8 hospitals)	Total
Define major health issues	36%	78%	55%	56%	61%	60%	52%	83%	71%	58%	50%	59%
Connect closely with community	45%	43%	56%	50%	44%	40%	43%	67%	57%	47%	38%	47%
Address health disparities	36%	29%	33%	28%	28%	40%	30%	33%	29%	37%	25%	32%
Integrate pop health into strategic plan	27%	36%	33%	31%	33%	0%*	35%*	50%*	14%	42%	25%	32%
Make financial resources available for pop health programs	27%	14%	33%	18%	22%	0%**	26%**	17%**	14%	32%	0%	21%
Align priorities with LHD's	27%	7%	22%	31%	5%	20%	22%	0%	29%	21%	0%	18%
Develop a shared vision for health improvement	36%	50%	44%	50%	39%	20%	48%	50%	29%	58%	25%	44%
Develop funding opportunities for other orgs	27%	7%	22%	25%***	11%***	0%****	26%****	0%****	14%	26%	0%	18%
Seek external funding for pop health activities	9%	21%	11%	19%	11%	0%	22%	0%	14%	21%	0%	15%
Address SDOH	27%	14%	22%	25%	17%	0%	22%	33%	14%	26%	13%	21%
Identify community performance measures	9%	14%	22%	19%	11%	20%	17%	0%	28%	16%	0%	15%
Share assets and resources with partners	36%	14%	22%	38%	11%	20%	30%	0%	29%	32%	0%	24%
Take mutually reinforcing actions with partners	45%	31%	33%	38%	39%	20%	39%	50%	29%	42%	38%	38%
Develop more trust and communication	36%	36%	56%	31%	50%	20%	43%	50%	43%	42%	38%	41%
Form backbone convening agency	27%	29%	33%	19%	39%	0%	30%	50%	14%	32%	38%	29%
Make policy, systems, and environmental changes	0%	7%	11%	6%	6%	0%	9%	0%	14%	5%	0%	6%

***Stand-alone hospitals reported lower rates of integrating population health activities into the organization's strategic or operational plans compared to regional/national hospitals (P < 0.05)**
**** Stand-alone hospitals reported lower rates of making financial resources available for population health programs and services compared to regional/national hospitals (P < 0.05)**
***** Rural hospitals reported higher rates of developing funding opportunities for other community organizations to address population health needs as compared to urban hospitals (P < 0.05)**
****** Regional health system hospitals reported higher rates of developing funding opportunities for other community organizations to address population health needs as compared to stand-alone/national hospitals (P < 0.05)**

As a result of the CHNA/Implementation Planning process, hospitals reported planning future collaborations on assessment and programming activities, identifying key community priorities in partnership with partners, and developing new programming with partners such as diabetes referral networks or trauma-informed approaches to substance abuse and mental health. Additionally, two communities developed new nonprofit organizations to serve as backbone agencies to address key community health priorities.

Several hospitals reported that work on population health activities already existed before the CHNA/implementation plan processes. One hospital respondent stated "*I hesitate to say that these things were as a result of the CHNA process… We were working closely with community partners… and already focused on population health and funding these important initiatives when possible*." However, one hospital reported that the CHNA process has helped establish a venue to work on already previously identified population health activities around nutrition and health.

Local Health Department Demographic Results

While there are technically 35 health districts in Virginia, functionally, Hampton and Peninsula health districts combined within the two years of survey administration and therefore, was treated as one health district for the purposes of the survey. After the initial survey response request from the Deputy Commissioner, I sent a follow up e-mail request to complete the survey to health departments that had not completed the survey one week into the survey and one day prior to the survey closing. Of these 34 unique local health districts, 31 health districts completed the survey representing a 91% completion rate. Three health districts had not conducted a community health assessment at the time the survey was sent. Two of these health districts are multi-county jurisdictions located in rural areas; the other is a primarily urban multi-county jurisdiction. Information collected from these health districts is limited primarily to demographic information. There was broad representation from local health districts across the state (as defined by Virginia regional planning areas).

Eighteen health district respondents serve primarily rural areas and thirteen health district respondents serve primarily urban areas. Eleven health district respondents are single-jurisdiction health districts whereas twenty respondents are multi-jurisdiction health districts. Ten health district respondents serve a population of less than 150,000, thirteen serve a population between 150,000-299,999, and eight serve a population of at least 300,000. Four health district respondents were accredited by PHAB at the time of the survey and six additional health district respondents reported being in the process of seeking public health accreditation or anticipate starting the process within the next year. Twenty health districts indicated an interested in PHAB accreditation but had no time frame of initiating the process and one health district reported no interest in seeking accreditation status.

LHD CHA Results

The majority of LHD respondents (76%) reported conducting the CHA collaboratively in partnership with other organizations, whereas 24% conducted the CHA with some input from other organizations. Most LHD respondents also reported working with hospitals on the CHA (86%). As shown in Table 7. below, the most common services provided by a hospital during the CHA process included identifying and proposing strategic priorities (92%), collecting and analyzing primary data (80%), and gathering input from community stakeholders (80%.) The least common services provided by hospitals during the CHA process included writing the CHA report (26%), collecting and analyzing secondary data (52%), and establishing the CHA team (65%.)

Only a few of these findings were statistically significant when the analysis sub-divided the respondents by size of population served, type of community served, and accreditation status. General trends and instances when there was statistical significance are mentioned below.

With one exception, the size of the LHD did not have any impact on hospital involvement in the CHA process. The only exception was that large LHDs serving populations >300,000 were significantly less likely to engage hospitals in the writing of the CHA report.

Urban LHDs tended to engage hospitals more in general assessment activities as compared to rural LHDS. In contrast, rural hospitals were more likely to be involved in the LHD CHA process in establishing the CHA team and collecting information on underserved populations, two findings that were statistically significant.

PHAB accreditation status or having a plan to become PHAB accredited tended to correlate more with hospital involvement in the CHA process. This difference was statistically significant for hospital participation in collecting and analyzing primary data. LHDs without a plan for PHAB accreditation had only a 67% rate of engaging hospitals in primary data collection work versus 100% rate in LHDs with PHAB accreditation status or a plan to become accredited within a year.

Table 7. Hospital Involvement in LHD CHA Process by Population Size, Community Served, and Accreditation Status

	Population Size of Health District				Primary Community Served by LHD		Accreditation Status				
Hospital Involvement In:	< 100,000 (n=4 LHDs)	100,000-199,999 (n=10 LHDs)	200,000-299,999 (n=8 LHDs)	300,000+ (n=7 LHDS)	Rural (n=14 LHDs)	Urban (n=17 LHDs)	Accredited (n=4 LHDs)	Seeking Accreditation (n=3 LHDs)	Starting process in next year (n=3 LHDs)	No plan or not interested (n=19 LHDS)	Total
General Assessment Activities	100%	70%	100%	86%	82%	92%	100%	100%	100%	74%	86%
Establishing CHA Team	75%	75%	50%	67%	87%*	37%*	50%	67%	100%	63%	65%
Collecting Info on Underserved Populations	75%	100%	57%	50%	94%*	45%*	50%	67%	100%	73%	72%
Collecting and Analyzing Secondary Data	50%	50%	50%	67%	60%	40%	75%	0%	100%	47%	52%
Collecting and Analyzing Primary Data	100%	75%	63%	100%	80%	80%	100%	100%	100%	67%**	80%
Gathering Input from Community Stakeholders	75%	75%	87%	80%	87%	70%	100%	33%	67%	87%	80%
Gathering Input on Health Needs	50%	75%	75%	80%	73%	70%	100%	335	100%	67%	72%
Writing CHA Report	25%	43%	29%	0%***	38%	10%	25%	0%	67%	23%	26%
Identifying and Proposing Strategic Priorities	100%	100%	88%	80%	100%	80%	100%	78%	100%	93%	92%

***Rural LHDs reported higher levels of hospital engagement in establishing a CHA team and collecting information on underserved populations as compared to urban LHDs (P < 0.05)**

**** LHDs without a plan for accreditation reported lower levels of hospital engagement in collecting and analyzing primary data compared to LHDS currently accredited or with an active plan to seek accreditation (P < 0.05)**

***** Larger LHDs reported lower levels of hospital engagement in writing the CHA report compared to smaller LHDs (P < 0.05)**

LHD and Hospital Partnership in the CHNA/CHA

As shown in Table 8 below, LHDs reported that approximately an equal number of CHNA/CHA processes were initiated by the LHD or co-initiated by the hospital and LHD (36%.) Only 12% of LHDs reported the process was initiated by a hospital, and 4% reported that it was initiated by a local nonprofit organization.

An approximately equal number of LHDs reported that the hospital served as the home for the CHNA/CHA process (30%), as the LHD (22%), local nonprofit organization (26%), or jointly housed by the LHD and hospital (22%).

Only 23% of LHD respondents reported producing the same document for the LHD CHA and hospital CHNA. All five of these are mid-sized LHDs that serve primarily rural populations.

More urban LHDs reported initiating and serving as home for the CHNA/CHA process. This finding was statistically significant. There was also a trend for larger health districts serving > 200,000 to initiate the joint CHNA/CHA process compared to districts with a smaller population.

Table 8. Initiation and Hosting CHA Process by Population Size, Community Served, and Accreditation Status

	Population Size of Health District				Primary Community Served by LHD		Accreditation Status				
Initiator of Joint CHA/CHNA Process:	< 100,000 (n=4 LHDs)	100,000-199,999 (n=7 LHDs)	200,000-299,999 (n=8 LHDs)	300,000+ (n=6 LHDS)	Rural (n=14 LHDs)	Urban (n=11 LHDs)	Accredited (n=4 LHDs)	Seeking Accreditation (n=3 LHDs)	Starting process in next year (n=3 LHDs)	No plan or not interested (n=15 LHDS)	Total
Hospital	0%	14%	13%	17%	14%	9%	0%	0%	33%	13%	12%
LHD	25%	0%	50%	67%	14%*	64%*	50%	33%	0%	40%	36%
Local Nonprofit	25%	0%	0%	0%	7%	0%	0%	33%	0%	0%	4%
Hospital + LHD	25%	71%	37%	0%	57%	9%	25%	0%	67%	40%	36%
No Joint Process	25%	14%	0%	17%	7%	18%	25%	33%	0%	7%	12%
Home of Process:											
Hospital	0%	28%	37%	40%	29%	33%	0%	50%	67%	27%	30%
LHD	0%	0%	37%	40%	7%**	44%**	33%	0%	0%	27%	22%
Local Nonprofit	67%	29%	13%	20%	29%	22%	33%	50%	0%	20%	26%
Hospital + LHD	33%	43%	13%	0%	36%	0%	33%	0%	33%	20%	22%

***Urban LHDs reported initiating the joint CHA/CHNA process with hospitals at a higher rate than rural LHDs (P < 0.05)**

**** Urban LHDs reported hosting the CHA/CHNA process with hospitals at a higher rate than rural LHDs (P < 0.05)**

Barriers to LHD and Hospital Partnership on CHA Process:

Whereas only 32% of hospitals listed barriers to identifying priority health issues in partnership with LHDs, 71% of LHDs listed barriers in working with hospitals during the CHA process. However, three of the most commonly identified barriers were similar for both hospitals and LHDs, including lack of timing alignment of the CHNA/CHA processes, the challenge of aligning geographical service areas between the hospital and LHD, and low levels of participation from hospital and/or LHD leadership. One LHD respondent summarized by stating *"health systems have a much larger catchment area than the LHDs – health systems work on a different timetable and believe that they have more specific IRS requirements… and as a result are (understandably) more hesitant to engage in slower, more collaborative process."*

Additionally, LHD respondents mentioned barriers related to externally driven assessments. One respondent stated that the hospital system *"had a template established by their corporate office and employed a CHA contractor"* while another stated that *"the assessment was largely driven by employees of the main corporate office for the hospital system… and while they did attend some on-site meetings, their interaction with the local group and community was limited.*" One respondent noted that due to the retirement of a key individual in the hospital system, *"the writing and publishing of the report fell to the hospital system's marketing department… the resulting report does not reflect the work that we did over two years or more..."* Finally, one LHD respondent stated that *"the CHA coordinating team were not trained in public health, nor were they based locally."*

Several respondents noted difficulties with data sharing between LHDs and health systems and deciding what specific data to collect and how. One respondent stated that "*information the health department needed to collect didn't always align with what hospitals wanted to collect*."

LHD CHIP Results

Of the 19 LHDs that have completed a CHIP, 95% developed it with hospital involvement. There was no correlation between how the CHIP was reportedly developed/level of hospital engagement and LHD size, community served, or accreditation status.

Besides hospitals, the organizations that most commonly assisted LHDs in the CHIP development process include behavioral health agencies (100%), federally qualified health center or free clinics (94%), social services agencies (94%), and school systems (94%.) Organizations that were least likely to have assisted include health insurance companies (31%), neighborhood associations (31%), and national health associations (36%).

Table 9. CHIP Development Process by Population Size, Community Served, and Accreditation Status

	Population Size of Health District				Primary Community Served by LHD		Accreditation Status				
Process for Developing CHIP	< 100,000 (n=3 LHDs)	100,000-199,999 (n=6 LHDs)	200,000-299,999 (n=5 LHDs)	300,000+ (n=5 LHDS)	Rural (n=11 LHDs)	Urban (n=8 LHDs)	Accredited (n=4 LHDs)	Seeking Accreditation (n=2 LHDs)	Starting process in next year (n=3 LHDs)	No plan or not interested (n=10 LHDS)	Total
Developed Independently	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
With Some Input	0%	0%	0%	20%	0%	12%	0%	50%	0%	0%	5%
Collaboratively in Partnership	100%	67%	80%	80%	78%	75%	100%	50%	100%	70%	79%
Other	0%%	33%	20%	0%	22%	12%	0%	0%	0%	30%	16%
Hospital Involvement in Developing CHIP											
Hospital Involved	100%	83%	100%	100%	91%	100%	100%	100%	100%	90%	95%
Hospital Not Involved	0%	0%	0%	0%	0%%	0%	0%	0%	0%	0%	0%
Not Sure	0%	17%	0%	0%	9%	0%	0%	0%	0%	10%	5%

Barriers to LHD and Hospital Partnerships in CHIP Development Process

Barriers cited in partnering with hospitals around developing the CHIP mirrored challenges stated in the CHA process. These include the challenge of aligning geographical service areas of LHDs and hospitals and inadequate LHD staffing resources to engage external partners.

Additionally, respondents noted different priorities – with the hospital taking a primarily clinical approach and LHDs taking a population-based approach to the CHIP. One LHD respondent noted a "*lack of alignment between hospital goals and perspectives and local public health system goals and perspectives."* Another LHD respondent stated that the *"hospital was more focused on patient-care initiatives associated with their previous CHNA."*

Facilitators for Hospital LHD Partnership on Implementation Planning Process

Reasons cited by LHDs for partnering with hospitals in the CHIP development process included leveraging resources, strengthening partnerships, and reducing burden of information gathering. One LHD respondent stated that *"given the complexity of health problems we have identified, there is no way the local health department on its own can effect meaningful health improvement… we need partners in many non-public health sectors to bring about health improvement."* Another LHD respondent stated that "*it is a community improvement plan, so it was important for the community's buy-in to address the issues identified.*" Finally, one LHD respondent stated, "we *knew that the CHIP would not be successfully implemented without buy-in from community partners."*

Several LHD respondents also noted using the MAPP model for CHIP development, which necessitated engaging hospitals. One LHD respondent stated that "*CHIP must be a collaborative process*" and another stated "*this is the best way… this is part of the MAPP process."*

LHD Operationalization of CHIP Activities

Overall, only 45% of LHD respondents reported that they started to operationalize CHIP activities. Of these 14 LHDs, 93% reported that a hospital was involved in operationalizing CHIP

activities. All LHDs indicated that the same organizations which assisted in the CHIP development process also helped to operationalize CHIP activities.

Noted barriers to partnering on CHIP activities included coordinating meeting times with partners, competing priorities, lack of funding/staffing to complete CHIP activities, and lack of clarity on ongoing work in the community. One LHD respondent stated that the "*hospital was investing time also in conducting their own CHNAs and developing their own implementation plans… there was duplication of work and some difficulty in operationalizing CHIP because of uncertainty of who was working on what.*" Additionally, a LHD respondent stated that there were "*two competing hospitals…making sure both felt were included and both felt ownership of the plan*" was a challenge.

Reported facilitators for partnerships between LHDs and hospitals around CHIP activities include having a local health coalition to operationalize CHIP activities. One LHD stated that "*per its commitment, the local hospital system created (a coalition), hired a director for it, and has funded it to carry out further CHA and CHIP activities… the new relationship between the hospital, (coalition), and health department removes the emphasis on the hospitals meeting IRS requirements as the main driver of the process."*

Population Health Activity Outcomes of the CHA/CHIP Process

LHDs are most likely to strongly agree that the CHA/CHIP process has led to more general population health activities (Table 10) such as connecting more closely with the community (46%) developing more trust and communication with partners (39%) and developing a shared vision of health improvement with partners (39%.) Additionally, LHDs also reported that the process has led to integration of population health into internal strategic plans (43%.)

LHDs were least likely to view the process as leading towards more of an emphasis on addressing the social determinants of health (4%), developing funding opportunities for other

organizations (4%), seeking external funding for population health activities (7%), and making funding resources available for population health activities (11%.)

Accreditation status did have an impact on population health activities in several areas. Accredited LHDs are more likely report developing a shared vision for health improvement and to have formed a backbone convening agency as a result of the CHA/CHIP process. Accredited LHDs and LHDs actively seeking accreditation are also more likely to report having developed more trust and communication with partners as a result of the CHA/CHIP process. LHDs actively seeking accreditation reported integrating population health into the LHD strategic plan at a higher rate. All these differences are statistically significant.

Size and community served by the LHD did not have much impact on population health activities. Two statistically significant differences noted include large LHDs with population size > 300,000 being less likely to report making financial resources available for population health program as a result of the CHA/CHIP process compared to all other sized LHDs, which may be an artifact of existing funding for these activities before the initiation of the CHA/CHIP process; and urban LHDs being more likely to make policy, systems, and environmental changes as a result of the CHA/CHIP process as compared to rural LHDs.

Table 10. Impact of CHA/CHIP Process on Population Health Activities by Population Size, Community Served, and Accreditation Status

	Population Size of Health District				Primary Community Served by LHD		Accreditation Status				
Strongly Agree that process led LHD to:	< 100,000 (n=3 LHDs)	100,000-199,999 (n=10 LHDs)	200,000-299,999 (n=8 LHDs)	300,000+ (n=7 LHDS)	Rural (n=16 LHDs)	Urban (n=12 LHDs)	Accredited (n=4 LHDs)	Seeking Accreditation (n=2 LHDs)	Starting process in next year (n=3 LHDs)	No plan or not interested (n=19 LHDS)	Total
Define major health issues	67%	60%	25%	29%	38%	33%	75%	50%	33%	26%	36%
Connect closely with community	67%	50%	25%	57%	44%	50%	75%	50%	33%	42%	46%
Address health disparities	33%	10%	12%	14%	12%	17%	25%	0%	0%	16%	14%
Integrate pop health into strategic plan	33%	50%	25%	57%	37%	50%	50%	100% *	33%	37%	43%
Make financial resources available for pop health programs	33%	10%	12%	0% **	12%	8%	25%	50%	0%	5%	11%
Align priorities with LHD's	0%	20%	12%	43%	12%	25%	50%	50%	0%	11%	18%
Develop a shared vision for health improvement	33%	40%	25%	57%	31%	50%	100% ***	50%	33%	26%	39%
Develop funding opportunities for other orgs	0%	10%	0%	0%	6%	0%	0%	0%	0%	6%	4%
Seek external funding for pop health activities	33%	10%	0%	0%	6%	8%	0%	50%	0%	5%	7%
Address SDOH	33%	0%	0%	0%	0%	8%	0%	50%	0%	0%	4%
Identify community performance measures	33%	10%	12%	0%	12%	8%	25%	50%	0%	5%	11%
Share assets and resources with partners	33%	20%	12%	43%	19%	33%	50%	50%	0%	21%	25%
Take mutually reinforcing actions with partners	33%	30%	12%	29%	25%	25%	25%	50%	33%	21%	25%

Develop more trust and communication	33%	30%	25%	71%	25%	58%	100% ****	100% ****	33%	21%	39%
Form backbone convening agency	33%	20%	38%	29%	31%	25%	75% ***	50%	0%	21%	29%
Make policy, systems, and environmental changes	33%	10%	25%	29%	12%	33% *****	50%	50%	0%	16%	21%

***LHDs actively seeking accreditation reported integrating population health into the LHD strategic plan as a result of the CHA/CHIP process at a higher rate than any other status of accreditation (P < 0.05)**

**** Large LHDs with population size > 300,000 are less likely to make financial resources available for population health program as a result of the CHA/CHIP process compared to all other sized LHDs (P < 0.05)**

***** Accredited health departments are more likely to have developed a shared vision for health improvement and to have formed a backbone convening agency as a result of the CHA/CHIP process than any other status of accreditation (P < 0.05)**

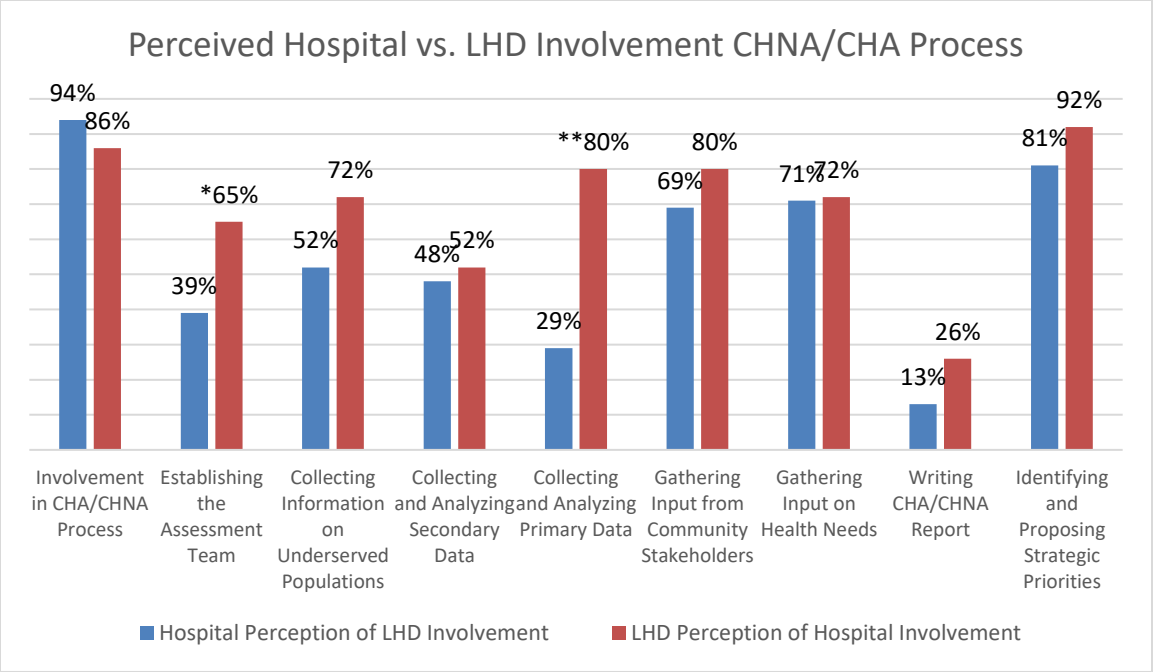
****** Accredited LHDs and LHDs actively seeking accreditation are more likely to have developed more trust and communication with partners as a result of the CHA/CHIP process compared to LHDs starting the accreditation process within the next year and those with no concrete plan to seek accreditation (P < 0.05)**

******* Urban LHDs are more likely to make policy, systems, and environmental changes as a result of the CHA/CHIP process as compared to rural LHDs (P < 0.05)**

Comparison of Hospital and LHD Engagement of Partner in CHNA/CHA Process

Hospitals reported involving LHDs in their CHNA process at a slightly higher rate (94%) than the rate LHDs reported involving hospitals in their CHA process (86%) as displayed in Chart 1. below. However, sub-analysis of the separate aspects of assessment process revealed that LHDs perceived more hospital involvement in every aspect of the assessment process as compared to hospitals. This difference was most pronounced in the areas of establishing the assessment team and collecting and analyzing primary data. Both of these differences are statistically significantly.

Figure 7. Hospital vs. LHD Involvement in CHNA/CHA Process



***LHDs reported higher levels of hospital involvement in establishing the assessment team as compared to hospital perceptions of LHDs (P < 0.05)**
**** LHDs reported higher levels of hospital involvement in collecting and analyzing data as compared to hospital perceptions of LHDs (P < 0.05)**

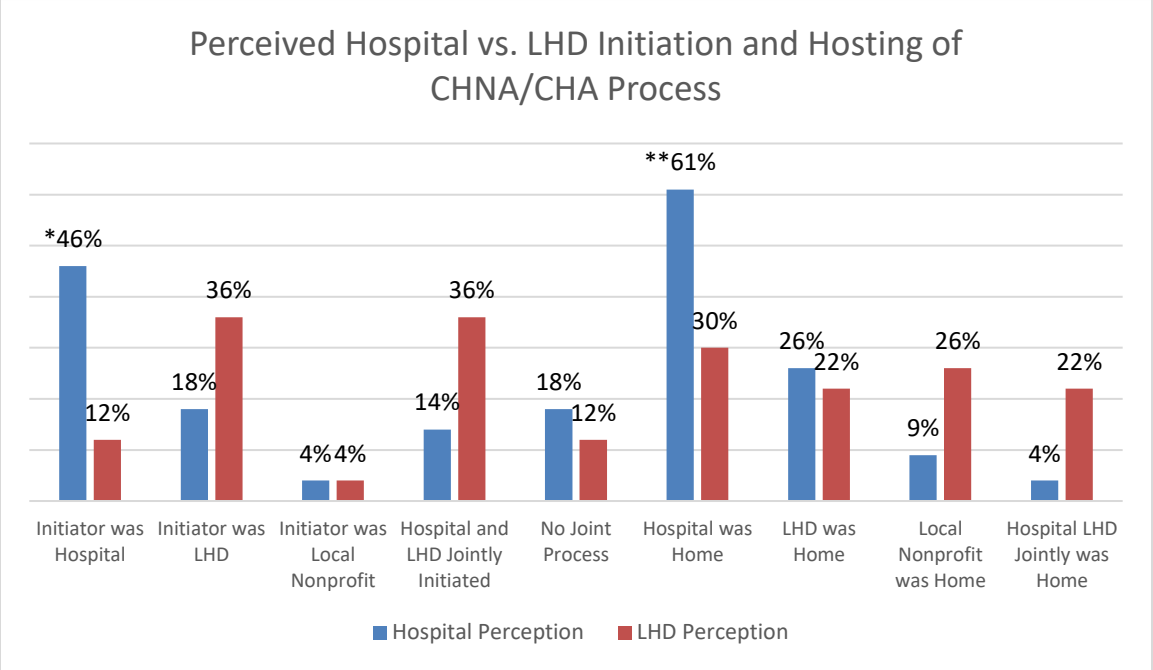
Comparison of Hospital and LHD Initiation and Hosting of CHNA/CHA Process

As seen in Chart 2. below, a similar percentage of hospitals (18%) and LHDs (12%) reported having no significant partnership on the CHNA/CHA. Of those that reported having a shared CHNA/CHA process, 46% of hospitals perceived initiating the process, whereas only 12% of LHDs perceived hospitals

initiating the process. LHDs tended to perceive that the CHNA/CHA process was initiated by the LHD (36%) or jointly by both the hospital and the LHD (36%), whereas only 18% of hospitals perceived that the process was initiated by the LHD, and 14% reported that the process was initiated jointly.

The majority (61%) of hospitals reported that the hospital served as the home of the CHNA/CHA process, with an additional 26% reporting that the home was the LHD. A lower percentage of LHDs (22%) reported serving as the home to the process than what was perceived by hospitals (26%.) A much larger percentage of LHDs reported that a local nonprofit (26%) served as the home to the process as opposed to hospitals (9%.) Also, a larger percentage of LHDs reported that the process was jointly hosted by the LHD and hospital (22%) as opposed to hospitals (4%.)

Figure 8. Hospital vs. LHD Initiation and Hosting of CHNA/CHA Process



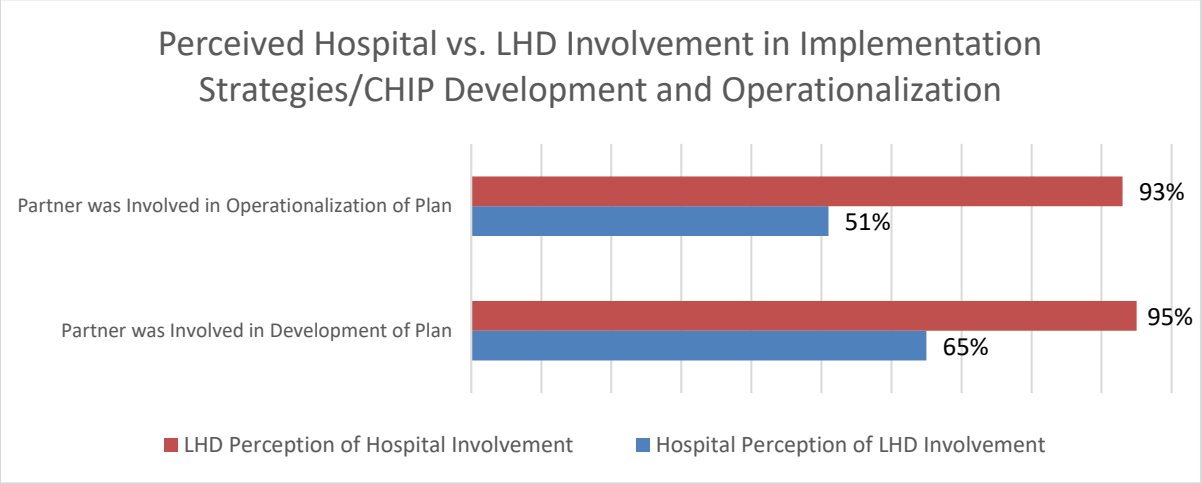
***Hospitals reported being the initiator of CHNA/CHA at a higher rate compared to LHDs (P < 0.05)**
**** Hospitals reported serving as the home for the CHNA/CHA process as compared to LHDs (P < 0.05)**

Comparison of Hospital and LHD Implementation Strategies/CHIP Development and Operationalization

While all hospitals reported having developed implementation strategies and nearly all hospitals (98%) reported having started operationalizing these strategies, much fewer LHDs reported having developed a CHIP (61%) and having started operationalizing activities associated with the CHIP (45%).

As indicated in Chart 3. below, of the LHDs that have started work on developing and acting on the CHIP, almost all reported that the hospital was involved in the development of the CHIP (95%) and operationalization of the CHIP (93%). Comparatively, hospitals perceived a lower level of involvement of LHDs in the development of implementation strategies (65%) and operationalization of strategies (51%).

Figure 9. Hospital and LHD Implementation Strategies/CHIP Development and Operationalization



Impact of CHNA/CHA and Implementation Strategy/CHIP Process on Population Health Activities

Hospitals and LHDs reported engaging more in general population health activities such as connecting more with the community (3.44 and 3.55 on a Likert scale ranging from 1-4 with 1 meaning "strongly disagree" and 4 meaning "strongly agree"), developing more trust and communication with partners (3.38 and 3.36), and developing a shared vision of population health improvement (3.35 and 3.28.) Along with defining major health issues in the community (3.59 and 3.25), these were the four

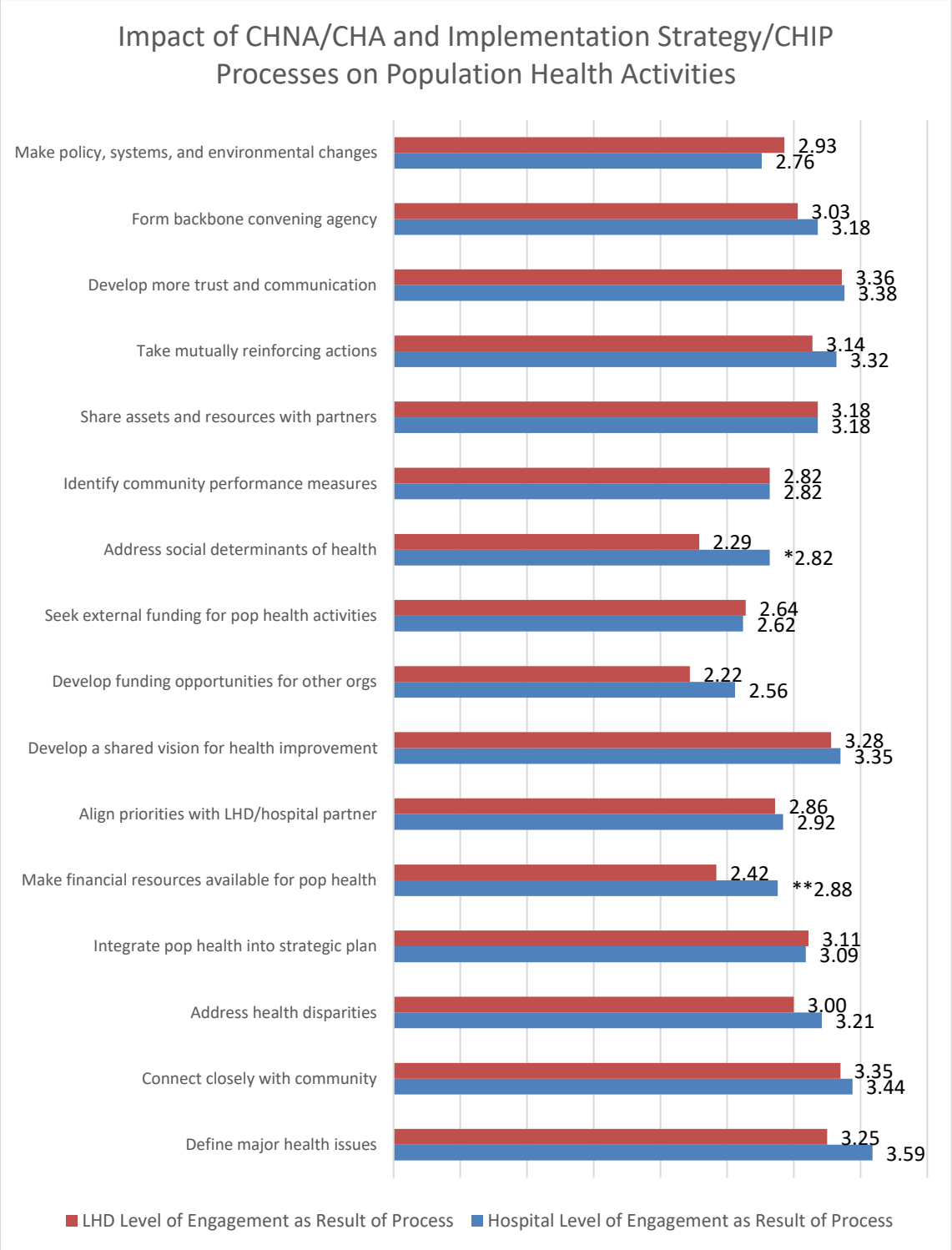
population health activities that hospitals and LHDs are most likely to report engagement as a result of the CHNA/implementation strategy and CHA/CHIP processes.

Hospitals and LHDs reported similar levels of engagement in most population health activities. However, hospitals reported making more financial resources available for population health (2.88 vs. 2.42) and developing funding opportunities for other organizations (2.56 vs. 2.22.) All these findings are statistically significant.

Hospitals also reported addressing the social determinants of health (2.82 vs. 2.29) and addressing health disparities (3.21 vs. 3.00) as population health activities at a higher rate as result of the process CHNA/implementation strategies process as compared to LHDs. The first finding mentioned is statistically significant.

In general, hospitals reported similar or higher rates of engagement in a variety of population health activities as a result of the process as compared to LHDs, with the exception of making policy, systems, and environmental changes. LHDs reported a higher rate of engaging in these types of changes as compared to hospitals (2.93 vs. 2.76.)

Figure 10. Comparison of Impact of Process on Population Health Activities of Hospitals and LHDs



***More hospitals reported addressing the social determinants of health as an outcome of the CHA/CHNA process as compared to LHDs (P < 0.05)**

**** More hospitals reported making more financial resources available for population health activities as a result of CHNA/CHA process as compared to LHDs (P < 0.05)**

Key Informant Interview Results

Several LHD and hospital key informants mentioned the same barriers and facilitators for partnering as those in the survey responses. The most common factors that overlapped with the survey responses included: timing alignment, geographical alignment, leadership involvement, and dedicated staffing and resources. Key informants noted that these factors could serve as both barriers and facilitators for partnerships.

Additionally, new factors that emerged as barriers included a poor understanding of the value of assessment, general disinterest, conflicting mandated activities, power imbalances, lack of role clarity, and organizations viewing the process as primarily an internal one. Some of these barriers were mentioned specifically by LHDs or hospitals, and, in general, rural localities experienced greater impact from these barriers. However, there were no unique barriers identified specifically for rural or urban localities.

New factors that emerged as common facilitators for both LHDs and hospitals included existing prior partnerships, data sharing, and resource sharing. LHDs noted having an existing health coalition and prior assessment experience as unique facilitators. Rural localities stated that having a mandate to complete the assessment, and assistance from the state health department in completing the assessment were unique facilitators. Neither hospitals nor rural localities noted any unique facilitators.

Factors that Served as Both Barriers and Facilitators

As mentioned previously, the four most common factors mentioned by both survey and key informant respondents included timing, geography, leadership, and dedicated staffing and resources. The majority of survey respondents noted these factors as either barriers, facilitators, or both barriers and facilitators to partnering around assessments and planning.

Timing

Several hospital and LHD respondents mentioned that timing of when assessments needed to be conducted could be either a barrier or facilitator. Specifically, several hospitals mentioned that their corporate office mandated timelines for completing their assessment cycles which created timing coordination problems with their LHDs. Even when timing cycles aligned, some LHDs also cited challenges coordinating assessments with hospitals because hospitals tended to complete the process in a few months, whereas LHDs generally took 6-12 months to conduct an assessment. Hospitals typically had a shorter 3-year cycle, as required by the ACA, whereas LHDs had a 5-year cycle, as defined by PHAB. Additionally, hospitals that are part of larger systems, oftentimes had specific timelines to follow to coordinate with other hospitals in the system.

Most LHDs and hospitals mentioned understanding the benefit of coordinating assessment cycles to reap the benefits of sharing data and reducing duplication of effort. Localities that had successful collaboration often mentioned more open communication between LHDs and hospitals about timelines. In these communities, LHDs or hospitals have agreed to intentionally start the assessment process earlier than necessary to coordinate timing. One hospital stated, "*for this cycle, we are starting eight months early… because we really want everybody to be together, because we all have different cycles."* Another hospital stated:

> *The lesson I took from 2016… is working closer with the LHD earlier so that we can get data collection that helps everyone, as well as aligning any timeline issues that people have so that we can do less duplication of work and try and get it done together.*

Dedicated Staffing and Resources

As is expected, both hospital and LHD respondents noted that the availability of dedicated staff and other resources to engage in the assessment and health improvement processes served as both barriers and facilitators to partnering. Several hospital leaders mentioned that staffing shortages at LHDs resulted in lack of engagement from LHDs during their CHNA processes. One hospital stated, *"our health*

department is dramatically underfunded, understaffed… so, they really haven't had a lot to offer… They don't have the staff to do it, and they don't have the interest to do it." Several LHDs, primarily in rural localities, expressed having conflicting mandated responsibilities and not having sufficient staffing to work on CHA/CHIP activities. One LHD in a community that successfully collaborated noted that having only one representative from a community hospital was problematic because there's *"not a huge amount of input from anybody else from that hospital so we're assuming that what she says is representative of the hospital."*

Most successful collaborating communities specifically mentioned the benefit of having dedicated staff working on assessments and implementing activities associated with the assessment. Several LHDs reported more success after hiring someone specifically for CHA/CHIP activities. One LHD leader stated:

> *Last July, we hired a population health community coordinator whose entire role is dedicated to implementing the CHIP. So, hiring a full-time staff person as the point person to … contact the whole work group, working in that, it's really been a game changer.*

Geography

Rural LHD and hospital leaders primarily mentioned geography as a significant barrier to collaborating together on the assessment. Many rural LHDs described the challenge of canvassing several counties during the assessment, and difficulties trying to convene with multiple health system partners. To a lesser degree, some hospitals in both rural and urban areas described problems with gathering assessment data and working with LHDs when the hospital catchment area spanned multiple LHD jurisdictions.

Both hospital and LHD leaders stated that there is already existing "meeting fatigue" among community stakeholders, who typically travel long distances to meet. This was primarily a rural concern. Additionally, a few LHD respondents noted that having corporate office members attending local-level planning meetings may have been a potential barrier. One LHD leader stated, "*One of the hospital*

systems was North Carolina based, and was relatively new at the time, and so I don't' think they really understood our community and a lot of what they were trying to institute or expected was what they did in NC, but it may not be appropriate for here."

In urban communities, several LHD and hospital leaders reported being co-located on the same campus or within close proximity to the other organization as a facilitator for collaboration. One LHD director stated:

> *We've held a longstanding good relationship with our hospital and its founded not only on receptivity to working with the health department but just logistically we're right across the street, so there's very close proximity… I think close proximity is always important. It means if we have a question, we just walk on over there. And it's easy to walk into the president's office.*

Leadership

Hospital and LHD respondents reported that the experience level, engagement level, and the amount of turnover of leaders, had a significant impact as both a barrier and facilitator for collaboration. Several hospitals cited having part-time or inexperienced health directors in the jurisdiction as a barrier to collaboration. One hospital stated, "*The current health director here, when I first met with him to talk about this told me that he didn't want to make any community effort until he had his team working properly.*" A few LHDs also stated that inexperienced or hospital leadership that was geographically displaced created barriers to collaboration. One LHD leader reported: *"(the local hospital) is still going through a lot of changes, and so someone who came, who represented the hospital from a higher level - next thing two months later they'd be gone. So that was challenging."*

Another LHD director reported,

> *I think the challenge for hospitals is that there are changes in their leadership. It's less constant than the health department. So, I think you get somebody who says "rah-rah" we're all for it, then that person meanwhile is courted by or searching for other employment, and in six months or three months, that person is gone to another state and somebody else comes in and doesn't have the same appreciation for it and there, the whole approach changes. So, it's very leadership dependent and you have to start all over again.*

There were more significant leadership turnover and recruitment challenges noted by several respondents in rural localities as compared to urban localities. In addition, leaders in rural localities reported less prior experience working on assessment and planning, and a steeper learning curve. One LHD director, who had previously worked in a different field of medicine, reflected on this, stating, "*I'm on a fairly steep learning curve with regard to public health."*

Beyond longevity of service and commitment to the process, the attitude of the leader towards the assessment and population health improvement had a significant impact on the success of the collaboration. One hospital leader stated, "*yeah, (leadership experience) is a factor, but more than that and resources, it's an attitude…"* A hospital planner expands on this further saying:

> *When you look at the layers above me (hospital leadership), it doesn't get a ton of attention, because it's a regulatory requirement. It doesn't drive system strategy… It doesn't bring any revenue; it's just an expense. It's just a do-gooder kind of approach.*

Several LHD directors working in localities that did not have strong collaboration expressed skepticism that the CHA/CHIP process would result in meaningful outcomes and that the task of population health improvement was too large to tackle in their community. One LHD director stated:

> *All the energy we put into this (CHA/CHIP), what are we really going to do that's going to change that really has impact... I just think it's going to be a lot longer time, and a lot slower; we might be biting off too much at the time… I think this is a tall order for a community to grasp and to really push and succeed in, it's going to take a tremendous amount of cultural and political will, that I'm not sure is there.*

Leaders in successfully collaborating communities expressed a very different worldview towards the process. Noting that the task of population health improvement is large, and beyond the abilities of one organization, these leaders expressed the need to partner, taking the long view, with each organization working to improve health in their own small way, making a collective difference. One hospital leader stated:

> *When we are working, and we are reporting and tracking what we are doing, it does show that, oh wow, there are things that you are doing that are… actually have more of an impact than we realize. (This realization) also keeps us all together. When we look at the goals of the other health systems (around us), the goals of the LHD, and we look at what our goals are, we find that*

there is a lot of crossover. We just have a different cut of what we need to do to contribute to tackling some of those community issues.

Another hospital leader who saw the potential of the CHNA in improving population health frequently mentioned her LHD counterpart as the primary reason for successful collaboration:

I'm grateful that (LHD director) is a very easy-going, down to earth, someone you can pick up the phone and talk to person. She's very responsive. You send her an email she will respond in minutes. I know I can always count on her for that. She also will think out of the box which is also fun too. I've been doing this for 32 years and I always like a challenge and something new and I just am really thankful that … the Community Needs Assessment came along. I think it helps all the hospitals to really see what's going on in their community and then hopefully you can take that information and then really make program changes.

Common Barriers Across LHDs and Hospitals

Several LHDs and hospitals noted general disinterest in the assessment process, as well as lack of knowledge regarding the purpose and value of assessment and planning activities, creating barriers for partnership. Some entities self-reflected, stating that key members of their organizations were disinterested, which created barriers in partnering with others. Other entities stated that their partner organizations didn't seem to understand the value of the process.

Poor Understanding of Purpose and Value of Assessments and Disinterest

LHD and hospital leaders expressed concern over the value of the process. One LHD leader stated:

I think that's been a challenge, trying to get (hospitals) to understand really what the purpose (of the CHNA) is. It's really not just the non-profit status; the focus is not only on (standard) health issues but to focus in on some of the social determinants of health… it's just the hospital's habit, a lot of them are, they don't have a lot of training or maybe understanding of public health, or kind of the big picture on the surface level.

One hospital leader echoed a similar skepticism of the value of the process, stating:

My impression when we started this in 2016, I thought - well this is a joke. You know we ask all these questions; we collect all this data we say we're doing stuff, but do we really make an impact on the community?

In discussing the general lack of interest among LHD directors in one rural locality, one hospital leader said:

I provided a copy of our completed CHNA to the previous health director but I'm not aware of him sharing it with anyone else… (The next health director) didn't want to do any community outreach, he didn't want to be part of meetings… He sat down with me for an interview and was generous with his time and talking for, I think it was two and a half hours, but he didn't want actually to be part of anything.

A general lack of interest for the hospital to partner, beyond completing a required interview of the LHD director, was also mentioned by a few LHDs directors. One LHD director stated:

If (the hospital) did reach out, there was somebody who came down and spoke with me, but I think it was more question and answer session about some things. And they were going to go back and talk about, you know a more formal relationship and working on things together that never materialized.

Barriers Specific to LHDs

LHD and hospital leaders expressed two barriers that were specific to LHDs: a real or perceived imbalance of resources and power between the hospital and LHD; and LHDs having other mandated conflicting responsibilities that made it challenging to partner with hospitals.

Power Imbalance

Several LHD and hospital leaders expressed concern that there were power and resource imbalances between LHDs and hospitals that created barriers. In discussing this perceived unequal playing field, one hospital leader said, *"I think (LHDs) feel a need to be involved, and they want to be involved but they don't really have a seat of the table so to speak. (For a food insecurity project that arose from the CHNA), each of the health systems had to go out and … obtain funding for these food boxes. (LHDs didn't have the resources to contribute) … so … that set up some barriers right away, I would imagine."*

One LHD director, who previously worked at a local hospital noted that:

(*LHD staff) need significant training before they are even partially ready to deal with the hospital system, that's much bigger and more organized in dealing with things, than we do, in order to not come in as the little brother or sister.*

Other LHD leaders also mentioned, personally not knowing how to navigate working with hospital leadership, and not understanding the "inner workings" of the hospital.

Conflicting Mandated Activities

A few LHDs, primarily located in rural localities, mentioned being overwhelmed by other mandated public health activities. They also expressed uncertainty about whether the high staffing cost of conducting a CHA was worth the unknown benefits. This created a significant barrier in the LHD director's willingness to invest resources in partnering with local hospitals in the assessment and planning activities. Additionally, several LHDs in rural localities that participated in CHA/CHNA activities with local hospitals reported not having adequate funding to support any new community-based or population health programming that resulted from the process.

Barriers Specific to Hospitals

Hospital respondents noted that sometimes LHDs or other community organizations perceived that the hospital had a bigger scope of impact than was actually possible. These created barriers. LHD respondents reported that some hospitals viewed the implementation strategies process as primarily an internal one – and at a certain point, would stop inviting LHD participation in planning and developing community health improvement strategies.

Lack of Role Clarity and Scope of Impact

A few hospitals mentioned that that there was a significant difference between the LHD's perception of the hospital's role in addressing population health issues and the reality of the hospital's resources. This created a barrier in creating effective partnerships. One hospital leader stated:

> *I think the concept of population health is understood really differently, with different groups. It sounds so nice; it sounds like public health and community health oriented… I think that has been a frustration of mine, and this CHNA process, is sort of role definition. Hospitals are not public health departments it's not what we do, it's not what our skill set is, it's not a benefit we can bring to the table for our region. So, it's, I think there's been confusion about what roles are. And what appropriate expectation is.*

A few hospital leaders also noted that health systems are limited in scope of impact, but LHDs don't realize that. This creates a barrier to collaboration. One hospital leader stated:

It's falsely assumed there is a hidden bank of money somewhere and that certainly has been false, especially in Virginia… You know there's no way a hospital is going to change the teen pregnancy rate in a region, it's just, I don't think you're ever going to show that's been corrected by hospital intervention.

A hospital leader in a rural community further expanded on this saying:

There are so many needs in the community that as a health system, we really can't impact, you know, affordable housing, transportation, you know things like that always pop up on health needs assessment… I think to me it's just frustrating, because there are limits to realistically what health systems can impact on a local level.

Internal Process

While most hospitals expressed interest in working with LHDs on assessments and planning processes, fewer hospitals felt it was necessary to engage LHDs on developing the implementation strategies. This parallels the information obtained during the survey stage. Hospitals were comfortable with having different population health improvement strategies as compared to the community coalition or the LHD, with a few hospitals explicitly stating that the hospital should take a primarily clinical approach and LHDs should take a more population-based approach to programming.

Rural/Urban Differences in Barriers

Rural respondents were more likely to identify certain barriers to collaboration than were urban respondents. These barriers, already discussed above, include less stable leadership, less dedicated staffing devoted to assessment and population health activities, geographical challenges of convening stakeholders, and a greater perceived power imbalance between LHDs and hospitals. Respondents did not identify any unique barriers in urban areas.

Common Facilitators Across LHDs and Hospitals

New factors that emerged as common facilitators for both LHDs and hospitals included existing prior partnerships, data sharing, and resource sharing.

Prior Partnerships and Shared Activities

The majority of LHD and hospital leaders expressed that emergency preparedness and communicable disease control activities have facilitated partnerships. One LHD director stated that *"Ebola helped, H1N1 helped. We had already established a relationship where they respected us, we respected them, and we worked together."*

In every successfully collaborating community, there had been existing tangible partnerships between LHDs and hospitals before there was an undertaking of the CHNA/CHA. In one community, LHD and hospital leadership had worked hundreds of hours together on a significant communicable disease outbreak. In another community, a health coalition led by the LHD and hospital had already been active for several years working on chronic disease programming before undertaking the CHNA/CHA process together. In another community, the hospital had previously contracted the LHD to perform other types of assessment activities. The types of partnerships that existed in successfully collaborating communities tended to be voluntary partnerships.

Data Sharing

Data sharing among hospitals and LHDs was also cited by several leaders as a facilitator for partnering around assessments. Access to state health department data, such as the Health Opportunity Index (HOI), and to a regional data portal, such as the Greater Hampton Roads Indicator Dashboard or the Northern Virginia Health Data Dashboards, helped create opportunities to partner together on population-level activities.

One hospital leader mentioned using these data sources to help jump-start population-level activities.

> *In researching for the CHNA, I have found the Virginia Department of Health provides a portal, a public portal, where they have a health opportunity index that provides several different cuts at community population data and one of them is food accessibility. Their map has been a really important tool as we do our CHNA and find that we have food deserts. I've been working with the epidemiologists to make sure that those maps are accurate, useful and they've been really great about being interested in our process and helping provide us data.*

Resource Sharing

Hospitals and LHDs that were able to develop formal agreements to share resources partnered more effectively on the assessment and population health activities. Memorandums of agreements were cited as effective ways to coordinate tasks between partners and establish expectations and timelines. Additionally, communities that allowed for easy contracting and pooling of funds had very high levels of collaboration. In one community, the hospital and the LHD were both considered governmental entities, and this allowed the two organizations to strategically fund initiatives (such as when one entity needed to spend down year-end funds to fund population health activities) or to pool funds to hire more staff to help with assessment and population health improvement activities.

> *I've been spoiled because again we have the benefit that this is the hospital authority. My guess is that it's a little bit harder when it's not a hospital authority because you can't develop these MOUs so easily. it has to go through the Richmond process (Virginia Department of Health contracting).*

Facilitators Specific to LHDs

LHDs noted having an existing health coalition and prior assessment experience as unique facilitators.

Existing Coalitions

For several LHDs, having an existing coalition in place before embarking on the CHNA/CHA process provided more opportunities for collaboration with hospitals. In one community, a coalition that was meeting on a monthly basis served as the natural host of the assessment and planning processes. Both LHD and hospital leaders commented that the process flowed smoothly, which allowed for the organizations to focus on how to align tactics to address every facet of health improvement, from emergency care to prevention.

Prior Assessment Experience

A few LHDs that had experience conducting assessments reported having a natural advantage in being able to partner with hospitals. One hospital leader expressed appreciation of the LHD's value stating:

> *I think that the health department has shown a track record of success and improvement every time that they conduct one of these assessments. And they have a governance structure that allows the health department, the hospitals, health systems, to be at the table planning and implementing so, we are better partnered and sort of running the assessment and getting the logistics off the ground and running and so I think that makes it really easy.*

Facilitators Specific to Rural Localities

Rural localities noted having mandated activities to accomplish and assistance from the state health department as unique facilitators.

Assistance from the Virginia Department of Health

Most LHD and hospital respondents noted that assistance from the state health department was a significant resource and helped facilitate partnerships for the assessment. Virginia Department of Health provided a wide range of assistance to LHDs and hospitals according to LHD and hospital leaders, which included training staff on an assessment tool, deploying VDH staff to conduct elements of the assessment in the community, providing data and responding to data requests made by hospitals and LHDs, and providing subject matter expertise in trouble-shooting roadblocks encountered during the planning and implementation stages.

Fulfilling Requirements

Mandates from the IRS and the state health department was a primary driver for collaboration between LHDs and hospitals in rural communities. Several LHD and hospital respondents in rural communities stated that they reached out to each other to fulfill requirements imposed on them by VDH or the health system's corporate office. Alternatively, no urban LHDs and only a few urban hospitals mentioned fulfilling requirements as a reason for collaboration with each other.

Outcomes of Assessment and Planning Processes

LHD and hospitals reported three common outcomes of the assessment and planning processes which included: development of new programs, stronger partnerships, and regionalization. Communities that successfully collaborated also reported stronger health coalitions and more funding to work on population-based activities.

Hospitals and LHD respondents reported many of the same outcomes. However, in general, hospital respondents were more likely to fund programs that arose from the assessment. Hospital leaders mentioned stronger partnerships with other hospitals in the region as a primary positive outcome; whereas LHD leaders frequently mentioned stronger health coalitions as a primary positive outcome.

Rural and urban respondents also reported similar outcomes, with rural communities noting greater challenges in being able to maintain relationships with partners and fund population-based activities in response to the assessment.

Common Outcomes Across Hospitals and LHDs

Most hospital and LHD respondents stated that the assessment and planning processes shaped program development in their communities, particularly in addressing health disparities. Additionally, the majority of respondents stated that the processes helped foster new or strengthen existing partnerships and pushed more regionalization of community health improvement work.

Shape Program Development (With Focus on Addressing Health Disparities)

The majority of LHD and hospital respondents believed that the assessment process helped to identify new population-based programming in the community; however, more hospitals reported being able to implement and fund these programs. Of note, many communities, which cut across the rural/urban and successfully collaborating/not collaborating divides, noted that the assessment process fostered an interest and vision in addressing health equity issues.

The types of new programs that arose from CHNAs and CHAs varied by community. Some communities focused on primarily clinical programming such as increasing blood pressure monitoring in the community, achieving heart-safe community designation, or increasing clinical capacity in an underserved community. Other communities designed new programs around health education and awareness, with many rural communities working to address opioid use and mental health stigma challenges. Several LHD and hospital respondents mentioned working together to address food insecurity issues as a way to work on a population level, while also keeping diabetic patients and individuals with high socioeconomic needs out of the clinical delivery system.

All three successfully collaborating communities, and several other communities, mentioned that the assessment prompted them to address health inequities that existed in their communities. They also thought that future assessments would be focused on addressing health disparities. The leadership team of the health coalition in one community chose to conduct future CHNAs through a health equity lens. Another community chose to address existing health disparities primarily by improving the clinical delivery system in low-income communities. In another successfully collaborating community, the LHD and hospital leaders stated that their implementation activities would target interventions in low income neighborhoods and around senior communities, such as building community gardens. One hospital respondent stated:

> *One thing we are doing (as a result of the CHNA) is outcome measurements ... And I feel like we have really delved into and looked the biggest needs. We're working with our senior population, where … we have totally changed people's lives. And they have now raised vegetables and flowers, they are growing things, they have computer classes, they are doing cooking classes. And what they've said is "I used to just live here now it's really a home, I've met my neighbors. We are all working together as a group, I have a reason to leave my apartment now and go to the community center." Those are ways we are making a difference.*

Another hospital respondent reported that the CHNA process allowed the health system to reorient strategic funding around the priority areas identified by the community:

> *I noticed when I came there wasn't a really clear understanding from my perspective of how we made decisions about sponsorships. I mean some seemed really strategic based on health system*

goals, some seemed like this is a nice thing to do but it doesn't necessarily have an impact or have a big impact… There's a lot of people within this organization who are really passionate about community health and who have volunteered their time to serve on boards that have community health as part of their mission, or who have started programs or even non-profits to alleviate some of the stress and factors associated with getting poor healthcare and not having great access. So, I wanted to work with those individuals to create a peer review process that would allow more people who are employed by our organization to take ownership in how we are investing. We created a coalition to do that work, so that … we would not spend $250,000 on sponsorships, but instead spend that on Community Health Improvement Programming.

Foster Partnerships

Several LHD and hospital leaders noted that the regular meetings over the course of 6-18 months during the assessment process, helped them develop new partnerships and strengthen existing partnerships. One LHD respondent noted: "*I just think it's been a good way to build relationships that we never would have had probably if it had not been for the CHA…I mean they contact us for other issues that aren't even related to the CHA. I think that has been a benefit."* One hospital leader stated:

(The CHNA process) continues, and probably strengthens, collaboration. If it develops over a longer period of time… there's a lot of collaborative activity … with many agency partners including health departments, non-profits, social service agencies, all sitting around the same table. There're grassroots organizations as well. And I think that's both an efficiency thing and also a kind of recognition that this is a whole community issue – and I think it's wonderful.

Regionalization

Most hospital and LHD respondents reported voluntarily working on assessment activities as a region, inviting more, rather than fewer partners. Some hospital and LHD leaders, primarily in urban communities, also noted that conducting the assessment created more opportunities to work regionally on community health improvement.

In urban communities, respondents typically reported that this regionalization allowed LHDs and hospitals to engage a greater range of partners and to potentially achieve a great population impact in community health work. In one region, respondents noted that coordinating the gathering of data and survey dissemination regionally using a jointly funded data portal or jointly hiring an academic institution to do this work up-front, created more space and time for leaders to focus on planning and

implementation activities. Partially for this reason, one LHD respondent reported that the LHD directors in a region had decided that future assessments would be done, at least in part, regionally:

> *We decided that so many of our folks might work in another district and live here, or work here and play somewhere else, and vice versa, that we decided that we were going to do a first attempt at a partial regional CHA. And so, we've been working, we've enlisted all the health districts and (several of the regional hospital.). The parts that we are going to be doing regionally are the community survey … but then each of the districts will have questions unique to the district that was important to the district.*

In rural communities, respondents typically viewed regionalization as a necessity – to decrease resource and time demands on partners during the assessment process and to better spread work around evenly to more partners. One rural hospital respondent discussed how regionalization helped to decrease meeting burnout but sometimes created very large convenings:

> *(During the prioritization process) we combined (two regions together) because it was the same health district, and a lot of the other non-profits that support us cover both of those areas…so there were a lot of similar people. Nobody wanted to do everything twice…so it became a significantly sized group. I thought it was almost too big.*

Specific to Strong Collaborators

In successfully collaborating communities, all respondents stated that the processes strengthened the existing health coalition. In many cases, respondents also reported that the assessment energized new partnerships that helped to attract new sources of funding or created opportunities for organizations to align their funding to work together on population-level activities.

Stronger Coalitions

All respondents noted utilizing an existing health coalition or forming a new work group to conduct assessment and planning activities. In most rural communities, the coalescing entity was typically a work group, and most groups disbanded after the process was completed.

With the exception of one urban community, all urban respondents reported having existing health coalitions in the community before starting the assessment process. Each tried to engage cross-sectoral partners in the assessment process; but many commented that some of these partners had no

obvious role in implementation activities. Many of these cross-sectoral partners would stop attending meetings after the process was completed. Others completed the process, and then realized to accomplish goals required reaching out to other cross-sectoral partners.

LHDs and hospital respondents had differing views on the ideal structure, function, and role of the coalition. Some respondents felt strongly the coalition should be a separate non-profit backbone agency with its own budget and staffing. Others felt that the coalition should be part of the local planning agency of the county, closer to where the actual implementation work was being done. In a few communities, LHD and hospital leaders stated that the coalition was best housed within the LHD, as LHDs are seen as the "anchor institution" in the community as it relates to health.

In successfully collaborating communities, the assessment process resulted in a stronger health coalition that continued to meet regularly in between assessment cycles. These communities reported having one robust health coalition that was the primary driver of assessment activities. The coalition typically would expand in size during the assessment and planning processes by inviting cross-sectoral partners. Members of the coalition would then typically then split into separate work groups, or health collaboratives, to implement specific activities. One LHD respondent noted the positive impact having a health coalition has had on the addressing population-level issues:

> *There was frustration on both our parts (LHD and hospital), in that we were limited in what things we could act on, as I said transportation being a biggie. We have limited input on that and the challenge as trying to figure out, as it is everywhere, how do you change habits… But now with (health coalition) as a nonprofit and more personnel … we have a coalition of over 40 partners …it's numerous entities in the community that previously was silent with everybody doing their own project. But they are now engaged and active coalition. We are concurrently conducting 17 research and evaluation projects on the things that we are doing in the (health coalition), and as result of that we're actually giving five talks this year, three of them at national meetings.*

Gaining and Aligning Funding Streams

Many of these stronger health coalitions and collaboratives aligned funding around specific population-level activities. Also, these communities reported successfully obtaining new sources of

funding which included: staff for the coalition, other staff to work on population-level programs, new materials or resources, or resources to expand on existing population-level programs. One hospital respondent reported that the health coalition was able to obtain resources from several sources to start work on food insecurity in the community:

> *So, we're talking to the city (as a health coalition), and they say we have all this FEMA land that they can't build on anymore. If we want to use this plot of land for a garden, we can do that. Oh, by the way they also have a 22-acre farm … that they don't want to have to keep up. Would we be interested in that property?... We also worked with a Lutheran church that had someone who specializes in gardens. So, we were able to get a grant for $5,000 to have a green house built and so now we have a garden and we're working with some of our disabled adults that are there to feed the fish and to pick the vegetables. Again, connecting all different services together, that I don't know, to me it's exciting.*

Hospital/LHD Differences in Outcomes

Hospitals and LHDs both reported many of outcomes listed above, such as reshaping program development and a growing awareness of population health. However, more hospital respondents reported that the assessment led to the implementation and funding of new programs. Several LHDs went through the process but lacked resources to redirect staff and funds to new population-based activities. On the other hand, LHD respondents reported higher levels of population health awareness, not only at the leadership level, but also among front-line staff, as a result of the assessment process. However, this again, did not necessarily result in staff engagement in population-based activities.

While LHDs and hospitals often reported voluntarily working with other hospitals systems in the region on assessment and planning activities, more hospital respondents viewed the development and nurturing of hospital-hospital partnerships as an extremely positive, if not most significant, outcome of the process. This is discussed more fully below.

As mentioned previously, while the majority of LHD and hospital respondents noted that establishing and strengthening health coalitions and collaboratives as a positive outcome, more LHD respondents viewed these new collaboratives as one of the most significant outcomes of the process. In urban communities, LHDs were more successful in creating a sustainable structure for many of these

coalitions; however, in rural communities, no LHD respondents reported being able to sustain ongoing health coalitions.

Rural/Urban Differences in Outcomes

Rural and urban communities mentioned many of the same outcomes listed above, such as the development of more health collaboratives and a stronger emphasis on addressing the social determinants of health. However, rural respondents typically also discussed more challenges in continuing to foster these partnerships and how to fund community health initiatives. Additionally, in a few rural communities, both LHD and hospital respondents discussed that a disproportionate burden fell on hospitals to fulfill many of the assessment, planning, and implementation functions. Rural respondents frequently mentioned greater awareness of population health as a positive outcome of the assessment process; whereas urban respondents focused more on the aspects of being able to gain and align funding streams, as well as showcasing and publicizing community health initiatives, as successful outcomes.

Other Findings

The role of other partners, such as academic institutions, health foundations, external consultants, the hospital's corporate office, the state health department, and other hospitals in close geographic proximity was discussed by several LHD and hospital respondents.

Also, LHD and hospital leaders in successfully collaborating communities reported having a deeper appreciation of how hospitals and health departments were dependent on each other to improve the health of populations.

Role of Other Partners

All LHD and hospital respondents reported working with other organizations and partners to complete assessment, planning, and implementation activities. Partnering with other hospitals in the service area, and also with other community agencies, particularly health foundations and academic

institutions, was viewed positively by several LHD and hospital respondents. Several communities hired external consultants to assist LHDs and hospitals in various aspects of the process. A few communities were very supportive of the use of external consultants; others had negative experiences. Additionally, a few hospitals and LHDs in rural areas noted that assessments were driven by external, higher-level forces such as the state health department or the hospital's corporate office.

Successfully collaborating communities had formal memorandums of agreement between partners or were planning to formalize these partnerships to help set expectations and define mutually shared goals. One hospital respondent stated:

> *I think in the past the health department has wanted partners like the hospitals at the table, and we have not documented what that partnership looks like in a formal way. And so now, this time around … we are all agreed to document this formal relationship and what each entity is bringing to the table.*

External Consultants

Several hospitals and LHDs used external consultants to facilitate steps of the assessment and planning processes, with mixed thoughts of perceived effectiveness. Some communities that perceived external consultants positively noted that consultants freed up LHD, hospital, and community leaders to invest their time and energy on planning and implementation activities, rather than on time-consuming and meticulous tasks such as data collection and developing survey tools. One LHD director stated:

> *The real hard work of (the assessment) was done by the (external consultant) … who actually does the complete production. They do the focus groups, they do the data collection, they talk with officials, do interviews, they do the complete community health assessment. However, in addressing the kinds of questions that we want asked there's an advisory committee that consists of representation from all (the key stakeholders… I would do it again that way, it's just so much better - it takes a load off … (The external consultant) would pull together the meeting. We'd have the agenda and we'd have the questions that you wanted to be considered either on the media or focus groups or whatever. But they did all the hard work. We just got to think.*

Additionally, some communities viewed using external consultants rather than internal staff as a way to continue to focus on service provision of core services. One LHD respondent stated:

> *(Using the external consultant) meant that we didn't have to have an FTE from the health department devoted to (assessment activities.) I really try to protect the use of our FTEs for*

service provision, and so we did not have to spend money for a new FTE or repurpose an FTE to do that. So that made us all better partners I think.

Other communities stated that they would not use external consultants again. Some LHD and hospital respondents felt that the work done by consultants was not as effective as what their agencies could have produced. One LHD director that had worked with an external consultant previously stated: *"We did it all internally. We did hire a consultant to lead us through the health improvement plan process of selecting priorities (previously), and I have to say we won't do that again, because they weren't very good."*

A few hospital and LHD leaders noted decreased levels of involvement from critical agency partners in the process when consultants were involved. Oftentimes, partners would unknowingly pursue plans and implementation strategies that may not have aligned with what the data showed. One LHD respondent stated:

I think (having external consultants) absolutely affected the process, just in the sense that (community partners) aren't the ones kind of mulling through all the data. They just aren't familiar with it. And so, what they see in the end is just the high-level view of all the data that was selected by the consulting company. I just think you are as invested, just because you're just not the one who getting the data, going through it.

Higher Level Bureaucracy (Hospital Corporate Office or State Health Department)

Most LHDs and hospitals reported some level of investment in the process from either the hospital's corporate office or from the state health department. Respondents noted that these higher-level authorities were invested in completion of the CHNA/CHA and CHIP/implementation strategies for the purposes of fulfilling IRS regulations or accreditation requirements. Some minimal level of support was provided to urban communities; however, many more rural hospital and LHD respondents noted receiving significant support. Support included providing primary data, gathering secondary data, designing survey tools, running focus groups, and convening partners to prioritize focus areas or select implementation strategies.

The majority of rural communities reported that this support was helpful. However, many LHD respondents noted that they did not have the tools to complete a CHA/CHIP despite this assistance. Three rural LHDs were still at various points of completing the community's first CHA/CHIP. In these communities, LHD respondents reported lacking resources to conduct the assessment adequately, while also feeling significant pressure from the state health department to produce a comprehensive CHA/CHIP. Some LHD's, with significant resource constraints, saw regional hospitals trying to fill the assessment gap, with one LHD director noting, *"I think to a large extent (the hospital) was checking the box and looking good with the state, quite frankly."*

In successfully collaborating communities, hospital respondent reported being able to engage higher level leaders in the process. This oftentimes resulted in more support for community health improvement initiatives. One hospital respondent noted how significant it was for the CEO of the health system to be invested throughout the whole process:

> *In this iteration, (our health system) I believe, showed up in a different way, in a new way. Whereas before the hospital would send a representative of the CEO …this time around the CEO showed up. And so, it really displayed, I think, a different sort of commitment and partnership than in the past. And because we are a large health system, it includes other entities … So, when our community did its third community health assessment, the CEO was showing up from the very beginning and participating in that 18-month process.*

Another hospital respondent stated that when corporate office leadership was engaged, there were more financial commitment made towards community-based programming:

> *We have a large (health system) board and they're very, very engaged and my understanding is that they are definitely looking for results ... it's like really getting down into the data and being able to show the results… (When we demonstrated results to the Board), actually our CEO of (the whole health system) approved $50,000 out of the (health system) health foundation to fund the food boxes, which is huge.*

<u>Other Hospitals in Service Area</u>

As mentioned previously, LHDs and hospitals both reported that conducting assessment and planning activities voluntarily with other hospitals in their service areas was a significant positive

outcome of the processes. One hospital respondent noted that when hospitals put aside competition to focus on community health needs, there were significant benefits to the health coalition:

> *I think the biggest thing for us working together… that has been pivotal for this coalition, is that (several health systems) are supporting the coalition. And we've taken the political-ness out of, or even the competition out of, what we provide to the community out of the equation. So, I think that has opened and that has legitimized the coalition.*

A hospital respondent from a rural community stated that working together on shared assessments was a way to respect other's limited resources: *"I think people appreciated that we were respecting their time, energy and resources, and not asking for double work."*

Several hospitals mentioned the benefit of sharing funds in implementing activities such as distributing food boxes to food insecure patients. One hospital respondent reported that after her hospital expressed willingness to partner with another health system in the region on implementing heart disease prevention practices in the community, there was increased financial commitment to the program:

> *Both of the hospital presidents are taking the show on the road. We've gotten grant approval from the health foundation for like $40,000 to help hire a director. I mean it's going to be an awesome thing, but it is a direct result of the Community Health Needs Assessment.*

Critical 3rd Partner

Several LHD and hospital respondents noted that that being able to identify and lean on the outside expertise of a 3rd partner, created more sustainable and effective partnerships. In all three successfully collaborating communities, this 3rd critical partner was identified as an academic institution that had a school of medicine or public health. Some other communities identified health foundations as key partners in successful assessment and planning efforts. In two of the three successfully collaborating communities, respondents mentioned having both a significant funder and an academic institution assisting in the assessment and planning processes.

Hospital and LHD respondents reported that the role of the academic institution in the partnership was primarily to fill gaps which included: developing survey tools, administering surveys,

performing data analysis and GIS coding, and evaluating impacts of programs. One LHD respondent stated:

> *A big help to us in the CHA/CHIP in our area has been our relationship with (academic institution). We have a new faculty member, who is really passionate about it and so she has connected us with several departments within the school and those initiatives have been very great and successful. And they are actually helping us collect the survey data for our next round.*

Respondents reported that health foundations primarily assisted with filling more logistical gaps, such as hosting meetings, providing food, marketing and promoting programs, and reimbursing speakers and advisers. One LHD respondent stated: "*the health foundation was very generous and paid for printing and stuff that the hospital would not."*

Appreciation and Humility

LHD and hospital leaders in successfully collaborating communities had a higher-level understanding of 1) his or her agency's limitations, 2) the partner agency's capabilities, and 3) when to lead and when to let the other organizations lead.

Understanding of Own Limitations

Leaders who expressed frustration at their organization's limited ability in improving a community's health oftentimes felt stuck at this seemingly insurmountable task. In successfully collaborating communities, leaders understood their organization's limitations, yet also had optimism and hope that working with partners, more could be accomplished. One hospital leader expressed it this way: *"I think the number one thing I learned is … don't go it alone. You're not going to get anywhere."* Another hospital respondent noted, the process starts with trying to work together:

> *(The CHNA process) is finally getting people in the city talking and trying to work together. You know at times the hospital thought, oh we can do all of this. But we can't do all of this. Parks and Rec can't keep the whole community fit. So, unless we're all working together, we're not going to make a big enough change. And you know we're just doing small things at this point. But I think, you know the more we can continue to meet and discuss and look at our overall health needs for our community, it you know and oh you know this is just so cool.*

Appreciation of Partner's Capabilities:

Leaders in successfully collaborating communities also were quick to give praise to partner organizations and their contributions. The hospital respondent in one successfully collaborating community praised the LHD's role as a backbone agency:

> *I think that the health department is very inclusive and … are viewed in our community as sort of strong backbone public health organization ... I think that the health department has shown a track record of success and improvement every time that they conduct one of these assessments. And they have a governance structure that allows the hospitals and health systems to be at the table planning and implementing. So, we are better partnered. And (the LHD) is sort of running the assessment and getting the logistics off the ground and running. So, I think that makes it really easy.*

Another hospital respondent in a successfully collaborating community discussed how conducting the CHNA with the LHD helped her see how LHDs are impacting community health:

> *I've been doing this for 32 years and I always like a challenge and something new. I am just really thankful that (health coalition) came along and I feel like, because we had that Community Needs Assessment, I think it helps all the hospitals to really see what's going on in their community. And then hopefully you can take that information and then create programs that make a real change.*

Knowing When to Lead

As noted previously, a few LHD and hospitals respondents discussed power imbalances and how unhealthy power dynamics can create barriers to partnering. In successfully collaborating communities, respondents reported not only awareness of these power imbalances, but also being able to step back and cede power and authority to other agencies for the benefit of the community. One hospital respondent pointed out that the most powerful partner at the table is sometimes most effective when focused on listening and partnering, rather than driving:

> *I think there's a growing realization and appreciation of how important it is to partner and how even though we are the 8,000-pound gorilla in the community, we don't need to be driving everything. We're fortunate in this community to have a lot of non-profit resources, we're rich in that way… So, instead of taking over and trying to drive community health improvement efforts on our own we recognize and appreciate how important it is to partner.*

Summary of Results

In Virginia, the vast majority of hospitals and LHDs are partnering in some aspects of the CHA/CHNA process, such as gathering data and surveying the community, as is required by the IRS and PHAB requirements. However, rural communities with smaller hospitals and LHDs without dedicated staffing to focus on CHA/CHNA activities did not always involve each other in the strategy planning and implementation processes. This mirrored findings in Texas (Pennel, Cara L, McLeroy KR, Burdine, JN, Matarrita-Cascante D, 2015) and Missouri (Beatty et al., 2015). This next step in collaboration requires a deeper level of commitment to sharing goals, staffing, and resources, which can be a challenge in a resource-limited environment.

The communities in Virginia that are collaborating more around assessments, planning, and implementation activities are urban and better resourced in terms of dedicated staffing. They also have deeper existing relationships between leaders. LHDs with public health accreditation status had significantly greater levels of collaboration with hospital partners in their communities. Larger teaching hospitals, which are locally based, collaborated at a greater level with LHDs. These communities are reaping the benefits of collaboration, with many committing financial resources to a health coalition, attracting other critical partners to the coalition such as universities and health foundations, and successfully securing additional funding to address more population-based health issues, such as food access, opioid addiction, and chronic disease prevention.

In addition to the expected barriers of geographical service area and CHNA/CHA cycle timing misalignment, several rural communities in Virginia lacked dedicated staffing to work on CHNA/CHA activities. These respondents often reported feeling overwhelmed with existing mandated activities. These factors served as significant barriers to pushing collaboration beyond surface-level assessment activities.

In both rural and urban communities, leadership turnover and not having deep existing relationships between hospital and LHDs served a significant barrier to collaboration. Additionally, new leaders who lacked training in population health or assessment concepts often expressed either feeling overwhelmed or disinterested in the CHA/CHNA process, creating even greater barriers to collaboration. Many of these leaders cited significant barriers to collaboration, including geography and timing misalignment, community survey fatigue, difficulty engaging other partners, community distrust, and corporate office or state health department regulations and pressures. These community leaders fostered a mindset that there was "too much to do" and an uncertainty of how working on the assessment process with partners could address current demands within the community.

Both hospitals and LHDs report engaging in more general population health activities such as addressing the social determinants of health as a result of the CHNA/CHA process, with hospitals being more likely to make more financial resources available. In successfully collaborating communities, the process has also turned the spotlight on addressing health disparities – each of these communities are working on population health activities specifically targeted to reduce disparities, and many will have a health equity focus in the next CHNA/CHA.

The CHNA/CHA process has helped many communities identify new population-based activities. Several communities in Virginia are now working on addressing the opioid epidemic. Other localities are building community gardens to address food insecurity and improve social connectedness in low-income communities. And probably most commonly, several communities are working on the many community-based aspects of preventing cardiovascular disease and diabetes – which range from educating community members on how to respond to heart attacks or strokes, more community-based blood pressure screenings, enrolling high utilization and high-risk patients in intensive lifestyle management classes to reverse heart disease, and distributing healthy food boxes to high-risk communities.

CHAPTER 5: DISCUSSION AND RECOMMENDATIONS

Discussion of Key Themes

Overall, there were several consistent themes identified as barriers, facilitators, and outcomes of the CHNA/CHA processes across all respondents. By and large, findings from the surveys paralleled information obtained from key informant interviews.

As identified in the Key Findings Grid (see Table 11), respondents consistently noted the following as the most significant barriers to collaboration: lack of dedicated staffing and resources, leadership disinterest or poor understanding of the process, and the decision to exclude other organizations from aspects of the process. The strongest common facilitator across all respondents was having existing strong partnerships between LHD and hospital leaders forged through prior collaborations in non-CHNA/CHA activities.

Respondents in all categories identified common outcomes, including the development of new partnerships with a focus on regionalizing community health work. They also noted that their CHNA/CHA work led to new community-based programs or interventions, with a focus on addressing the social determinants of health.

While most of the responses were similar across respondents, urban respondents noted three unique facilitators: geographical alignment, prior assessment experience, and being able to identify another key partner such as a health foundation or local university to support community health improvement efforts. In contrast, rural respondents reported having more challenges than urban respondents which included: dedicated staffing or resources, sharing data, and being included in the partner's planning and implementation processes.

Table 11. Key Findings Grid

Red = Barrier Green = Facilitator Yellow = Both B/F Blue = Outcome S= Survey I = Key Informant Interview	High Collaboration Respondents		Low Collaboration Respondents		Rural Respondents		Urban Respondents		Local Health Department Respondents		Hospital Respondents	
Common Themes	**S**	**I**	**S**	**I**	**S**	**I**	**S**	**I**	**S**	**I**	**S**	**I**
Geographical Alignment	F	F	B	B	B	B	F	F	B/F	B/F	B/F	B/F
Timing Alignment	F	F	B	B	B/F	B/F	B/F	B/F	B/F	B/F	B/F	B/F
Dedicated Staff/Resources	F	F	B	B	B	B	B/F	B/F	B/F	B/F	B/F	B/F
Leadership Involvement	F	F	B	B	B/F	B/F	B/F	B/F	B/F	B/F	B/F	B/F
Interest/Understanding of Process	B/F	F	B	B	B/F	B/F	B/F	B/F	B/F	B/F	B/F	B/F
Process Inclusiveness	F	F	B	B	B	B	B/F	B/F	B/F	F	B/F	B/F
Prior Partnerships	F	F	F	F	F	F	F	F	F	F	F	F
Data Sharing	F	F	B	B/F	B	B/F	B/F	F	B/F	B/F	F	F
Assessment Experience	F	F	B	B	B	B	F	F	B/F	B/F	F	F
Corporate/State HD Involvement	B/F	B/F	B/F	B/F	F	F	B/F	B/F	B/F	B/F	B/F	B/F
Health Coalitions	F	F	B/F	B/F	B/F	B/F	F	F	F	F	B/F	B/F
External Assessment Consultants	B/F	B/F	B/F	B/F	B/F	B/F	B/F	B/F	B/F	B/F	F	F
Key 3rd Partner	F	F	B	B	B	B	F	F	B/F	F	F	F
Shared Data Dashboards	O	O						O	O	O	O	O
Social Determinants of Health	O	O	O	O	O	O	O	O	O	O	O	O
Regionalization		O	O	O	O	O		O		O	O	O
New Partnerships/Programs	O	O	O	O	O	O	O	O	O	O	O	O

LHD and hospital respondents reported very similar barriers, facilitators, and outcomes. Interestingly, while both LHDs and hospitals reported engaging with external consultants and health coalitions in the process, hospitals viewed external consultants more favorably whereas LHDs primarily viewed health coalitions favorably as a facilitator for the process.

There were notable differences in the factors that respondents in highly collaborating communities noted as facilitators and barriers compared to those from low collaboration communities. Interestingly, most of the facilitators that highly collaborating communities identified were perceived as barriers in the lower collaboration communities. For example, geographic alignment was noted as a facilitator by highly collaborating communities, whereas lack of geographic alignment was noted as a barrier by low collaboration communities. This same phenomenon was noted for timing alignment, dedicated staff/resources, leadership involvement, process inclusiveness, prior assessment experience, and effective use of a key third partner for funding or measurement/evaluation purposes.

My findings parallel some of the literature that exists around health care and public health collaborations. Historically, effective collaboration between LHDs and community agencies such as hospitals have been predicted by having: a budget or staffing dedicated to the shared work, a governance structure or written agreement that stipulates responsibilities, several partners willing to contribute financially to a project, a broad array of organizations involved, and a strong relationship between leaders that has developed over time (Zahner, 2005).

More recently, the Health Care Transformation Task Force, consisting of health system and public health leaders, developed an actionable framework for health care and public health collaboration. To achieve comprehensive community wellness, the task force delineated five essential elements of collaboration which include: (1) developing a governance structure, (2) creating a finance plan, (3) defining cross-sectoral interventions and programs, (4) developing a data-sharing strategy, and (5) establishing performance measurement and evaluation plans (Health Care Transformation Task Force citation.)

Below are general recommendations for LHDs and hospitals, including strategies for how low collaboration communities can overcome partnership barriers. These recommendations pull from both

the existing literature around effective collaborations between public health and health systems, as well as the findings from my survey results and key informant interviews in Virginia.

General Recommendations

The ACA and PHAB have promoted more collaboration between the healthcare and public health sectors. The collaborations that arise from the CHNA/CHA process can serve as a foundational structure to coordinate hospital and LHD efforts to impact health on a population level in the communities they serve. Additionally, in 2018, VHHA and VDH co-founded the "Partnering for a Healthier Virginia" initiative that will seek to work with hospitals and health department to enhance the CHNA/CHA processes to improve population health. As such, I have the following recommendations for all LHDs and hospitals participating in the CHNA/CHA process:

Training & Participation

1. **Through PHV, VDH and VHHA should ensure hospital and LHD leaders and staff are trained on assessment, planning, population health principles, each other's functions, and the role that hospitals and LHDs can play in addressing the social determinants of health.**

New leaders should be oriented to the CHNA/CHA process by VDH, VHHA, and PHV staff or assigned a mentor LHD/hospital dyad within the first three months of hire. During this orientation process, new leaders should be trained to understand the overarching purpose of the CHNA/CHA process, and also provided examples of strong collaborations and improvements in community health that resulted from the collaboration. Additionally, leaders should be trained on assessment tools and the workforce needs to partner and conduct assessments.

Oftentimes, LHD and hospital leaders expressed that collaborating was challenging due to misunderstandings of each other's functions and capabilities. Partnerships were stalled as leaders tried to informally size each other up. VDH and VHHA should formalize this process by providing training to

LHD and hospital leaders on basic hospital and LHD functions during annual population health summit meetings or at PHV-led practice workshops.

Additionally, while the CHNA/CHA process created a deeper appreciation of the need to work on the social determinants of health to improve the health of communities, several hospital respondents discussed that they struggled to understand how to do this on a practical level. VDH, VHHA, and PHV should work with hospitals and also LHD leaders to highlight existing collaborative activity in Virginia that addresses the social determinants of health - such as ongoing work hospitals have funded to address food insecurity through the building of community gardens or design of food box distribution programs – to help LHDs and hospitals understand the role that these organizations can play in addressing the social determinants of health.

2. **Through PHV, VDH and VHHA should require or strongly encourage LHD health directors and hospital executives, including hospital board members, to participate in critical local and regional CHNA/CHA meetings.**

Several hospital respondents reported inadequate LHD leadership participation in the assessment process due to leadership turnover or general disinterest. VDH leadership should require LHD directors to personally attend critical assessment and planning meetings, as leadership involvement is strongly correlated with higher levels of collaboration. Hospital leadership involvement early in the assessment process energizes the collaborative, provides legitimacy to the process, and sets a foundation for sustainability of community health improvement initiatives. VHHA should strongly encourage hospital leadership to attend critical CHNA/CHA meetings.

3. **VDH should train all LHDs to lead or facilitate CHNA/CHAs.**

Hospitals viewed LHDs positively when LHDs created the infrastructure to lead and facilitate assessment activities, which freed other partners to focus on planning and implementation activities. Hospitals generally have more financial resources than local health departments and more visible

impact in communities. This can result in an uneven partnership with LHDs. LHDs can bring value through their assessment expertise. LHDs should offer to serve as a default home for the CHNA/CHA and CHIP/planning processes if there is no other assessment expertise in the community.

Partnership Development

4. **Hospital and LHD leaders should use the time in-between assessment cycles to continue to engage on common health concerns such as access to care, communicable disease control, and emergency preparedness.**

Strong and stable leadership may be the strongest facilitator for collaboration. However, even in communities with leadership turnover, trust can be built quickly between LHDs and hospitals when leaders show up to natural meeting points such as emergency preparedness exercises or communicable disease outbreaks. New leaders should see these opportune health emergencies as entry points to more collaboration on community health improvement work.

5. **Hospital and LHD leadership should reach out to local universities, local health foundations, and engage atypical partners in the CHNA/CHA process.**

All successfully collaborating communities in Virginia had significant assistance in the assessment, planning, and implementation processes from a third key partner. This partner oftentimes was a local university with assessment or evaluation expertise or a local foundation which provided financial assistance in implementing programs. Having a third critical partner can energize and sustain implementation activities. These partners also have an interest in addressing the social determinants of health.

6. **PHV should assist LHDs and hospitals in developing templates of written agreements for partnership roles/responsibilities of LHDs and hospitals around collaborative CHNA/CHA efforts.**

While written agreements around CHNA/CHA and population health activities between hospitals and LHDs are very rare in Virginia, each successfully collaborating community is either in the process of developing or have already developed several of these types of written agreements. LHDs and hospitals should work to create written agreements that serve as a governance structure to coordinate work, identify roles, and formalize work. Having written agreements oftentimes also engages leaders, potentially increasing the level of interest and understanding in the assessment process.

Financing

7. **Through PHV, VHHA and VDH should develop fund-sharing mechanisms around community health activities between LHDs and hospitals.**

The finance departments of LHDs and hospitals should work closely, and early on in the process, to identify mechanisms to use cost-savings from unfilled positions in LHDs, hospital community benefit dollars, and hospital foundation funds to collectively fund assessment and implementation activities. Oftentimes, LHD dollars are returned to the state due to challenges with spending down funds; whereas hospitals may have more flexibility in expending these funds. Contracting out activities to a third entity such as a nonprofit health coalition can oftentimes be an effective way to pool funds.

8. **Hospitals and LHDs should orient strategic funding around priority areas identified during the CHNA/CHA process.**

To ensure long-term sustainability of population-based health programming, both hospitals and LHDs should commit funding to implementation of these activities. Especially, when hospitals reorient community benefit funding around activities identified in the CHIP/implementation strategies, more community organizations, local government, and outside funders will also be willing to align funding or grant funds to population health activities. Both LHDs and hospitals have significant influence in communities and can use this social capital to attract even more funding for activities identified by the community as priorities.

Regionalization

9. **Through PHV, VDH and VHHA should develop dedicated internal resources or contract out the development of assessment, planning and evaluation tools and encourage regionalization of assessment activities.**

Communities that share data, agree to use the same measures, and get primary and secondary data collection and presentation out of the way quickly, will be more likely to have leaders at the table to focus on planning and implementation. Oftentimes, hospital and LHD staff are drained by data demands during the assessment. VDH and VHHA should assist LHDs and hospitals in producing or contracting out some of these basic assessment functions on a regional level, such as design of standardized survey templates, secondary data analysis, facilitation of prioritization exercises, design and writing of the CHIP/implementation strategies, and evaluation of activities.

Regional data portals such as those in Northern Virginia and Southeastern Virginia are showing promise as best practices to enable LHDs and hospitals to focus their efforts on planning and implementation. VDH and VHHA should foster these regional efforts. Additionally, regionalization may also generate more resources to fund targeted community health improvement activities.

Timing

10. **Local hospitals should align the timing of assessments with neighboring hospitals in the region and VDH should require that LHDs move from the 5-year PHAB cycle to the 3-year ACA nonprofit hospital cycle for completing CHNA/CHAs.**

Hospitals are required to complete assessment cycles every three years, but there is some flexibility as to when certain activities are accomplished. To reduce duplication of efforts and to achieve higher levels of regionalization, hospitals should seek to time their assessment cycles together with other hospitals and LHDs in their region. Timing misalignment was cited by several hospitals as a reason why there were low levels of collaboration with LHDs. Hospitals are on more rigid and frequent CHNA

timelines as defined by IRS regulations. To avoid duplication efforts and to partner more closely with hospitals, LHDs should move their assessment cycles to align with the hospital's cycle.

Further Research and Evaluation

11. **Through PHV, VDH and VHHA should evaluate the impact of ongoing community health improvement joint efforts between hospitals and LHDs on population health.**

Due to the recent nature of collaborative activities between hospitals and LHDs around assessments, this study is limited in scope to the impact CHNA/CHAs has had on types of population health activities. However, it is also critical to better understand the impact these population health activities have had on health outcomes. As these types of collaborations become more commonplace, there should be further research and evaluation to determine what types of collaborations and what types of population-level interventions have actually resulted in improved health outcomes.

Specific Recommendations Related to Rural Communities

Rural and low-resource communities have several unique external challenges to overcome, such as a geographical alignment, resource limitations, and higher levels of leadership turnover. Still, some rural, low-resource communities were also successful in their collaborations in Virginia. In some of these communities, leaders had the interest and energy to find solutions to overcome these barriers. Based on my findings, I have the following specific recommendation related to rural communities:

Resource Identification

12. **Rural hospitals and LHDs should seek out PHV assistance; and PHV should specifically support rural localities in assessment efforts.**

Communities that do not have an initial budget or dedicated staff to work on assessment activities should seek to staff these activities by reaching out to the state health department or from other local partners such as a health foundation or a university with a vested interest in community health improvement. Even after contracting out certain activities on a regional level, rural communities

have more significant barriers such as issues with geographical alignment and more leadership turnover. Through PHV, VHHA and VDH should seek to provide greater support for these rural communities, and early on in the process, these communities should also seek out support from PHV and other local communities with more assessment experience for assistance.

CHAPTER 6: PLAN FOR CHANGE

John Kotter's 8 step change model offers a prescriptive framework to guide change (see Figure 11.) I will use Kotter's 8 change steps to facilitate organizational change at two levels. I will first apply Kotter's model broadly to create change recommendations for hospitals and LHDs in Virginia. Then I will apply Kotter's model to specifically create change recommendations I will implement within the health system and LHD in which I currently work in California.

Figure 11. Kotter 8-Step Change Model

Source: Kotter's 8 Step Change Model

Level 1: Kotter's 8-Step Change Model Applied Broadly to Virginia Hospitals and LHDs

Step 1: Create a Sense of Urgency

Developing an urgency around the need for change is necessary to ensure that hospital and LHD leaders make it a priority to implement recommended changes and best practices. As assessment and planning cycles are oftentimes on three to five-year cycles, it is critical to create this sense of urgency to act now during the current cycle, or else change could potentially be delayed for many years.

From the hospital perspective, the urgency for change derives primarily from healthcare's shift from volume to value-based care. The financial health of health systems is increasingly tied to achieving population health and quality measures. Also, hospitals are increasingly attempting to manage the high costs of emergency department utilization and readmission through community-based programs. These factors are urgently driving hospitals to look towards atypical partners such as LHDs and other community-based organizations to develop new community health improvement interventions that focus on prevention and address the social determinants of health. As more healthcare organizations take on financial risk based on performance, hospitals may feel an increased sense of urgency to partner more and embrace best practices. Additionally, on Form 990, hospitals are now required to answer questions related to if the hospital partnered with the LHD and other community-based organizations on the assessment and in the implementation strategies processes.

From the LHD perspective, resource limitations and increasing expectations for governmental agencies to create more public-private partnerships to solve large societal issues are primary drivers for urgency to change. Additionally, recent hospital interest in assessment and planning functions and PHAB requirements for accredited LHDs to complete assessments highlight that timing is right for LHDs to seek legitimacy by engaging, and sometimes, leading other hospitals in more traditional public health functions such as assessment and community health improvement planning. If LHDs miss this current

opportunity to partner around assessment and planning, it's unlikely for LHDs to be able to collaborate with hospitals as equals in the future.

As I am no longer working in Virginia, I will help create urgency for change primarily through disseminating findings from my research through my prior connections at both the state health department and at several health systems. I intend to write a one-to-two-page abstract of the findings and request that the Deputy Commissioner of Community Health Services and Deputy Commissioner of Population Health disseminate these findings through e-mail or listservs. Additionally, I intend distribute the results of this research to all of the key informants that were interviewed and demonstrated interest in the applying findings to their work.

Finally, on a more global level, I intend to present these findings to other members of the NACCHO Public Health Transformation Workgroup and also the Executive Directors of ASTHO and PHAB. I also will submit abstracts to present at the Association for Community Health Improvement (ACHI) and NACCHO Annual meetings.

Step 2: Build a Coalition

The coalition is intended to be the guiding body focused on facilitating collaboration between hospitals and LHDs in Virginia. Instead of developing a new coalition, I will work with the members of an evolving multi-sector, statewide population health committee that is being formed as the result of the Partnering for a Healthy Virginia (PHV) initiative.

The PHV initiative is the outcome of a signed Memorandum of Agreement between VDH and VHHA to partner to address population health issues in Virginia, focusing specifically on using the findings of current and future CHNAs/CHAs to inform the prioritization and development of strategies to address community health needs.

The coalition includes senior VDH and VHHA leaders as well as members from payer organizations, federally qualified health centers, and also community-based organization leaders with a

vested interest in community health improvement. The coalition should pay specific attention to also including local-level representatives, including the academic medical centers in Virginia, LHD health directors representing the five regions in Virginia, and senior hospital executives from several of the major health systems in Virginia.

Step 3: Form a Strategic Vision and Initiatives

PHV, and the majority of LHDs and hospitals in Virginia have all separately identified focusing on health equity as a common strategic priority. Unifying around this common vision will be a key to identifying successful common initiatives.

One purpose for the PHV coalition is to help develop a vision for how LHDs and hospitals in Virginia can take practical and concrete strategic actions to implement recommendations and best practices for collaborating around assessments and plans to improve population health. While the coalition will work to create a cohesive strategy at a state-wide level, the tactical actions will need to also occur at regional and local levels for collaboration to improve.

I will work with the VHHA's Senior Director of Population Health and VDH's Deputy Commissioner of Population Health to engage regional population health work groups and specific localities that may need help implementing recommendations in their respective organizations across Virginia.

I will work with the coalition to highlight successful LHD and hospital collaborations and best practices at upcoming population health events. These events include the annual state-wide population health summit, regional population health meetings, regular regional LHD health director meetings, and annual VHHA convenings. Different methods should be used to disseminate recommendations and best practices, including panel interviews, one-to-two-page abstracts, and displays.

Using this research, I will also serve as a resource for PHV and VDH to help identify Virginia hospitals and LHDs that are partnering effectively around assessments. I am willing to reach out again to

these organizations, who have uniformly offered to share resources and best practices with other communities and connect them with other LHDs and hospitals that are currently not partnering effectively around assessments.

Step 4: Enlist a Volunteer Army

For change to occur, a volunteer army is necessary to carry through the needed changes. The volunteer army in Virginia will consist of members of hospitals and LHDs who have demonstrated a desire to collaborate more effectively with partners, an openness to new ideas and methods, and a commitment to implementing recommendations and best practices.

While the PHV coalition is comprised of primarily senior state and regional hospital and LHD leaders, the volunteer army could be any number of individuals who are interested in improving collaboration or using the assessment and health improvement planning processes more effectively to improve population health. This group could range from community benefit managers, to hospital physicians, to population health managers, to community health educators, to epidemiologists.

Many members of the volunteer army have already self-identified – through interest and attendance at regional and state-wide population health meetings – or have been identified by peers in my survey findings and key informant interviews. Members of this volunteer army oftentimes also are working on national community health improvement grants or projects that span geographical boundaries. This naturally lends to more dissemination of best practices and recommendations to other individuals and organizations that are interested in assessment, planning, and population health improvement – and subsequently, the expansion and growth of the volunteer army. Hopefully, this organic method of growth will help generate interest in learning from the challenges other communities have experienced and adoption of best practices for more effective collaboration.

Step 5: Enable Action by Removing Barriers

Identifying likely barriers and then developing methods to remove these barriers will create an environment that allows organizations to more easily make large-scale change. In my research, participants in Virginia identified the following major barriers: lack of dedicated staffing and resources, timing misalignment, and lack of leadership involvement and awareness. Strategies to remove the barrier of staffing are listed in recommendations 5, 7, 9, and also the specific recommendation for rural communities (outlined in Chapter 5: Discussion and Recommendations). The barrier of timing alignment is specifically addressed by recommendation 10, and the barrier of lack of leadership involvement is addressed by recommendations 1 and 2.

Additionally, creating connections between organizations with similar characteristics can create an environment where barriers can be discussed, and best practices and resources can be shared to overcome barriers. Specifically, rural and smaller hospitals and LHDs may have specific unique barriers that require many minds and regionalization of assessment activities (recommendation 9).

Step 6: Generate Short-Term Wins

Tracking progress to measure and celebrate small, but meaningful wins early in the change process can create momentum for larger and more wide-spread change. VHHA and VDH has been monitoring the status of completed CHAs, CHNAs, CHIPs, and implementation strategies for several years and has reported out on these findings. Now with the creation of PHV as a collaborative framework, VHHA and VDH should also seek to identify the level and type of collaboration between hospitals and LHDs on assessments and plans. Additionally, PHV should seek to promote collaborative strategic investment in community health improvement activities. Examples of recommendations that are easily measurable and can be accomplished quickly include engaging universities/foundations (recommendation 5) and developing formal agreements for partnership roles (recommendation 6).

Additionally, two goals of PHV are to promote the use of common data portals and to encourage evidence-based investments to improve population health. Existing regional data sharing platforms were identified in this research in Northern and Eastern Virginia. Expanding and building on these platforms could be identified as short-term wins. Also, this research also identified collaborative hospital-LHD investments to reduce diabetes and heart disease rates in multiple communities across Virginia, primarily by addressing food insecurity and improving access to healthy fruits and vegetables. Expanding these programs into other communities could also be identified as short-term wins.

Hospitals and LHDs that accomplish these specific goals should be highlighted in annual reports, commended publicly at the annual population health summit, and offered technical assistance to present at national conferences such as ACHI, NACCHO, and American Public Health Association (APHA).

Step 7: Sustain Acceleration

Developing strategies to sustain change after some of the initial sense of urgency, excitement, and early successes start to fade will help this change process to continue after the first six to eighteen months.

Consistent momentum will require both policy/infrastructure change commitments driven primarily by PHV coalition members at the state level (recommendations 1-3 and 9-10), and also partnership development and financing/manpower commitments driven primarily by volunteer army members at the local level (recommendations 4-8.) PHV coalition members will need to regularly (annually at least) communicate the vision and engage with regional leaders and the local volunteer army via in-person meetings, trainings, or webcasts. The PHV coalition will need to demonstrate a commitment to acting on recommendations specific to the VDH and VHHA level and producing tools to assist the volunteer army. I will work with PHV to help develop supplemental case study reports of existing successful hospital-LHD collaborations in Virginia. These will be incorporated into existing PHV training materials and correspondence provided to both coalition and volunteer army members.

The volunteer army also will need to regularly support one another, ideally through a learning collaborative facilitated by coalition members in a web forum or webcast format. The purpose of these meetings, trainings, and convenings are to ensure there are many intersections between the PHV coalition members and volunteer army members, and that barriers and facilitators are continually shared and re-evaluated. Additionally, successes in implementing best practices around collaboration should be shared regularly through both local methods such as social media or print, and also at a more state-wide level at conferences and webinars.

Step 8: Institute Change

For change to be anchored in the culture in organizations requires both sustained infrastructure change and positive reinforcement of progress made towards collaboration and evidence-based investments to improve population health. VDH and VHHA's commitment to financially and publicly sustain a backbone agency such as PHV will help institute change. Positive reinforcement may include state-level peer recognition, national publicity showcasing best practices in community collaboration, funding for community health improvement programs, or additional resources provided by local partners, philanthropies, and universities.

Through PHV, VDH and VHHA have strong collective interests in nurturing and promoting the ongoing strong community collaboration among hospitals and LHDs in Virginia. PHV can serve a serve a convening function for hospitals and VDH to work together to develop policies that create meaningful, sustainable change in community health improvement. Together, hospitals and LHDs can work more effectively to educate policy makers.

Strong collaborations oftentimes make states and communities more competitive in applying for federal grants. Additionally, evidence of impactful public-private partnerships will help VDH and VHHA solicit additional funding from the Virginia General Assembly. Specifically, VDH should seek additional resources from the General Assembly to enable a funded mandate for LHDs to implement CHIPs.

As VDH and VHHA brings in more revenue focused on collaboration and community health improvement, in turn, hospitals and LHDs will be compelled to redirect resources to focus on these areas. Leadership investment and funding realignment will help anchor culture change. Once these recommendations are rooted as best practices, external rewards may be less necessary, as the value collaboration will begin to reap benefits within each organization. Examples include more streamlined and unified assessment processes that require less staff time, clear delineated responsibilities and financial commitments from partner organizations, and a greater pool of shared funding to focus collectively on more coordinated community health improvement projects.

Part 2: Kotter's 8-Step Change Model Applied to a Specific Hospital and LHD

Since starting my research, I left my role as a LHD health director in Virginia. I now work primarily as a clinician-educator at an academic medical center that includes a large nonprofit teaching hospital, while also holding an appointment as an assistant health officer for a county public health department. In this unique dual-role, I will have an opportunity to influence the collaboration of a local hospital and local LHD that overlap geographically and have previously worked together on CHNAs/CHAs.

Below is a plan for how I will propose to apply Kotter's 8-Step Change Model at my two specific organizations. This will hopefully serve as a model that others can adapt for their respective organizations, whether it is a hospital or a LHD. As every organization's environment around assessment and planning is unique, some recommendations may not apply to certain organizations.

My organizations already have a high level of training around assessment and a high level of participation among most leaders (recommendations 1-3). My organizations also collaborate regularly in-between assessment cycles (recommendation 4) and regularly engage other external partners such as local universities and health philanthropies in the CHNA/CHA process (recommendation 5). Finally, many assessment activities are standardized across hospitals and LHDs in the region (recommendation 9).

My plan will focus on implementing the four remaining general recommendations. Two recommendations related to formal partnership development (recommendation 5) and timing (recommendation 10) are primarily straightforward changes that can be implemented with support from LHD and hospital leadership. Two other recommendations related to financing (recommendations 7 and 8) will require more sustained commitment and effort from both organizations.

Step 1: Create a Sense of Urgency

The health system I work for is currently developing implementation strategies after undergoing a year-long assessment and planning process. The public health department is currently initiating what will be a three to four-year process of becoming PHAB accredited. During the process of conducting this current assessment, the hospital pushed for a more aggressive timeline and more qualitative data gathering to meet IRS requirements. The LHD preferred to delay the planning process to gather more comprehensive quantitative data using a standardized telephone survey. This timing and data preference mismatch caused friction between LHD and hospital leaders, led to low levels of collaboration around planning activities, and likely will result in little overlap in health improvement activities.

As both the health system and LHD view this recent breakdown in communication during the assessment process negatively, both organizations may be more willing to make new commitments to developing written agreements stating responsibilities, expectations, and commitments of each organization for future assessments (recommendation 6). I will also use this recent timing mismatch to create a sense of urgency for the local LHD to align its future PHAB assessment cycle with the hospital's 3-year ACA-mandated cycle in 2022 (recommendation 10).

Step 2: Build a Coalition

A hospital consortium in my county, that includes all the hospitals and the LHD, has conducted several prior assessments for the county. This coalition, consisting of hospital executives and county

health officials, should serve as the ideal coalition to implement best practices around assessment and planning.

Step 3: Form a Strategic Vision and Initiatives

During the most recent cycle, all the county hospital consortium organizations agreed on a list of approximately a dozen health priorities for the county based on the assessment data. Then, each organization chose 4-6 to priorities to focus on. Historically, each hospital and the LHD has focused on different health priorities. My hospital has previously identified specific disease conditions such as cancer and diabetes, and access to care as health priorities. My LHD has previously identified transportation, housing stability, and access to care as health priorities.

In the current CHNA process, my hospital has identified housing and homelessness, and economic stability as two of its six priority health needs. This is the first time my hospital has ever delineated a social determinant of health as a priority area. Additionally, these two priority areas overlap with the priorities of the LHD and another nonprofit hospital in the county. Because currently alignment exists in these priority areas as well as access to care, I will attempt to engage hospital and LHD leadership in developing a strategic vision to work on these issues together.

In discussions with the LHD director, one way to define and promote a shared strategic vision is to develop a coordinated Request for Proposals (RFPs) process among the hospitals and the LHD in the county. Currently, community organizations such as safety net providers regularly apply for funding from the LHD and hospitals. However, this funding is not coordinated and is usually for a short-term program that typically doesn't create sustainable infrastructure change in an organization. Funding streams from different hospitals and the LHD sometimes may conflict with each other, with organizations needing to scramble resources on achieving grant deliverables rather than focusing on long-term community health improvement goals.

A coordinated RFP process in which at least two hospitals and a LHD pool together resources and specify the kind of activity that is required would create not only a strategic vision, but also help coordinate community health improvement initiatives (recommendation 7).

Step 4: Enlist a Volunteer Army

I have worked for the past two years at the LHD and have had several discussions around my dissertation topic with potential champions for coordinated assessment and planning activities. This volunteer army is a diverse group of staff which includes community health planners, epidemiologists, and health educators. While the number of LHD volunteer army members may be small, this group is primed to start implementing recommendations and changes.

At my hospital, where I am only a few months into employment, the pool for potential volunteer army members is much larger. It includes other members of the primary care division where I work, as well as a variety of School of Medicine faculty, residents, and students, and health services researchers. I have established connections specifically with community benefit staff, faculty in family medicine, internal medicine, and pediatric departments interested in community engagement, as well as health services researchers. I will continue to engage these divisions, and potentially residents and students I will be teaching and mentoring, to be a part of a volunteer army.

Step 5: Enable Action by Removing Barriers

Barriers to implementing recommendations in my current community are likely to be similar to those in urban communities in Virginia. These barriers include lack of dedicated staffing and resources, conflicting priorities for leadership, and timing misalignment.

The health system has already started to address the staffing/resource and leadership disinterest barriers primarily as a result of staff and faculty input. Faculty and staff have consistently identified more community engagement as one of the top two focus areas for the health system when surveyed the past few years, and leadership has started to build out programs and assign funding

towards community engagement activities. I will provide division leadership with a one to two-page summary of ongoing and potential community engagement activities related to partnering with other LHDs on addressing population health issues.

On the LHD side, I will work with volunteer army members to engage LHD contracting and purchasing staff to develop Memorandums of Agreement with the health system to share resources such as graduate students, resident physicians, and medical students to work on collaborative population-level activities.

Additionally, I will be working with closely with four key division community engagement leaders (division of pediatrics, division of primary care/population health, school of community health/prevention research, and the community engagement office) to push forward a coordinated effort for more funding and investment of health system resources in community benefit activities.

I will address the barrier of timing alignment by continuing conversations I am having with LHD leadership to time future CHNAs with the hospital's 3-year cycle.

Finally, I will share my Virginia findings related to barriers and facilitators to identify possible models to remove barriers and improve collaboration my academic medical center and LHD.

Step 6: Generate Short-Term Wins

Recently, as the result of the faculty and staff's acknowledged interest in more community engagement, hospital leadership agreed to increase the community benefit budget by eight times the previous amount, which signifies a significant short-term win. I will work to connect members of the volunteer army across multiple divisions to make a more coordinated effort to continue to educate and engage health system leadership for more community benefit resources that are related to the social determinants of health and aligns with the LHD's shared priority areas.

Developing a consolidated RFP process will push my LHD and hospital to identify areas of synergy and also potential cost-savings activities. Publicizing these existing partnerships and the cost-

savings generated during a consolidated RFP process will be a significant short-term win to justify additional investment from hospital and LHD leadership in promoting the partnership.

In my unique role as both a health system and LHD, I will represent hospital interests at ongoing LHD CHA/CHIP meetings and hope to represent LHD interests at future hospital CHNA/implementation strategy discussions. I will seek to identify low-hanging win-win scenarios for both systems that will facilitate more linkages and collaboration. I will also identify and create a list of activities with existing synergy to highlight as short-term wins.

Step 7: Sustain Acceleration

Consistent momentum will require regular, at least bi-monthly, meetings between volunteer army members representing both the LHD and health system, and at least annual in-person meetings between coalition members. Currently, pediatricians across the health system are meeting in-person on a biweekly basis to discuss community health related projects. I will focus my efforts on identifying like-minded health researchers and family medicine/internal medicine faculty and staff, to partner with the pediatric workgroup on these projects.

I will also create an inventory of all current health system community engagement programs across the divisions of the health system and university, building on the information submitted in the hospital and university 990 forms. I intend to specifically highlight activities that align with the newly identified priorities of housing and homelessness and economic stability. Using this information, I will then work with LHD leadership to identify alignment areas among these programs and divisions. Effective community programs that LHD and hospitals are funding collectively should be highlighted publicly in newsletters and reports related to community health. Successes in implementing best practices around collaboration should be shared regularly through methods such as social media, e-mail listservs, and webinars.

Additionally, I will regularly review internal, local, state, and national grant funding opportunities to identify community health-related projects that can benefit from both LHD and hospital expertise and seek to build collaborative teams focused on population-level activities.

Step 8: Institute Change

Instituting change will require some policy changes that normalize new behaviors. Timing realignment for CHNA/CHA cycles to occur at the same time and written agreements to define partnership roles will help create a framework for institutional change.

I am committed to sharing my research findings with coalition and volunteer army members. The health system and LHD will need to adopt, on some level, fund-sharing mechanisms, and orienting strategic funding around shared priority areas such as housing/homeless and economic stability to anchor these changes.

As collaboration and collectively funding community health improvement activities becomes the norm, these efforts should be publicized, promoted, researched, and evaluated using the collective expertise of the LHD and the academic health system. I will work with other volunteer army members to identify and apply for more grants and funding specific to collaborations between organizations.

Conclusion

The plan for change is intended to be used as a blueprint for implementing change at both a state-level, specifically in Virginia and potentially in California; as well as at a local-level, specifically for the LHD and health system I am employed by in California. I will also attempt to influence change at a national level, primarily through presenting and writing abstracts for national organizations I am affiliated with such as NACCHO, ACHI, APHA, and The Kresge Foundation. Additionally, as I am now employed by an academic medical center affiliated with a School of Medicine, I will work with researchers to evaluate the impact of these best practices, and to assess if these changes can be further refined or adapted to different organizational environments.

APPENDIX A: E-MAIL REQUESTS FOR PARTICIPATION IN SURVEY

May 31, 2017

Dear Personalized Name at XX Hospital:

We are reaching out to you to ask for your help with understanding how Community Health Needs Assessment (CHNA) processes have impacted population health activities in Virginia. We would appreciate if you would complete a short survey on your hospital's assessment and planning experiences, and specifically, your hospital's experience collaborating with local health departments.

The information you provide may help identify best practices in Virginia where communities are effectively using the CHNA process to improve population health. The survey responses also will help highlight overall state health improvement efforts and ongoing activities related to the Virginia's Plan for Wellbeing.

A description of the survey and instructions on how to access the online survey can be found below. Please contact Dr. David Chang with any questions regarding the survey. Dr. Chang can be reached at david.chang@vdh.virginia.gov or (650) 776-9596. Participation in the survey is completely voluntary. The survey will be open until June 14.

We are grateful for your time and look forward to improving the health of all Virginians.

Sincerely,

Robert W. Hicks
Deputy Commissioner for Community Health Services
Virginia Department of Health

Deb Anderson, PhD, MPH
Senior Planner
Sentara Healthcare

Enclosure: Survey Description and Link

Survey Description and Link:

Over the past decade nationally, there has been an increase in Community Health Needs Assessment (CHNA) and Community Health Assessment (CHA) activity among hospitals and public health departments. However, it is unclear how this increased focus on assessment and planning among Virginia hospitals and health departments has impacted population health improvement activities.

This survey will assess the following factors: successful collaborations around planning and assessment; barriers to collaborating around assessment, plans, and operationalizing health improvement activities; and changes in population health activities as a result of the assessment and planning processes.

Participation in this study is strictly voluntary and there are no negative consequences for not participating. The survey should take no more than 15 minutes to complete. Please click on the link below to go to the survey website. Submitting the survey will indicate respondents' informed consent to participate.

(Personalized Qualtrics Link Inserted Here)

The survey tool is also attached to allow for discussion with other individuals with knowledge of the assessment and planning processes in your hospital. Please have only one individual from your hospital complete the survey. If you are completing the survey on behalf of multiple hospitals within your health

system, please take separate surveys for each hospital. The survey link provided in this e-mail is specific for the hospital indicated in this e-mail.

Definitions:

For the purpose of this survey, **population health** is defined as concerns for health outcomes of a defined group of people living in a specified geographic area or community, which may include, but is not limited to, those who are served by a hospital or health care system.

Partnership is defined as exchanging information and sharing resources to alter activities and enhance the capacity of the other partner. It includes allowing each partner some decision-making authority for each other.

May 31, 2017

Dear Personalized Name of District Health Director for XX Health District:

I am reaching out to you to ask for your help with understanding how Community Health Assessment (CHA) and Community Health Improvement Planning (CHIP) processes have impacted population health activities in Virginia. One of your colleagues, David Chang, is conducting a doctoral program research project to specifically study the effects of health department and hospital partnerships around assessments and plans.

Please complete a short survey on your health district's assessment and planning experiences. The information you provide may help identify best practices in Virginia and communities that are working effectively to use the CHA/CHIP process to improve population health. More participation from health directors will also help David make his research more useful.

A description of the survey and instructions on how to access the online survey can be found below. Please contact David with any questions regarding the survey. He can be reached at david.chang@vdh.virginia.gov or (650) 776-9596. The survey will be open until June 14.

Sincerely,

Robert W. Hicks
Deputy Commissioner for Community Health Services
Virginia Department of Health

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below to go to the survey website. Submitting the survey will indicate respondents' informed consent to participate.
(Personalized Qualtrics Link Inserted Here)
The survey tool is also attached to allow for discussion with other individuals with knowledge of the assessment and planning processes in your health district. Please have only one individual from your health district complete the survey. If you are completing the survey on behalf of more than one health district, please take separate surveys for each health district. The survey link provided in this e-mail is specific for the health district indicated in this e-mail.

Definitions:
For the purpose of this survey, **population health** is defined as concerns for health outcomes of a defined group of people living in a specified geographic area or community, which may include, but is not limited to, those who are served by a hospital or health care system.
Partnership is defined as exchanging information and sharing resources to alter activities and enhance the capacity of the other partner. It includes allowing each partner some decision-making authority for each other.

APPENDIX B: SURVEY TOOLS

ASSESSMENT OF COMMUNITY NEEDS (Local Health Department Version)

1. **Please indicate the year of your organization's most recent Community Health Assessment or CHA.**

Drop Down Options Ranging from 2005-2017 ☐ Not Applicable (Skip to Question 31)

2. **Please provide the name, title and email address of two primary individuals responsible for coordinating your organization's Community Health Assessment and Community Health Improvement Planning activities.**

_____	_____	_____
Name	Title	E-Mail
_____	_____	_____
Name	Title	E-Mail

3. **Please describe your organization's process for the most recent CHA. Select one.**

☐ The assessment was conducted independently by our local public health department
☐ The assessment was conducted with some input from community organizations (Skip to Question 5)
☐ The assessment was conducted collaboratively in partnership with other organizations (Partnership is defined as exchanging information and sharing resources to alter activities and enhance the capacity of the other partner which includes allowing each partner some decision-making authority for each other.) (Skip to Question 5)
☐ Other: _____ (Skip to Question 5)

4. **Reflecting on your most recent CHA, please identify the reasons why your organization did not work with other community organizations. Check all that apply. (Skip to Question 11)**

		Yes	No
a.	Our health department had the internal capacity to complete the assessment	☐	☐
b.	Our health department did not have the financial resources to utilize or partner with outside organizations' resources to complete the assessment	☐	☐
c.	Our health department did not have the time to utilize or partner with outside resources to complete the assessment	☐	☐
d.	Our health department was not aware of outside resources to assist with completion of the assessment	☐	☐
e.	Our health department reached out to outside resources, but those resources were unable to assist or unwilling to partner with us to complete the assessment	☐	☐
f.	Other (please explain): _____	☐	☐

5. **Were local hospital(s) or health care system(s) involved in assessment activities for your most recent CHA? Select one.**

☐ Yes
☐ No (Skip to Question 11)
☐ Not Sure

6. **Reflecting on your most recent CHA, please indicate which of the following services were provided by your LHD(s). Check all that apply.**

		Yes	No
a.	Establishing the assessment team	☐	☐
b.	Collecting information about special populations (e.g. medically underserved, low income, or minority groups)	☐	☐
c.	Collecting and analyzing secondary data (e.g. County Health Rankings, BRFSS, vital statistics, hospitalization data)	☐	☐
d.	Collecting and analyzing primary data (e.g., surveys, focus groups, key informant interviews)	☐	☐
e.	Gathering input from community stakeholders	☐	☐
f.	Gathering community feedback about the health needs of the community	☐	☐
g.	Writing the Community Health Assessment (CHA) report	☐	☐
h.	Identifying and proposing strategic priorities about significant needs in the community	☐	☐
i.	Other: _____	☐	☐

7. **Reflecting on your most recent CHA, what, if any, were the barriers in conducting assessment activities in partnership with local hospital(s) or health care system(s)?**

_____
_____
_____

8. **If your organization is working or has worked on a joint CHA or CHNA with hospital(s) or health care system(s), who initiated the process? Select one.**

☐ The hospital(s) or health care system(s)
☐ The local health department
☐ Another organization (please describe):_____
☐ The hospital and local health department co-initiated the process
☐ I don't know
☐ The health department has not worked on a joint CHA or CHNA with hospital(s) or health care system(s) (Skip to Question 11)

9. **What organization has served as the home for the process (i.e., the staff at this organization called meetings on a regular basis?) Select one.**

- ☐ The hospital(s) or health care system(s)
- ☐ The local health department
- ☐ Another organization (please describe):_____
- ☐ The hospital and local health department share responsibility as the home for the process
- ☐ I don't know

10. **Please describe the type of CHA document produced by your organization and your hospital(s). Select one.**

- ☐ The hospital(s) and local public health department produced the same CHA/CHNA document.
- ☐ The hospital(s) and the local public health department collaborated on several aspects of the assessment process but produced two separate documents.
- ☐ Other (please describe): _____

DEVELOPMENT OF COMMUNITY HEALTH IMPROVEMENT PLAN

11. **Please indicate the year of your organization's most recent Community Health Improvement Plan or CHIP.**

Drop Down Options Ranging from 2005-2017 ☐ Not Applicable (Skip to Question 31)

12. **Reflecting on your most recent CHIP, please describe your organization's process for developing the Community Health Improvement Plan (CHIP). Select one.**

☐ Our local public health department developed the CHIP independently

☐ Our local public health department developed the CHIP with some input from community organizations (Skip to Question 14)
☐ Our local public health department developed the CHIP collaboratively in partnership with other organizations (Partnership is defined as exchanging information and sharing resources to alter activities and enhance the capacity of the other partner which includes allowing each partner some decision-making authority for each other.) (Skip to Question 15)
☐ Other: _____ (Skip to Question 16)

13. **What are some reasons for why your organization developed the CHIP independently? (Skip to Question 19)**

_____
_____
_____

14. **What are some reasons for why your organization developed the CHIP with some input from community organizations? (Skip to Question 16)**

_____
_____
_____

15. **What are some reasons for why your organization developed the CHIP in partnership with community organizations?**

_____
_____
_____

16. **Were local hospital(s) or health care system(s) involved in developing the CHIP activities associated with your most recent CHA? Select one.**

☐ Yes

☐ No (Skip to Question 18)

☐ Not Sure (Skip to Question 18)

17. **Reflecting on your most recent CHIP, what, if any, were the barriers of developing CHIP activities in partnership with local hospital(s) or health care system(s)?**

_____
_____
_____

18. **Aside from your local hospital/health system, please indicate which other organizations assisted your local public health department in developing the CHIP and associated activities. Check all that apply.**

	Yes	No
Office of chief elected officials	☐	☐
Office of the municipal, city, or county manager	☐	☐
Department of Social Services	☐	☐
Behavioral health agency or community services board	☐	☐
Housing agency	☐	☐
Public safety agency	☐	☐
Transportation agency	☐	☐
National health associations (e.g. heart, lung, diabetes, or cancer associations)	☐	☐
Federally qualified health center, community health center, rural health center, or free clinic	☐	☐
Healthy communities coalitions	☐	☐
Faith-based organizations	☐	☐
Health insurance companies	☐	☐
Local businesses	☐	☐
Chamber of commerce or other business group	☐	☐
School districts (primary and secondary education)	☐	☐
Post-secondary education (colleges and universities)	☐	☐
Service leagues (e.g. Lions' Club, Rotary)	☐	☐
Neighborhood associations	☐	☐
United Way	☐	☐
YMCA/YWCA	☐	☐
Other: _____	☐	☐
Other: _____	☐	☐
Other: _____	☐	☐

OPERATIONALIZING CHIP ACTIVITIES

19. **Has your organization started operationalizing activities associated with the CHIP?**

☐ Yes
☐ No (Skip to Question 28)

20. **Reflecting on your most recent CHA/CHIP process, please describe your organization's process for operationalizing CHIP activities. Select one.**

☐ Our local public health department implemented all CHIP activities independently

☐ Our local public health department implemented some CHIP activities with other community organizations (Skip to Question 22)
☐ Our local public health department implemented all CHIP activities collaboratively in partnership with other organizations (Skip to Question 23)
☐ Other: _____ (Skip to Question 24)

21. **Reflecting on your most recent CHA/CHIP process, what are some reasons for why your organization operationalized CHIP activities independently? (Skip to Question 31)**

_____
_____
_____

22. **Reflecting on your most recent CHA/CHIP process, what are some reasons for why your organization operationalized some CHIP activities with community organizations? (Skip to Question 24)**

_____
_____
_____

23. **Reflecting on your most recent CHA/CHIP process, what are some reasons for why your organization operationalized all CHIP activities in partnership with community organizations?**

_____
_____
_____

24. **Were local hospital(s) or health care system(s) involved in operationalizing CHIP activities? Select one.**

☐ Yes
☐ No (Skip to Question 26)
☐ Not Sure (Skip to Question 26)

25. **What were the barriers in operationalizing CHIP activities in partnership with local hospital(s) or health care system(s)?**

_____
_____
_____

26. **Reflecting on your most recent CHIP, were the same organizations involved in operationalizing CHIP activities as those who developed the CHIP?**

☐ Yes (Skip to Question 28)
☐ No
☐ Not Sure

27. **Aside from the hospital/health system, please indicate which other organizations assisted your local public health department in operationalizing CHIP activities. Check all that apply.**

	Yes	No
Office of chief elected officials	☐	☐
Office of the municipal, city, or county manager	☐	☐
Department of Social Services	☐	☐
Behavioral health agency or community services board	☐	☐
Housing agency	☐	☐
Public safety agency	☐	☐
Transportation agency	☐	☐
National health associations (e.g. heart, lung, diabetes, or cancer associations)	☐	☐
Federally qualified health center, community health center, rural health center, or free clinic	☐	☐
Healthy communities coalitions	☐	☐
Faith-based organizations	☐	☐
Health insurance companies	☐	☐
Local businesses	☐	☐
Chamber of commerce or other business group	☐	☐
School districts (primary and secondary education)	☐	☐
Post-secondary education (colleges and universities)	☐	☐
Service leagues (e.g. Lions' Club, Rotary)	☐	☐
Neighborhood associations	☐	☐
United Way	☐	☐
YMCA/YWCA	☐	☐
Other: _____	☐	☐
Other: _____	☐	☐
Other: _____	☐	☐

OUTCOMES OF THE CHA AND CHIP PROCESS

28. **As a result of the CHA and/or CHIP development process, please indicate the extent to which you agree with each of the following statements. Check all that apply.**

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. The process led our organization to define the major health issues in our community	☐	☐	☐	☐
b. The process led our organization to connect more closely with the community the organization serves	☐	☐	☐	☐
c. The process led our organization to initiate programs or services to decrease health disparities in our community	☐	☐	☐	☐
d. The process led our organization to integrate population health into the organization's strategic or operational plan	☐	☐	☐	☐
e. The process led our organization to make financial resources available for population health programs and services	☐	☐	☐	☐
f. The process led our organization to align our priorities with local hospital(s) or health care system(s) priorities to target programs or services to improve population health	☐	☐	☐	☐
g. The process led our organization to develop a common understanding of health problems with other local agencies and a shared vision for health improvement in our community	☐	☐	☐	☐
h. The process led our organization to develop funding opportunities for other community organizations to address population health needs	☐	☐	☐	☐
i. The process led our organization to seek external funding to address population health needs	☐	☐	☐	☐
j. The process led our organization to direct funds to address socioeconomic and environmental determinants of health (e.g. poverty, housing, violence, etc.)	☐	☐	☐	☐
k. The process helped identify performance measures that the community is collectively accountable to improve	☐	☐	☐	☐
l. The process led our organization to share assets and resources with partners	☐	☐	☐	☐
m. The process led our organization to take mutually reinforcing actions with other partners	☐	☐	☐	☐
n. The process led our organization to develop higher levels of trust and promoted consistent and open communication with partners	☐	☐	☐	☐

o. The process led our organization to support the formation of a backbone entity to convene and coordinate partners to work on implementation strategies	☐	☐	☐	☐
p. The process led our organization to work with partners to make policy, systems, and environmental changes to address complex social and environmental problems that impact health	☐	☐	☐	☐

29. **As a result of the CHA/CHIP process, please describe what population health activities your LHD and local hospital(s) and healthcare system(s) are working on together.**

_____
_____
_____

DEMOGRAPHIC INFORMATION

30. **Please indicate the population size of your health district.**

- ☐ < 50,000
- ☐ 50,000-99,999
- ☐ 100,000-149,999
- ☐ 150,000-199,999
- ☐ 200,000-299,999
- ☐ 300,000-500,000
- ☐ > 500,000

31. **Please indicate the type of community your local health district primarily serves.**

- ☐ Rural
- ☐ Urban

32. **Please indicate the accreditation status of your health district.**

- ☐ Currently accredited by Public Health Accreditation Board
- ☐ In the process of seeking accreditation by Public Health Accreditation Board
- ☐ Anticipate starting the Public Health Accreditation Board process in the next year
- ☐ Interested in seeking Public Health Accreditation Board accreditation but no anticipated time frame of initiating the process has been determined
- ☐ Not interested in seeking accreditation status by Public Health Accreditation Board

33. **What local health district do you represent in responding to this survey?**
(Drop-down option for all local health districts in Virginia)

Thank you for cooperating in completing this survey. If there are any questions about your responses to this survey, who should be contacted?

_____	_____	_____
Name	Title	E-Mail Address
_____	_____	
City	(Area Code) Telephone Number	

ASSESSMENT OF COMMUNITY NEEDS (HOSPITAL VERSION)

1. **Please indicate the year of your organization's most recent Community Health Needs Assessment or CHNA.**

Drop Down Options Ranging from 2005-2017 ☐ Not Applicable (Skip to Question 29)

2. **Please provide the name, title and email address of two primary individuals responsible for coordinating your organization's Community Health Needs Assessment activities.**

_____	_____	_____
Name	Title	E-Mail
_____	_____	_____
Name	Title	E-Mail

3. **Please describe your organization's process for the most recent CHNA. Select one.**

☐ The assessment was conducted independently by our hospital or healthcare system
☐ The assessment was conducted with some input from community organizations (Skip to Question 5)
☐ The assessment was conducted collaboratively in partnership with other organizations (Partnership is defined as exchanging information and sharing resources to alter activities and enhance the capacity of the other partner which includes allowing each partner some decision-making authority for each other.) (Skip to Question 5)
☐ Other: _____ (Skip to Question 5)

4. **Reflecting on your most recent CHNA, please identify the reasons why your organization did not work with other community organizations. Check all that apply. (Skip to Question 12)**

		Yes	No
a.	Our hospital or healthcare system had the internal capacity to complete the assessment	☐	☐
b.	Our hospital or healthcare system did not have the financial resources to utilize or partner with outside organizations resources to complete the assessment	☐	☐
c.	Our hospital or healthcare system did not have the time to utilize or partner with outside resources to complete the assessment	☐	☐
d.	Our hospital or healthcare system was not aware of outside resources to assist with completion of the assessment	☐	☐
e.	Our hospital or healthcare system reached out to outside resources, but those resources were unable to assist or unwilling to partner with us to complete the assessment	☐	☐
f.	Other (please explain): _____	☐	☐

5. **Was a local health department (LHD) involved in assessment activities for your most recent CHNA? Select one.**

☐ Yes
☐ No (Skip to Question 11)
☐ Not Sure

6. **Reflecting on your most recent CHNA, please indicate which of the following services were provided by your LHD(s). Check all that apply.**

		Yes	No
a.	Establishing the assessment team	☐	☐
b.	Collecting information about special populations (e.g. medically underserved, low income, or minority groups)	☐	☐
c.	Collecting and analyzing secondary data (e.g. County Health Rankings, BRFSS, vital statistics, hospitalization data)	☐	☐
d.	Collecting and analyzing primary data (e.g., surveys, focus groups, key informant interviews)	☐	☐
e.	Gathering input from community stakeholders	☐	☐
f.	Gathering community feedback about the health needs of the community	☐	☐
g.	Writing the Community Health Assessment (CHNA) report	☐	☐
h.	Identifying and proposing strategic priorities about significant needs in the community	☐	☐
i.	Other: _____	☐	☐

7. **Reflecting on your most recent CHNA, what, if any, were the barriers in conducting assessment activities in partnership with LHD(s)?**

_____
_____
_____

8. **If your organization is working or has worked on a joint CHA or CHNA with LHD(s), who initiated the process? Select one.**

☐ The hospital(s) or health care system(s)
☐ The local health department
☐ Another organization (please describe):_____
☐ The hospital and local health department co-initiated the process
☐ I don't know
☐ The hospital or healthcare system has not worked on a joint CHA or CHNA with LHD(s) (Skip to Question 11)

9. **What organization has served as the home for the process (i.e., the staff at this organization called meetings on a regular basis?) Select one.**

- ☐ The hospital or healthcare system
- ☐ The local health department(s)
- ☐ Another organization (please describe):_____
- ☐ The hospital and local health department co-initiated the process
- ☐ I don't know

10. **Please describe the type of CHNA document produced by your organization and your LHD(s). Select one.**

- ☐ The hospital and local public health department(s) produced the same CHA/CHNA document.
- ☐ The hospital and the local public health department(s) collaborated on several aspects of the assessment process but produced two separate documents.
- ☐ Other (please describe): _____

DEVELOPMENT OF IMPLEMENTATION STRATEGIES

11. Please indicate the year of your organization's most recent implementation plan.

Drop Down Options Ranging from 2005-2017 ☐ Not Applicable (Skip to Question 31)

12. Reflecting on your most recent implementation plan, please describe your organization's process for developing the implementation strategies.

☐ Our hospital or healthcare system developed implementation strategies independently

☐ Our hospital or healthcare system developed implementation strategies with some input from community organizations (Skip to Question 14)

☐ Our hospital or healthcare system developed the implementation strategies collaboratively in partnership with other organizations (Partnership is defined as exchanging information and sharing resources to alter activities and enhance the capacity of the other partner which includes allowing each partner some decision-making authority for each other.) (Skip to Question 15)

☐ Other: _____ (Skip to Question 16)

13. What are some reasons for why your organization developed implementation strategies independently? (Skip to Question 19)

_____
_____
_____

14. What are some reasons for why your organization developed implementation strategies with some input from community organizations? (Skip to Question 16)

_____
_____
_____

15. What are some reasons for why your organization developed implementation strategies in partnership with community organizations?

_____
_____
_____

16. Were LHD(s) involved in developing the implementation strategies activities associated with your most recent CHNA? Select one.

☐ Yes

☐ No (Skip to Question 19)

☐ Not Sure (Skip to Question 19)

17. What, if any, were the barriers of developing implementation strategies activities in partnership with LHD(s)?

_____
_____
_____

18. Aside from your LHD(s), please indicate which other organizations assisted your hospital or healthcare system in developing the implementation plan and associated activities. Check all that apply.

	Yes	No
Office of chief elected officials	☐	☐
Office of the municipal, city, or county manager	☐	☐
Department of Social Services	☐	☐
Behavioral health agency or community services board	☐	☐
Housing agency	☐	☐
Public safety agency	☐	☐
Transportation agency	☐	☐
National health associations (e.g. heart, lung, diabetes, or cancer associations)	☐	☐
Federally qualified health center, community health center, rural health center, or free clinic	☐	☐
Healthy communities coalitions	☐	☐
Faith-based organizations	☐	☐
Health insurance companies	☐	☐
Local businesses	☐	☐
Chamber of commerce or other business group	☐	☐
School districts (primary and secondary education)	☐	☐
Post-secondary education (colleges and universities)	☐	☐
Service leagues (e.g. Lions' Club, Rotary)	☐	☐
Neighborhood associations	☐	☐
United Way	☐	☐
YMCA/YWCA	☐	☐
Other: _____		

OPERATIONALIZING IMPLEMENTATION STRATEGIES

19. Has your organization operationalizing implementation strategies activities?

- ☐ Yes
- ☐ No (Skip to Question 28)

20. Reflecting on your most recent CHNA/implementation planning process, please describe your organization's process for operationalizing implementation strategies activities. Select one.

- ☐ Our hospital or healthcare system operationalized implementation strategies activities independently
- ☐ Our hospital or healthcare system operationalized some implementation strategies activities with community organizations (Skip to Question 22)
- ☐ Our hospital or healthcare system operationalized all implementation strategies activities collaboratively in partnership with other organizations (Skip to Question 23)
- ☐ Other: _____ (Skip to Question 24)

21. Reflecting on your most recent CHNA/implementation planning process, what are some reasons for why your organization operationalized implementation strategies activities independently? (Skip to Question 31)

_____
_____
_____

22. Reflecting on your most recent CHNA/implementation strategies process, what are some reasons for why your organization operationalized some implementation strategies and actions with community organizations? (Skip to Question 26)

_____
_____
_____

23. Reflecting on your most recent CHNA/implementation strategies process, what are some reasons for why your organization operationalized all implementation strategies and actions in partnership with community organizations?

_____
_____
_____

24. Were LHD(s) involved in operationalizing implementation strategies activities? Select one.

- ☐ Yes
- ☐ No (Skip to Question 26)
- ☐ Not Sure (Skip to Question 26)

25. What, if any, were the barriers in operationalizing strategies activities in partnership with LHD(s)?

_____
_____
_____

26. Were the same organizations involved in operationalizing implementation strategies activities as those who developed the implementation plan?

☐ Yes (Skip to Question 28)
☐ No
☐ Not Sure

27. Aside from LHD(s), please indicate which other organizations assisted your hospital or healthcare system in operationalizing implementation strategies activities. Check all that apply.

	Yes	No
Office of chief elected officials	☐	☐
Office of the municipal, city, or county manager	☐	☐
Department of Social Services	☐	☐
Behavioral health agency or community services board	☐	☐
Housing agency	☐	☐
Public safety agency	☐	☐
Transportation agency	☐	☐
National health associations (e.g. heart, lung, diabetes, or cancer associations)	☐	☐
Federally qualified health center, community health center, rural health center, or free clinic	☐	☐
Healthy communities coalitions	☐	☐
Faith-based organizations	☐	☐
Health insurance companies	☐	☐
Local businesses	☐	☐
Chamber of commerce or other business group	☐	☐
School districts (primary and secondary education)	☐	☐
Post-secondary education (colleges and universities)	☐	☐
Service leagues (e.g. Lions' Club, Rotary)	☐	☐
Neighborhood associations	☐	☐
United Way	☐	☐
YMCA/YWCA	☐	☐
Other: _____	☐	☐
Other: _____	☐	☐
Other: _____	☐	☐

OUTCOMES OF THE CHNA/IMPLEMENTATION STRATEGIES PROCESS

28. As a result of the CHNA and/or implementations strategies development process, please indicate the extent to which you agree with each of the following statements. Check all that apply.

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. The process led our organization to define the major health issues in our community	☐	☐	☐	☐
b. The process led our organization to connect more closely with the community the organization serves	☐	☐	☐	☐
c. The process led our organization to initiate programs or services to decrease health disparities in our community	☐	☐	☐	☐
d. The process led our organization to integrate population health into the organization's strategic or operational plan	☐	☐	☐	☐
e. The process led our organization to make financial resources available for population health programs and services	☐	☐	☐	☐
f. The process led our organization to align our priorities with LHD(s) priorities to target programs or services to improve population health	☐	☐	☐	☐
g. The process led our organization to develop a common understanding of health problems with other local agencies and a shared vision for health improvement in our community	☐	☐	☐	☐
h. The process led our organization to develop funding opportunities for other community organizations to address population health needs	☐	☐	☐	☐
i. The process led our organization to seek external funding to address population health needs	☐	☐	☐	☐
j. The process led our organization to direct funds to address socioeconomic and environmental determinants of health (e.g. poverty, housing, violence, etc.)	☐	☐	☐	☐
k. The process helped identify performance measures that the community is collectively accountable to improve	☐	☐	☐	☐
l. The process led our organization to share assets and resources with partners	☐	☐	☐	☐
m. The process led our organization to take mutually reinforcing actions with other partners	☐	☐	☐	☐
n. The process led our organization to develop higher levels of trust and promoted consistent and open communication with partners	☐	☐	☐	☐

o. The process led our organization to support the formation of a backbone entity to convene and coordinate partners to work on implementation strategies	☐	☐	☐	☐
p. The process led our organization to work with partners to make policy, systems, and environmental changes to address complex social and environmental problems that impact health	☐	☐	☐	☐

29. **As a result of the CHNA process, please describe what population health activities your hospital and LHD (s) are working on together.**

_____
_____
_____

DEMOGRAPHIC INFORMATION

30. Please indicate the number of inpatient beds in your hospital.

- ☐ < 25 beds
- ☐ 25-49 beds
- ☐ 50-99 beds
- ☐ 100-199 beds
- ☐ 200-299 beds
- ☐ >300 beds

31. Please indicate the tax status of your hospital.

- ☐ Not-for-profit
- ☐ Proprietary
- ☐ Governmental

32. Please indicate the type of community your hospital primarily serves.

- ☐ Rural
- ☐ Urban

33. Please indicate your hospital's teaching status.

- ☐ Affiliated with an Accreditation Council of Graduate Medical Education or Council of Teaching Hospitals
- ☐ None
- ☐ Not sure

34. Please indicate the corporate structure of your hospital.

- ☐ Single stand-alone hospital
- ☐ Member of a regional health care system consisting of multiple hospitals
- ☐ Member of a national health care system consisting of multiple hospitals in several states

35. What hospital do you represent in responding to this survey?
(Drop-down option for all hospitals in Virginia)

Thank you for cooperating in completing this survey. If there are any questions about your responses to this survey, who should be contacted?

_____	_____	_____
Name	Title	E-Mail Address
_____	_____	
City	(Area Code) Telephone Number	

APPENDIX C: E-MAIL REQUEST FOR PARTICIPATION IN KEY INFORMANT INTERVIEW

Dear [Insert Participant's Name],
My name is David Chang. I am a doctoral student at the University of North Carolina at Chapel Hill in the School of Public Health. I am writing to request your participation in a doctoral research study I am conducting on what effect hospital and health department partnerships around Community Health Needs Assessment and Community Health Assessments have had on population health improvement activities in Virginia. Participation will include an interview that would take place over the phone at a time that is convenient for you and will last approximately 30-45 minutes.
I have included a "Fact Sheet" regarding the research study to answer any questions you may have. Thank you for considering participation in this study. Please reply to this e-mail to indicate whether or not you are available to participate. I can be contacted directly at dschang1@live.unc.edu or 650-776-9596 if you have any questions. You may also contact my faculty advisor, Pam Silberman, JD, DrPH at pam_silberman@unc.edu or 919-966-4525.

Respectfully,

David Chang, MD
Attachment: Fact Sheet

FACT SHEET

IRB Study Number: 16-2810
Consent Form Version Date: May 2018
Title of Study: Effects of Collaboration Between Hospitals and Health Departments Around Assessments and Plans on Population Health Activities
Principal Investigator: David Chang, MD
University of North Carolina at Chapel Hill Department: UNC Gillings School of Global Public Health, Department of Health Policy and Management
University of North Carolina at Chapel Hill Phone Number: 919-966-4525
Faculty Advisor: Pam Silberman, JD, DrPH
Study Contact Telephone Number: 650-776-9596
Study Contact E-Mail: dschang1@live.unc.edu

What are some general things you should know about research studies?

You are being asked to take part in a research study. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.
Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the study. There may also be risks being in the study.
Details about the research study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. You can ask the researcher questions that you have about this study at any time.

What is the purpose of this study?

The purpose of this study is to learn whether the Affordable Care Act mandated Community Health Needs Assessments and Implementation Strategies and the Public Health Accreditation Board mandated Community Health Assessments and Community Health Improvement Plans are making a difference in population health improvement in Virginia. Additionally, the purpose of this study is to learn whether more engagement between hospitals and local health departments in assessment and planning processes make a difference on population health improvement activities.
You are being asked to participate in this study because you were identified either directly or through another contact in your community through an initial questionnaire survey administered to local health district directors and hospital planners as having knowledge of best practices regarding collaborating around assessment and planning to improve health in your communities.

How many people will be interviewed for this study?

If you decide to be interviewed for this study, you will be one of approximately 10-14 people interviewed for this research study.

How long will the interview take?

You will be asked to conduct a 30-45 telephone minute interview. Additionally, if you agree, you may be contacted by e-mail or telephone to address follow-up questions or clarifications if needed.

What will happen if you participate in this research study?

Participation in the interview for this study will involve the following steps:

- Read this fact sheet and the information enclosed to determine your interest in participating in this study
- Contact the researcher listed as “Primary Investigator” with any questions or concerns regarding your participation
- Schedule a time to participate in a 30-45-minute interview which will be conducted over the telephone
- Participate in a 30-45-minute interview over the telephone

- Address follow-up questions or clarifications if needed after the interview

What are the possible benefits from being in this research study?

You may benefit from participating in this study by discovering how health departments and hospitals can better engage with each other and the community using the CHNA and CHA process to improve the health of your communities. You may also learn about best practices and facilitators of collaboration and population health improvement in Virginia.

What are the risks or discomforts involved from participating in this study?

There are no known or expected risks for participating in this study.

How will your privacy be protected?

To maintain confidentiality, the researcher listed as the "Principal Investigator" will be the only person who will have access to information that links individual participants to the responses from the interview.

At the time of the interview, participants will be asked for permission to record the interview for transcription. If an interview is recorded, the digitally recorded files will be immediately uploaded and saved electronically on a password-protect computer. The interview files will be sent electronically to an individual on the research team for transcription. Descriptors of key informants will be included, but in order to maintain confidentiality of the respondent, the participants' names are not included.

After verification of the accuracy of the transcription, the recordings will be destroyed so that no responses can be linked to an individual. The results will be presented in the aggregate and the names of individuals will be kept confidential.

Any hard copy information linked to an individual's response to interview questions will be stored in a locked file cabinet in the principal investigator's office. All electronic information will be stored in password-protected files.

Will you receive anything for participating in the study?

You will not receive anything for participating in the study.

Will it cost you anything to participate in the study?

Other than your time, there will be no costs associated with participating in the study.

What if you have questions about your rights as a research participant?

All research with human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have any questions or concerns about your rights as a research participant, you may contact the Institutional Review Board of University of North Carolina at Chapel anonymously at (919) 966-3313 or by e-mail at IRB-subjects@unc.edu.

APPENDIX D: KEY INFORMANT INTERVIEW GUIDES

Introduction:

Hi_____. This is Dave Chang calling. Is this still a good time to talk?

Thank you again for participating in this interview. As a quick background, the purpose of my research is to learn whether collaboration between hospitals and local health departments in community health assessment and planning processes has impacted population health improvement activities in Virginia. The study is being conducted as part of my doctorate in public health at the University of North Carolina at Chapel Hill, School of Public Health, Department of Health Policy and Management.

As part of this analysis, I am conducting key informant interviews of hospital and public health officials, from a wide range of rural and urban communities across Virginia. The interview will take approximately 30-45 minutes. All information obtained from this interview will be kept confidential. I will summarize finding from all respondents and will not identify respondents in the study unless I obtain your consent in advance. Your participation in this interview is completely voluntary and you may refuse to answer any question during the interview or withdraw from the study at any time.

Do you consent to being interviewed, and if so, would you be willing to allow me to record this interview?

Thank you. I will now turn on the recorder and ask you for your consent and your willingness to be interviewed again so that I have it for my records.

Consent:

Do you consent to be interviewed? Yes/ No?

Do you consent to have the interview recorded? Yes/ No?

Great – are you ready to get started?

HOSPITAL KEY INFORMANT INTERVIEW GUIDE SCRIPT

Community Health Needs Assessment Experience (Assessment and Planning): Hospital

1. I'm interested in learning more about your last completed Community Health Needs Assessment process. Specifically, what was your experience working with local public health departments in the assessment portion of the process? (Prompts: How was your local public health department involved? Did your local public health department change the way you conducted your CHNA? How has working with your local public health department made a difference in your CHNA? How was the CHNA process funded?)

2. What factors facilitated working well with local public health departments around your CHNA?

3. What were the barriers to working with local public health departments around your CHNA? For hospitals that serve rural communities, what are some unique challenges around partnering with public health departments? (Prompts: How did timing of when the CHNA needed to be completed impact collaborating on the assessment? How did geographical alignment between your hospital and the LHD impact the assessment process? How did you overcome these barriers? Were there any personnel issues that impacted the level of collaboration around the assessment, and if so, how did you overcome this barrier?)

Implementation Strategy Experience (Prioritizing and Doing):

4. I'm interested in learning more about your implementation strategies process, specifically your experience working with local public health departments in determining the priorities and action plan. Was your local health department involved in this process? If so, how were they involved? If not, why not? (Prompts: How did you determine which strategies were funded and given priority? Did the involvement of the LHD make an impact on your priority setting process—if so, how?)

5. What factors facilitated working well with LHDs in acting on your implementation strategies and community benefit plan? (Prompts: Did LHD staffing and resources enhance the impact this had on your community? Did you have a local community advisory board involved in this process? If so, what role did they play? What benefits, if any, did you gain from collaborating with LHDs on implementation strategies?)

6. What were the barriers to working with LHDs in acting on your implementation strategies and community benefit plan? For hospitals that serve rural communities, what are some unique challenges around partnering with public health departments? (Prompts: How were these barriers similar or different from those that were experienced during the assessment process? Did internal or corporate priorities impact the development of implementation strategies, and if there was impact, how did you overcome this barrier? Did the availability of LHD staffing and/or resources, or lack thereof, impact the level of collaboration around implementation strategies? If so, how? How did geographical alignment between your hospital and the LHD impact the implementation strategies process?)

Outcomes of the Assessment and Planning Processes:

7. Has this process impacted how your hospital views population health? If so, what types of population health activities are you now engaging in that you had not previously as a result of the process? (Prompts: Has the process changed what types of community benefit activities are funded and how much these activities are funded? If so, in what way? Has the process caused your hospital or health care system to align your priorities with public health or other community agencies to target programs or services to improve population health? If so, please explain.)

8. Has this process impacted the level and type of collaboration with local public health departments or other community partners around addressing community health issues? (Prompts: Has this process led to higher levels of trust or more consistent and open communication with partners? Has this process led to the formation of a backbone entity to convene and coordinate partners to work on implementation strategies? Has the hospital and LHD developed shared performance measures? Has this process caused your organization to share assets and resources with partners?)

Closing Questions:

9. Did you experience any leadership challenges during the CHNA and Implementation Strategies process? If so, please explain. (Prompts: Did experience, or lack of experience, of hospital staff impact collaboration between your hospital and LHD(s) in the process? Did experience, or lack of experience, of LHD staff impact collaboration between our hospital and LHD(s) in the process? How much awareness did your hospital board have of the CHNA and Implementation Strategies report? Of the activities that resulted from the process? Did engagement from hospital executives and/or the hospital board impact collaboration between your hospital and LHD(s) in the process? Did engagement from hospital executives and/or the hospital board impact engagement in population health activities?)

10. What other external factors or initiatives influenced your CHNA and Implementation Strategies process?

11. Was this last CHNA and Implementation Strategies process different from the prior one? If so, how?

12. Will you do things differently next time? If so, how?

13. Is there anything else about this process or your collaboration with health departments that you would like to share? Specifically, what are lessons learned that you would share with others who are trying to work in collaboration with their LHD and other community partners to develop and implement community health improvement plans?

14. Do you have any questions or comments on issues that we did not cover?

    Thank you so much for participating in this interview. With that, I'm going to turn off the recorder now.

    Your time is very valuable, and I hope the lessons and information you shared today will help improve the CHNA/CHA process for communities across the country. I very much appreciate you giving up 45 minutes of your time to me. When I do finally get around to defending and finishing this research, would you like for me to send you a copy of the final version? Thank you and have a great rest of your day!

LOCAL HEALTH DEPARTMENT KEY INTERVIEW GUIDE SCRIPT

Community Health Assessment Experience (Assessment and Planning): Health Department

1. I'm interested in learning more about your last completed Community Health Assessment process. Specifically, what was your experience working with local hospital(s) or healthcare system(s)? (Prompts: Was your local hospital(s) or healthcare system(s) involved? If so, how? If not, why not? Did your local hospital(s) or healthcare system(s) change the way you conducted your CHA? Has working with your local hospital(s) or healthcare system(s) made a difference in your CHA, and if so, how? How as the CHA/CHIP process funded?)

2. What factors facilitated working well with hospital(s) or healthcare system(s) around your CHA?

3. What were the barriers to working with hospital(s) or healthcare system(s) around your CHA? For LHDs that serve rural communities, what are some unique challenges around partnering with local hospital(s)? (Prompts: Did timing of when the CHA needed to be completed impact collaborating on the assessment? Did geographical alignment between your LHD and local hospital(s) impact the assessment process? How did you overcome these barriers, if any? Do you think that assessments that were driven by contractors or non-local hospital officials impacted the level of collaboration around the assessment? If so, how did you overcome this barrier?)

Community Health Improvement Plan Development Experience (Prioritizing and Doing):

4. I'm interested in learning more about your CHIP process, specifically your experience working with local hospital(s) or healthcare system(s) in determining the priorities and strategies to act on. (Prompts: Why did you choose the particular approach you used to develop your CHIP? How did you determine which strategies were given priority, operationalized, and funded? Can you give any specific examples of the impact your local hospital(s) or healthcare system(s) had on your priority-setting process??)

5. What factors facilitated working well in collaborating with hospital(s) or healthcare system(s) in developing and acting on the CHIP? (Prompts: Did hospital staffing and resources enhance the impact this had on your community? If so, how? Did having a community advisory board or local nonprofit affect the level of impact this had on the community? What benefits did you gain from collaborating with hospital(s) on operationalizing the CHIP, if any?)

6. Were there any challenges working with hospital(s) or healthcare system(s) in developing and acting on the CHIP? For LHDs that serve rural communities, what are some unique challenges around partnering with local hospital(s)? (Prompts: How were these barriers similar or different from those that were experienced during the assessment process? Did lack of alignment between hospital goals and public health goals impact the CHIP, and if there was impact, how did you overcome this barrier? Did duplication of work between your LHD and local hospital(s) impact how you operationalized your CHIP? If so, how? Did staffing and resource limitations impact the level of collaboration around the CHIP, and if so, how did you overcome these barriers? Did geographical alignment between your LHD and local hospital(s) or healthcare system(s) impact the CHIP process? How did you overcome this barrier?)

Outcomes of the Assessment and Planning Processes:

7. Has this process impacted how your LHD views population health? If so, how? What types of population health activities are you now engaging in that you had not previously as a result of the process? (Prompts: Has the process changed what types of CHIP activities are funded and how much these activities are funded? If so, in what way? Has the process caused your LHD to align your priorities with hospital or other community agencies to target programs or services to improve population health? If so, how?)

8. Has this process impacted the level and type of collaboration with local hospital(s) or other community partners around addressing community health issues? If so, how? (Prompts: Has this process led to higher levels of trust or more consistent and open communication with partners? Has this process led to the formation of a backbone entity to convene and coordinate partners to work on implementation strategies? Has the LHD and hospital(s) developed shared performance measures? Has this process caused your organization to share assets and resources with partners?)

Closing Questions:

9. Did you experience any leadership challenges during the CHA/CHIP process? If so, please explain. (Prompts: Did experience, or lack of experience, of LHD staff impact collaboration between your LHD and hospital(s) in the process? Did experience, or lack of experience, of hospital staff impact collaboration between your LHD and hospital(s) in the process? Did engagement from VDH leadership impact collaboration between your LHD and hospital(s) in the CHA/CHIP process and engagement in population health activities?)

10. What other external factors or initiatives influenced your CHA/CHIP process?

11. Was this last CHA/CHIP process different from the prior one? If so, how?

12. Will you do things differently next time? If so, how?

13. Is there anything else about this process or your collaboration with hospital(s) or healthcare system(s) that you would like to share? Specifically, what are lessons learned that you would share with others who are trying to work in collaboration with their hospital(s) or healthcare system(s) and other community partners to develop and implement community health improvement plans?

14. Do you have any questions or comments on issues that we did not cover?

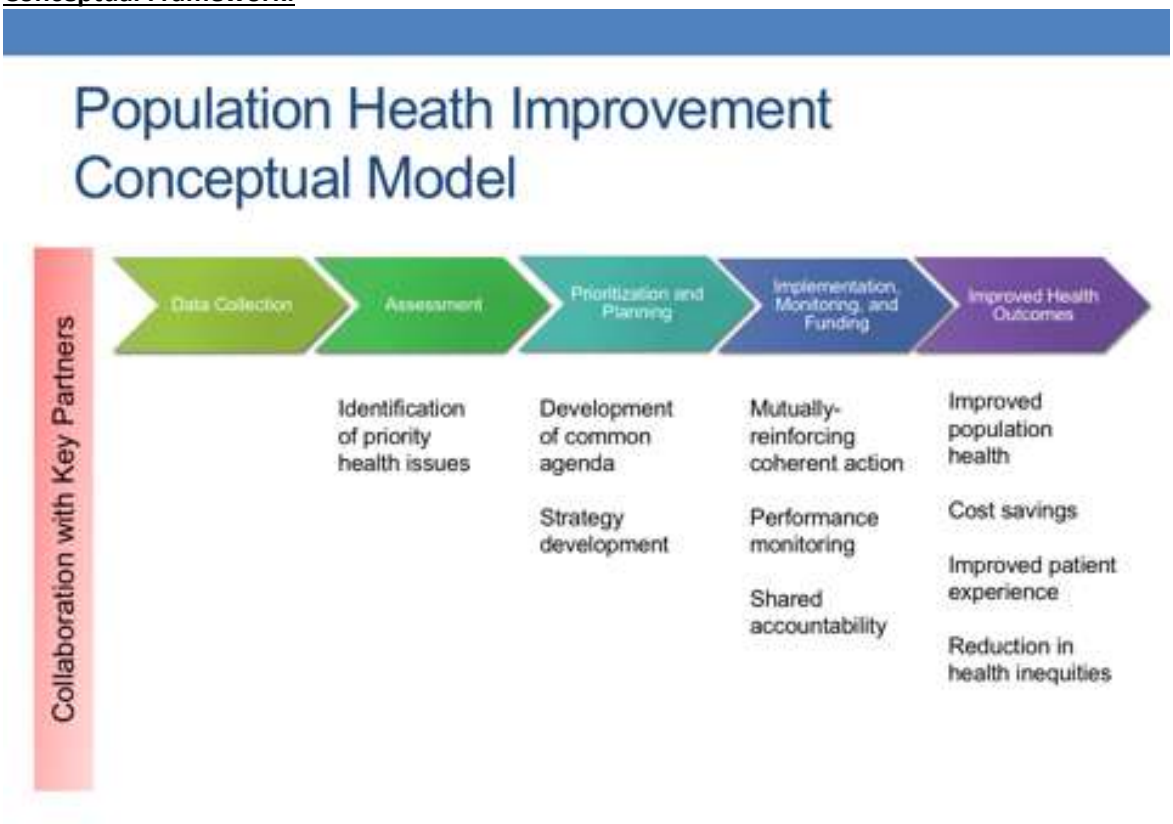
    Thank you so much for participating in this interview. With that, I'm going to turn off the recorder now.
    Your time is very valuable, and I hope the lessons and information you shared today will help improve the CHNA/CHA process for communities across the country. I very much appreciate you giving up 45 minutes of your time to me. When I do finally get around to defending and finishing this research, would you like for me to send you a copy of the final version? Thank you and have a great rest of your day!

APPENDIX E: CODE BOOK

Coding Manual | David Chang | October 2018
Hospital and Health Department CHNA/CHA Partnerships and Population Health
Research Question:
What effect, if any, do hospital-health department partnerships around CHNAs and CHAs have on population health activities in Virginia?
Secondary Aims:

- Identify the level of collaboration between hospitals and health departments around assessment, planning, and implementation of population health activities.
- Identify the barriers and facilitators for more partnerships around assessment and planning between hospitals and health departments.
- Identify and learn from communities in Virginia that are collaborating effectively around assessment and planning to address population health issues.

Conceptual Framework:



Theme/Code Name	**Definition**
Partnership Facilitators (Broad Category)	*Facilitating factors for collaboration on assessment and planning between hospital and local health department*
External Factors	Pressures or influence from state government or hospital board related to how funding is used, how aggressive of a timeline needed to be followed, ongoing conflicting responsibilities
Prior Partnership	Impact of presence or existing relationships, shared activities, trust that was already built before assessment and planning took place
Timing	Alignment of assessment and planning cycles
Coalition	Having a convener or back bone agency to shepherd movement of collective activities; seen as neutral
Leadership	Having strong leadership that due to character, longevity, and/or commitment impacted assessment, planning, and implementation processes
Dedicated Staff/Resources	Having funding, staffing, and time resources that organization dedicated to work on assessment, planning, and population health activities
Geography	Alignment/synergy created by being geographically close or having shared geographical service areas
Common Agenda	Having a common perspective or view of the roles of assessment and planning, and/or programs and population health activities that should be worked on together
Data	Partnering in the gathering, validating, sharing, and using data for assessment, planning, and measurement purposes
Fulfilling Requirements	Requirements to fulfill Public Health Accreditation Board or Internal Revenue Service Requirements that cause deeper level of partnership
Partnership Barriers (Broad Category)	*Factors that served as barriers for collaboration on assessment and planning between hospital and local health department*
External Factors	Pressures or influence from state government or hospital board related to how funding is used, how aggressive of a timeline needed to be followed, ongoing conflicting responsibilities, use of contractors
Duplication	Necessity of needing to do similar tasks twice due to timing/geography/differing needs
Disinterest	Attitude of disinterest or not engaging fully in assessment and planning processes
Dedicated Staff/Resources (Lack of)	Lack of funding, staffing, time, or resources dedicated by organization to work on assessment, planning, and population health activities
Leadership	Having leadership that due to character, longevity, and/or lack of commitment negatively impacted level of collaboration around assessment, planning, and implementation processes
Geography	Lack of alignment created by being geographically far or not having shared geographical service areas
Timing	Lack of alignment of assessment and planning cycles

Financing	Not having adequate funding or contributing necessary financial resources for assessment activities, staffing or programming for population health activities
Fulfilling Requirements	Not having mandates or requirements to work together on fulfilling Public Health Accreditation Board or Internal Revenue Service Requirements
Outcomes (Broad Category)	*Impact of assessment and planning processes in regard to view of population health, new population health activities, staff engagement, and level of collaboration around population health activities*
Reshaping Program Development	Developing new programs in new areas as a result of the CHNA/CHA process
Population Health Awareness	More appreciation and understanding of population health
Cross-Sectoral Partnerships	Working in partnership with organizations that are outside typical partnerships within public health or healthcare sector
Social Determinants of Health	Addressing environmental or social factors related to health, addressing health issues upstream of clinical care; underlying community infrastructure challenges
Long View	Viewing the CHA/CHNA outcomes as a long-term process that may take years to recognize impact
Funding Streams	Identification of new funders as result of coherent mutual agenda; challenges to maintaining partnership without funding
Coalition	Development or planning for development of coalition that will help implement population health activities or programs that resulted from the assessment/planning processes
Disproportionate Burden	Organizations cannot identify equal partners to work on health improvement, develop “do it on their own” philosophy, or shoulder the burden of the partnership
Regionalism	Expanding beyond individual city/county silos to intentionally focus on developing a regional approach to assessment, planning, and/or population health work.

Theme/Code Name	**Definition**
Other Themes (Broad Category)	*Not associated specifically with partnership barriers, facilitators, or outcomes*
Process Changes Over Time	Differences between previous CHA/CHNA and most recent CHA/CHNA; anticipated differences for next CHA/CHNA
3rd Critical Partner	Beyond health department and hospital, a critical partner that helped push forward and improve on assessment, planning, and implementation work

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