

**The Role of External Support in Health Insurance
Decision-Making Under the Affordable Care Act**

BY

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THESIS

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LIST OF ABBREVIATIONS

ACA	Affordable Care Act
ACS	American Community Survey
ASPE	Assistant Secretary for Planning and Evaluation
CAC	Certified Application Counselor
CDC	Centers for Disease Control and Prevention
CMS	Center for Medicare and Medicaid Services
DOI	Department of Insurance
ESI	Employer Sponsored Insurance
FE	Fixed Effects
FFM	Federally Facilitated Marketplace
FFS	Fee for Service
FPL	Federal Poverty Level
GIS	Geographic Information Systems
HHS	Health and Human Services
HMO	Health Maintenance Organization
HUD	Housing and Urban Development
IPA	In Person Assister
IRS	Internal Revenue Service
IV	Instrumental Variable
MMR	Mixed Methods Research
NAHU	National Association of Health Underwriters
NHIS	National Health Interview Survey
SAR	Spatial Auto regression
SDM	Spatial Durbin Model
SDM	Spatial Durbin Error Model

SUMMARY

Health insurance decision-making in the United States is a challenging process plagued by complex eligibility guidelines, unfamiliar product choices, increasing financial burdens, and an ever-changing regulatory environment. The Affordable Care Act (ACA) attempted to increase access to healthcare, in part by alleviating some of the barriers to gaining health insurance coverage. However, complexities persist in health insurance decision-making and enrollment and as a result, many Americans remain uninsured. Further, under a new administration in 2017 we can expect to see yet another revised health insurance landscape for individuals to navigate. This study combines two core theories, Diffusion of Innovations and Social Capital Theory, to examine whether a state and federal navigator program, which can be considered as external support for health insurance decision-making, eased the process of health insurance choice and enrollment, measured by association with a reduction in uninsurance rates. The core aims of this study are:

1. Describe the ACA navigator program funding (nationally), workforce distribution, and outreach activities (Illinois), measured by a newly constructed Navigator Outreach Activity Index.
2. Evaluate the association of the ACA navigator program funding, workforce distribution and outreach activities with the rate of uninsurance in Illinois and nationally from 2013-2015.
3. Describe and compare a health insurance broker's (the historic health insurance outreach and enrollment workforce) approach to policy and product innovations to that of ACA navigators.

We find that navigator programs are associated with related geographic decreases in uninsurance rates, and it is observed at an even greater magnitude among key sub-populations of interest. Further, we find that both navigators and brokers leverage the three core dimensions of social capital (Cognitive, Relational and Structural), but each in a way that magnifies their own unique strengths. Further, it appears that to some extent, this ability to leverage social capital on behalf of a client, has a potentially positive relationship with the desired end result – health insurance enrollment by the uninsured in the case of the ACA navigator; and adoption of employee health promotion and wellness programs by small employers in the case of health insurance brokers

1 INTRODUCTION

Health insurance decision-making in the United States is a challenging process plagued by complex eligibility guidelines, unfamiliar product choices, increasing financial burdens, and an ever-changing regulatory environment. The Affordable Care Act (ACA) attempted to increase access to healthcare, in part by alleviating some of the barriers to gaining health insurance coverage. However, complexities persist in health insurance decision-making and enrollment and as a result, many Americans remain uninsured. Further, under a new administration in 2017 we can expect to see yet another revised health insurance landscape for individuals to navigate. This study examines how a state and federal navigator program, which can be considered as external support for health insurance decision-making, intended to ease the process of health insurance choice and enrollment, is associated with a reduction in uninsurance rates. The core aims of this study are:

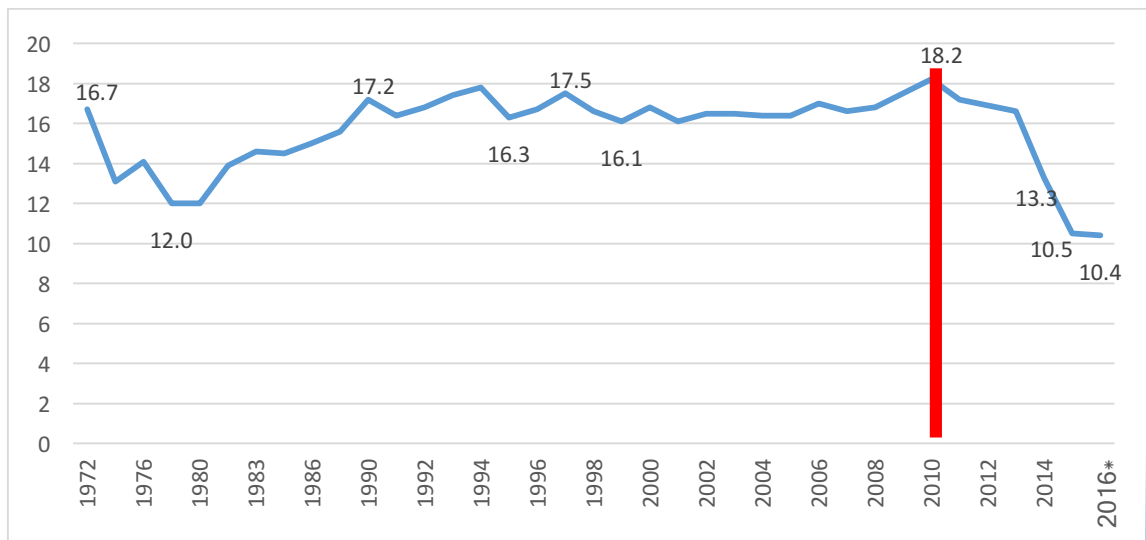
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3. Describe and compare a health insurance broker's (the historic health insurance outreach and enrollment workforce) approach to policy and product innovations to that of ACA Navigators.

1.1 The Affordable Care Act (ACA)

The Affordable Care Act (ACA) was signed into law on March 23, 2010. This piece of legislation had several measures intended to increase access to healthcare, improve quality, and reduce costs. One of the main driving forces behind the passage of the Affordable Care Act was the high number of uninsured Americans. At the time of passage, this number was at an almost 40-year peak; 18.2 % of the non-elderly population reported being without health insurance coverage as shown in Figure 1 (Center for Disease Control and Prevention, 2016). The provisions of the ACA meant to reduce the rate of uninsured Americans include market regulation, expansion of

Medicaid, the development of private health insurance exchanges, financial assistance, and a new workforce of Navigators who assist consumers in understanding and signing up for coverage.

Figure 1. Uninsured rate (1972-2016) among the non-elderly population



*2016 Data are through the first Quarter only
 indicates the passage of the ACA

Once enacted, there was an immediate drop in the national uninsurance rate due to initial regulatory provisions such as dependents being allowed to stay on their parent's coverage until age 26. A secondary post-ACA reduction in the uninsurance rate is observed in 2014 when the bulk of the remaining provisions, such as the insurance mandate, Medicaid expansion, and the opening of the online Health Insurance Marketplaces took effect. The ACA left much flexibility in the implementation of these provisions to the states – specifically, whether or not to expand Medicaid, whether to create a state-specific marketplace or use the federal version, and how to structure the Navigator program. As a result, a differential impact on the rate of uninsurance over time is expected by state, based on implementation choices.

1.2 Rates of Uninsurance Nationally and by State

The American Community Survey reported that 14.5% of the population (45,181,000 people) was uninsured in 2013 nationally, dropping down to 9.4% in 2015. In Illinois, that number is slightly lower, with 12.7% of the population (1.6 million individuals), reporting no coverage before the majority of the ACA provisions took effect. Illinois' overall uninsurance rate fell to 7.1% in 2015 (United States Census Bureau, 2013; United States Census Bureau, 2015).

Table I compares Illinois to select states that are similar in size and region. Illinois is the 5th largest state by population – ranking behind California, Texas, New York and Florida - and falls in the middle of that group in terms of the percent of uninsured residents in 2013. However, Illinois falls to the lowest rate (along with New York) of uninsurance in this group in 2015. Looking at Illinois' nearest similar peers (Indiana, Wisconsin, Michigan), again, we see Illinois' rate of uninsurance rank in the mid-range of these regionally similar states in 2013. However, Illinois shows the largest percentage drop (-5.6%) from 2013 to 2015, whereas Indiana, Wisconsin, and Michigan reduced their rate of uninsured by 4.3%, 3.5%, and 4.9%, respectively (United States Census Bureau, 2013; United States Census Bureau, 2015).

1.3 Understanding the Uninsured

Health policy changes like the ACA focus on reducing the number of uninsured for a variety of reasons. Several studies show how being uninsured negatively impacts health and healthcare seeking behaviors. Uninsured adults seek less preventive care, are at a higher risk for preventable hospitalizations and are less likely, in general, to receive care from a doctor (Institute of Medicine, 2002; Newton et al., 2008; Pan et al., 2016). Additionally, the uninsured have higher mortality rates at all age groups and disease states (Wilper, 2009; Dorn, 2008). Further, increasing costs of uncompensated care burdens entire system; in 2013 this was estimated at \$84.9 billion (Coughlin et al., 2014). Many hypothesize that these higher costs are then passed along to private insurers and insured consumers in the form of higher premiums.

TABLE I

THE UNINSURED IN ILLINOIS AS COMPARED TO THE UNITED STATES^a

	2013		2015		Percent Change
	Total Number Uninsured	Percent Uninsured	Total Number Uninsured	Percent Uninsured	
United States	45,181	14.50%	29,758	9.40%	-5.1
Illinois	1,618	12.70%	900	7.10%	-5.6
California	6,500	17.20%	3,317	8.60%	-8.6
Texas	5,748	22.10%	4,615	17.10%	-5.0
New York	2,070	10.70%	1,381	7.10%	-3.6
Florida	3,853	20.00%	2,662	13.30%	-6.7
Indiana	903	14.00%	628	9.60%	-4.3
Wisconsin	518	9.10%	323	5.70%	-3.5
Michigan	1,072	11.00%	597	6.10%	-4.9

^a Counts of the uninsured are shown in the 1,000s.

Existing studies find mixed evidence on whether this cost-shifting from uninsured to the insured populations occurs (Medicare Payment Advisory Commission, 2012). Regardless, all levels of governments, tax-payers, and private donors make up the difference and short falls through both direct and indirect means, such as a higher tax burden and charity-care. Finally, some evidence suggests that there are also spillover effects of living in a community with that high uninsured rate that extend beyond the charity care burden: for example, even an insured person living in an area with high rates of uninsurance, may experience limitations on access to care, reduced quality of care, and higher community-level disease burden (Institute of Medicine, 2003; Pauly and Pagan, 2007; Sabik, 2012).

Further, we know that coverage disparities have historically existed among a number of subpopulations. First, we find that disparities by sex exist with a higher percentage of males (ages 18 through 64 years old) being uninsured (16.37% vs. 13.44% nationally). One possible explanation for this gender disparity relates to eligibility guidelines for public insurance. More women, on average, are eligible for Medicaid than men, as they may qualify during pregnancy or if they have infants or young children (Wyn et al., 2005). The next coverage disparity that is

important to address is based on age. The uninsured rate for young adults (ages 18-34) was roughly twice the rate for middle-aged adults (45–64 years). The age disparity is a result of a variety of factors, mainly focused on this transitional period within the individual's life. Prior to the ACA, if an individual was in college the disparity level dropped, because often they were able to stay covered under their parent's insurance program. For young adults in the workforce, they are less likely to be at jobs that offer benefits, and for those that do, the take up rate is lower among young adults – most citing premium costs as the main reason. (Quinn et al., 2000).

Hispanics and non-hispanic blacks are uninsured at higher rates than peer racial and ethnic sub-populations, both mainly due to the lower than average likelihood of being offered employer based coverage (Centers for Disease Control and Prevention, 2011). This disparity deepens for Hispanics, primarily as a result of variation in immigration status, which can impact eligibility for both public and private insurance programs (Schur and Feldman, 2001). Given the relationship between health insurance and health status, a disparity in health insurance coverage serves to exacerbate broader health disparities. Further, if these disparities exist due to policy choices within public programs, it is reasonable to examine solutions that can mitigate this imbalance.

1.4 Types of Health Insurance Coverage in the United States

According to the American Community Survey, 86.6% of the country had some type of health coverage, with just over half of Americans receiving their healthcare insurance through an employer (United States Census Bureau, 2013). Just over a third of Americans had coverage through a government plan and 11% purchased private coverage as an individual directly from a private insurance carrier. Additionally, 13.4% of the population reported not having any insurance coverage for the entire year (see Table II).

1.5 Health Insurance Decision-Making Support

Given that the majority of Americans receive their coverage through an employer, decisions on plans and costs for those individuals are typically facilitated by human resource departments (Schwartz et al., 2012). However, many small employers, self-employed workers, and other individuals without access to employer sponsored plans do not have the same institutional support and are left to navigate the health insurance landscape independently

(The Henry J. Kaiser Family Foundation, 2013; Graves and Mishra, 2016). As a result, the latter populations may choose to rely on external guidance or support in healthcare insurance decision-making.

TABLE II
NATIONAL HEALTH INSURANCE RATE BY TYPE OF COVERAGE (2013)

Coverage Type ^a	Rate of Coverage
Any Health Plan	86.6
Any Private Plan	64.2
Employer-Based	53.9
Direct Purchase	11
Any Government Plan	34.3
Medicare	15.6
Medicaid	17.3
Military health care	4.5
Uninsured ^b	13.4

^aAllows for reporting of dual coverage.

^bUninsured defined as not having coverage the entire year.

Prior to the ACA, the main group of professionals that provided external decision-making support for the uninsured was licensed health insurance agents and brokers. While they often focused their attention on large and small employers, a smaller number of agents and brokers did work with uninsured individuals seeking to enroll in coverage (National Association of Health Underwriters, 2014; Karaca-Mandic et al., 2016). As a result, individuals report challenges in this purchasing process (Kim et al., 2013; Kan et al., 2015; Furtado et al., 2016).

1.6 Navigators

One important piece of the implementation of the ACA was the creation of a new workforce tasked with providing a new type of health insurance decision-making support. This workforce was originally titled

“Navigators” and was intended to be tied directly to the creation of “exchanges” or “health insurance marketplaces” as they would later come to be called. Navigators were charged with educating the public about their new options for insurance coverage under the ACA and enrolling them in the appropriate program. The legislation required that every state establish a Navigator grant program, and that organizations receiving grants must be “community and consumer focused” (Center for Medicare and Medicaid Services, 2013). This workforce is meant to bridge the gap in understanding insurance options, provide enrollment support, and promote the benefits available under the ACA. Navigators can be understood as a new type of health insurance decision-making support that both adds (in number), to the existing enrollment workforce of agents and brokers, but also differs from them given that they are grant-funded, community based, and more diverse, and that they target populations with low health (and health insurance) literacy (National Association of Insurance Commissioners, 2012).

For the first open enrollment cycle in 2014, the Federal Government awarded just under \$67M to Navigator entities in states that were structured as a partnership or planned to use the federal marketplace. (See Table III). That number was reduced to \$59.6 million for the second cycle in 2015. In Illinois, the federal funding received from year one to year two reduced slightly from just over \$3 million to approximately \$2.9 million. Both of these numbers are low when compared to the internal investments that the State of Illinois made in grants on the more local level. The first year of ACA enrollment included a \$27 million state grant program, and a slight reduction in the second year to \$25.8 million (Center for Medicare and Medicaid Services, 2013; Center for Medicare and Medicaid Services, 2014).

TABLE III**FEDERAL AND STATE NAVIGATOR FUNDING (2014-2015)**

Navigator Funding	2013-2014	2014-2015
Total Federal (All States)	\$66,954,966	59,600,000
Total Federal (Illinois)	\$3,060,471	\$2,907,736
Total State (Illinois) ^a	\$27,000,000	\$25,800,000
Illinois Total (Federal and State)	\$30,060,471	\$28,707,736

^aState of Illinois funding numbers are approximations based on news releases

2 STUDY AIMS AND CONTRIBUTIONS

Since 2014, ACA Navigators have been the focus of several studies. However, published studies have been either strictly descriptive using case studies (Tripp, 2015), assessing grey literature and survey data (Pollitz et al., 2015; Grob and Schlessinger, 2015; Hamel et al., 2016), solely qualitative by conducting stakeholder interviews (Artiga et al., 2014; Kwon, 2015; Vargas, 2016) or quantitative but only using one year of cross-sectional data (Sommers, 2016). Collectively, these studies have shown anecdotal evidence of the importance of using Navigators as a “best practice” to improve ACA enrollment. This has been mainly from the perspective of related stakeholders and navigator organizations. Sommers’ study extends this perspective to bring a voice to the uninsured – and found that the biggest predictor of completed enrollment was working with in-person assistance.

Interestingly, although health insurance brokers have existed as a workforce for some time, there has been even less published about their role than that of the newer ACA Navigators. Health insurance brokers, the traditional health insurance education and enrollment workforce, have been widely understudied. Much of what is understood about health insurance brokers comes through descriptives of the workforce in grey literature and reports published by industry associations (National Association of Health Underwriters, 2014; National Association of Insurance Commissioners, 2012) and from very few peer-reviewed academic articles (Marquis and Long, 2000; Conwell, 2002; Karaca-Mandic et al., 2016). The first of these articles uses data from the 1997 Robert Wood Johnson Employer Health Insurance Survey, and finds that 54% of all employers nationwide uses external consultants to help make decisions about health insurance and benefit offerings. The second study expands Marquis and Long’s findings to describe the kinds of work that brokers do with employers including obtaining prices, explaining benefits to employees and problem solving for employers. Finally, Karaca-Mandic focuses on the impact of a robust market of health insurance agents and brokers on employer sponsored health insurance programs – and finds that smaller employers in concentrated broker markets are more likely to include health insurance in their benefit package, often reaping rewards of lower premium costs. Together these two publications confirm that brokers are relied on extensively by employers, and the robust presence of this workforce of them provides beneficial outcomes in the market.

None of this prior work helps explain or examine the mechanisms underlying these impacts – to help explore why the broker role is so critical to the decision-making process. This study broadens this growing body of knowledge on the role and mechanisms by which both ACA navigators and health insurance brokers provide external decision-making support in health insurance enrollment and offerings. The key contributions include: the development of a large new primary dataset on ACA Navigators in Illinois and the types of outreach work they conduct; leverages this complete set of multi-year data by combining it with longitudinal census data to determine Navigator’s association with declining uninsurance rates at the community zip code level; and, finally adds the usage of a mixed methods approach to better understand these results and the underlying mechanisms by which health insurance decision support workforces like navigators and health insurance brokers harness their social capital to improve the uptake of new policy decisions intended to expand insurance coverage. This framework, which examines the links in the relationship between two core theories often used separately to explain phenomenon in health promotion – Social Capital Theory (Coleman, 1988) and Diffusion of Innovations (Rogers, 1995) – will be discussed in greater detail in Chapter 4. Each aim of the study is supported by a variety of data sources outlined in Table IV.

TABLE IV
STUDY DATA SOURCES

	Data source	Type	Years	Aims
a	Illinois ACA Navigator demographic survey	Primary	2013-2016	1A(1); 2A(1,2,3,4)
b	Illinois ACA Preferred Broker demographic survey	Primary	2015-2016	1A(1); 2A(1,2,3,4)
c	Illinois ACA Navigator outreach survey	Primary	2014-2016	1A(2,3); 2A(3,4)
d	Illinois ACA Navigator Performance Metrics	Primary	2015-2016	1A(2); 2A(3,4)
e	ACA Navigator and CHW Data use interviews	Primary	2015-2016	1A(3)
f	CMS Navigator grant funding report	Secondary	2013-2015	1B(1), 2B(1,2)
g	American Community Survey	Secondary	2013-2015	1B(2); 2A(1,2,3,4); 2B(1,2)
h	30 Health Insurance Broker Interviews in 4 states	Primary	2016	3A-3F
i	Illinois Marketplace Preferred Broker Survey	Primary	2015	3D, 3F

2.1 Study Aims

This project has the following aims:

1) Describe ACA Navigator program funding, workforce distribution, and outreach activities.

A. Illinois

- 1) Summarize key characteristics of Illinois ACA Navigators and “Preferred Health Insurance Brokers” (including geographic distribution, personal demographics, experience, education, organization type)
- 2) From primary data, develop a Navigator Outreach Activity Index that creates the ability to test the association of different types of outreach utilized by Navigators with the uninsurance rates in Illinois.
- 3) Identify navigator perceptions of barriers to their work and opportunities to provide greater support to improve program effectiveness.

B. United States

- 1) Summarize the variation in ACA Navigator program funding across 3,144 counties (and county equivalents) in the United States, and determine variation in patterns by key U.S. county demographics (urban/rural, percent of the federal poverty level, percent minority, percent uninsured).
- 2) Evaluate the association of the ACA Navigator program funding, workforce distribution, and outreach activities with the uninsurance rate in Illinois and nationally.

A. At the zip code level for Illinois, assess whether:

- 1) A higher number of assigned navigators (or any assigned navigators) are associated with lower uninsurance rates from 2013-2015.
- 2) Persistent Navigator presence from 2014-2015 is associated with the highest cumulative reduction in the rates of uninsurance.
- 3) Higher amounts of navigator outreach activities (measured by a construct: Navigator Outreach Activity Index), are associated with the lowest uninsurance rates from 2013-2015.

- 4) ACA Navigators are associated with the lowest uninsurance rates in communities and populations observed to have the lowest rates of health and health insurance literacy (i.e. those with high rates of minorities, English as a second language, low educational achievement, and high rates of households living below the Federal Poverty Level (FPL)).
- B. At the county level in the United States, assess whether:
- 1) A higher amount of ACA Navigator grant funding is associated with lower uninsurance rates between 2013-2015.
 - 2) ACA Navigator funding is associated with the lowest uninsurance rates in counties with the lowest rates of health and health insurance literacy (i.e. those with high rates of minorities, English as a second language, low educational achievement, and high rates of households living below the Federal Poverty Level (FPL)).
- 3) Describe and compare health insurance brokers' (the historic health insurance outreach and enrollment workforce) approach to policy and product innovations to that of ACA Navigators.
- A. Determine whether health insurance brokers include ACA-related wellness programs in their choice set when advising small employers on health insurance decision-making and the identify patterns in the reasons they attribute to this approach.
 - B. Identify the ways that compensation influences brokers to include ACA wellness programs in their choice set for small employers.
 - C. Assess whether and how broker typologies can advance understanding in the variation of broker reports about product availability and employer interest.
 - D. Identify broker perceptions of barriers to their work, opportunities to provide greater educational support for providing greater value, and ways to cultivate them as assets in dissemination under a changing health policy landscape.
 - E. Compare broker patterns, typologies and perceptions of barriers of their work to that observed among Navigators.

2.2 Expected Contributions of Work

This study is expected to contribute to this area of knowledge and practice in the following ways:

- Development of 5 online data collection instruments used to collect demographics, outreach activities, and performance metrics from all Illinois Navigators from 2013-2016. The creation of a new database can better characterize this workforce and their work product for use in this project and to be made public. This study's primary data on the ACA Navigators in Illinois is novel in the opportunity to understand an emerging workforce that has grown out of the ACA legislation. This includes data points on every single ACA Navigator in Illinois that was certified from the inception of the program in 2013 through 2016. This data identifies everything from Navigators' personal demographics, work experience, schooling, certification exam performance, key metrics that describe the work they do (both qualitatively and quantitatively), and their perceptions of the work and impact. Aims: 1A(1), 1B(1)
- Determines whether the presence, number, or persistence of Navigators in a given community is associated with uninsurance rates. By linking the Illinois Navigator data at the zip code level with American Community Survey data on the rates of uninsurance (2013-2015), this study is the first to take advantage of longitudinal data to evaluate the Navigator workforce's role in health insurance decision-making and enrollment over time, as assessed through changing uninsurance rates. Aims: 2A(1), 2A(2)
- Determines if Navigator grant funding in a given geographic area is associated with health insurance uptake. By linking the national Navigator grant data at the county level with with American Community Survey data on the rates of uninsurance (2013-2015), thus study is the first to take advantage of longitudinal data to evaluate the overall program investment on health insurance decision-making and enrollment, as assessed through changing uninsurance rates. Aims: 2B(1)
- Development of the Navigator Outreach Intensity Index provides a way to measure and assess the use of traditional outreach tools (such as health fairs, social media, canvassing, etc.), and their impact individually and collectively on uninsurance rates. Aims: 1A(2), 2A(3)

- Identifies the association of a navigator program with uninsurance rates of key target populations that have historically been characterized as having low levels of health literacy, as a way to maximize program efficiency at both the state and national level. Aims: 2A(4), 2B(2)
- This project advances the understanding of health insurance brokers through qualitative interviews with 23 brokers in four states to examine their perceptions on certain provisions of the ACA as it relates to providing wellness choices to small employers. Policy implications could include providing greater understanding/approach to the value of “onboarding” existing stakeholders as a lower cost investment model in program uptake and dissemination Aims: 3A-3F

2.3 Planned Dissemination for Public Health Practice

Given that this project relied heavily on the willingness and direct participation of navigators and brokers at the grassroots level, these findings will be disseminated to these stakeholders in accessible and useful ways based on their report of needs and opportunities for greater support. Aims: 1A(3) and 4(A-B).

- 1) Best practices guide and related web-based training module disseminated through the Illinois Coalition for Health Access (ICHA), which is the network of remaining Illinois outreach and enrollment workers, ahead of the 2017-2018 open enrollment cycle.
- 2) Web-based continuing education module disseminated through the Illinois State Association of Health Underwriters (health insurance agent and broker association).
- 3) Both constituent groups materials will include not only best practices, but actionable data and easy to visualize maps on the remaining uninsured population in Illinois. Many organizations that continue to do this work are operating their outreach programs using pre-ACA statistics. As they continue to serve the uninsured, having more current information of where and who they are will be extremely beneficial.

2.4 Mixed Methods Approach

The various aims of this study are achieved using both quantitative and qualitative methods independently, as well as integrating them to accomplish broader aims. Mixed methods research (MMR) can be defined “as research

in which the investigator collects and analyzes data, integrates the findings and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry (Tashakkori and Creswell, 2007).” There are a variety of reasons a researcher may choose to employ a MMR approach including triangulation, complementarity, development and expansion (Greene et al., 1989). Triangulation is a way to increase validity by corroborating results of related studies using different methods. Both complementarity and expansion focus on elaborating and broadening the range of research with multiple methods for multiple components of the work. Finally, development allows the researcher to use findings from one approach to help inform another approach.

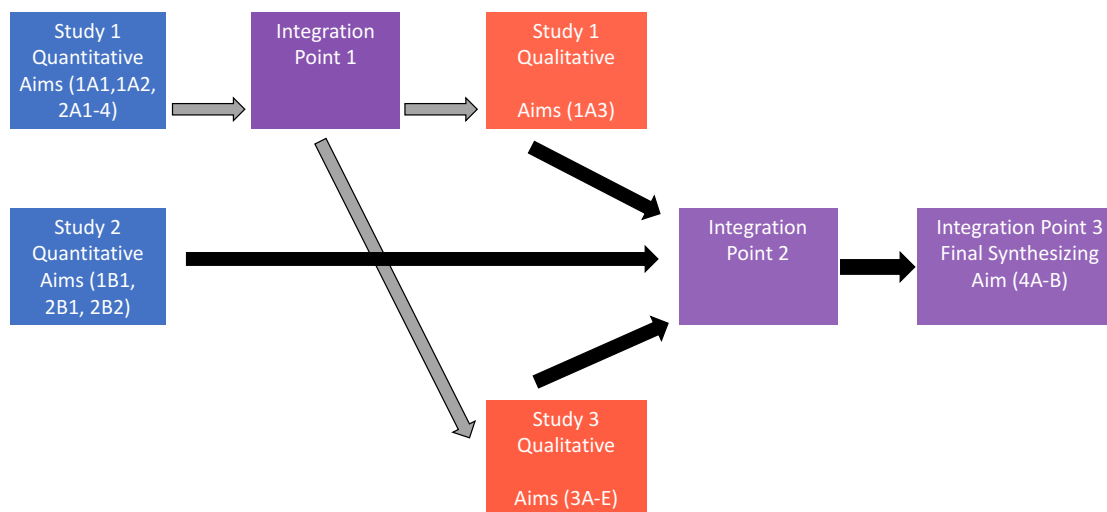
A mixed method approach was used in this study for a few key reasons. First, although the quantitative data is unique and robust in explaining the association of the Navigator workforce with the declining uninsurance rates – we believe that given the newness of this workforce, additional context in the form of qualitative response was useful in understanding the relevance of these quantitative findings. Second, given the fact that only qualitative data is used to examine the Broker’s role in supporting health insurance decision-making, it was critical to use qualitative findings across both workforces to attempt to draw comparisons and form more complete inferences about the mechanisms in which their actions benefit the person or client. In this study I integrate mixed methods at 3 points – as seen in the purple sections of Figure 2.

Integration Point 1: This point is an example of mixed-methods research being used for the purpose of development. Upon reviewing the findings from the quantitative study, codes are identified to use within the qualitative aim within study 1 (1A3). The quantitative piece of the study seeks to understand whether and how health insurance decision support in the form of navigators is associated with health insurance enrollment. In the subsequent aim, we seek to gain a greater understanding from the navigators’ open ended responses to a survey question about their barriers to enrollment. Codes used will attempt to expand understanding of the barriers that relate specifically to populations that were revealed to continue to have high rates of uninsurance at the end of the quantitative study period. This process will similarly be applied in the code selection for study 3(Aims 3A-E).

Integration Point 2 and 3: The final points of integration, are utilized for the purpose of expansion. The findings from all earlier quantitative and qualitative inquiries in this project will be synthesized together to gain a better

understanding of the role of external support in health insurance decision-making – to look for convergence and divergence. These findings will be transformed into applied materials and disseminated back to the workforces that are acting in this capacity – specifically in time for the upcoming 5th open enrollment cycle.

Figure 2. Mixed methods research (MMR) process map



3 POLICY BACKGROUND

To fully understand the impact of the ACA Navigator program, it is useful to identify and describe all of the relevant components of the Affordable Care Act that were designed to reduce the number of uninsured individuals.

3.1 The Individual Mandate

Beginning in 2014, the ACA required that all individuals enroll in health insurance coverage that met the minimum standards expected by the statute. Anyone who did not do so, or had a lapse in coverage for more than 3 months in a calendar year, would be subject to an annual penalty. Although the penalty began at a relatively low level in 2014 (the greater of 1% of your household income above \$10,000 or \$95 per adult), each year the amount would increase. By the end of the study period, the single penalty for not having coverage would increase to the greater of 2% of your household income or \$325 per adult. This penalty was applied across all geographic regions throughout the study period, so while this will likely contribute to the overall decrease in the uninsured rate, it would not directly explain differences in reduction by zip code or county (Patient Protection and Affordable Care Act, 2010).

3.2 Coverage Expansion

To increase the ability of individuals to enroll in coverage, the ACA created two new insurance eligibility pathways. The first was the expansion of Medicaid, which, pursuant to the 2012 Supreme Court ruling, allowed states to determine individually if they would do so or not. Today, 31 states (including Illinois) and the District of Columbia have done so, 19 have not. (Figure 2 shows the geographic distribution). States that choose Medicaid expansion change eligibility in two ways:

- 1) Broadening the income requirements, to allow households up to 138% of the FPL to qualify.
- 2) Removing historic categorical qualifications (aged, blind, disabled, parents, children).

For individuals that do not qualify for Medicaid, the second core pathway to coverage was the implementation of Health Insurance Marketplaces. These marketplaces were meant to assist individuals and small businesses in

understanding, comparing, and enrolling in private insurance coverage. With the overarching goal of reducing the number of uninsured across the country, and recognizing significant variances in what those populations looked like, the ACA left much of the design and development of the Marketplaces up to the individual state governments and regulatory bodies. Each state could choose one of three types of marketplaces: Federally Facilitated Marketplace (FFM), State-Based, or a Partnership. In a Federally-Facilitated Marketplace, the Department of Health and Human Services (HHS) performs all Marketplace functions. States that choose an independent state-based marketplace on the contrary will perform all functions. The final choice, a partnership arrangement, allows states to “administer plan management functions, in-person consumer assistance functions, or both, and HHS will perform the remaining Marketplace functions.” To date, 17 states have a state-based marketplace entity, 34 are using the federally facilitated marketplace or a partnership arrangement (The Henry J. Kaiser Family Foundation, 2017). The state of Illinois opted for a partnership marketplace arrangement.

3.3 Financial Assistance

The health insurance marketplaces go beyond simplifying the process of enrolling in private insurance coverage; they also offer access to two types of financial assistance to those who qualify: premium tax credits and cost sharing subsidies. Premium tax credits are available either in advance on a monthly basis and made payable directly to the insurance carrier to reduce the monthly billed amount, or in the form of a refund to the tax-filer upon year-end. Individuals and families between 100%-400% of the federal poverty level may qualify (Internal Revenue Service, 2014).

The second type of financial assistance that is available to marketplace enrollees is cost-sharing subsidies. This form of assistance reduces the cost of care rather than the cost of insurance. Individuals and families must fall between 100%-250% of the FPL to qualify for this benefit and enroll in a specific tier of Marketplace plans.

3.4 Market Regulation

The ACA removed a major hurdle to accessing coverage by requiring that all insurance carriers offer coverage to all individuals regardless of health status. By dis-allowing any previous underwriting practices that

excluded individuals with pre-existing health conditions, this important barrier to coverage was eliminated (Morris, 2013).

The market regulation also changed pricing structures. Individuals would now be “community rated.” All persons (male or female) of a certain age in a certain geographic area would be charged the same pricing. Additionally, the spread of pricing between young and older adults could only vary at a rate of 3:1. Further, the ACA required that young adults up to age 26 be allowed to remain on their parents’ coverage as a dependent. This provision went into effect right away after the law passed in 2010, and helps to account for the almost immediate reduction in the uninsured rate (Patient Protection and Affordable Care Act, 2010).

3.5 Consumer Assistance

The ACA required all 50 states to establish a Navigator program to assist consumers when purchasing health insurance in the marketplaces. States with an FFM or Partnership marketplace received federal grants to fund these programs. State-based exchanges were required to fund consumer assistance programs on their own. Partnership states also had the ability to supplement federal funding with state-funded Navigator grants. To be eligible to apply for federal and state Navigator grants, organizations had to meet a number of requirements, including being a community- and consumer-focused nonprofit group. Pursuant to the ACA, the duties of a Navigator include (Center for Medicare and Medicaid Services, 2013):

- Offering expertise and education on eligibility, enrollment, and coverage details for each health insurance plan available on the marketplace.
- Facilitating the enrollment process.
- Providing culturally and linguistically appropriate services.
- Providing referrals for insurance conflict resolution for enrollees and complaints or concerns.

The ACA established resources to enable individuals and small businesses to become aware of the marketplace and the health insurance plans offered, as well as how to select a plan based upon the needs of the individual or small business. Initially, the legislation provided one specific entity to tackle this endeavor in an impartial,

unbiased, and culturally sensitive manner — the Navigator. In addition, the ACA called for the availability of federal grant funding for which organizations could apply in order to support the costs of recruitment, training, and supporting individuals in these roles throughout the country. However, during the implementation process it became apparent that more assistance would be needed. Many states (with either state-based or partnership exchanges), created a secondary role — with approval from HHS — often referred to as “in-person counselors” or “in-person assisters.” Finally, the federal government also defined a third role affiliated with the marketplaces named Certified Application Counselors. Licensed and certified health insurance brokers also continued to provide marketplace consumer support; upon successful completion of a federal certification process, these professionals were allowed to assist individuals and families enrolling in coverage (Center for Medicare and Medicaid Services, 2013).

As can be seen in Table V, there are no differences in the scope of work between Navigators and In-Person Counselors, other than who runs the program and how the program is funded. Certified Application Counselors, however, have a significantly different scope of work. Although their function and duties are similar to those of the first two support roles, Certified Application Counselors have a more limited role and are not be expected to do the same level of outreach and education. In addition, they are ineligible for federal or state grant money. As a result, the Certified Application Counselors typically work within a hospital or healthcare setting, and their functions will likely be added to the job descriptions of existing community health workers, social workers, and other administrative/support staff employed by healthcare providers as Navigator and In-Person Counselor funding sunsets.

3.6 The Setting in Illinois

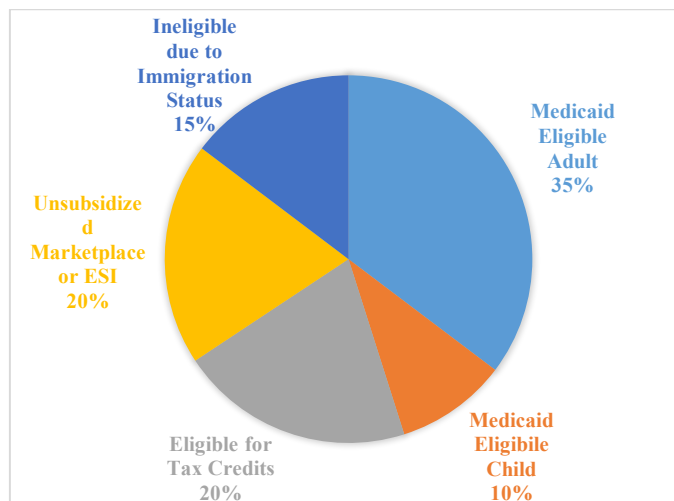
As illustrated in Figure 3, The Henry J. Kaiser Family Foundation created initial eligibility projections for enrollment in Illinois, which suggested that about 85% of uninsured nonelderly people in the state were eligible for health insurance coverage through either Medicaid or the Marketplace. Of that total population, 46% were eligible for either Medicaid or the Children’s Health Insurance Program, also known as All Kids; and 21% were eligible for premium tax credits to subsidize the cost of coverage in the Marketplace. The remaining 20% would

be able to buy in the Marketplace without tax credits, or potentially access Employer-Sponsored Insurance (ESI). Finally, Kaiser went on to estimate that 15% of the uninsured population would remain so, given their ineligibility due to immigration status.

TABLE V
TYPES OF MARKETPLACE CONSUMER ASSISTANCE

	Navigators	In-Person Counselors	Certified Application Counselors
Managing Organization	Federal Government	State Government	NGOs and Healthcare
Training	Federal Online, State In-Person Certification	Federal Online, State In-Person Certification	Federal Online
Funding	Federal grant	State Grant	Not Grant Funded
Role	Outreach, Education and Enrollment	Outreach, Education and Enrollment	Enrollment

Figure 3. Expected Illinois insurance pathway eligibility



There were a number of noteworthy policy decisions in the State of Illinois. First, Illinois initially pursued the development of a state-based exchange with the introduction of Senate Bill 1555 in 2011. This legislation passed in the Senate and had the support of the Governor's Office. The bill did not pass in the House. Although the State still intended to move forward with a state-based exchange in the future, Illinois submitted an interim proposal to be accepted as a "partnership" state and was approved conditionally (United States Department of Health and Human Services, 2013). Upon the receiving conditional approval to move forward as a partnership state, Illinois had a number of tasks to accomplish. First, partnership states were expected to contract with insurance carriers to provide approved, qualified health plans in the marketplace. In addition, Illinois was committed to providing a "no-wrong door" policy to anyone that accessed the marketplace. This meant that even if someone were to qualify for Medicaid, as opposed to coverage through the marketplace, they would be able to get information and apply for both options all through the same forward-facing website. Finally, Illinois created a grant-based program for "In-Person Counselors" to locally augment the federal Navigator program.

Illinois Insurance Navigator Act

In August, 2013, Governor Quinn signed into law a bill specifying certification requirements for Navigators and In-Person Counselors. The certification process required these entities to "successfully complete[d] the federal and State training provided by the exchange," before performing any navigator or counselor duties (Illinois General Assembly, 2013). The federal training program "includes multiple courses which provide approximately 5-20 hours of training," depending on the type of consumer assistance role. The program is strictly online and, in order to be certified, assisters must complete all required courses and pass a certification examination at the end of each course. Certifications are valid for 12 months and must be renewed annually. Assisters must also register with the marketplace, complete identification verification, and disclose any potential conflicts of interest. Federal training topics are listed in Table VI (United States Department of Health and Human Services, 2013). In addition to completing the federal online training program, individuals in Illinois were required to participate in in-person training from the state's training partners at the University of Illinois-Chicago (UIC). In-person training was conducted in various locations across the state, and all training was provided free of charge (Illinois Department of Healthcare and Family Services, 2013). The team that collaborated to develop the

state training included subject matter experts from diverse backgrounds including academic, legal, community organizations, insurance professionals, and government policy. Each participant was charged with creating content, writing objectives, developing appropriate assessment tools and, in most cases, delivering training material in both online and in-person mediums. All training partners completed a UIC Ethics certification, the training program (as well as any evaluation of it), and received IRB approval in 2013. All training content received approval by the State of Illinois marketplace team.

TABLE VI
FEDERAL NAVIGATOR TRAINING TOPICS

1. Background Information	7. Assistance in the Individual Marketplace	10. Working Effectively with Vulnerable and Underserved Populations
2. Health Insurance Basics	8. Assistance in the Small Business Health Options Program (SHOP) Marketplace	11. Working with Consumers with Disabilities
3. Affordable Care Act Basics	9. Cultural Competence and Language Assistance	12. Community Outreach
4. Marketplace Basics		13. Privacy and Security Standards
5. Eligibility and Enrollment through the Individual Marketplace		14. Customer Service Standards
6. Standard Operating Procedures (SOP) Manual		

3.7 Curriculum Development and Training Protocol

Illinois developed a curriculum that equipped this new workforce with knowledge to focus on individuals that have historically had extensive barriers to coverage. This supplements the federal training and includes modules such as Medicaid in Illinois, Special Populations, Health Disparities, Communication Barriers, and Health Literacy. The curriculum team spent several months completing a final product, which consisted of three days of training (one online and two in person). Navigators and assisters must complete a multi-step training program that includes the following components:

1. Federal online training modules

2. A three-day blended online and in-person state-based training
3. Pre and post assessment test
4. Certification through the Illinois Department of Insurance

The three-day blended training consists of 14 modules and corresponding learning objectives as shown in Table VII. To enhance learning during the three-day process, the curriculum development team employed a variety of methods rooted in Adult Learning Theory (Knowles, 1995). Methods included: traditional lecture, case studies, observational learning, game/activity-based learning, asset mapping and networking/peer education.

TABLE VII
ILLINOIS NAVIGATOR TRAINING TOPICS

Module Title	Learning Objectives
ACA Overview	Who are the uninsured? What historically have been the barriers to coverage?
Roles/Responsibilities	Understand the roles and responsibilities of Assisters.
Ethics	Define ethics. Apply the principles of ethics to the role of Assister.
Culture of Coverage	Explore the Shared Responsibility Provision. Define Minimum Essential Coverage.
Core Eligibility	Introduce the Pathways to Coverage. Define the landing page. Explain the impact of citizenship, income, tax filing status, and household size.
Medicaid and ABE	Understand what Medicaid is and distinguish between the various types. Know the basics of using the ABE portal and screening for public benefits. Understand what programs a consumer can apply for using ABE. Effectively explain the application process to the consumer.
Do You Speak Insurance?	Insurance basics. Understand managed care. How does a plan work? Alternative Options: Consumer driven plans and health savings accounts. Additional coverage commonly available
The Marketplace	What is the Marketplace? What is covered? What does coverage cost? Individuals and families in the Marketplace. Advanced premium tax credits. Cost sharing reductions.
SHOP	Anticipate likely situations encountered by assisters. Develop familiarity with employer options and questions. Prepare for guiding employers interested in the Marketplace. Recognize the limits of your knowledge and provide employers with the best assistance.
Special Populations	Demonstrate the ability to identify various special populations and know the unique requirements for coverage through ACA. Be able to effectively refer and assist special populations with navigation of health coverage options. Understand how specific current benefit programs will change or transition due to full implementation of ACA (i.e. treatment for breast or cervical cancer, I-CHIP, IPXP, CountyCare, Illinois Veterans Care)
Post-Enrollment	Describe the parameters newly insured must follow to pay premiums and stay covered. Explore resources available to assist the newly insured with problems or conflicts that arise when using insurance coverage post-enrollment.
Bringing it All Together	Review the course content and provide an opportunity for discussion and clarification. Demonstrate knowledge of the Marketplace and Medicaid through the case scenarios.
Communication and Health Literacy	Describe techniques and tools for enhancing communications. Examine the importance of language, literacy, and culture in communication Explore techniques for effective communication. Discuss issues related to translation and interpretation. Identify cultural norms and interpretations that may impact interaction and create barriers to optimal care and treatment. Understand barriers to enrollment and develop strategies to overcome these barriers.
Community Outreach	Understand what a community assessment is. Know the three key areas for uncovering community assets. Identify and map resources in the community. Understand how to develop a resource directory.

4 THEORETICAL FRAMEWORK

This study uses a framework that connects two key theories that are often used in understanding health promotion. The first theory relates to the decision-making process. We can think about the process of making a decision to do something, in the case of this study, that is measured by either the decision to enroll in and maintain health insurance coverage, or the decision to offer employee wellness programs. Individuals and organizations gain information and awareness about a new opportunity or innovation and then decide how and whether to act upon it. This process is outlined in Roger's Diffusion of Innovation Theory. However, when a decision is unfamiliar, confusing or stressful such as the reported choice to enroll in health insurance or offer health benefits, sometimes the reliance on external decision-making support becomes important. We can bring in the second theory to characterize the ways that this support is provided, by looking at each of the three dimensions of social capital, and understand how those can ease the overall decision-making process. This chapter examines each of the two theories independently and then goes on to describe how we expect them to be connected specifically in the context of ACA health insurance enrollment and wellness program offerings.

4.1 Diffusion of Innovation Theory

There are several challenges and barriers that could impede the success of the ACA. Although the ACA eliminated or reduced many barriers to accessing insurance coverage, the Navigators are still working with a population of uninsured individuals that have low levels of health insurance literacy (Politi, 2014). There is also significant misunderstanding and misperception about the ACA and its benefits (Gardner, 2013; Hamel, 2014; Long et al., 2014). In addition, financial barriers still exist, especially in the Marketplace where individuals need to be persuaded not only to enroll in coverage, but also to pay their premiums on an ongoing basis. Finally, there was a shortened time frame, and an urgency to make progress on the rate of the uninsured – both in terms of open enrollment cycles as well as Navigator grant-funding availability (United States Department of Health and Human Services, 2013).

To understand the process by which individuals learn about the ACA, decide which parts to act on, and ultimately take-up the new benefits available to them, I use Diffusion Innovation Theory to frame my questions.

Diffusion Innovation Theory, first documented by sociologist Everett Rogers (1995), is not specific to health innovations, but is often used in studies exploring the impact of health promotion including demonstrating how interpersonal communication can be used to promote sexually transmitted diseases and HIV prevention behaviors (Valente and Fosados, 2006) and how best to encourage physical activity in schools (Glowacki et al., 2016). Rogers suggests that individuals and groups accept new concepts, innovations, and activities at variable rates, but that the rate is impacted affected by some explainable factors and further, follows a clear pathway that can be influenced externally. In the case of the ACA, navigators were largely developed to facilitate the process through which uninsured individuals chose to adopt health insurance from the exchange. As a result, we will describe how navigators could affect the diffusion process. As demonstrated in Figure 5, Rogers proposes five distinct phases through which a decision-making unit proceeds when met with a novel idea: knowledge, persuasion, decision, implementation, and confirmation. In the case of the ACA (i.e. the “innovation”), the decision-making unit considered by this research is the uninsured individual.

The first phase is knowledge, wherein an individual receives information about the ACA. This could be related to the mandate to purchase coverage, the different pathways to gain coverage, or the existence of the law in general. That information is filtered through the individual’s lens, which includes their sociodemographic characteristics, personality traits, and capacity for health insurance literacy.

Persuasion is the second phase. Upon receiving this information, the individual begins the process of determining which pieces of this innovation are applicable and beneficial to him or her. The individual will also begin to assess their willingness and ability to test out or try the innovation. Individuals in this phase are observing the available information about the innovation and determining how persuasive they find the information that they have received. Further, they are gauging whether or not the information can be trusted.

In the decision phase, the individual will choose to either adopt or reject the innovation. In the case of the ACA, based on what was learned and applied in the first two phases, an individual would decide whether they plan to adopt by signing up for health insurance coverage or reject by selecting to remain uninsured.

Implementation is the point of taking action based on the decision that was made. For instance, if an uninsured individual decides to sign up for health insurance coverage, they then have to go through the steps of

registering, which is a long process in itself. This phase of the model requires ongoing communication with the decision-making unit because they must understand the process by which to take action on their decision.

In the final phase, confirmation, the individual reflects on the persistence of one's decision over time. An individual's initial decision may or may not remain consistent over time. He or she may change their mind later—those who initially adopt may later discontinue, and those who initially reject may later adopt.

4.2 Diffusion of Innovation and the Affordable Care Act

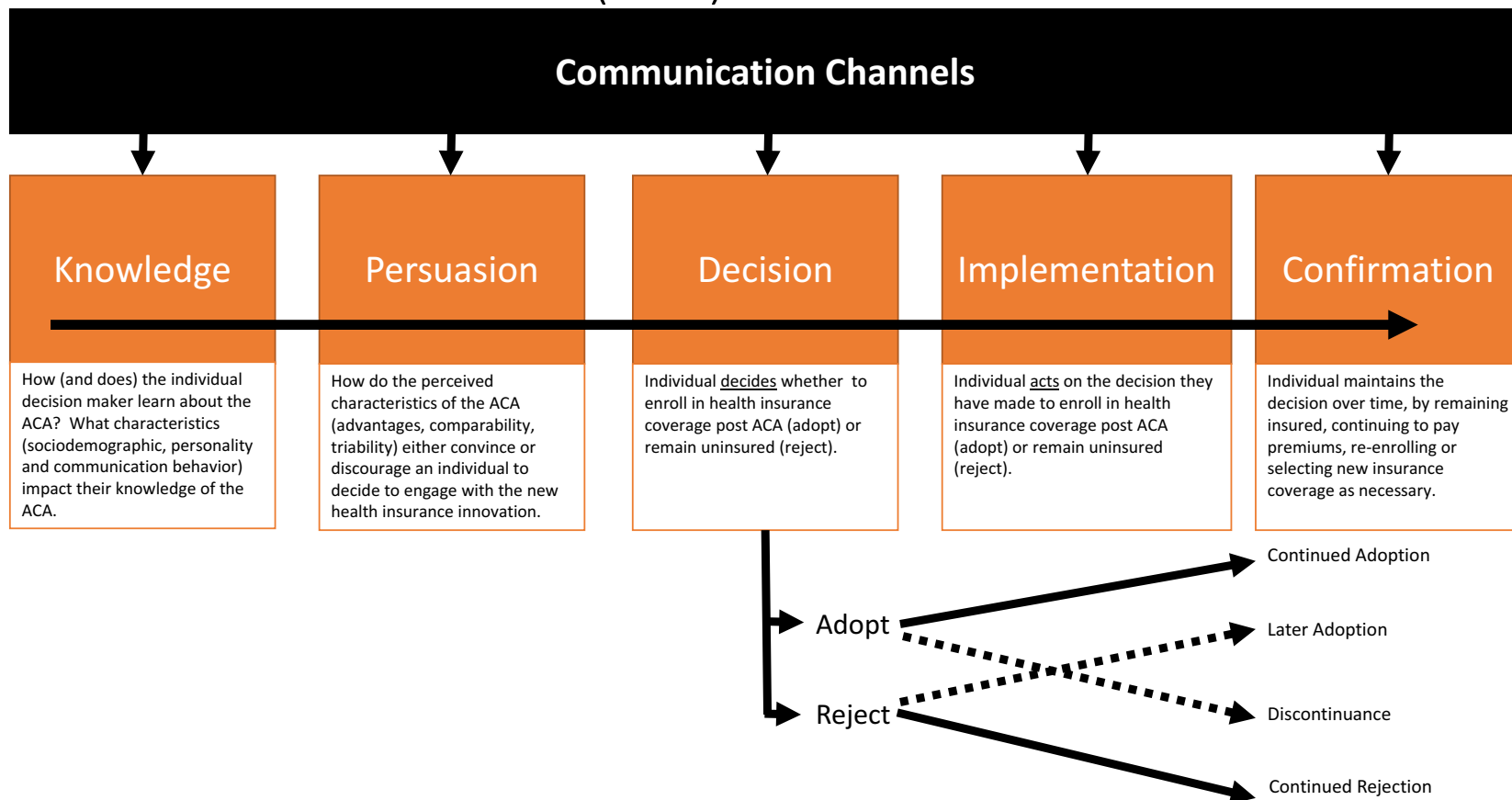
We can conceptualize specifically how this theory can be applied to the decision-making process that goes along with the Affordable Care Act. While the ACA on its own removed barriers to insurance coverage, and created new pathways to encourage enrollment, as well as penalize the choice to not enroll – there was still recognition, that individuals and certain groups would experience this process differently. By including funding for ACA Navigators, this policy hoped that adoption could be accelerated and distributed more equitably among groups with traditionally higher rates of uninsurance. Each individual, while mandated to carry health insurance coverage, must participate in each of the decision-making steps along this model before ultimately choosing to or not to act on the decision to enroll in health insurance coverage. Examples of how each step links to this decision-making process can be seen in Figure 4.

4.3 Social Capital Theory

Social capital refers to resources leveraged by individuals and groups in a shared social context that may enhance collaboration, facilitate work towards a common good, and that can reinforce social norms (Coleman, 1988; Veenstra, 2002). It can also be thought of as the network of cooperative relationships between citizens that facilitates resolution of problems (Veenstra, 2005). Social capital has been observed at both the individual and the group or community level (Veenstra 2000; Veenstra, 2005). The community level application of this theory suggests that individuals may report accessing varying levels of social capital as a function of community attributes, such as a high level of trust or cooperation among residents. Further work has established a link between social capital and health outcomes, activism, and even voter turnout (Atkinson and Fowler, 2014).

Figure 4. The diffusion of innovation model and the Affordable Care Act (ACA)

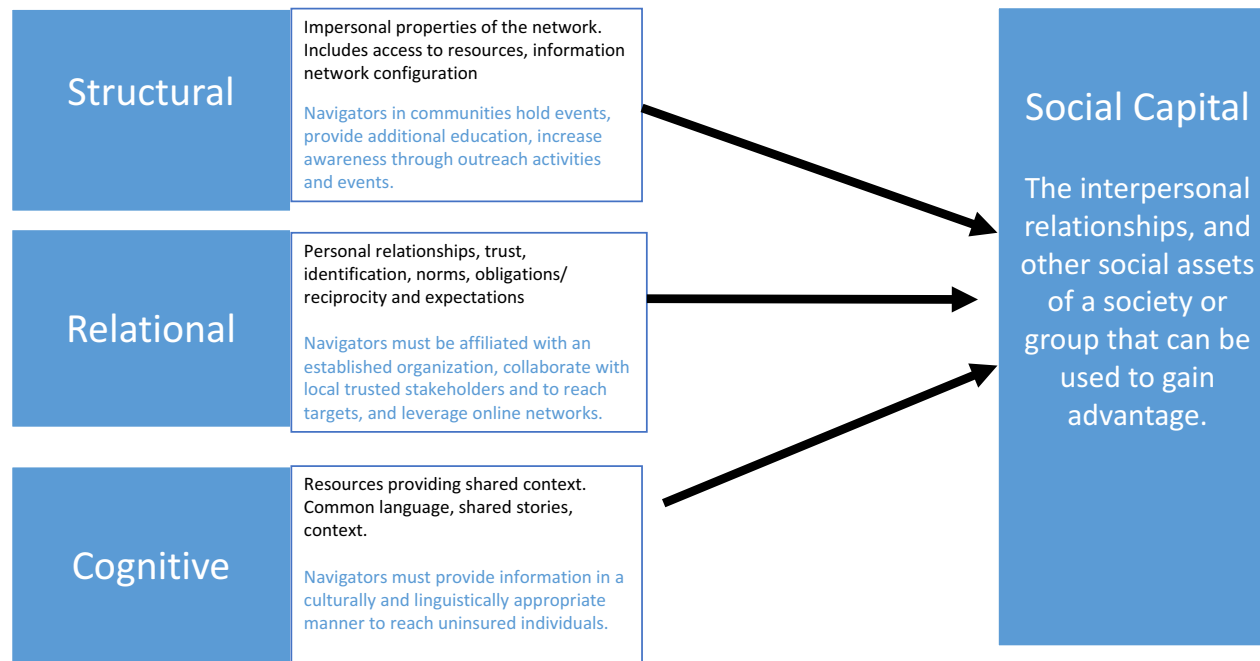
The Affordable Care Act (ACA) & Innovation Diffusion



The presence of strong inter-personal networks –and their impact on norms and ability to influence behavior – suggests that utilizing these structures (which support strong social capital) to promote the ACA could improve uptake of insurance coverage. The dimensions of social capital are often categorized into three groups – structural, relational and cognitive (Nahapiet and Ghoshal, 1998). The structural dimension is composed of the impersonal properties of a network. This includes network configurations (Kilduff and Krackhardt, 2008) including access to network resources and information and beneficial network positions, as well as, the strength of network ties (Granovetter, 1973). When we think about the strength of ties, Granovetter outlines that although strong ties – for example between family and friends are extremely influential, even weak ties, such as those with acquaintances can have impact on our behavior and choices. The next dimension examines the social capital found within personal relationships, trust, identification, norms, obligations/reciprocity and expectations – all are the key hallmarks of the relational dimension. Relational social capital can be internal among employees of an organization or external among the organization, its actors and the external stakeholders. Evidence of positive relational capital has been shown to influence student achievement (Leana and Pil, 2006) as well as having the potential to drive reform within primary healthcare systems (Scott and Hoffmeyer, 2007). Finally, the cognitive dimension is characterized by the resources that provide shared context. This could include common language, shared stories, and cultural context (Uphoff, 1999; Krishna et al., 2002).

In the structural dimension, we can envision navigators positioned within communities — as a function of the organizational grants they receive. As a result, navigators must be affiliated with an established organization, collaborate with local trusted stakeholders both within the healthcare system, as well as outside of it. The ties and bonds that link navigators directly into the community both interpersonally with the uninsured population as well as their online presence could support the relational dimension. In these settings, they provide information and support in a culturally and linguistically appropriate manner to reach uninsured individuals, which could be linked to the cognitive dimension. Each of these dimensions and how this may be applied within this environment are shown in greater detail in Figure 5.

Figure 5. Dimensions of social capital leveraged by the ACA navigator



4.4 Synthesizing the Diffusion of Innovation and Social Capital Theories

The studies in this dissertation connect both models to describe the effect that a Navigator will have on a given community's health insurance rates. This connection has been explored narrowly in other studies – specifically in one examining the usage of computer technology in schools (Frank et al., 2004). Kenneth Frank and his colleagues find that when “change agents” within a school draw on social capital as part of their resource set, the diffusion of new technology in the classroom is positively influenced. This is a function of teachers being willing to talk to, and help one another with the new innovation – mainly because they are part of a shared group with a common fate. To our knowledge, the connection of Social Capital Theory and Diffusion of Innovation has not been considered in the case of health insurance decision-making. By definition, ACA Navigator organizations were expected to must have strong ties to the community, be part of established organizations, and be linguistically and culturally sensitive to the uninsured individuals they seek to work serve. Like the teachers within a school all learning about a new computer classroom technology together, the presence of a Navigator should enhance the social capital of that community, and use it to positively impact the decision-making unit as they determine whether or not to enroll in insurance coverage. Navigators, through their own social capital and the networks they belong to, can amplify the message to the uninsured, be trusted in their persuasiveness, and can effectively speed up the adoption process ensuring quicker or greater uptake among the target populations.

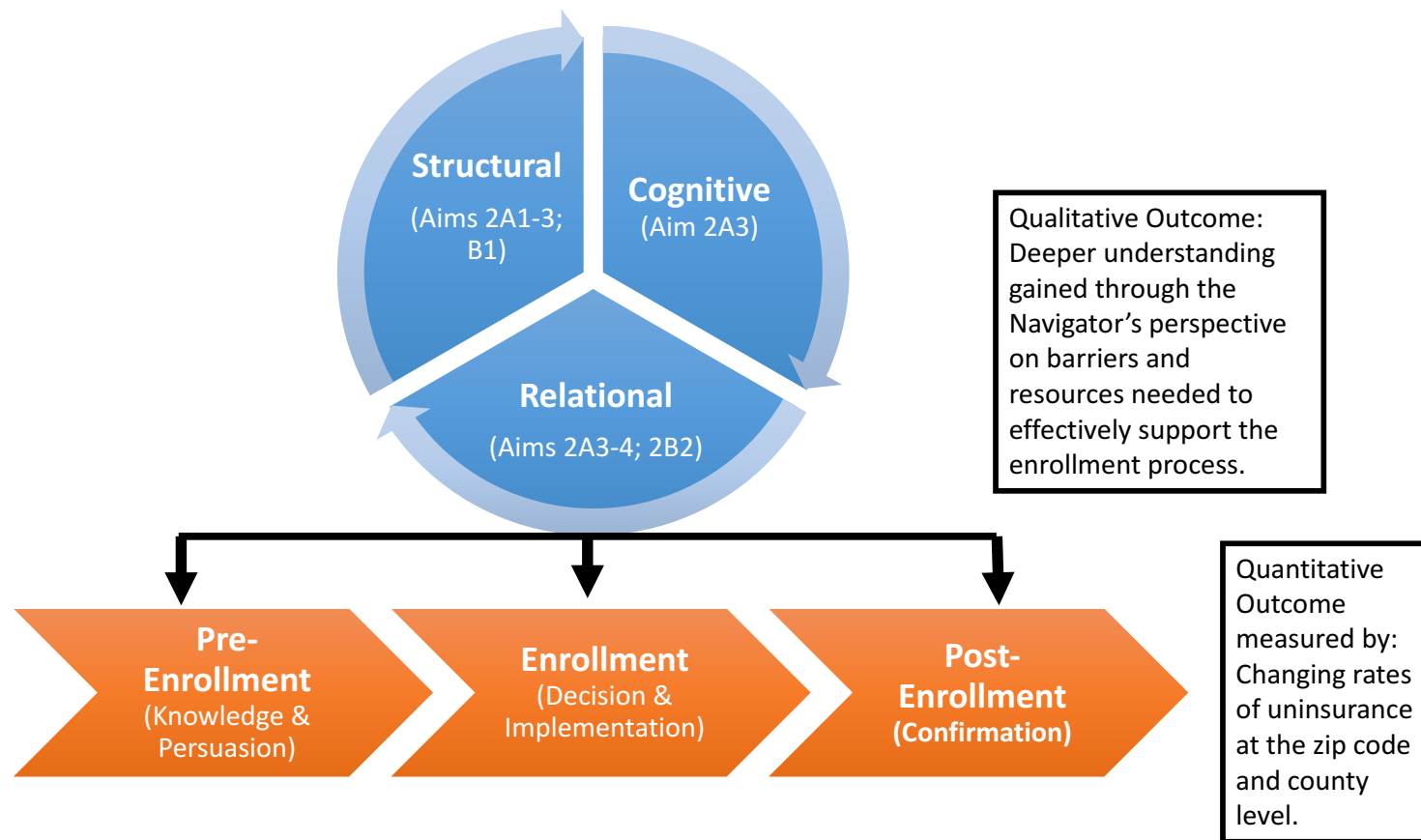
4.5 Conceptual Model of the Research Study

This conceptual model brings together components of each of these two theories, and with the data available allows us to test whether or not the social capital brought to communities and organizations by forms of external support like Navigators and Brokers are associated with eased health insurance decision-making (measured mostly in part by greater uptake). The innovation diffusion model is considered in a more informal series of phases in the decision-making process related to health insurance. The ACA has three phases of enrollment that the navigators work to facilitate. First, Pre-Enrollment, which maps closely to the activities described in the knowledge and persuasion stages of diffusion. This involved conducting activities intended to increase knowledge about the new insurance options, financial assistance and eligibility as well as building trust in the

system. Next, enrollment describes activities related to the decision and implementation stages. It involved assessing eligibility, plan choice and the actual enrollment into a plan. Finally, the Post-Enrollment stage aligns with confirmation, where participants experience satisfaction or regret with their decision – this is observed by whether coverage is activated or not. Does the individual complete all remaining steps after enrollment – including but not exclusively paying the insurance premium. This is a key step, because just enrolling in coverage does not change the uninsurance rate in a community. Following the enrollment, the coverage must be activated and continued over time.

Each one of these three areas are wrapped within the context of social capital. All three enrollment phases could be impacted by any one of the three social capital dimensions. Figure 6 displays this model, linking it to the research aims that will be tested in this study, as well as the key outcome measures – for both the qualitative and quantitative components of the overarching project.

Figure 6. Conceptual model of the research study



5 REVIEW OF THE LITERATURE

5.1 Health Insurance and Health Status

The health insurance industry began to gain prominence as a desired product in the 1940s. As scientific advancements in medicine led to increasing cost and availability of healthcare, patients began demanding additional mechanisms to fund newer, more expensive treatments and life extending care (Morrisey, 2014). The insurance product itself evolved over time, and became a desirable employer-based benefit when the IRS tax law changed in 1945 to allow premium costs to be provided pre-tax (Kongstvedt, 2016). While insurance created the desired funding mechanism to obtain health care – little was understood initially about the impact of an individual having health insurance on their health behaviors and ultimately their health status. Two important studies in the late 20th century, the Rand Health Insurance Experiment and the Oregon Health Insurance Study go on to provide insight into the impact of this expanding industry on patient health-seeking behavior.

Between 1971 and 1986, The Rand Corporation conducted a seminal study on the impact of health insurance cost sharing on healthcare utilization and health status. The RAND Health Insurance experiment compares two randomly assigned study groups, with individuals assigned to either a Health Maintenance Organization (HMO) or a Fee for Service (FFS) health plan. A key finding of this longitudinal study is that individuals in health plans with cost-sharing features used fewer health services than those in plans with no cost sharing (Lohr et al., 1986). One initial concern about health insurance, was that plans with cost-sharing might cause individuals to not receive or seek out appropriate care, thereby producing worse health outcomes. However, upon later reflection Rand found that in general, the reduction in services had little impact on participant's health – with a few exceptions – patients that received free care did show an improvement in the control of hypertension, vision and dental problems as well as other additional serious chronic symptoms (Rand Health, 2006). Although the Rand Health Insurance Experiment remains one of the most significant contributions to our understanding about the structure and impact of health insurance, it is not without its critics. As the study has been re-examined over time some of Rand's findings have been questioned. Some critics challenge the study's overall validity, as during the study period, the attrition in the HMO arm of the study was higher than that of the FFS arm, thereby making it difficult

to determine the true impact of cost-sharing on utilization and health. Further, more subjects in the HMO arm dropped all together, and some of the subjects moved and were subsequently migrated to the FFS plan (Hay and Ricardo-Campbell, 1986; Nyman, 2008). A subsequent review found that while the study design challenges are a concern, that the results are still robust, but perhaps not at the magnitude that Rand originally reports – and perhaps not necessarily generalizable outside of the experimental context using the methodology available to researchers at the time of original publication (Aron-Dine et al., 2013).

It is important to recognize that all participants in the RAND study had some type of health insurance, there was not a comparison group that was uninsured – that allowed us to understand the impact of just having health insurance in general. This question has been historically difficult to estimate given the significant behavioral and health differences that can be observed between uninsured and insured populations. However, in 2011 – through a unique approach to a randomized control study – this was tackled in the Oregon Health Insurance experiment. The state of Oregon decided to expand their Medicaid health insurance coverage to a newly eligible group of low-income, formerly uninsured participants. The budget for the expansion would not be able to accommodate all interested applicants, so a lottery was created. Given that the “winners” of the Medicaid lottery were chosen at random, the causal effect of the coverage could be estimated over time. In the initial analysis of the experiments effects, the authors estimate a 25% increase in yearly health care costs and utilization as a function of Medicaid enrollment (Baicker and Finkelstein, 2011). As further analysis was done on this study, the impact of Medicaid coverage on health status yielded mixed findings. The coverage did not appear to generate significant improvements in most measured physical health outcomes in the first 2 years of the study. However, it was shown raise rates of diabetes detection and management and lower rates of depression. (Baicker et al., 2013).

While the RAND and Oregon experiments are seen as the gold standard of studies contributing to the understanding of the relationship between health insurance, health care utilization and health status other work has provided additional insight into its importance as well. Several disease specific studies share insight into this relationship, showing worse outcomes and higher mortality rates related to stroke, congestive heart failure, diabetes, and heart attacks (Institute of Medicine, 2002). Among a group of cancer patients in New Jersey, the

uninsured population had a higher mortality risk 5 years following diagnosis (41% - 97%) than those that were insured even when controlling for all available traditional prognostic variables (Niu et al., 2013).

When exploring the literature around social determinants of health, health insurance is seen primarily as a measure of health care access. Access to health services is one of the five core determinants (in addition to biology and genetics; a person's behavior; social and geographic context, the environment) – and having health insurance eliminates or reduces the financial barriers to accessing care (Centers for Disease Prevention and Control, 2014). That said, some evidence suggests that the insurance itself is only a small piece of this overall puzzle and that the other determinants play a more critical role (Stewart et al., 2014).

5.2 Consumer Demand for Health and Health Insurance

If we understand that the health insurance has an impact on health care utilization and health outcomes, from an economic lens, we might hypothesize that the decision-making process when it comes to buying health insurance would be related to the consumer demand for health and the individual's overall risk tolerance.

Beginning in 1972, Michael Grossman developed the Human Capital Model to explain the demand for health and healthcare. Grossman argues that individuals invest in themselves through education, employment, and health to increase their earning potential over time. This model recognizes that it is not specifically medical care or health insurance that the consumer demands, but rather what those things can lead them to – health. Grossman describes health as an asset or a form of capital, which we are able to invest in over time to maintain and replenish our stock of health. The more we value our health, the more of our limited stock of time and money we will “spend” to invest in our health. To make rational decisions about these investments, traditional demand models require that we understand the costs involved, pricing, the quality of different investments, and the health outcomes they can be expected to produce.

However, the complication for health consumers is that they must make decisions under extreme uncertainty. No one can know precisely what their stock of health is at any given moment, or how slowly or quickly it may erode in the future. Additionally, no one is able to gauge precisely what the pricing or costs are of investments in health today or in the future. Subsequently, all health investments are made under some condition of risk. The

level at which an individual is indifferent or averse to risk can help to predict whether and how much insurance they will purchase, given that insurance is a tool or a product to shift that risk from oneself to a third party entity. (Green, 1963; Chatterjee, 2010). The majority of existing research on risk aversion focuses on two areas, the measurement of risk aversion, and the sociodemographic variables associated with risk aversion. The key variables that have been explored include gender, age, family status, education level, race/ethnicity, work status and occupation (Outreville, 2014; Ottaviani, 2015).

The study of the demand for health insurance in the United States can be traced back to a debate in the 1960s between Kenneth Arrow (1963) and Mark Pauly (1968) over whether or not the government should develop a national health insurance program. Arrow posits health insurance markets actually are incapable of transferring risk for the thing that people are most concerned about – the loss of health and utility when faced with an adverse medical situation. Individuals are able to transfer some financial risk, but the uncertainty of the medical market and medical outcomes make this product fundamentally flawed, and unsuitable for a market-based industry – thus arguing for government sponsored healthcare.

Pauly, conversely, focuses on the phenomenon of *ex-ante* moral hazard – and the consumer behavioral flaws in the demand for insurance. *Ex-ante* moral hazard describes behavior prior to an event. In the case of health insurance, prior to enrolling, an individual may act more prudently – with respect to investments in health and avoidance or risky behaviors. However, following health insurance enrollment, which lowers the cost of care and the overall risk associated with unmet medical needs, they will then change their behavior – acting in a more hazardous manner and consuming medical care at a higher rate. Pauly suggests that this would be especially problematic to the broader medical care market, and under a scenario where the government provided all healthcare. Moral hazard would drive significant over utilization and actually function as welfare reducing (Pauly, 1968).

In the end, neither Arrow or Pauly's argument won out exclusively. From the 1960s through today, the United States uses a hybrid structure to the insurance market – part of the country is covered through public or government insurance (Medicare and Medicaid), and part through the private market either through employer sponsored group coverage, or less commonly as individuals. Beyond this, we also still observe a large number of

individuals that are uninsured. The decision about whether or not to enroll is not based solely on risk aversion, moral hazard or classic theories of demand. As a result, the traditional economics of consumer demand for health insurance does not seem to fully explain why we might continue to have large numbers of uninsured individuals. This holds especially true, when models related to risk aversion and moral hazard are based on the presumption of rationality in individual insurance take up and decision-making. It is more likely, that we should not ignore an individual's psychological and emotional characteristics that drive their responses, as they may play as critical of a role in the decision-making process as well. (Baicker, 2012).

5.3 Health Insurance Choice and Decision-Making

Most of the studies on health insurance decision-making prior to the ACA's passage have been conducted in work-based settings and focus on employee's health insurance choices when presented with more than one employer based option. The majority of what we understand about the health insurance decision-making process is focused on exploring traditional economic theories that focus on utility maximization and adverse selection. Generally, findings observe that the more an individual needs access to health care, the more likely they are to purchase health insurance – and specifically to choose more generous plans (Cutler and Reber, 1998). Further, there appears to be great variation in price sensitivity to expected healthcare costs related to age and previous healthcare encounters (Strombom et al., 2002).

Over time, several studies have attempted to quantify the price sensitivity of demand for health insurance outside of the employer based market. Depending on whether the studies look at individuals or families, there seems to be a range between -.4 to -1.3; which suggests that a 10% decrease in the premium costs of health insurance would reflect a 4% or 13% increase in take up respectively (Marquis and Long, 1995; Gruber and Poterba, 1994). In 2005 the Congressional Budget Office (CBO), published a study which attempted to isolate the effect on people that had historically been uninsured for the purpose of understanding the impact of government subsidies that could be implemented in healthcare reform, and found the elasticity to be at -.566 for their full sample, but at a higher level of -.843 for those under 200% of the FPL. All of these studies suggest that

subsidies could motivate some additional take up, and ability to reduce the rate of uninsured, but would still not account for all variation in the decision to enroll or not in health insurance.

Many studies have observed that individuals with an existing health insurance plan, will be unlikely to switch, even if presented with a plan that is seemingly more beneficial, and of those who do switch report lower satisfaction with the resulting plan. This suggests high switching or transition costs related to the process of choosing and enrolling in health insurance coverage as well as high likelihood of making a mistake in the choice (Davis et al., 1995; Sinaiko, 2011).

Finally, all of these factors that can inhibit effective health insurance decision-making create an overall negative perception of the experience. Consumers report “dread” when selecting health insurance and struggle most specifically with determining the differences between price, value and features like cost-sharing (Quincy, 2012). This level of struggle can cause consumers to abandon the health insurance enrollment process all together. This phenomenon is not exclusive to health insurance, the experience of “choice overload” or “choice paralysis” wherein the process of making a decision is too difficult, so it becomes more appealing to make no choice at all has been observed in a variety of settings including retail, education, employment opportunities, and retirement benefits (Iyengar and Lepper, 2000; Gonzalez, 2007; Schuler, 2012; Schwartz, 2005).

Each of these factors, which have been traditionally identified as impacting the demand for health insurance, help to build a case for reasons why ACA Navigators might help encourage the quicker diffusion of health insurance enrollment. There are many barriers (price sensitivity, high switching costs and choice overload) that would hesitancy and avoidance among the uninsured in signing up for coverage. Each of which could potentially be worked through with in-person support from a Navigator. We will dig deeper into one such barriers – health insurance literacy, before examining how we can expect this type of in person decision support to benefit this population.

5.4 Health Insurance Literacy

There is evidence that greater understanding or higher literacy around health and health insurance is linked to health insurance enrollment, and greater ease in the decision-making process. Health literacy is a measurement of

a person's ability to access, explore, discuss, and understand core health information and services needed to make sound health decisions (Institutes of Medicine, 2004). Low health literacy is more commonly observed in particularly marginalized populations and among those with lower educational attainment and income due to institutionalized discrimination and racism that results in reduced access to education and resources. All of these traits are also related to uninsurance status, and therefore, the majority of the new target populations attempting to make new decisions about health insurance enrollment are likely to have low health literacy. As a result, this could impede the overall success of any attempts to expand health coverage (Rudd et al., 2007; Howard, 2009). A sub-category of health literacy that is especially relevant to this discussion is health insurance literacy.

Recently, researchers have attempted to document the range of literacy in this area, and part of the difficulty has been in developing a standard measurement tool. In 2013, a survey using both comprehension and calculation measures, found that only 14% of its 202 respondents were correctly answered all four of the questions regarding the core concepts of common health insurance plans: this includes deductibles, coinsurance, copays, and plan out of pocket amounts (Loewenstein et al., 2013). The following year, The Kaiser Family Foundation conducted a wider study (n = 1,292) and documented mixed levels of health insurance literacy – with over half of respondents scoring at least a 7 out of 10. On the opposite end of the spectrum, they find that just over a quarter of the sample gave correct answers to 4 or fewer questions, and of those, 8% were unable to answer any correctly (The Henry J. Kaiser Family Foundation, 2014). The groups that scored the lowest had lower education attainment, were younger, and uninsured. In the same year, a more in depth qualitative inquiry of uninsured, mostly Black adults revealed that most had little or no experience with health insurance terminology (Polti et al., 2014). Further, recent studies that have attempted to simulate the experience on the health insurance marketplaces directly, also note the importance of numeracy in the health insurance decision-making process – and the ability to perform core mathematical functions (Barnes et al., 2015; Politi et al., 2016).

Health insurance literacy may be difficult to quantify in a form that is useable for creating effective interventions. Going beyond simple factual knowledge based, questions – we must also recognize the role of emotion, confidence and belief in one's ability to make the right choice. The testing of a Health Insurance Literacy Measurement scale revealed that self-efficacy can help predict whether an individual will enroll in health

insurance or seek out care with confidence about the way the services will be covered under their plan (Paez, 2014).

5.5 Decision Support in Health Insurance Decision-making

When you layer the psychological, emotional, and knowledge based barriers to the enrollment and purchase of health insurance, it is understandable that individuals will look externally for support to simplify the process. Since the changes to the individual health insurance market were enacted in 2014, much academic attention has been paid to describing and measuring the types of decision support that have been most commonly utilized.

First, we must we must consider the ways in which individuals seek out decision-making support. Among health insurance information seeking behaviors most frequently focus on traditional media (TV and print) as well as new media (internet), though often report all media sources as being low on the trust scale. Individuals also seek information from personal relations less frequently but find them more trustworthy (Erlyana et al., 2015; Furtado et al., 2016).

Given that the ACA marketplaces are online, the first type of decision-making support that has been observed is that which is embedded directly onto the websites, which are self-directed by the user. In the second period of open enrollment, Marketplaces included a variety of aids including default ordering of plans by consumer preferences, total cost estimators, quality ratings, integrated provider and drug look ups, and pop up definitions of terms (Wong et al., 2015). The Health Reform Monitoring Survey, conducted by the Urban Institute tested the usefulness of these types of tools, and examined the effect of providing total costs estimates on insurance choice in a large randomized study of 7,648 individuals. Half of the participants received personalized cost estimates, which resulted in an increased probability of choosing a cost-minimizing option by 3 to 10.6 percentage points (Barnes et al., 2016a).

Moving a step beyond online user-based decision support tools, studies have gone on to test the impact of a more direct plan recommendation on health insurance choice. In one example, 656 low income rural residents in Virginia were placed into three arms of an insurance plan choice simulation. Participants could choose between enrolling in a plan or facing a penalty. The authors found that simulated recommendations from either the

government or a doctor increased the probability of choosing a plan, rather than paying a penalty by 21 percentage points (Barnes et al., 2016b). All of these studies suggest that the more personalized, the more interactive, the more robust a decision-support tool is, the more likely someone is to choose to enroll and enroll in a plan that best suits their needs.

5.6 In-Person Support and the Target Uninsured Population

Persons who are uninsured, with lower health insurance literacy have even greater challenges in choosing and enrolling in health insurance. A systematic review exploring evidence-informed approaches that have historically been used to communicate with populations similar to that of the uninsured revealed five key proposed strategies from the 19 studies that were ultimately included. First – leveraging existing partnerships with services the population already is using (e.g. local 211 line, SNAP, public housing programs) will expand reach, a focus on place-based education and outreach efforts (in local barbershops, libraries, churches etc.) will be more accessible, culturally sensitive messaging and messengers are critical, and finally the trust level of the information source can either boost or impede the overall signal (Kreuter et al., 2014). These strategies are aligned with the type of work historically engaged in by community health workers and patient navigators, two roles in the healthcare system that functioned similarly to that of the newer ACA navigators.

Prior to the ACA, patient navigators and community health workers were used both directly and indirectly within the healthcare system to help guide and assist individual patients with chronic, complex conditions – oftentimes cancer – that utilized significant amounts of ongoing care and multiple providers and facilities and often had additional external challenges in accessing care. Patient navigators are trained in everything from health disparities, to culture and diversity, to health system and community assessment (Calhoun et al., 2010). This broad knowledge base allowed them to address many of the underlying causes and risk factors for disease and illness including socioeconomic and language barriers, health beliefs, insurance coverage, access to care and health literacy (Natale-Pereira et al., 2011). Patient navigators and community health workers broadly have been shown to be effective in increasing cancer screenings, lowering child obesity rates, reducing unnecessary emergency department utilization and connecting patients to community resources (Rosenburg, 2011; Enard and

Ganelin, 2013; Yun et al., 2015; Loskutova et al., 2016). These strategies and the in-person approach of navigators and community health workers provide a good model to anticipate how similar populations might benefit from the newly developed, similar role of ACA Navigators.

5.7 Affordable Care Act Navigators

The ACA moved the model of in-person community based assistance and navigation to include health insurance outreach, education and enrollment to their suite of services and assistance, and provided significant grant based support to encourage them to do so (as discussed in Chapter 3). Since the ACA Navigator role has evolved they have observed in a variety of studies.

The Kaiser Family Foundation has been a long standing aggregator of data and information on ACA consumer assistance programs. In 2014 and 2015 they conducted a survey of directors of Navigator Assister Programs, which had 713 respondents, approximately 15% of the Navigator population nationally. Important findings from this survey include 79% of respondents noting that consumers sought out their assistance because they lacked the confidence to enroll in a plan independently, reported enrollment time of one to two hours spent with each new enrollee and consumer demand exceeding available Navigator capacity as reported by 20% of respondents (Pollitz et al., 2015). Grob and Schlessinger (2015), built on Pollitz's findings, including transcripts and testimony from a national navigator roundtable event hosted by Kaiser and The Robert Wood Johnson Foundation, and went on to note the importance of "high touch, multiple touch and continuity," when working with uninsured clients as well as how dramatic the need was for navigators to provide clients with health insurance education.

Following the first open enrollment cycle the Kaiser Foundation also led an in-depth qualitative inquiry with stakeholders in four states with state-based marketplaces that achieved success in ACA enrollment (Colorado, Kentucky, Washington, and Connecticut). One of their four key lessons learned was the importance of in person consumer assistance, specifically by "recruiting diverse navigators with ties to local communities; developing strong relationships between navigators and local health insurance brokers; coordinating navigators through a regional structure; providing readily available support to consumer assisters; and expanding call center capacity to

create tiered assistance levels (Artiga et al., 2014).” Researchers working on Navigator programs in Delaware, North Carolina, and Illinois published descriptive case studies sharing their experiences and challenges in the first two cycles of open enrollment, finding similar patterns to that observed by Kaiser’s larger national description of trends and in general all conclude that supporting in-person assistance programs is critical to enrolling individuals in insurance coverage (Kwon, 2015; Tripp, 2015; Vargas, 2016).

One other way that has been used to understand the role and importance of the navigator is to ask the individuals that have used their services. Kaiser employed a 3-year phone-based survey of 742 (2014), 804 (2015), and 786 (2016) adult U.S. residents that purchase their own insurance. Respectively, in each year of ACA enrollment 50%, 57%, 40% report using in-person assistance (Hamel et al., 2016). Enroll America conducted an online survey of over 3,400 consumers that were either uninsured or window-shopping for better coverage and who had attempted signing up for coverage. Results of the survey found that almost one-third of those who had in-person health insurance decision support during the process successfully enrolled. Only 16% of those who tried to enroll online and did not get in-person assistance were able to complete the process independently. Enroll America also observed differences by race, noting that Blacks and Latinos were 43% more likely to seek out in-person assistance as compared to their white counterparts (Enroll America, 2014).

The strongest published study to date providing evidence for the key role of in-person assistance in ACA insurance enrollment was conducted in Arkansas, Kentucky and Texas. This came out of a survey of 2,794 U.S. citizens aged 19 to 64 with household incomes less than 138% of FPL, that found using cross-sectional data for 2014, that the strongest predictor of reported enrollment was the study participant also reporting the use of in-person assistance (Sommers et al., 2015). This data was used in a follow up study, and also revealed that using in-person assistance for insurance application completion can play an important role in reducing racial/ethnic gaps in enrollment rates, finding that after adjustment the use of assistance was 13 percentage points higher for Latinos than whites (Garcia Mosquera et al., 2015).

5.8 Insurance Brokers

Insurance brokers have been historically understood as a licensed specialist that guides and advises in the purchase of private health insurance contract. Insurance agents and brokers must obtain a state license to sell insurance and must comply with a variety laws and regulations that oversee their work. Although this professional workforce is quite large - more than 3.2 million individuals hold insurance licenses in the United States, with a smaller subset of brokers focusing just on health insurance (National Association of Health Insurance Commissioners, 2012), what we know about them and their role in health insurance decision-support is quite limited.

In 2000, Marquis and Long conducted a survey of employers, and found that 54% of the respondents use external consultants to help make decisions about health benefits. Although the type and number of outside advisors may vary by type and size of employer, the reliance on health insurance agents and brokers to design and choose health benefits is significant. Marquis and Long hypothesized that there may be different characteristics or costs related to health plans when comparing employers that use outside consultants and those that do not, but they did not find any evidence of this. Looking closer at their role in small employers, we find that brokers obtain prices for coverage, explain benefits to employees and problem solve for employers (Conwell, 2002). As small employers continue to show interest in new cost-saving insurance products and health-related innovation – specifically around wellness programs – similar to their larger counterparts, we can expect to see an even greater reliance on the agent and broker community (Harris et al., 2014).

Although it seems clear that agents and brokers can and do act as decision support in the health insurance process, the question remains whether or not their presence can result in greater health insurance uptake. A more recent study examining broker geographic distribution and small employer health insurance take up finds that in markets where there is significant broker competition, small employers are more likely to offer health insurance (Karaca-Mandic et al., 2016). This study goes on to provide evidence suggesting “that competition among brokers is associated with lower premiums, and that premiums are less dispersed in the most competitive broker markets.”

Agents and brokers acting in a decision-support role in the purchase of and enrollment in health insurance makes sense in a complex market where search costs and complex choice sets abound. Brokers typically sell insurance products from several insurers, and are paid a commission by that insurance plan when individuals or employers enroll in coverage. Although much of what is known about brokers focuses on their work with employers, many also provide services to help guide and advise individual consumers on their purchase of insurance products when the consumer lacks this expertise (Cummins and Doherty, 2006).

The way agents and brokers would respond to the changing markets under the Affordable Care Act was not known. Further there was concern over the ability to work in an unbiased manner given their reliance on commission as compensation both this and cynicism over their allegiance to insurers could have predicted the ACAs preference on Navigators over Agents/Brokers (Garnick et al., 1998). However, in 2000, health insurance agents in seven states were asked about their views on healthcare reform. Overwhelmingly they responded positively to reforms regarding guarantee issue of coverage, and ultimately the study authors concluded that they would be an important partner in the success of any healthcare reform efforts at that time (Hall, 2000). Further, Kaiser estimates that tens of thousands of brokers nationally assist individuals in the purchase of non-group insurance (Pollitz et al., 2015).

6 STUDY ONE: UNDERSTANDING AND EVALUATING THE IMPACT OF THE ACA NAVIGATORS IN ILLINOIS

6.1 Introduction

The State of Illinois took a robust approach to maximizing the effect of the Affordable Care Act. By choosing to expand Medicaid, create a partnership Marketplace, and invest in a strong, well-trained in-person Navigator workforce, Illinois showed a clear commitment to reducing the number of uninsured residents statewide. The state also passed legislation requiring a comprehensive training and certification program for all Navigators. This study is able to leverage data from this training program to track the Navigators and their work over time, as well as uniquely describe and evaluate the association of this program with changing zip code level uninsurance rates throughout Illinois.

Since 2014, ACA Navigators from across the country have been the focus of several studies. However, published studies have been either strictly descriptive using case studies (Tripp, 2015), assessing grey literature and survey data (Pollitz et al., 2015; Grob and Schlessinger, 2015; Hamel et al., 2016), solely qualitative by conducting stakeholder interviews (Artiga et al., 2014; Kwon, 2015; Vargas, 2016) or quantitative but only using one year of cross-sectional data (Sommers, 2016). Collectively, these studies have shown anecdotal evidence of the importance of using Navigators as a “best practice” to improve ACA enrollment. This has been mainly from the perspective of related stakeholders and navigator organizations. Sommers’ study extends this perspective to bring a voice to the uninsured – and found that the biggest predictor of completed enrollment was working with in-person assistance.

This study broadens this growing body of knowledge on the role and mechanisms by which ACA Navigators provide external decision-making support in health insurance enrollment and offerings. The key contributions include: the development of a large new primary dataset on ACA Navigators in Illinois and the types of outreach work they conduct; the opportunity to leverage this complete set of multi-year data by combining it with longitudinal census data to determine Navigator’s association with declining uninsurance rates at the community zip code level, and finally adds the usage of a mixed methods approach to better understand these results and the

underlying mechanisms by which health insurance decision support workforces like Navigators harness their social capital to improve the uptake of new policy decisions intended to expand insurance coverage.

6.2 Aims and Hypothesis

In this work, we are able to explore the role of the Navigator, and determine whether they are able to effectively improve the diffusion of the ACA policy innovation – through the lens of social capital. In each of the aims discussed below we are able to identify a link to one of the three main dimensions of social capital – structural, relational and cognitive. Aim 1 serves to describe the Navigator programs structural social capital. It allows us to explore their placement, composition and affiliations. The second aim of the study, links all three forms of social capital to our core outcome measure – uninsurance rates. Structural capital is examined in the form of presence and numbers of navigators; relational capital looks at outreach activities and one on one connections between navigators and the uninsured; and finally cognitive social capital hones in on their shared language and common cultural experiences. This aim further explores the relationship between social capital and the diffusion of a policy innovation – as the changing uninsurance rates is an indication of greater numbers of people moving through the decision-making process – to the confirmation of their enrollment. Finally, we look at each of these components in specific sub-populations of interest that have been shown to have higher rates of uninsurance. Each Aim and its respective hypothesis are outlined below:

1. Describe the Illinois ACA Navigator program, participants, workforce distribution by Zip Code, and work activities.

- (A.1) Summarize key characteristics of Illinois ACA Navigators and “Preferred Health Insurance Brokers” from 2014-2015 (including geographic distribution, personal demographics, experience, education, organization type)
- (A.2) From primary data, develop a Navigator Outreach Activity Index that creates the ability to test the association of types of outreach utilized by Navigators with the uninsurance rates in Illinois.

(A.3) Identify navigator perceptions of barriers to their work and opportunities to provide greater support to improve program effectiveness.

2. Evaluate the association of the ACA Navigator workforce distribution and outreach activity index with the uninsurance rates in Illinois. At the zip code level in Illinois, assess whether:

(A.1) A higher number of assigned navigators (or any assigned navigators) are associated with a greater reduction in the uninsurance rate from 2013-2015.

H.2.A.1: There will be an inverse and significant relationship between the number of navigators in a zip code and the reduction in the uninsurance rates from 2013-2015.

(A.2) Persistent Navigator presence from 2014-2015 is associated with the highest cumulative reduction in the rates of uninsurance.

H.2.A.2: Persistent navigator presence from 2014-2015 will have an inverse and significant relationship with the cumulative reduction in the rates of uninsurance, and have a greater magnitude than navigator presence in only 1 period.

(A.3) Higher amounts of navigator outreach activities (measured by a construct: Navigator Outreach Activity Index), are associated with the lowest uninsurance rates from 2013-2015.

H.2.A.3: There will be an inverse and significant relationship between the cumulative score of the Navigator Outreach Activity Index for a zip code and the reduction in the uninsurance rates from 2013-2015.

(A.4) ACA Navigators are associated with the lowest uninsurance rates in communities and populations with the lowest rates of health and health insurance literacy (i.e. those with high rates of minorities, English as a second language, low educational achievement, and high rates of households living below the FPL).

H.2.A.4 ACA Navigators will have an inverse and significant relationship with the lowest uninsurance rates in communities and populations with the lowest rates of health and health insurance literacy (i.e. those with high rates of minorities, English as a second language, low educational achievement, and high rates of households living below the Federal Poverty Level (FPL)).

6.3 Methods

To identify and measure the components included in this model, we will access and link a number of variables from both primary and secondary data sources. They are listed in Table VIII below:

TABLE VIII
LIST OF VARIABLES (STUDY ONE)

Dependent Variables	Independent Variables	Control Variables
Rate of Uninsurance by Zip Code	Presence of Navigator Number of Navigators Navigator Persistence Navigator Activity Index	Federal Poverty Level Mean Household Income Percent Minority Unemployment Rate Education Level Organization Type
Data: ACS	Data: NavDem, NavSurv	Data: ACS, NavDem

The American Community Survey (ACS) is the first source and is used for the dependent variable and control variables. The ACS is a national annual tool administered by the U.S. Census Bureau, measuring a number of key indicators relevant to this study including population, insurance rate, mean household income and those seen in Table VIII. The annual supplement is conducted monthly by the Census Bureau and samples 3.54 million households. The total population is stratified by census blocks and then randomly drawn to contact (Davern et al., 2009). For this study, I download the public use files for the 1 year estimates from 3 relevant years: 2013, 2014, and 2015. We begin with 2013, so we are able to create a baseline estimate in the period prior to the implementation of the key provisions of the ACA – most specifically the Navigator program (United States Census Bureau, 2013-2015).

The main dependent variable of this study is rate of uninsurance by zip code. This variable is constructed in a 4 step process and is the dependent variable for Aims 2 (A.1-A.4).

Step One: ACS Number uninsured by Census Tract – The ACS health insurance question asks about each person in the household separately. The ACS question asks about insurance specifically at the time of the survey – this could include current or former employer sponsored coverage, direct purchase, Medicare, Medicaid, Tricare, the VA, Indian Health Service or Other. People were considered insured if they reported at least one “yes” to this question. People who did not affirm any of these options or only chose Indian Health Service, were considered uninsured (United States Census Bureau, 2014).

Step Two: Assign Census Tracts to their Zip Codes – The United States Department of Housing and Urban Development provides a Census Tract to Zip Code cross walk document, that can be sorted by state (United States Department of Housing and Urban Development, 2013). Using STATA, I merge the original ACS data by census tract, with the Zip Code crosswalk document – assigning each unique tract to its’ respective zip code.

Step Three: Collapse Census Tracts into 1 Zip Code Level Observation – Using STATA, I am able to collapse all relevant variables into one observation per Zip Code. For the purposes of this variable construction, I needed to keep the estimated number of uninsured residents between age 18 and 64, and the estimated total number of residents between 18 and 64.

Step Four: Create the Rate of Uninsurance by Zip Code. – Once all tracts have been collapsed into their respective zip code, constructing the variable is straight-forward. I take the estimated number of uninsured residents between age 18 and 64, and divide it by the estimated total number of residents between 18 and 64 to generate a rate of uninsurance.

Table IX summarizes the changing uninsurance rates (averaged across all zip codes) for the total population and several sub-populations of interest. Overall in Illinois, we see an average reduction of 17.1% in the uninsurance rate. Three subpopulations have a more dramatic reduction – young adults age 19-25 had the highest reduction in uninsurance (-23.7%), followed by Blacks (-23.6%) and Asians (-22.8%). The panels in Figure 7 that follow show the changing patterns of uninsurance geographically throughout the state of Illinois.

All Zip Code level control variables are provided by the ACS (2013-2015) data. The chosen controls have been included in the model because they all have been shown to have an impact on rates of uninsurance in a given

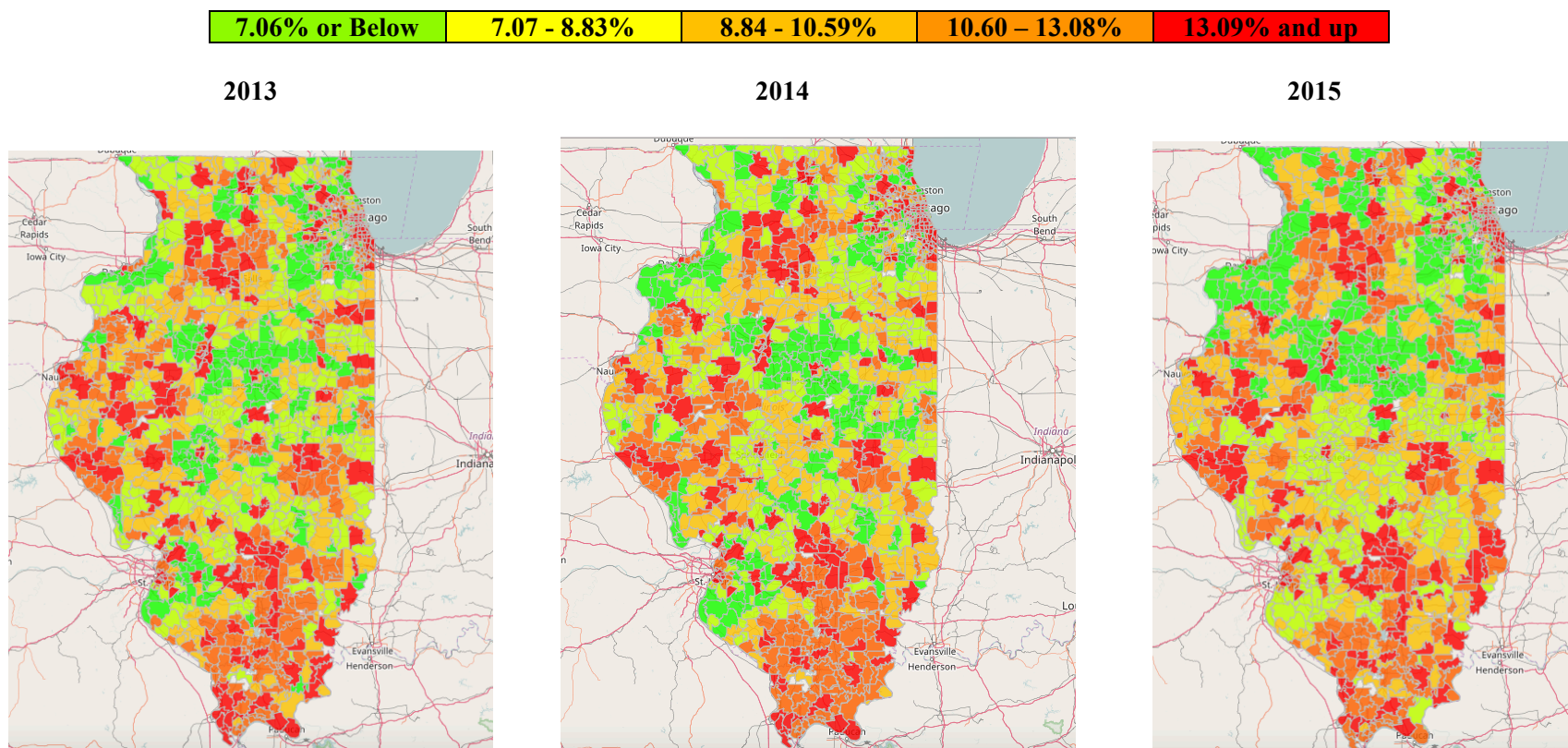
TABLE IX

ILLINOIS RATES OF UNINSURANCE WITH SELECTED SUB-POPULATIONS (2013-2015)^a

	Baseline (P0) 2013	Period One (P1) 2014	Period Two (P2) 2015	Total % Change P0 - P2
Percent of Population Uninsured	11.53%	10.92%	9.70%	-15.87%
Age 18 - 64	16.72%	15.82%	14.05%	-15.97%
Age 19 - 25	24.87%	22.23%	18.74%	-24.65%
Gender				
Male	12.83%	12.20%	10.84%	-15.51%
Female	9.91%	9.36%	8.31%	-16.15%
Education				
Less than High School	24.05%	23.30%	21.42%	-10.94%
High School or Equivalent	16.54%	15.89%	14.20%	-14.15%
Some College	12.43%	11.77%	10.39%	-16.41%
Bachelors or Higher	6.47%	6.23%	5.52%	-14.65%
Race/Ethnicity				
White	9.09%	8.59%	8.92%	-1.87%
Black	13.64%	12.72%	11.07%	-18.84%
Asian	14.22%	12.87%	11.64%	-18.14%
Hispanic/Latino (any race)	20.05%	18.91%	16.99%	-15.26%
Federal Poverty Level				
Below 138%	22.93%	21.41%	19.03%	-17.01%

^aSummary statistics are weighted by Zip Code Population

Figure 7. Zip code heat maps of the Illinois uninsured



geographic area. In multivariate regression models, we are able to account for the variance associated with these factors, while simultaneously identifying the effect from the independent variable of interest. Economic factors such as mean income, educational attainment, employment rates and percentage of the population below the FPL are traditionally used when predicting uninsurance rates (Schmidt et al., 1996). Generally speaking, high rates of uninsurance are associated with poor economic indicators. Individuals that are employed, high earners, and well-educated are much more likely to have insurance coverage.

The model also controls for population of the zip code – knowing that highly populated areas are more likely to have higher uninsurance rates (Institute of Medicine, 2003). Further, this can also be seen as interacting with poverty rates, so I have chosen to include both in the model. Urbanicity is often correlated with minority make up in the geographic area, thereby creating an assumption that urban areas are more likely to be correlated with high rates of uninsurance, which can be an oversimplification. Because we know that Blacks and Hispanics are uninsured at a higher rate than their white and Asian peers, we also control for the percentage of these two minorities living in the geographic area of interest (The Henry J. Kaiser Foundation, 2013).

The second source of data comes from the Navigator program in Illinois, and is used to build our independent variables. All navigators operating in Illinois were required to go through a comprehensive state training – that was administered through the University of Illinois at Chicago (UIC). As a component of enrolling in the UIC Navigator training course, trainees were required to complete a basic demographic survey. The survey was written by the UIC research team and collected online through Cvent, a cloud-based enterprise event management company, from 2013-2015.

All Navigators and Preferred Brokers that went through the certification process completed the survey. A total of 2,684 surveys were collected over the study period, with 100% response rate on the key measures of interest – such as zip code of the navigator. The survey consisted of 20 closed response items that included questions regarding their socioeconomic demographic factors, organizational employment setting, education, perceptions of their organization and prior work experience. The full survey instrument can be found in

Appendix A. Table X summarizes the key demographic variables related to the Navigator workforce taken from the survey.

TABLE X
ILLINOIS NAVIGATOR WORKFORCE DEMOGRAPHICS

	Period One 2013-2014		Period Two 2014-2015	
Total (n)	1525		1159	
Total 1st Year (novice)	1525	100.0%	548	47.3%
Gender				
Male	296	19.4%	338	29.2%
Female	1,227	80.5%	758	65.4%
No Response/Other	2	0.1%	63	5.4%
Race/Ethnicity				
White	628	41.2%	489	42.2%
Black	301	19.7%	275	23.7%
Hispanic/Latino	389	25.5%	286	24.7%
Asian	87	5.7%	49	4.2%
No Response/Other	120	7.9%	60	5.2%
Education				
No College	158	10.4%	91	7.9%
Some College	471	30.9%	404	34.9%
College Degree	465	30.5%	379	32.7%
Post College	431	28.3%	285	24.6%

Each year, at the end of the open enrollment period, Navigators were asked to complete a follow up survey. The survey was administered online through Qualtrics, distributed by the UIC training team and partners at the State of Illinois to all certified navigators. Each year, the survey contained 15 closed and two to four open response items. Navigators were asked to report the types of activities they used in their work to communicate and enroll the uninsured in coverage. Respondents were also asked to comment on what uninsured groups they believed they were most effective in working with – and to identify remaining barriers to accessing coverage.

A total of 1,841 surveys were collected during the study period. Response rates in year one were 73.3% and in year two 84.4%, suggesting high likelihood of being representative of the broader navigator population. The items reported in this survey are used to construct the navigator activity index. The full outreach activity survey instrument can be found in Appendix B. Survey response rates for both the Demographic and Outreach surveys can be found in Table XI.

TABLE XI
ILLINOIS NAVIGATOR DATA SOURCES AND RESPONSE RATES

	Year One (2014)	Year Two (2015)	
	Navigators	Navigators	Preferred Brokers
Total Number (n)	1,525	856	303
Demographic Survey Respondents	1,525	856	303
Response Rate ^a	100%	100%	100%
Outreach Activity Survey Respondents	983	723	n/a
Response Rate	64.40%	84.40%	n/a

^aDemographic survey response rate is specifically for variables of interest in this study.

The independent variables used in Aims 2 (A.1-A.2) are constructed using responses taken from the 2013-2015 Navigator Demographic Surveys. The process focuses on one specific survey question – “What is the address you work in?” Using the zip code component of this response, I construct these three variables in the following manner:

1. Number of Navigators & Presence of a Navigator (Aim 2A.1) This variable is created for each year before observations are collapsed into zip codes. Each Navigator is assigned a value of 1. Using STATA, I then

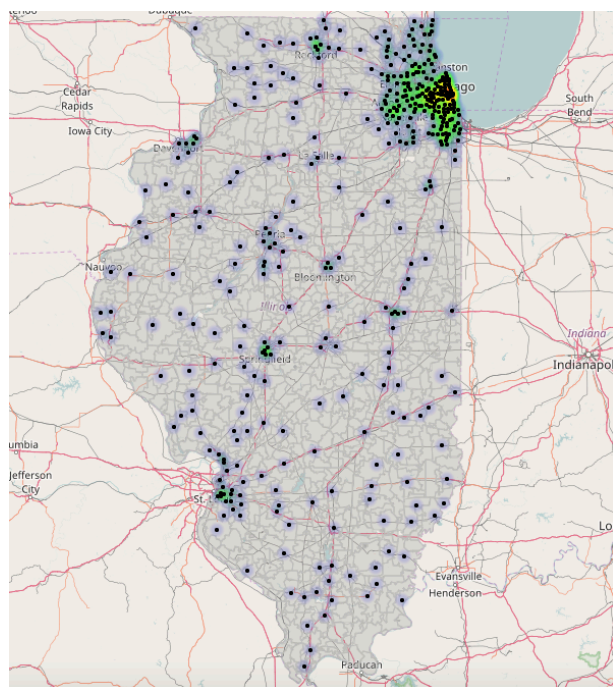
collapse all relevant variables into one observation per zip code. This then becomes a continuous variable that counts the navigators by zip code. This data set is then merged with the zip code data set created by our dependent variable construction. As a result, a number of zip codes will show a missing observation. Any zip codes with a missing observation under Number of Navigators are then replaced with zeroes. Conversely, Presence of a Navigator is a binary variable, generated from the yearly Number of Navigators by zip code variable. Values with one or above are replaced with a 1, and all other zeroes remain unchanged. Table XII summarizes the Navigator Distribution by zip code. The two panels in Figure 8 that follow depict the same data plotted geographically with heat zones to denote higher density of navigator distribution.

TABLE XII
ILLINOIS NAVIGATOR DISTRIBUTION BY ZIP CODE

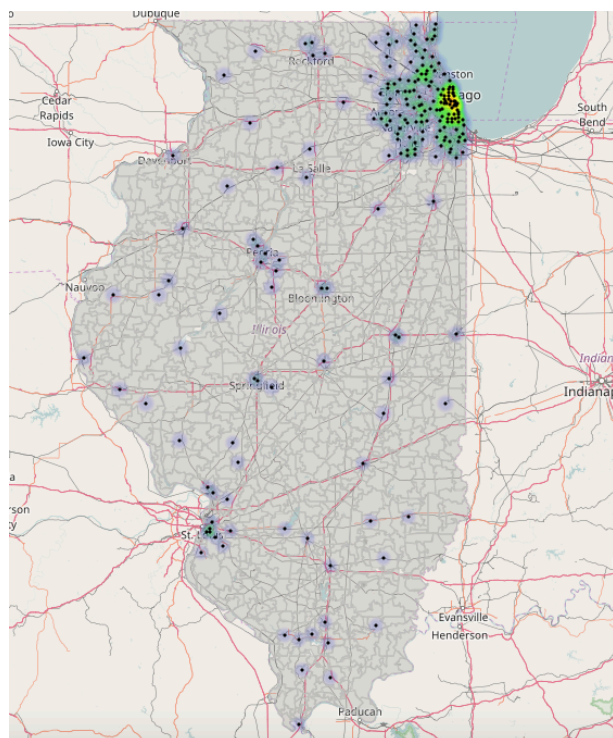
	Period One (2014)	Period Two (2015)	Percent Change
All Zip Codes (n)	1544	1544	
Mean # Navigators	0.96	1.36	29.4%
Standard Deviation	2.75	1.85	
Minimum	0	0	
Maximum	36	50	
Zip Codes With Minimum of 1 Navigator	446	231	-48.2%
Mean # Navigators	3.42	3.98	16.4%
Standard Deviation	4.29	6.21	
Minimum	1	1	
Maximum	36	50	

2. Navigator Persistence (Aim 2A.2): Navigator persistence is a categorical variable, constructed across both years of data, using the presence of a Navigator binary variable. Zip codes are assigned a 0,1, 2, or 3 according to the following protocol summarized in Table XIII. Please note that 2013 will always be a 0, given that the first-year navigators were able to assist in open enrollment, began with coverage dates of January 1, 2014.

Figure 8. Zip code heat maps of Illinois navigators



2014



2015

TABLE XIII
PERSISTENCE OF ILLINOIS NAVIGATORS BY ZIP CODE

	2013	2014	2015	Frequency	Percent
0	0	0	0	1,078	69.82%
1	0	1	0	245	15.87%
2	0	0	1	40	2.59%
3	0	1	1	181	11.72%

3. Navigator Activity Index (Aim 2A.3): The final independent variable is constructed from the yearly Navigator Outreach Activity Survey, and focuses on the type of work the Navigator participates in related to outreach - or the diffusion of information about the ACA. This index is constructed from the following three questions:

Q3. Since completing your Assister training, which of the following outreach activities have you conducted. (Choose all that apply). The listed options include (door to door, List serves, mailings, health fairs, phone calls, community stakeholder meetings, out of office events, educational presentations, website, social media, visibility events.

Q5: Which of the following community stakeholders have you met with and are they willing to provide messages (e.g. voice, email, paper) to their constituents, handout materials, or hold events?

(Choose all that apply). The listed options include Local political leaders, schools, small business groups, healthcare providers, faith-based organizations, community/social service organizations.

Q10. Have you collaborated with other Navigators/IPC's? (yes/no)

The process of creating the Navigator Activity Index can be approached using the following 5 steps (Phillips et al., 2012):

1. Create a binary variable for each responding Navigator, pertaining to each item of interest in the question response lists. Each item is chosen based on its relationship to the 3 core areas in our we saw in our Conceptual Model. Figure 9 displays how each chosen variable corresponds to each of the three

dimensions in the conceptual model (Structural, Relational and Cognitive). Table XIV provides summary statistics of Navigator use of these types of activities.

2. Collapse the binary variables to the Zip Code level, that each responding Navigator works in, giving each item a zip code level score that can be tested as both a binary and continuous variable.
3. Test each separate activity variable to determine if their presence in the zip code has a significant effect on the insurance rate over time. By testing each outreach activity type independently, we can learn if one type of outreach is more effective than another, but also determine which (if any) should be included in an overall outreach activity index.
4. Once the appropriate variables are determined in step three, a score can be determined for each of the key construct areas from the conceptual model (Structural, Relational and Cognitive). By choosing the statistically significant activities and adding their scores together, a composite score for each section can be then tested as well.
5. Finally, by adding together all of the three composite scores, an overall outreach activity index score can be assigned to the zip code. This will also allow us to test whether or not a greater variety of type, used by more navigators in a given zip code will be associated with a greater reduction in the rate of uninsurance.

As we consider the model and analysis for this study, we understand that while public health intervention has long considered randomized controlled trials as the gold standard for evaluating the effectiveness of a program or policy intervention, we know this is not always feasible. This is particularly true when large-scale initiatives are rolled out at the population-level such as the ACA. As a result, quasi-experimental methods, such as the interrupted time series design and fixed effect estimation, are increasingly being used for the evaluation of public health programs (Lopez, 2016). This study time frame spans from 2013 to 2015 and therefore uses statistical inference methods for with longitudinal data. We begin the analysis in the year immediately preceding the main components of the ACA taking effect, and extending through two cycles of enrollment. Time series analysis recognizes that measurements are repeatedly taken over several years, and that they will likely have an internal structure – such as autocorrelation. In the case of annual measurements of uninsurance rates post ACA, it is

Figure 9. Conceptual model and the ACA navigator activity index

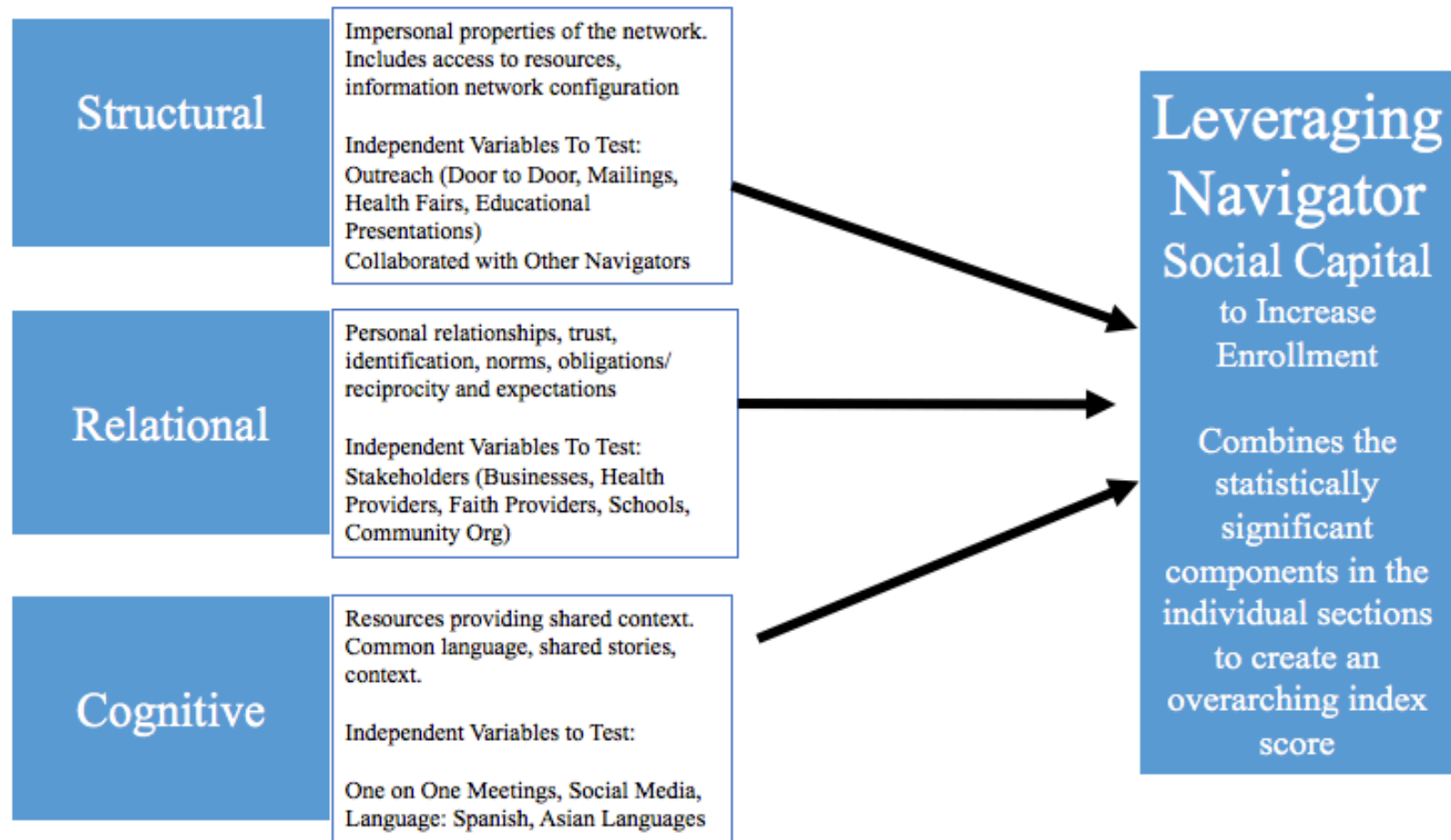


TABLE XIV
ILLINOIS NAVIGATOR OUTREACH ACTIVITY PARTICIPATION

	All Zip Codes			Zip Codes with Navigators		
	Baseline (P0)	Period One (P1)	Period Two (P2)	Baseline (P0)	Period One (P1)	Period Two (P2)
	2013	2014	2015	2013	2014	2015
n	1544	1544	1544	0	446	231
All Activities	0.00	3.38	2.52	0.00	12.84	32.86
Structural Activities	0.00	1.28	0.89	0.00	4.87	11.55
Door to door	0.00	0.07	0.07	0.00	0.28	0.88
Mailings	0.00	0.51	0.09	0.00	0.51	1.11
Health fairs	0.00	0.27	0.22	0.00	1.03	2.83
Educational presentations	0.00	0.31	0.23	0.00	1.17	3.05
Collaborate with other navigators	0.00	0.50	0.28	0.00	1.88	3.68
Relational Activities	0.00	1.13	0.86	0.00	4.29	11.22
Outreach to businesses	0.00	0.21	0.16	0.00	0.80	2.08
Outreach to healthcare providers	0.00	0.21	0.16	0.00	0.81	2.14
Outreach to faith organizations	0.00	0.24	0.18	0.00	0.91	2.38
Outreach to schools	0.00	0.20	0.15	0.00	0.74	1.97
Outreach to community organizations	0.00	0.27	0.20	0.00	1.02	2.64
Cognitive Activities	0.00	0.97	0.77	0.00	3.67	10.09
Use of social media	0.00	0.32	0.27	0.00	1.21	3.58
Use of Spanish language	0.00	0.27	0.21	0.00	1.04	2.30
Use of Asian language	0.00	0.03	0.01	0.00	0.11	0.13
Personal one to one meetings	0.00	0.35	0.28	0.00	1.32	3.69

reasonable to suspect that over time the rate of uninsurance in the third period would be related to the rate in the second, which is in turn related to the baseline rate. Time series models account for this mechanism.

For the Aims 2 (A.1-A.4), I will initially use a series of Fixed Effects Estimation models. I will use alphas of .05, .01 and .001 to determine various levels of statistical significance. For the identification strategy, this study exploits the zip code level variation in (1) navigator presence, (2) number of navigators, and (3) persistence of navigators and (4) navigator activities over time within zip codes across the state to evaluate their association with uninsurance rates.

The fixed effects model will use a form of Ordinary Least Squares that employs a conversion to eliminate unobserved effects ahead of the estimation. Specifically, by using a zip code fixed effects model, I can control for unobserved heterogeneity, the time invariant characteristics unique to the zip codes – with the intent of isolating the effect from the independent variable of interest. The main model will look at zip code total uninsurance rates, followed by testing the model with target demographic subgroups that had the highest rates of uninsurance in the pre-period. To estimate an unbiased fixed effect models, the following core assumptions must be met:

1. The model must be estimated as shown below in Figure 10. β must be the parameter to estimate, and α_i must be the unobserved effect.
2. There must be a random sample from the cross section data. Each explanatory variable changes over time, for at least some i , and no perfect linear relationships exist among the explanatory variables.
3. The unobserved error term must not be correlated with the explanatory variable in all time periods.
4. Errors are homoskedastic.
5. No Serial Correlation – The errors in different time periods are uncorrelated with each other.

Given that this study's unit of analysis is a geographic region (zip codes), I will begin preparing for future geospatial models, by incorporating hot- and cold-spotting mapping techniques using ArcGIS. Hot-spotting is a process, that entered into use in healthy policy research as a way to timely identify extreme patterns in a defined region of the healthcare system – most commonly used to identify diagnosis, disease and utilization trends. It has traditionally been used to guide interventions and follow-up to better address patient needs, improve care quality,

and reduce cost. (Westfall, 2014; Hu et al., 2012). By applying similar principles to uninsurance rates and navigator placement, we can create a visual representation of changing geographic based needs. These visual representations confirm the hypothesis that Navigators are not uniformly distributed throughout the state of Illinois, and often cluster within certain groups of zip codes. Additionally, we observe that over time, the clustering of Navigators within the state of Illinois shifts to different regions (shown earlier in Figure 8 on page 60).

Figure 10. Study one fixed effect model equation

$$Y_{zt} = N_{zt}\beta + X'_{zt} + \alpha_z + \lambda_t + E_{zt}$$

Y_{zt} = Change in Uninsurance Rate
 $N_{zt}\beta$ = # of Navigators
 X'_{zt} = Vector of Control Variables
 α_z = Zip Code Fixed Effect
 λ_t = Year Fixed Effect
 E_{zt} = Unobserved Error

In our earlier models, we hypothesize that because the navigators are “located” within in one particular zip code – their impact will be directly associated with outcomes within that zipcode. To extend this understanding, using a Spatial Autoregressive (SAR) Model we are able to estimate a spatial lag effect in the form of a spillover of the dependent variable and serial autocorrelation of errors into neighboring zip codes (Kelegian and Prucha, 2010). Spatial autoregressive models (SAR) are nested models can be used in datasets that include spatial units such as countries, districts or zip codes, like we focus on in this study and employ a continuous outcome variable, as we have used here in the form of the rate of uninsurance observed at the zip code level. Spatial models can be applied to either cross-sectional or panel data. These models rely on Tobler’s first law of geography: “Everything is related to everything else, but near things are more related than distant things (Tobler, 1970).”

In a normal linear regression, even if the unit of observation is a geographic area, the model does not control for the location of those geographic areas relative to one another. The SAR Model adds a vector of geographic coordinates that pinpoints the location of the different units of observation and identifies how they interact with each other – this will be known as the spatial weighting matrix. The SAR approach extends a normal linear regression to allow outcomes in one area to be affected by the following:

- 1) Outcomes in neighboring areas
- 2) Covariates in neighboring areas
- 3) Errors in neighboring areas

There are two ways to think about spatial dependence, either in terms of distance or contiguity. By clearly defining what zipcodes are considered “neighbors” we have the ability to restrict our analysis of this dependent relationship (Drukker, 2008). For this study we focus on a definition of neighbors that focus on contiguity – shared borders. We will estimate the spatial lag effect in two ways, first using a “queen contiguity.” This approach considers all neighboring zip codes that touch the primary zipcode, even if just by a diagonal corner based point of contact, as relevant in the model. The second approach, uses a “rook contiguity.” Rook contiguities, are a more limited definition of neighboring areas, and require a more defined shared border that is horizontal or vertical (not diagonal/corner based) as compared to the more flexible queen contiguity. The econometric equation for the SAR model can be found in figure 11.

There are times when the full nested Spatial Autoregressive Model is too complex for the given data set, creating a scenario where the model is over-parameterized, and as a result, difficult to interpret. The recommended fix is to “strip” away some of the nested lagged components, and compare the results with either the Spatial Durbin Model (SDM), or the Spatial Durbin Error Model (SDEM) to determine which model is the best fit for the given data set (Mur and Angulo, 2005). The SDM model contains spatial dependence strictly in the explanatory variable and the SDEM model contains spatial dependence in both the explanatory variables and the error terms (LeSage, 2014). Both the SDM and SDEM will use the Queen Contiguity method of determining neighbors.

Figure 11. Econometric equation for a spatial autoregressive model

$$Y_{zt} = \beta_0 + \beta_1 N_{zt} + B_2 W_{y_{zt}} + B_3 W_{x_{zt}} + X'_{zt} + \alpha_z + \lambda_t + u_{zt}$$

z = Zip Code

t = Year

B_0 = coefficient for the intercept

Y_{zt} = Uninsurance rate in Zip Code z during Time Period t

N_{zt} = Number of Navigators

X'_{zt} = Vector of Covariate Controls

W_y = amount outcomes are affected by nearby outcomes

W_x = measures the spillover of X'_{zt}

α_z = Zip Code Fixed Effect

λ_t = Year Fixed Effect

u_{zt} = Autoregressive errors

For purposes of this study, the data to create the spatial weighting matrix was obtained from the Cartographic Boundary Shapefiles from the U.S. Census Bureau (United States Census Bureau, 2010). This shapefile was then linked to the existing data set used in earlier aims, and the models were re-run using the SAR approach to estimate the spatial lag effect.

6.4 Results

The following pages show a series of tables displaying results from Aims 2A.1 - 2A.4. Table XV shows the results related to the percent of uninsured, using the first independent variable: Number of Navigators (Aim 2A.1). I include five different models, the first without controls beyond year fixed effects, and then each following incorporating a variety of different control variables and all but one including zip code fixed effects for comparison. For the purposes of the discussion of this study, we will focus on Model FE-4.

Table XVI displays the results relative to the second independent variable, presence of Navigator (Aim 2A.1). Again, five different models are included, the first without controls beyond year fixed effects, and then each following incorporating a variety of different covariates and all but one including zip code fixed effects for comparison. For the purposes of the discussion of this study, we will focus on Model FE-4.

Table XVII shows the results from the models that use the constructed independent variable of Navigator persistence (Aim 2A.2). Four models are shown, the first without controls, and each subsequent model incorporating additional covariates. For the following discussion we will focus on Model OLS-4.

Table XVIII and XIX include results from the sensitivity analyses that have been performed to understand the independent variables of Navigator Number and Navigator Presence as they relate to specific subgroups of interest (Aim 2A.4). Table XVIII continues the same dependent variables as the earlier tables, looking at total uninsured, however, in each of the analyses I restrict the sample to zip codes with certain characteristics of interest (i.e. 50% black population or 50% with FPL less than 138%). Table XIX takes a slightly different approach, although the zip codes are limited to a minimum (at least 5%) of certain sub-populations of interest – in these models, I change the dependent variable to percentage of the sub-group itself that is uninsured, rather than the total uninsured population within that zip code.

The results from the SAR Models can be found in Table XX and XXI. For each table, the independent variables of interest are Number of Navigators and Presence of a Navigator and respectively using the traditional SAR model and then the Spatial Durbin Model. Each table includes the results from the original non-spatial models, as compared to the two related spatial models – using first a Queen Contiguity approach. The SAR models estimate three effects not seen in the main model:

Wx: Independent Variable Spillover – the effect of the spillover of the main independent variable of interest

Wy: Dependent Variable Lag – the amount that outcomes are affected by nearby outcomes

Uzt: Dependent Variable autoregressive error

In Figures 12, 13 and 14 the final independent variable is explored to address Aim 2.A.3 – the Navigator Outreach Activity Index. Each of the three diagrams features differing subsets of observations (all zip codes, only zip codes with navigators and only zip codes with complete navigator survey data). The figures only include the coefficient on the variables of interest for each model – the outreach activities that make up each area of the model. Each of these regressions follows the equation outlined in earlier in Figure 10, and uses the same covariates identified in Model FE-4 above.

TABLE XV

PERCENT OF TOTAL UNINSURED (AGE 18-64) IN ILLINOIS BY NUMBER OF NAVIGATORS^a

Variable	Fixed Effect (FE) Model 1	Fixed Effect (FE) Model 2	Fixed Effect (FE) Model 3	Fixed Effect (FE) Model 4	Generalized Least Squares Model (GLS)
Number of Navigators	-0.0002 * (0.0001)	-0.0003 ** (0.0001)	-0.0003 ** (0.0001)	-0.0003 ** (0.0001)	-0.0002 (0.0001)
Year 2	-0.0075 *** (0.0005)	-0.0079 *** (0.0005)	-0.0078 *** (0.0005)	-0.0079 *** (0.0005)	-0.0082 *** (0.0005)
Year 3	-0.0254 *** (0.0006)	-0.0227 *** (0.0017)	-0.0225 *** (0.0015)	-0.0225 *** (0.0015)	-0.0216 *** (0.0011)
Total Population Estimate		2.2906 *** (6.3507)	2.3706 *** (6.5107)	2.4606 *** (6.3807)	1.0707 ** (4.5708)
Percent High School Graduates		0.0464 (0.0332)	0.0442 (0.0347)	0.0402 (0.0330)	0.0770 *** (0.0110)
Percent Unemployed		0.0040 * (0.0020)	0.0040 * (0.0019)	0.0041 * (0.0019)	0.0055 *** (0.0012)
Percent FPL Less than 138%		0.1546 *** (0.0335)	0.1502 *** (0.0333)	0.1538 *** (0.0336)	0.2202 *** (0.0105)
Median Household Income			-1.0707 (1.6907)	-1.2707 (1.6007)	-4.6407 *** (4.9208)
Percent Black				-0.096 (1.6007)	0.0420 *** (0.0068)
Percent Hispanic				0.0652 (0.0419)	0.2672 *** (0.0076)
_cons	0.1543 *** (0.0003)	0.0613 *** (0.0175)	0.0689 *** (0.0235)	0.0725 ** (0.0231)	0.0935 *** (0.0076)
Covariates	No	Yes	Yes	Yes	Yes
Zip fixed effects	Yes	Yes	Yes	Yes	No
Observations	4632	4632	4632	4632	4632
R2	0.4683	0.4904	0.4906	0.4942	0.4745
Prob > F	0.0000	0.0000	0.0000	0.0000	

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XVI

PERCENT OF TOTAL UNINSURED (AGE 18-64) IN ILLINOIS BY PRESENCE OF NAVIGATOR^a

Variable	Fixed Effect (FE) Model 1	Fixed Effect (FE) Model 2	Fixed Effect (FE) Model 3	Fixed Effect (FE) Model 4	Generalized Least Squares Model (GLS)
Presence of Navigator(s)	-0.0021 *** (0.0006)	-0.0023 *** (0.0006)	-0.0023 *** (0.0006)	-0.0023 *** (0.0006)	-0.0019 * (0.0009)
Year 2	-0.0071 *** (0.0005)	-0.0075 *** (0.0005)	-0.0074 *** (0.0005)	-0.0076 *** (0.0005)	-0.0078 *** (0.0006)
Year 3	-0.0252 *** (0.0006)	-0.0225 *** (0.0017)	-0.0223 *** (0.0015)	-0.0224 *** (0.0015)	-0.0214 *** (0.0011)
Total Population Estimate		2.3106 *** (6.3707)	2.3806 *** (6.5207)	2.4706 *** (6.4107)	1.1307 * (4.5808)
Percent High School Graduates		0.0469 (0.0332)	0.0447 (0.0347)	0.0407 (0.0330)	0.0770 *** (0.0110)
Percent Unemployed		0.0040 * (0.0020)	0.0040 * (0.0019)	0.0041 * (0.0019)	0.0055 *** (0.0012)
Percent FPL Less than 138%		0.1543 *** (0.0335)	0.1499 *** (0.0333)	0.1534 *** (0.0337)	0.2198 *** (0.0105)
Median Household Income			-1.0707 (1.6907)	-1.2607 (1.5907)	-4.6407 *** (4.9208)
Percent Black				-0.0953 (0.0733)	0.0423 *** (0.0068)
Percent Hispanic				0.0658 (0.0419)	0.2670 *** (0.0098)
_cons	0.1543 *** (0.0003)	0.0609 *** (0.0176)	0.0686 *** (0.0235)	0.0721 ** (0.0231)	0.1091 *** (0.0083)
Covariates	No	Yes	Yes	Yes	Yes
Zip fixed effects	Yes	Yes	Yes	Yes	No
Observations	4632	4632	4632	4632	4632
R2	0.4688	0.4909	0.4910	0.4946	0.475
Prob > F	0.0000	0.0000	0.0000	0.0000	

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XVII

PERCENT OF TOTAL UNINSURED (AGE 18-46) IN ILLINOIS BY PERSISTENCE OF NAVIGATORS^a

Variable	Ordinary Least Squares OLS-1	Ordinary Least Squares OLS-2	Ordinary Least Squares OLS-3	Ordinary Least Squares OLS-4
Navigator in 2014 Only	0.0000 (0.0017)	-0.0005 (0.0018)	-0.0002 (0.0017)	0.0003 (0.0018)
Navigator in 2015 Only	0.0002 (0.0038)	-0.0018 (0.0038)	-0.0022 (0.0038)	-0.0024 (0.0038)
Navigator in 2014 & 2015	-0.0049 ** (0.0019)	-0.0028 (0.0025)	-0.0025 (0.0024)	-0.0024 (0.0025)
Total Population Estimate		-4.7608 (3.6008)	-4.1708 (3.5908)	1.7008 (3.8508)
Percent High School Graduates		-0.0199 (0.0068)	0.0070 (0.0096)	0.0006 (0.0097)
Percent Unemployed		-0.0029 (0.0017)	-0.0030 (0.0017)	-0.0019 (0.0017)
Percent FPL Less than 138%		0.0518 *** (0.0056)	-0.0314 *** (0.0076)	-0.0206 * (0.0091)
Median Household Income			1.6807 *** (4.2208)	1.6207 *** (4.2108)
Percent Black				-0.0073 (0.0050)
Percent Hispanic				-0.0275 *** (0.0070)
_cons	-0.025 *** (0.0007)	-0.0052 (0.0029)	-0.0302 *** (0.0069)	-0.0295 *** (0.0069)
Observations	1544	1544	1544	1544
r2	0.0045	0.0723	0.0818	0.0914

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XVIII**SENSITIVITY ANALYSIS FOR TOTAL ILLINOIS UNINSURED, RESTRICTED BY PERCENT OF THE SUB-POPULATION^a**

Subgroup	n (zip codes)	Number of Navigators	Presence of Navigator(s)	Notes
Total Uninsured (Age 18-64)	4632	0.0005	-0.0023	
White	4224	-0.0002 **	-0.0013 *	limited to zip codes with min 50% white
	4395	-0.0002 **	-0.0015 *	limited to zip codes with min 33.33% white
Black	195	-0.0001	-0.0118 *	limited to zip codes with min 50% black
	273	0.0004	-0.0071	limited to zip codes with min 33.33% black
Hispanic	72	0.0010 *	0.0148	limited to zip codes with min 50% hispanic
	143	0.0002	0.0072	limited to zip codes with min 33.33% hispanic
Asian	Insufficient			limited to zip codes with min 50% asian
	Insufficient			limited to zip codes with min 33.33% asian
FPL Less than 138%	127	0.0000	-0.0066	limited to zip codes with min 50% FPL less138
	400	-0.0003	-0.0029	limited to zip codes with min 33.33% FPL less138

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XIX**SENSITIVITY ANALYSIS FOR PERCENT OF THE SUBPOPULATION UNINSURED IN ILLINOIS^a**

Subgroup	n (zip codes)	Number of Navigators	Presence of Navigator(s)	Notes
Total Uninsured (Age 18-64)	4632	0.0005 *	-0.0023 ***	
Male	4632	-0.0002 **	-0.0017 **	
Female	4632	-0.0002 *	-0.0015 **	
White	4595	0.0003	0.0025 *	limited to zip codes with min 5% white
Black	1324	-0.0001	-0.0035	limited to zip codes with min 5% black
Hispanic	1421	-0.0003	0.0015	limited to zip codes with min 5% hispanic
Asian	638	-0.0003	-0.0103 ***	limited to zip codes with min 5% asian
FPL Less than 138%	4583	-0.0003 *	-0.0044 **	limited to zip codes with min 5% FPL less138
Less than High School	4327	0.0001	0.0024	limited to zip codes with min 5% less than HS
High School or Equivalent	4441	-0.0001	-0.0017	limited to zip codes with min 5% HS or Equiv
Some College	4221	0.0001	-0.0011	limited to zip codes with min 5% less than HS
Bachelors or Higher	1746	0.0001	0.0016	limited to zip codes with min 5% less than HS

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XX

SPATIAL AUTOREGRESSIVE (SAR) MODELS FOR TOTAL UNINSURED IN ILLINOIS USING NUMBER OF NAVIGATOR(S)^a

Variable	NON SAR Main Model	Spatial Lag Model - Queen Contiguity	Spatial Durbin Model Queen Contiguity	Spatial Durbin Error Model Queen Contiguity
Number of Navigators	-0.0003 ** (0.0001)	-0.0001 (0.0001)	-0.0002 (0.0001)	-0.0001 (0.0001)
W: Navigator Yes/No Spillover		-0.0006 (0.0003)	-0.0044 ** (0.0016)	-0.0022 (0.0019)
W: Dependent Variable Lag		0.0852 * (0.0396)		
W: Dependent Variable Autoregressive Error		0.6453 *** (0.0328)		0.6878 *** (0.0241)
Year 2	-0.0079 *** (0.0005)	-0.0078 *** (0.0008)	-0.0070 *** (0.0006)	-0.0077 *** (0.0009)
Year 3	-0.0225 *** (0.0015)	-0.0226 *** (0.0014)	-0.0227 *** (0.0011)	-0.0235 *** (0.0013)
Total Population Estimate	2.4606 *** (6.3807)	1.0906 7.0607	2.0006 ** 6.6707	1.0806 7.1007
Percent High School Graduates	0.0402 (0.0330)	0.0321 (0.0170)	0.0012 (0.0168)	0.0326 0.0171
Percent Unemployed	0.0041 * (0.0019)	0.0031 (0.0013)	0.0031 * (0.0012)	0.0030 * 0.0013
Percent FPL Less than 138%	0.1538 *** (0.0336)	0.1691 *** (0.0167)	0.1689 *** (0.0174)	0.1697 *** (0.0167)
Median Household Income	-1.2707 (1.6007)	-8.7008 (1.0807)	-5.3808 (1.1007)	-7.3408 (1.0807)
Percent Black	-0.096 (1.6007)	0.0171 (0.0353)	0.0833 * (0.0346)	0.0145 (0.0353)
Percent Hispanic	0.0652 (0.0419)	0.0386 (0.0319)	0.0346 (0.0328)	0.0390 (0.0318)
_cons	0.0725 ** (0.0231)			
Zip fixed effects	Yes	Yes	Yes	Yes
Observations	4632	4632	4632	4632
R2	0.4942	0.3796	0.2641	0.4132
Prob > F or chi2 for spatial	0.0000	0.0000	0.0000	0.0000

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XXI

SPATIAL AUTOREGRESSIVE (SAR) MODEL FOR TOTAL UNINSURED IN ILLINOIS USING PRESENCE OF NAVIGATOR(S)^a

Variable	NON SAR Main Model	Spatial Lag Model - Queen Contiguity	Spatial Durbin Model Queen Contiguity	Spatial Durbin Error Model Queen Contiguity
Presence of Navigator(s)	-0.0023 *** (0.0006)	-0.0013 (0.0007)	-0.0016 * (0.0008)	-0.0014 * (0.0007)
W: Navigator Yes/No Spillover		-0.0027 (0.0019)	-0.0040 * (0.0006)	-0.0032 (0.0020)
W: Dependent Variable Lag		0.0833 * (0.0019)		
W: Dependent Variable Autoregressive Error		0.6461 *** (0.0328)		0.6876 *** (0.0240)
Year 2	-0.0076 *** (0.0005)	-0.0077 *** (0.0008)	-0.0068 *** (0.0006)	-0.0074 *** (0.0006)
Year 3	-0.0224 *** (0.0015)	-0.0224 *** (0.0014)	-0.0226 *** (0.0011)	-0.0233 *** (0.0013)
Total Population Estimate	2.4706 *** (6.4107)	1.1006 (7.0607)	1.9906 ** (6.6607)	1.1106 (7.1007)
Percent High School Graduates	0.0407 (0.0330)	0.0322 (0.0170)	0.0014 (0.0168)	0.0330 (0.0171)
Percent Unemployed	0.0041 * (0.0019)	0.0032 * (0.0013)	0.0031 ** (0.0012)	0.0030 * (0.0013)
Percent FPL Less than 138%	0.1534 *** (0.0337)	0.1684 *** (0.0167)	0.1680 *** (0.0174)	0.1689 *** (0.0167)
Median Household Income	-1.2607 (1.5907)	-9.1008 (1.0807)	-5.4808 (1.1007)	-7.7008 (1.0807)
Percent Black	-0.0953 (0.0733)	-0.0180 (0.0353)	0.0838 * (0.0351)	0.0153 (0.0353)
Percent Hispanic	0.0658 (0.0419)	0.0387 (0.0318)	0.0352 (0.0328)	0.0393 (0.0318)
_cons	0.0721 ** (0.0231)			
Zip fixed effects	Yes	Yes	Yes	Yes
Observations	4632	4632	4632	4632
R2	0.4946	0.3953	0.2657	0.4086
Prob > F or chi2 for spatial	0.0000	0.0000	0.0000	0.0000

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

Figure 12. Navigator outreach activity index – all zip codes

Social Capital and the ACA Outreach Activity Index All Zip Codes

Reminder – Coefficients on Main Models

NumberNav = -.0003**

NavYorN = -.0023***

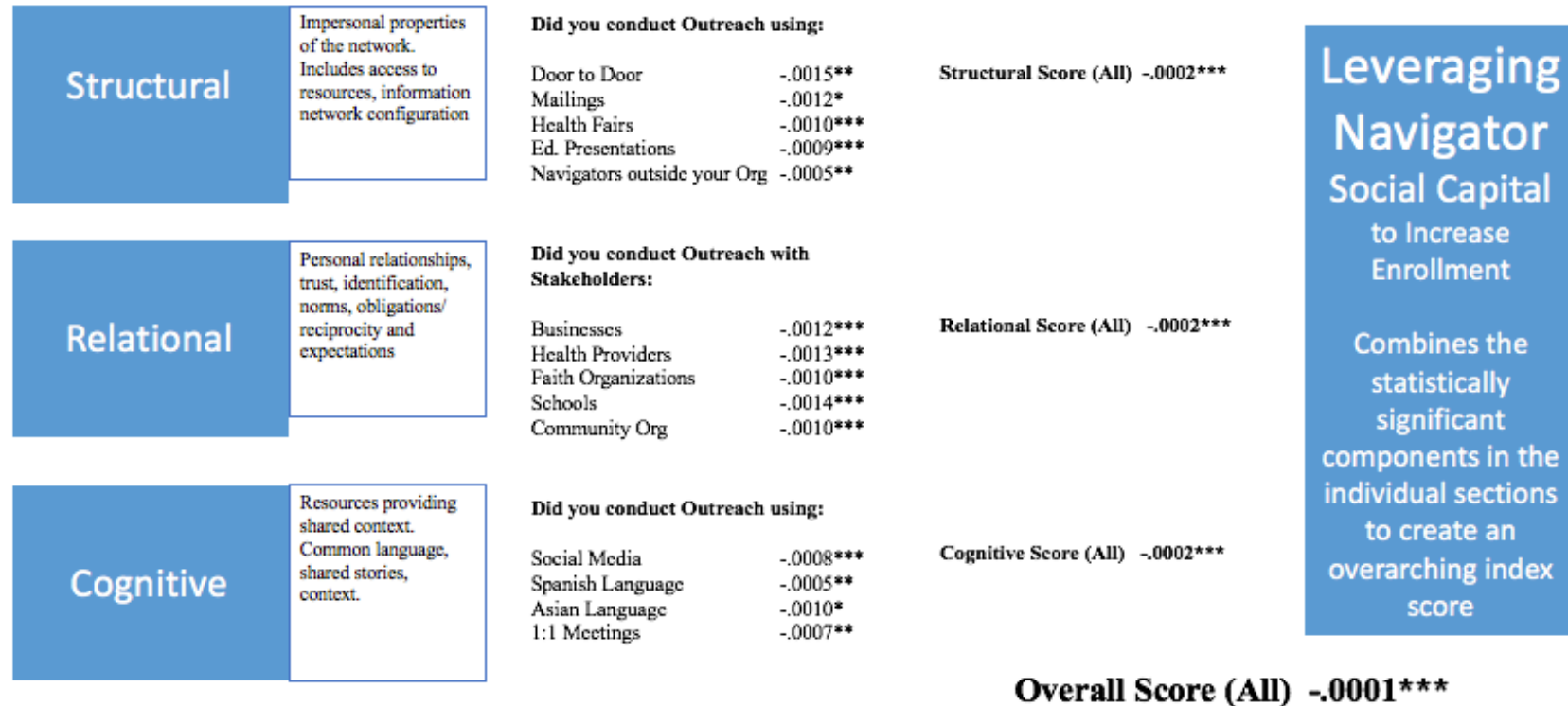


Figure 13. Navigator outreach activity index – all zip codes with navigators

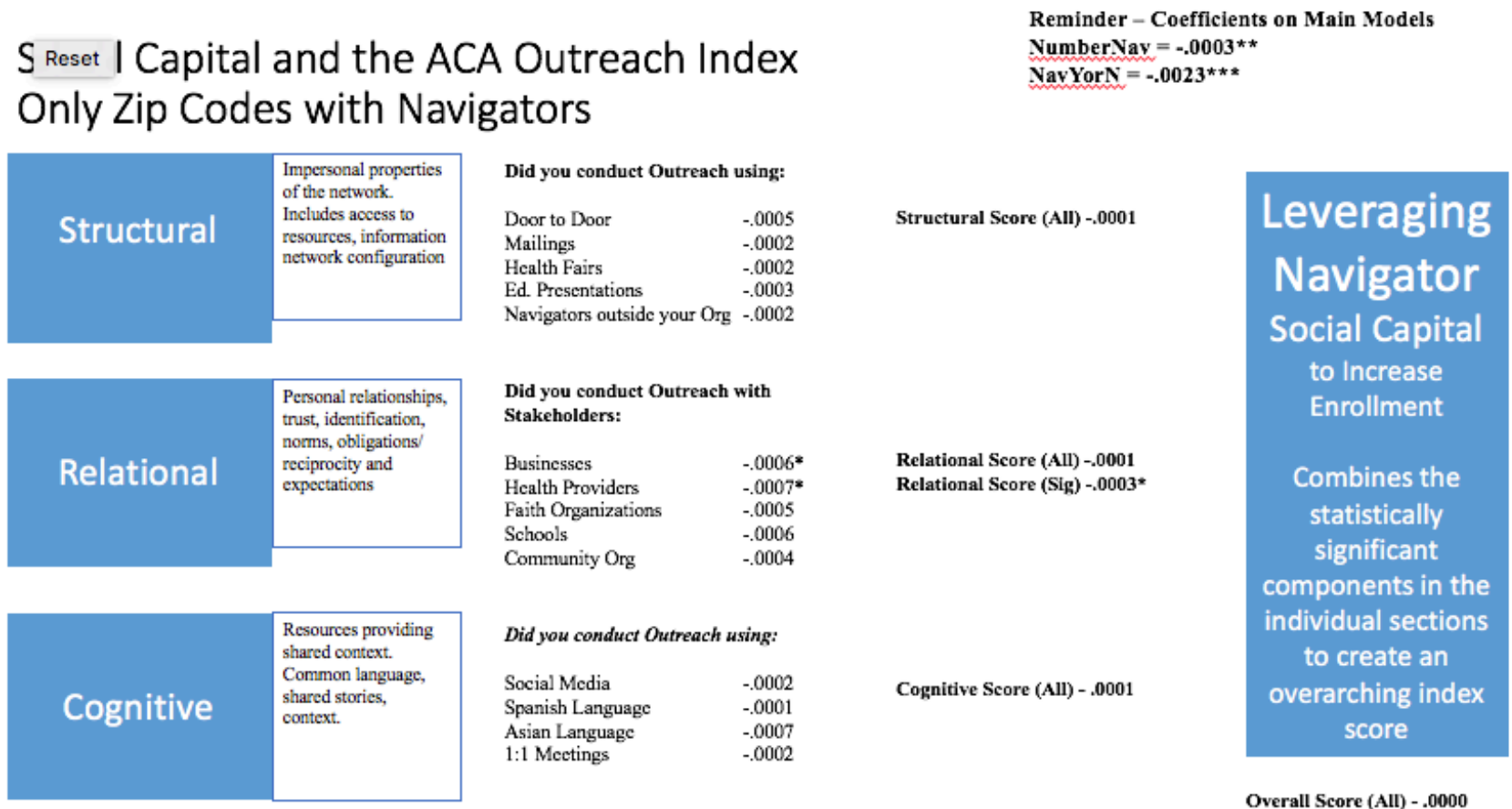


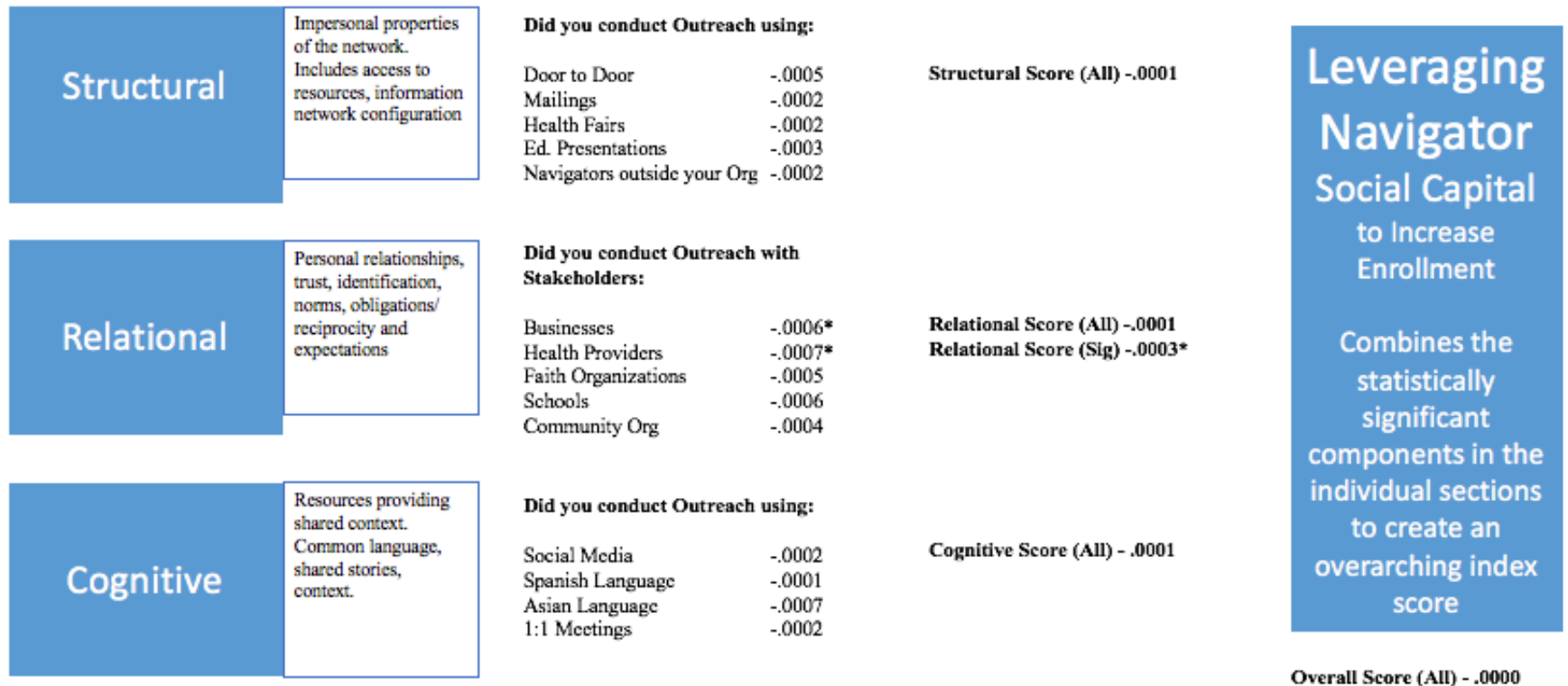
Figure 14. Navigator outreach activity index – restricted to zip codes with navigators with complete survey responses

Social Capital and the ACA Outreach Index
Only Zip Codes with Complete Survey Response –
No changes to scores

Reminder – Coefficients on Main Models

NumberNav = **-.0003****

NavYorN = **-.0023*****



6.5 Discussion

We can begin our examination of the way that ACA navigators have harnessed social capital to increase the diffusion of the ACA by focusing on the first dimension of structural capital. We recall that the outcome measure we focus on is the uninsurance rate for a given zip code over time, as this is an indication of whether or not people who were formerly uninsured, have now adopted the new policy innovation. There is no question during this time period (2013-2015), the average zip code uninsurance rate in Illinois has declined, moving from 11.53% to 9.7%. What we are able to observe is a differential change in the zip codes that had Navigators working in them during this time. For Aim (2.A.1), Tables XXV and XXVI (Model FE-4), demonstrate an inverse and significant relationship between both the number of navigators and the presence of navigators within a zip code and the uninsurance rate. Beginning with the number of navigators in Table XV, we find that with every additional navigator placed within a zip code, there is an associated reduction of -.03% in the uninsurance rates. This is significant at a level of $p < .01$. When we move to Table XVI, to look at the presence of a navigator we find an even greater magnitude. Relative to zip codes without any navigator presence in the time periods of interest, those zip codes that have a navigator are associated with a -.23%, nearly a quarter of a percent magnitude, suggesting that the added structural social capital of a Navigator is important to the ACA policy diffusion. This finding is significant at a level of $p < .001$. Hypothesis 2.A.1 is upheld.

For Aim (2.A.2), tests the independent variable of Navigator persistence has less conclusive results. Persistence begins to help us understand a Navigator's relational social capital, as it is an indicator of their longevity within a given geographic area. The final model in Table XVII (OLS-4) shows a similar magnitude of an association, when we have a navigator in 2015 or in both 2014 and 2015, but neither finding is significant. From these analyses, Hypothesis 2.A.2. cannot be upheld.

Figures 12, 13 and 14 focus on Aim 2.A.3, testing the relationship between a constructed Navigator Outreach Activity Index. The Navigator Outreach Activity Index provides insight into how each of the types of Navigator activities – that contribute to diffusion, might be harnessing the three different dimensions of social capital. When looking across all zip codes in Illinois (Figure 12), we find that each component of the index – separately and collectively have an inverse and statistically significant relationship with the rate of uninsurance. The largest

magnitude relationship is door to door outreach, followed by outreach to schools and outreach to healthcare providers – forms of structural and relational social capital. When all index components are combined at each of their respective construct levels (Structural, Relational and Cognitive), this inverse relationship holds in each case and remains highly statistically significant at $p < .001$. Further, when these scores are then combined to measure an overall activity index score, the magnitude of the association drops slightly, but the statistical significance persists. Based on this, Hypothesis 2.A.3. can be upheld – by using all three dimensions of social capital, (with perhaps greater reliance on Structural and Relational) Navigators outreach work is associated with a reduction in the uninsurance rates.

Aim 2.A.4 is addressed by the results in Table XVIII and XIX. The associated effects from number of navigators and presence of a navigator are not consistent across all subgroups of interest – especially those that have shown a historic disparity in uninsurance rates. A few findings that are revealed as significant include a large magnitude inverse relationship (-1.18%) when the sample is restricted to majority black zip codes. When we look at table XIX, under the changed dependent variable to subgroup uninsurance rates, a similarly large magnitude and significant inverse relationship emerges for percent of Asians uninsured (-1.03). Especially useful to note is the percent of uninsured under 138% of the FPL. Significant relationships exist between both the number of navigators and the presence of navigators. No significant relationships can be observed when looking at rates of uninsurance for young adults (ages 19-25), nor by educational attainment. From these analyses, we find that Hypothesis 2.A.4 can only be partially upheld given the inconsistent findings.

The SAR models displayed in Tables XX and XXI provide results to extend our understanding of Aim 2A1 and how we think about Navigator structural social capital extending beyond the borders of their own zip code. In each of the models, there are 4 important effects to discuss:

1. Independent Variable of Interest

In each of the spatial models, when we account for impacts of neighboring zip codes, the magnitude of the association with uninsurance rates within the Navigator's zip code reduces. The relationship remains inverse, at a lower magnitude and is no longer statistically significant.

2. Independent Variable of Interest – Spillover

In each model, we also can observe an inverse relationship between the number and presence of a navigator and the uninsurance rate in neighboring zip codes. This is also not statistically significant.

3. Dependent Variable Lag

This coefficient tells us about how the outcomes are associated with the outcomes of nearby neighbors – essentially answering the question, if one zip code has a reduction in the uninsurance rate, will that be associated with a reduction in the uninsurance rate in their neighboring zipcodes. In the queen contiguity models, that have a broader definition of neighbors, we see a positive relationship that is statistically significant at a $p < .05$.

4. Autoregression of Errors

In each of the SAR model, the estimate of the autoregressive errors is highly significant and positive, suggesting a strong association between the errors in each neighboring geographic area.

One concern with SAR nested models is that they may be over-parameterized for the dataset you are working with. When we look at the r^2 in each model, we see that the Non-SAR models appear to be a better fit, and could explain why some of the findings in this spatial model are inconsistent with our other modeling. One approach to fixing this is to opt for a more reduced form, and test the spatial relationships with the Spatial Durbin and Spatial Durbin Error Models.

The Spatial Durbin and Spatial Durbin Error Models appear to show results more aligned with our other models, specifically within the presence of a navigator (both in the primary and contiguous zip codes), where we observe an inverse and significant relationship with uninsurance rates – the problem of fit still remains. I believe that this is a function of the rapidly changing workforce of Navigators, which in the second year became extremely localized in urban areas... creating difficulty in measuring spillover effects, because so many communities were without Navigators within them, much less both within and around them. To attempt to localize this effect, a sensitivity analysis was performed, limiting the entire sample to just those zip codes within Cook County – as this could create a model where we observed the effect in a more similar geographic area, with a tighter distribution of navigators. The number of observations decreased substantially, and no significant observable effect was noted.

6.6 Limitations

Although this project is timely and relevant, and is constructed to provide sound understanding about the implementation efforts of the ACA in Illinois there are some limitations worth noting. First, while the zip code fixed effects model is able to control for time-invariant zip code characteristics, it is unable to control for unobservable time-varying shocks at the zip code level. For example, if there was a state-level policy change that promoted investment by employers in communities with high rates of poverty, we could predict that uninsurance rates (our dependent variable of interest) would drop due to the availability in that zip code of more jobs offering employee benefits. If this policy change, suggested in the example, was correlated with both the assignment of our independent variable- the Navigators, as well as the time frame, we find ourselves at risk for mis-assigning the effect to the Navigators, when actually the associated change in the uninsurance rate was potentially a total or partial function of the correlated policy change instead. While we are unaware of any such policy changes at the time, we must recognize this as an inherent limitation of the methodology we have chosen. Additionally, since this study is not estimated at the individual level, we do not capture any unobserved time invariant or time variant individual characteristics.

Related to this concern, given that navigator assignment is not completely random, there is cause for skepticism regarding endogeneity in the independent variable of interest. What we may want to be worried about is that there is something implicitly different about the zip codes that Navigators are working in versus those that they are not. An initial look at key zip code characteristics, when dividing the geographic areas into two groups, does reveal some important differences of note (See Table XXII). Typically, the most preferred way we would want to address this concern is by using a two-stage least squares model with an instrumental variable (IV). By using the IV to predict the presence of a Navigator – rather than using the actual Navigator data itself, we are able to avoid the endogeneity problem. In a future study, if an IV model was identified and implemented, the results would be able to interpret causation rather strictly the associations we see between Navigators and uninsurance rates in this study.

TABLE XXII
ILLINOIS ZIP CODE CHARACTERISTICS BY NAVIGATOR ASSIGNMENT^a

		Zip Codes with (1+) Navigators n = 426			Zip Codes with (0) Navigators n = 1118			t-test
		Mean	St. Dev	Weighted Mean	Mean	St. Dev	Weighted Mean	
Total Population		41792.88	29284.48	62391.16	10732.61	12881.12	26364.43	***
Gender								
	Percent Female	0.51	0.02	0.51	0.50	0.04	0.50	**
	Percent Male	0.49	0.02	0.49	0.50	0.04	0.50	**
Federal Poverty Level								
	Percent Below 100	0.12	0.07	0.13	0.12	0.09	0.10	*
	Percent Below 138	0.19	0.10	0.20	0.18	0.11	0.16	*
Race/Ethnicity								
	Percent White only (Non-Hisp)	0.71	0.25	0.62	0.86	0.19	0.83	***
	Percent Hispanic/Latino (any race)	0.11	0.13	0.16	0.04	0.08	0.06	***
	Percent Black (only)	0.12	0.20	0.14	0.05	0.13	0.05	***
	Percent Asian	0.04	0.05	0.05	0.02	0.04	0.03	**
Age								
	Percent Under 18	0.23	0.05	0.24	0.22	0.05	0.24	*
	Percent 18-64	0.62	0.06	0.63	0.60	0.07	0.60	**
	Percent 65+	0.13	0.04	0.12	0.15	0.04	0.14	***
Insurance Status								
	Percent Uninsured 2012	0.11	0.05	0.12	0.10	0.04		***
	Percent Uninsured 2014	0.11	0.05	0.12	0.10	0.04	0.09	***
	Change in Percent Uninsured	-0.01	-0.01	0.01	-0.01	-0.02	0.01	*

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

An additional limitation is reflective of one of the key hypotheses that Navigators have the greatest impact within the communities they are working, in the original model, there is no ability to measure any type of spillover effects in neighboring communities. Unfortunately, we cannot and should not assume that navigators or the uninsured adhere to strict zip code boundaries. In areas throughout the state, there is likely to be overlap between these geographic areas. It would be valuable to estimate the secondary effects that navigators have in neighboring communities – especially in those that do not have their own navigator present, using a geospatial fixed effects model. It is worth noting that all of the data for this project comes in the form of survey research which can be subject to multiple forms of error in the data collection process. First, we think about sampling error, wherein possible that those we wind up surveying are actually not representative of the population that we are intending to learn about. This can be further compounded by selection bias, wherein we find that a certain type of person is more likely to participate in or complete a survey. We also need to be aware of recall bias – all surveys are asking people to self-report and remember data correctly. Mistaken information can come in the form of respondents systematically failing to accurately report answers to instrument questions.

We must also recognize that the Navigator Activity Index is a new measurement tool developed for this study specifically, and has not been validated externally or in previous studies. Upon reporting results for this index, the author may suggest testing this index out in other settings to begin to validate its use beyond this context.

Finally, all data for this initial study comes from the State of Illinois, and therefore may not be generalizable beyond the borders of this state. We may like to assume that similar states might have similar results, but instead, we suggest broadening the scope of this study to see if patterns continue to hold when looking across the United States.

6.7 Additional Key Navigator Insight from Surveys

Two additional areas of interest emerge when analyzing the survey results using the mixed methods approach – both in terms of the navigator perspective on existing barriers to outreach and the best ways that the navigator population's work could be supported by the community, policy makers and educators. Each of these content

inquiry areas was included in the “Annual Navigator Outreach Survey” discussed in Section 6.3. For each question, respondents were given a list of possible responses, asked to choose all that apply and then to elaborate in a free writing space. The questions are as follows:

4) What enrollment barriers have your clients encountered? (Select all that apply and elaborate in the space provided)

5) What types of ongoing support would be most beneficial in this work?

I have analyzed these responses in two ways, first summary statistics are included regarding number of respondents to each question, relative to the total number of survey responses in each year. Next, I have included the number of respondents that elaborated on their answers (See Table XXIII).

TABLE XXIII
NAVIGATOR QUALITATIVE QUESTION RESPONSE STATISTICS

	2014 (P1)		2015(P2)	
	Number	Percent	Number	Percent
Survey Total Respondents	983	100.00%	723	100.00%
Question 10 - Barriers	860	87.50%	702	97.10%
Question 10 –Barriers - Free Response	71	7.20%	54	7.50%
Question 18 – Forms of Support	869	88.40%	712	98.50%
Question 18 – Forms of Support – Free Response	262	26.70%	197	27.20%

Basic survey responses for each question are summarized quantitatively. Each of the two content areas are followed by qualitative analysis. The elaboration or free response portion of the question sections were coded qualitatively using DeDoose software. The limited codebook was established using insight from the earlier findings in the quantitative components of this overall study (See Appendix C for codebook). Coded responses were then analyzed for thematic insight and included here with supporting quotes directly from Navigators. This is an attempt to gain greater understanding of the variation in findings we see from the earlier studies.

We will first look at insight provided on client barriers. During the first year of ACA enrollment, Navigators reported the biggest barriers to enrolling the uninsured in health insurance coverage to be website difficulties, confusing regarding eligibility and lack of access to computers. In each of those three areas, we saw a reduction in the reporting of these ongoing barriers. In the second year, three areas actually increase their percentage of perceived barriers by the Navigator population – financial, concern over provider network access and citizenship (See TableXXIII).

TABLE XXIV
NAVIGATOR SURVEY RESPONSES: BARRIERS TO ENROLLMENT^a

Navigator-Reported Perceptions of Client Barriers to Enrolling in Coverage	2014 (P1) Percent Choosing	2015 (P2) Percent Choosing	Percent Change
	n = 983	n = 723	
Website Difficulties	72.43	49.79	-22.64
Confusion over Eligibility	63.99	57.26	-6.73
Limited Access to Computers	60.12	47.99	-12.13
Financial	58.19	65.56	7.37
Concern over Provider/Network Access	44.66	48.55	3.89
Distrust and Fears	41.71	34.3	-7.41
Citizenship	38.45	44.4	5.95
Transportation	33.67	24.48	-9.19
Language	32.76	32.64	-0.12

^a Shaded areas represent those that saw increases in respondents between year one and year two.

In this analysis, financial barriers emerge as the largest barrier reported by Navigators, followed by confusion over eligibility, which remains in the second highest spot, and then concern over network access. This shift makes sense in the greater context – within the first month of the ACA Marketplaces being functional during the first year, many of the initial kinks in the online enrollment system were resolved – as such, a dramatic fall in this

reported barrier would be expected. The climb in financial barriers and network access, is likely a function of the year two price increases and move to more “narrow network” based plans (Polsky and Weiner, 2015). Each of these barriers however, align closely with our conceptual model – and the understanding of barriers faced by individuals that are uninsured who might likely be part of a population that would traditionally be observed to have low social capital. When asked to further elaborate or expand on their perception of client barriers to enrollment in health insurance coverage, the navigators spoke to 3 main emerging patterns or themes. Each quote below comes from unique individuals.

Emergent Theme #1: The cost of purchasing health insurance remains too high. Despite the ACA’s efforts to reduce or subsidize insurance premiums, for those that were Marketplace eligible rather than Medicaid, the Navigators perceive that cost is still a significant barrier and reason to not enroll in insurance coverage for many of the clients that they were unsuccessful working with.

“There is a “Sticker Shock” for those that have never purchased private insurance before.”

“...many feel they can't afford the premiums even with tax credits or cost reduction.”

“Lots of consumers received a tax credit but still couldn't afford the premium and complained that the deductibles were extremely high. Lots of consumer were upset when either they couldn't afford the plan their current doctor was in or current or desired doctor was in any of the plans.”

“The overriding hesitation on enrollment from a consumer's point has been the misinformation on cost for health insurance. Once the consumer has a baseline[understanding] of the expansion of Medicaid (in IL) and the premium tax credits offered (to qualifying individuals/families) most are ‘accepting’ of purchasing coverage.”

“The working poor continue to struggle with plans that they deem are affordable in nature. Earning, \$8.25 an hour, paying for transportation and living expenses leaves little available for monthly premiums. In addition, year 2 has presented challenges for re-enrollees. Many who enrolled in a bronze plan, could barely afford their monthly premiums and when they attempted to use “free preventative essential health benefits” they received a bill.”

Emergent Theme #2: The process of choosing a health insurance plan is extraordinarily complicated.

Even when a Navigator is involved, it is often too difficult to choose a plan, or even at times too difficult to navigate the intricacies of the process. This is both a function of the number of steps in the process, the uninsured populations limited health insurance literacy and the dysfunctional tools meant to simplify the enrollment.

“By lack of literacy, I mean more lack of insurance literacy than the actual ability to read the English language”

“Dysfunctional enrollment process, convoluted and difficult to choose a plan-major barrier”

“I think the biggest problem is the website. I have had very well educated professionals come to me with problems needing help. Imagine how difficult it is for the less educated or elderly applicants.”

“Number one problem has been website. Utter failure.”

Emergent Theme #3: There is an underlying political and ideological resistance to the ACA that must be overcome in certain populations. One way this theme is revealed, is by Navigator respondents observing push back on some of the more controversial components of the ACA, including the individual mandate and tax penalties. General ideological conflicting beliefs also were a hurdle that Navigators had to overcome in some cases to encourage enrollment

“... they don’t like being forced to have insurance”

“Many people do not like the tax penalty if they are healthy individuals and don't want to pay for health insurance.”

“... there’s no real interest” because they don’t “believe in the ACA”

“Some people disagree with the law mandating insurance coverage.”

“People do not believe the program will be around next year.”

Next, we can examine insight into the effective support of navigator populations. Navigators report the highest level of support in both year one and year two coming first from Co-workers and second from referring back to initial training materials. These two areas are followed by a variety of online tools and resources including webinar, general self-guided internet searches, state-provided resource repositories, required continuing education modules and finally use of HelpHub, and online peer supported chat room and social platform designed to encourage troubleshooting and idea sharing for Illinois Navigators. It is noteworthy to review that in all response categories other than continuing education and HelpHub, in the second year, a lesser percent of responding Navigators found each area to be less beneficial forms of support than in the first year. Knowing that both continuing education and HelpHub grew in popularity from year one to year two (highlighted rows in Table

XXV), makes both of those potentially useful areas to disseminate important learning and beneficial findings from this study.

TABLE XXV
NAVIGATOR SURVEY RESPONSES: EFFECTIVE SUPPORT^a

Form of Navigator Support	2014 (P1) Percent Choosing	2015 (P2) Percent Choosing	Change
	(n = 983)	(n = 723)	
Co-Workers	74.11	61.41	-12.7
Training Materials	63.41	51.31	-12.1
Webinars	49.6	42.88	-6.72
Internet Searches	44.19	42.74	-1.45
State Resource Center and Online Resource Repository	39.02	29.05	-9.97
Continuing Education	36.82	47.03	10.21
HelpHub (Online chat platform)	36.48	37.9	1.1
Marketplace Staff	28.65	24.48	-4.17

^a Shaded areas represent those that saw increases in respondents between year one and year two.

When asked to elaborate on these types of effective support, three themes emerge. Each of them are identified below with supporting quotes coming directly from unique navigator responses.

Emergent Theme #1: Navigators did not feel adequately prepared for the complex challenge of enrolling different individuals, with unique situations in complicated programs. Navigators reported needed more information both about the insurance plans specifically. The limited nature of what they received, often impacted their confidence in the interactions with the uninsured population.

“More information on EVERYTHING is needed. Nearly every client has some question that I cannot answer or a situation that I am not sure about “fitting into” the system. People are getting lots of contradictory information and are having a great deal of trouble understanding their options.”

“Having much more knowledge of the individual plans on the Marketplace would be very helpful. I can be somewhat helpful on the basics of things, but when it comes down to telling them some specifics (i.e. how much will labs cost, etc.), I feel somewhat uncomfortable.”

Emergent Theme #2: Navigators know how important outreach is, and feel that ongoing continuing education in this area would be beneficial. Outreach emerges as a key skill in identifying hard to reach populations to enroll. This skill is often daunting especially for new navigators that are unsure of how best to approach this work, and what are the most time-effective techniques.

“I would like to see General Techniques for requesting meeting with stakeholders whom you have no connections with, canvassing and outreaching to the community, techniques in building trust with individuals.”

“I need more support in promotion and outreach specifically for rural areas. I find that I have had to feel my way through this.”

“I would like to know how to better serve hard to reach consumers that has been denied Medicaid and now don't sign up.”

Emergent Theme #3: Navigators feel that in general, more training – and specifically about the technical aspects, would benefit them as well as the client populations they are trying to enroll.

“I feel that you could never get enough training for this kind of field.”

“My group of co-workers have outstanding interpersonal skills and are highly specialized with working with very diverse populations. This is the easiest part of the job. The training should have always included the computer application part. The computer system has been an epic failure from the lack of training to the system shut downs to the ever changing computer system in general.”

“This enrollment process was new to many of us Assisters. If we are doing something wrong within the enrollment process, it would be nice to know at an earlier date in the enrollment process than near the end.”

6.8 Policy Recommendations

Given the significant association between both the presence of a navigator in a zip code, as well as the number of navigators in a zip code, it is reasonable to assume that in future policy roll outs intended to produce a drop in the uninsurance rate, that the inclusion of a consumer facing outreach and enrollment workforce similar to the ACA Navigators would amplify the results of the policy implementation. The additional structural social capital their presence brings likely contributes to a more effective diffusion of a new policy innovation like the ACA. Further, as identified in the Outreach Activity Index, such a workforce should be trained to conduct a wide variety of outreach activities including door to door canvassing, and the nurturing of stakeholder relationships such as those with businesses and healthcare providers – each of these outreach activities continues to harness

each of the three dimensions of social capital and bring it to their work with the uninsured in their communities. It is worth pointing out that Navigators may be especially beneficial in reducing uninsurance rates minority communities such as Blacks, Asians and those communities that fall below 138% of the FPL. Further, Navigators close relationships with the uninsured community put them in a unique position to identify barriers to enrollment and solutions to improve their role in the process. Given this important role as a feedback loop, resources should also be included to measure and evaluate their work, insight and measure their effectiveness on an ongoing basis to create even more effective settings for them to work within.

6.9 Conclusions

By leveraging the three dimensions of social capital, ACA Navigators have been demonstrated to be closely associated with a reduction in uninsurance rates observed at the zip code level in Illinois. The presence of a Navigator, number of Navigators, and varying outreach activities all have significant inverse relationships with this outcome measure, and as a result, we would encourage the use of these types of roles in future work that is related to assisting individuals in understanding, choosing and enrolling in health insurance coverage.

7 STUDY TWO: UNDERSTANDING AND EVALUATING THE IMPACT OF THE ACA NAVIGATOR PROGRAM FUNDING THROUGHOUT THE UNITED STATES

7.1 Introduction

The Affordable Care Act allowed each state to make a variety of decisions related to the implementation of the legislation. By choosing whether to expand Medicaid, determining the type of Marketplace and how much to invest in consumer assistance – each state created variation in the overall ability for the ACA to reduce the rates of uninsurance. The federal government required that all 50 states create a Navigator – consumer assistance program, and provided over \$126.6 million grant funding during the first two years of ACA implementation (for those states that did not establish a strictly state-based marketplace, as they would be responsible for this function internally). Navigator grants were awarded to community based organizations that wanted to focus on outreach and enrollment of the uninsured in ACA-related insurance coverage. Over 4,600 grant-funded programs served ACA consumers in the in 2015, employing more than 30,000 individuals (Pollitz et al., 2015). We can exploit the variation in grant funding at the county level, while simultaneously controlling for the state choices in implementation, to understand whether a large-scale outreach investment like a Navigator program is associated with greater insurance take up, and ultimately the effectiveness of large-scale health policy interventions.

These programs have been the focus of several academic studies since their inception. However, published studies have been either strictly descriptive using case studies (Tripp, 2015), assessing grey literature and survey data (Pollitz et al., 2015; Grob and Schlessinger, 2015; Hamel et al., 2016), solely qualitative by conducting stakeholder interviews (Artiga et al., 2014; Kwon, 2015; Vargas, 2016) or quantitative but only using one year of cross-sectional data (Sommers, 2016). Collectively, these studies have shown anecdotal evidence of the importance of using Navigators as a “best practice” to improve ACA enrollment. This has been mainly from the perspective of related stakeholders and navigator organizations. Sommers’ study extends this perspective to bring a voice to the uninsured – and found that the biggest predictor of completed enrollment was working with in-person assistance.

This study broadens this growing body of knowledge on the role and mechanisms by which ACA Navigators provide external decision-making support in health insurance enrollment and offerings. The key contributions include: the conversion of ACA an online Navigator grant funding database into a useable dataset, and then exploits this new set of data by combining it with longitudinal census data to determine Navigator’s association with declining uninsurance rates at the county level throughout the country.

7.2 Aims and Hypothesis

In this work, the role of the Navigator is explored, as well as whether they are able to effectively improve the diffusion of the ACA policy innovation – through the lens of social capital. Given the data available for this study, we are only able to examine one dimension of social capital – structural. Aim 1 serves to describe the Navigator grants distribution across the country. The second aim of the study, links this structural social capital to our core outcome measure – uninsurance rates. Structural capital is examined in the form of grant dollars provided for navigators. This aim further explores the relationship between social capital and the diffusion of a policy innovation – as the changing uninsurance rates is an indication of greater numbers of people moving through the decision-making process – to the confirmation of their enrollment. Finally, we look at each of these components in specific sub-populations of interest that have been shown to have higher rates of uninsurance. Each Aim and its respective hypothesis are outlined below:

1. Describe the variation in ACA Navigator program funding and investments across the United States.

(B.1) Summarize the variation in ACA Navigator program funding across 3,144 counties (and county equivalents) in the United States, and determine variation in patterns by key U.S. county demographics (urban/rural, percent of the FPL, percent minority, percent uninsured).

2. Evaluate the association of the ACA Navigator program funding with the national uninsurance rates.

At the county level in the United States, assess whether:

(B.1) A higher amount of ACA Navigator grant funding is associated with a reduction of the rates of uninsurance between 2013-2015.

H.2.B.1: ACA Navigator grant funding will have an inverse and significant relationship with the rate of uninsurance between 2013-2015.

(B.2) ACA Navigator funding is associated with the lowest uninsurance rates in counties with the lowest rates of health and health insurance literacy (i.e. those with high rates of minorities, English as a second language, low educational achievement, and high rates of households living below the FPL).

H.2.B.2: ACA Navigator funding will have an inverse and significant relationship with the lowest uninsurance rates in counties with the lowest rates of health and health insurance literacy (i.e. those with high rates of minorities, English as a second language, low educational achievement, and high rates of households living below the FPL).

7.3 Methods

All data will be collapsed to the county level. The ACS data for the dependent and control variables reported at the census tract will be assigned to respective zip codes throughout the United States. For the initial aims, the Navigator grant funding will be assigned to the county level they report as their target work area. All data sets will be linked using County as the unique identifier. For Aims 1 (B.1), basic descriptive statistics methods, including mean, median, standard deviation were employed. For categorical variables, I used proportions and percentages to describe the data. T-tests were performed to identify key differences between counties with and without grants. These methods will allow us to identify patterns in the data, and better understand the distribution of key variables of interest. Table XXVI provides a simplified listing of all variables and their data sources used in this second study.

The American Community Survey is a national annual tool administered by the U.S. Census Bureau, measuring a number of key indicators relevant to this study. The annual supplement is conducted monthly by the Census Bureau and samples 3.54 Million Households – The total population is stratified by census blocks and then randomly drawn to contact (Davern et al., 2009). For this study, we download the public use files for the 1 year estimates from 3 relevant years: 2013, 2014, and 2015. We begin with 2013, so we are able to create a

baseline estimate of the uninsurance rate in the period prior to the implementation of the key provisions of the ACA – most specifically the Navigator grant program (United States Census Bureau, 2013-2015).

TABLE XXVI
LIST OF VARIABLES FOR STUDY TWO

Dependent Variables	Independent Variables	Control Variables
Rate of Uninsurance by County	Navigator Grant Funding by County	Federal Poverty Level Mean Household Income Percent Minority Unemployment Rate Education Level Medicaid Expansion Marketplace Type
Data: ACS	Data: CMS	Data: ACS, KFF

The continuous dependent variable is constructed in a 4-step process and is the dependent variable for Aims 2(B.1-B.2).

Step One: Determine ACS Number uninsured by Census Tract – the ACS health insurance question asks about each person in the household separately. The ACS question asks about insurance specifically at the time of the survey – this could include current or former employer sponsored coverage, direct purchase, Medicare, Medicaid, Tricare, the VA, Indian Health Service or Other. People were considered insured if they reported at least one “yes” to this question. People who did not affirm any of these options or only chose Indian Health Service, were considered uninsured (United States Census Bureau, 2014).

Step Two: Assign census tracts to their counties. The United States Department of Housing and Urban Development provides a Census Tract to county crosswalk document, that can be sorted by state. Using

STATA, I merge the original ACS data by census tract, with the county crosswalk document – assigning each unique tract to its’ respective county (United States Department of Housing and Urban Development, 2013).

Step Three: Collapse Census Tracts into 1 County Level Observation. Using STATA, I am able to collapse all relevant variables into one observation per county. For the purposes of this variable construction, I needed to keep the estimated number of uninsured residents between age 18 and 64, and the estimated total number of residents between 18 and 64.

Step Four: Create the rate of uninsurance by county. Once all tracts have been collapsed into their respective county, constructing the variable is straightforward. I take the estimated number of uninsured residents between age 18 and 64, and divide it by the estimated total number of residents between 18 and 64 to generate a rate of uninsurance. The rates of uninsurance across counties, during the study period are shown in Table XXII.

Each year, ahead of open enrollment, CMS announces their newest cycle of Navigator grant recipients. These releases include name of the organization and the amount of grant funding that they will be receiving. Most importantly this release also includes the counties that each Navigator grant recipient will be operating in. This allows us to link the funding to each specific county and the ACS data on uninsurance rates and control variables (Center for Medicare and Medicaid Services, 2013; Center for Medicare and Medicaid Services, 2014). For this national study, grant funding will serve as a proxy measure to the more granular data we have in Illinois (numbers of navigators, outreach and enrollment activities, etc.) The premise being, that the more funding a particular county receives the more navigators and outreach and enrollment activities that they will have the resources to fund. The Center for Medicare and Medicaid Services published this data, however, initially not in a readily analyzable format. The grants were listed by state sharing their amounts and the organization name and county in a PDF document. The researcher curated this data into a working database that could then be manipulated to be linked to additional secondary data sources. The independent variables used in Aims 2 (B.1-B.2) are constructed using the following approaches:

Annually CMS reports the Navigator organizations that will be receiving grant funding. This continuous variable must be constructed in a three-step process:

Step One: Determine the amount of grant funding each organization receives.

Step Two: Determine and assign the county(ies) that the grant funded organization is located within.

Step Three: If an organization will be operating in only one county – that county is assigned all of the grant funding. Conversely, if an organization will operate in multiple counties, the grant funding will be proportionally assigned based on county population (Center for Medicare and Medicaid Services, 2013-2014).

TABLE XXVII
NATIONAL RATES OF UNINSURANCE BY COUNTY (213-2015)^a

		n	Baseline (P0) 2013	Period One (P1) 2014	Period Two (P2) 2015	Total % Change P0 - P2
Percent of Population Uninsured						
	Age 18 to 64	3143	20.68%	19.86%	18.20%	-11.99%
	Age 19 to 25	3143	29.37%	27.00%	23.67%	-19.41%
Gender						
	Male	3143	16.37%	15.61%	14.27%	-12.83%
	Female	3143	13.44%	12.85%	11.73%	-12.72%
Race/Ethnicity						
	White	3143	13.31%	12.74%	11.66%	-12.40%
	Black	2968	16.96%	16.07%	14.55%	-14.21%
	Hispanic	3114	28.22%	26.87%	24.78%	-12.19%
	Asian	2872	17.08%	16.35%	14.69%	-13.99%
By Marketplace Type						
	No ACA Marketplace		20.68%	n/a	n/a	
	Federally Facillitated		20.68%	20.47%	19.15%	-7.40%
	State Based		20.68%	15.22%	13.64%	-34.04%
	Partnership		20.68%	16.31%	14.39%	-30.42%
By Medicaid Expansion						
	Expanded		20.68%	15.59%	13.99%	-32.35%
	Not Expanded		20.68%	21.35%	20.06%	-3.00%

^aSummary statistics are weighted by county population.

This variable is created for each year before observations are collapsed into counties. Each grant is assigned both its full amount and then a secondary variable with a value of 1. Using STATA, I then collapse all relevant variables into one observation per county. This then becomes a continuous variable that counts both the total grant amount per county as well as the total number of grants per county. This data set is then merged with the county data set created by our dependent variable construction. As a result, a number of Counties will show a missing observation. Any counties with a missing observation under grant amount and number of grants are then replaced with zeroes. At this point, we can then generate a binary variable from the yearly number of grants by county variable. Values with one or above are replaced with a 1, and all other zeroes remain unchanged.

Table XXVIII summarizes the Navigator grant funding distribution by county both in the mean amount number. This table includes a secondary subset of statistics for counties with populations about 100,000 persons, as a specific sub-group of interest.

TABLE XXVIII
NATIONAL NAVIGATOR GRANT SUMMARY STATISTIC BY COUNTY

	Baseline (P0) 2013	Period One (P1) 2014	Period Two (P2) 2015
In All Counties (n)	3141	3141	3141
Mean Amount	0	\$ 29,587.81	\$ 18,622.00
Mean Number	0	0.04	0.03
Counties with a grant	0	87.00	78.00
In Only Counties with Grants (n)	0	87	78
Mean Amount	0	\$ 743,527.50	\$ 750,868.00
Mean Number	0	1.29	1.26
In All Counties - Population >100K (n)	582	588	591
Mean Amount	0	\$ 96,303.28	\$ 85,775.98
Mean Number	0	0.16	0.14
In Only Counties with Grants - Population >100K (n)	0	72	63
Mean Amount	0	\$ 786,476.80	\$ 804,660.40
Mean Number	0	1.33	1.30

Given the large number of counties that do not receive grant funding in any period, using a continuous independent variable – such as Grant Dollars or Grant Dollars per Person – can produce a result that is both difficult to interpret and in some cases an inaccurate reflection of the effect of the variable of interest. To address this issue, I have also created 3 different examples of categorical variables to identify variation among levels of grant amounts. The levels of grant funding by year are detailed in Table XXIX.

County level control variables are primarily obtained from the ACS (2013-2015) data. The chosen controls have been included in the model because they all have been shown to have an impact on rates of uninsurance in a given geographic area. In multivariate regression models, we are able to account for the variance associated with these factors, while simultaneously identifying the effect from the independent variable of interest. Economic factors such as mean income, educational attainment, employment rates and percentage of the population below the FPL are traditionally used when predicting uninsurance rates (Schmidt et al., 1996). Generally speaking, high rates of uninsurance are associated with poor economic indicators. Individuals that are employed, high earners, and well-educated, are much more likely to have insurance coverage. The model also controls for population of the county. Because we know that Blacks and Hispanics are uninsured at a higher rate than their white and Asian peers, we also control for the percentage of these two minorities living in the geographic area of interest (The Henry J. Kaiser Foundation, 2013).

The Kaiser Family Foundation (KFF) has been tracking ACA implementation since its inception. We will use their published reports to include two important variables in our controls – state decision for Medicaid expansion and type of Marketplace the state chose to implement. These decisions are not static, and some of them have changed over time. KFF publishes annual reports documenting each of these state implementation choices (The Henry J. Kaiser Foundation, 2017). Marketplace assister programs vary in practice and contexts by each state, and each of these factors can be controlled for. During the first open enrollment period, the average state-run Marketplace had significantly greater resources per capita than did the typical state that utilized the federal exchange (Grob, 2015).

TABLE XXIX

NATIONAL NAVIGATOR GRANTS BY CATEGORICAL VARIABLES

	Baseline (P0) 2013	Period One (P1) 2014	Period Two (P2) 2015
In all counties (n)	3141	3141	3141
None	3141	3054	3063
Low: < \$485,049	0	42	40
High: >= \$485,049	0	45	38
None	3141	3054	3063
Low: (25%) < \$241,749	0	23	19
Mid Range: (26%-74%) >= \$241,749 & < \$806,045	0	41	40
High: (75%) >= \$806,045	0	23	19
None	3141	3054	3063
Very Low: (10%) <= \$137,283	0	23	7
Mid Range (11%-89%) > \$137,283 & < \$1,715,613	0	41	63
Very High (90%) >= \$1,715,613	0	23	8
In all counties - Population >100K (n)	582	588	591
None	582	516	528
Low: < \$485,049	0	32	31
High: >= \$485,049	0	40	32
None	582	516	528
Low: (25%) < \$241,749	0	20	15
Mid Range: (26%-74%) >= \$241,749 & < \$806,045	0	31	32
High: (75%) >= \$806,045	0	20	16
None	582	516	528
Very Low: (10%) <= \$137,283	0	9	4
Mid Range (11%-89%) > \$137,283 & < \$1,715,613	0	55	52
Very High (90%) >= \$1,715,613	0	8	7

State Medicaid expansion is a binary variable (0 for states that do not expand Medicaid, and 1 for states that do). For states that expand Medicaid partway through the year, if more than 6 months remain in that calendar year at the time of expansion that will be considered a 1. If less than 6 months remain for that calendar year, the Medicaid Expansion variable will be considered a 0 for that year.

The Marketplace decision is a categorical variable. Each state could choose one of 3 types of marketplaces: Federally Facilitated Marketplace (FFM), State-Based, or a Partnership. In a Federally-Facilitated Marketplace, the Department of Health and Human Services (HHS) performs all Marketplace functions. States that choose an independent state-based marketplace on the contrary will perform all functions. The final choice, a partnership arrangement, allows states to take responsibility for plan management, consumer assistance or both, and the federal agencies will perform any additional functions. The variable assignment will be: (1) Federally Facilitated Marketplace, (2) State-Based, (3) Partnership. The variable will be assigned to each county based on the type of Marketplace that state is operating during that year's open enrollment cycle and whether or not Medicaid was expanded during that time as well. Sensitivity analyses will be conducted using separate sub-groups of states by these descriptors. The distribution of all relevant policy decisions at the county level is seen below in Table XXX.

It is useful to examine the differences between the counties that receive grants to those that do not. Although we use a fixed effect model that will control for differences between counties, examining the significant characteristics between the two groups can help us better interpret the results. In Table XXXI, the results of a simple T-Test to compare the means of a selection of characteristics of interest. We find that in a number of different areas (population, mean household income, percent Black residents and percent Hispanic residents) that the counties have significant differences.

While public health intervention has long considered randomized controlled trials as the gold standard for evaluating the effectiveness of a program or policy intervention, we know this is not always feasible. This is particularly true when large-scale initiatives are rolled out at the population-level such as the ACA. As a result, quasi-experimental methods, such as the interrupted time series design and fixed effect estimation, are increasingly being used for the evaluation of public health programs (Lopez, 2016).

TABLE XXX
COUNTY LEVEL DISTRIBUTIONS OF POLICY DECISIONS

	2013		2014		2015	
Total Counties (n)	3141	100%	3141	100%	3141	100%
Medicaid						
Expansion	0	0%	1219	39%	1378	44%
Non-Expansion	3141	100%	1922	61%	1763	56%
Marketplace						
None	3141	100%	0	0%	0	0%
Federally Facillitated (FFM)	0	0%	2164	69%	2164	69%
State Based (SB)	0	0%	625	20%	625	20%
Partnership (PM)	0	0%	352	11%	352	11%
Combinations						
Medicaid Non-Exp x None	3141	100%	0	0%	0	0%
Medicaid Exp x FFM	0	0%	286	9%	445	14%
Medicaid Non-Exp x FFM	0	0%	1878	60%	1719	55%
Medicaid Exp x SB	0	0%	581	18%	581	18%
Medicaid Non-Exp x SB	0	0%	44	1%	44	1%
Medicaid Exp x PM	0	0%	352	11%	352	11%
Medicaid Non-Exp x PM	0	0%	0	0%	0	0%

This study time frame spans from 2013 to 2015 – starting in the year immediately preceding the main components of the ACA taking effect, and extending through two cycles of enrollment. Time series analysis recognizes that measurements are repeatedly taken over several years, and that they will likely have an internal structure – such as autocorrelation. In the case of annual measurements of uninsurance rates post ACA, it is reasonable to suspect that over time the rate of uninsurance in the third period would be related to the rate in the second, which is in turn related to the baseline rate. Time series models account for this mechanism.

For the Aims 2 (B.1-B.2) I use a Fixed Effects Estimation model. I will use alphas of .05, .01 and .001 to determine various levels of statistical significance. The identification strategy used in this study exploits the county level variation in navigator grant funding over time within counties across the country to evaluate their association with uninsurance rates.

TABLE XXXI
COMPARISON OF COUNTIES WITH AND WITHOUT GRANTS^a

	2014			2015	
	No Grant Counties	Any Grant Counties		No Grant Counties	Any Grant Counties
n	3054	87		3063	78
Uninsured Rate 18-64	21.0300 (0.1430)	20.5230 (0.7524)		19.5164 (0.1401)	18.5922 (0.7446)
Total Population Estimate	84,380.26 (4892.8000)	647,418.20 (97626.8000)	***	87,262.12 (5032.2300)	637,099.10 (86003.8300)
Percent Unemployed	8.5613 (0.0689)	8.6931 (0.2708)		7.8121 (0.0648)	7.9091 (0.2678)
Median Household Income	60,334.40 (263.0190)	69,105.34 (1414.4340)	***	60,991.12 (267.5505)	70,137.00 (1529.8940)
Percent Black	0.088 0.0026	0.1598 (0.0169)	***	0.0879 0.0026	0.1743 (0.0193)
Percent Hispanic	0.0852 (0.0024)	0.1339 (0.0178)	***	0.0877 (0.0024)	0.1101 (0.0159)

^a Significance is measured using the following levels * $p < .05$, ** $p < .01$, *** $p < .001$.

The fixed effects model will use a conversion to eliminate unobserved effects ahead of the estimation. Specifically, by using a county fixed effects model, I can control for unobserved heterogeneity, the time invariant characteristics unique to the zip codes – with the intent of isolating the effect from the independent variable of interest. The main model will look at county total uninsurance rates, followed by testing the model with target demographic subgroups that had the highest rates of uninsurance in the pre-period. To estimate an unbiased fixed effect models, the following core assumptions must be met:

1. The model must be estimated as shown below in Figure 15. B must be the parameter to estimate, and A must be the unobserved effect.
2. There must be a random sample from the cross-section data.
3. Each explanatory variable changes over time, for at least some I, and no perfect linear relationships exist among the explanatory variables.
4. The unobserved error term must not be correlated with the explanatory variable in all time periods.
5. Errors are homoskedastic.
6. No Serial Correlation – The errors in different time periods are uncorrelated with each other

Figure 15: Study two fixed effect model equation

$$Y_{ct} = N_{ct}\beta + X'_{ct} + \alpha_c + \lambda_t + E_{ct}$$

Y_{ct} = Change in Uninsurance Rate
 $N_{ct}\beta$ = Navigator Funding
 X'_{ct} = Vector of Control Variables
 α_c = County Fixed Effect
 λ_t = Year Fixed Effect
 E_{ct} = Unobserved Error

7.4 Results

The following pages show a series of tables displaying results from Aims 2B.1 and 2B.2. Table XXXII first shows the results of an initial model that provides insight related to the odds of a county receiving a Navigator grant. Knowing that there are significant differences between the counties that do and do not receive grants, we exploit that variation in the pre-period to identify which characteristics are associated with a county receiving a grant in any period. The size of the county's population and percent of black residents are both significant and positively associated with a county receiving a grant. Conversely, the percent of high school graduates is negatively associated, the lower the percent of graduates, the more positive the association with receiving a grant.

TABLE XXXII**ODDS OF RECEIVING A NAVIGATOR GRANT IN ANY PERIOD**

Variable	Odds Ratio
Uninsured Rate 18-64	-0.0081 (2.3507)
Total Population Estimate	1.4706 *** (2.5207)
Percent High School Graduates	-0.0493 *** (0.0137)
Percent Unemployed	-0.0590 (0.0394)
Median Household Income	0.0001 (7.4906)
Percent Black	3.5326 *** (0.7724)
Percent Hispanic	0.9407 (1.0504)
_cons	-2.6264 ** (1.0201)
Observations	3140
Pseudo	0.1584
Prob > chi2	0.0000

^a Significance is measured using the following levels

* p < .05, ** p < .01, *** p < .001.

These findings encouraged the development of additional models limiting the data to just large counties, which can be seen in later tables. Table XXXIII shows the results related to the percent of uninsured, using the first independent variable: Grant dollars per uninsured (Aim 2B.1). I include five different versions of the model, first including all counties throughout the country. Each subsequent model represents different ways to limit the sample of counties based on different state-level ACA-related policy decisions (Medicaid expansion and Marketplace type.) All 5 models included county fixed effects and the control variables discussed earlier in this chapter. Table XXXIV follows the same pattern but limits the analysis to only counties with 100,000 or more residents.

Table XXXV through XXXVIII examine the results related to the percent of the uninsured using both the binary variable of interest (Any Grant) and the categorical variables regarding the level of grant dollars outlined earlier in Table XXIX. Each Table follows the 5 model pattern examining the differences in effects by State-Level ACA-related policy differences. Each table conducts the results with all counties first, and the subsequently using just counties with 100,000 residents or more.

The results from the sensitivity analyses that have been performed to understand the independent variables of Grant Amount/Uninsured as it relates to specific subgroups of interest (Aim 2B.2) can be found in Tables XXXIX, restricted to the counties with 100,000 residents or more. This table continues to use the same dependent variable as the earlier tables, looking at total uninsured, however, in each of the analyses I restrict the sample to counties with certain characteristics of interest (i.e. 5% black population). These models also examine the impact under differing state policy decisions as well.

TABLE XXXIII

PERCENT OF TOTAL UNINSURED (AGE 18-64), ALL U.S. COUNTIES BY GRANT DOLLAR PER UNINSURED^a

Variable	All Counties	Medicaid Expansion Only	Non Medicaid Expansion	States using Federal Marketplace	Federal Marketplace & Non Medicaid Expansion
Grant \$/per Uninsured	0.0006 *** (0.0001)	0.0211 *** (0.0039)	0.0005 *** (0.0001)	0.0006 *** (0.0001)	0.0005 *** (0.0001)
Year 2	-0.3598 *** (0.0459)	-1.0294 *** (0.0569)	-0.3796 *** (0.0510)	-0.3886 *** (0.0471)	-0.3679 *** (0.0510)
Year 3	-1.6405 *** (0.0755)	-2.7961 *** (0.1058)	-1.3772 *** (0.0904)	-1.4494 *** (0.0845)	-1.3497 *** (0.0510)
Total Population Estimate	-4.3706 (2.5606)	3.6306 (4.4806)	-0.0001 ** (3.6906)	-8.5806 ** (3.0906)	(0.0001) ** (3.7306)
Percent High School Graduates	0.0164 * (0.0164)	0.0158 (0.0114)	0.0188 (0.0101)	0.0209 * (0.0094)	0.0200 (0.0103)
Percent Unemployed	0.2652 *** (0.0324)	0.2546 *** (0.0459)	0.2702 *** (0.0421)	0.2663 *** (0.0389)	0.2752 *** (0.0428)
Medicaid Expansion	-0.7326 *** (0.0595)			-0.3923 *** (0.0805)	
Median Household Income	-0.0001 ** 0.0000	-0.0001 * 0.0000	-0.0001 *** 0.0000	-0.0001 *** 0.0000	-0.0001 *** 0.0000
Percent Black	-2.6671 (7.3631)	16.9495 (12.7176)	-7.2504 (8.6107)	-5.7574 (7.9675)	-7.3662 (8.6140)
Percent Hispanic	17.9171 *** (6.8412)	10.2377 (10.5628)	20.1191 ** (8.1986)	19.6837 * (7.9038)	18.0192 * (8.3948)
_cons	21.2253 *** (1.3249)	10.7449 *** (1.8616)	27.2643 *** (1.8558)	24.5545 ** (1.5998)	27.1705 *** (1.8761)
Covariates	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	9425	4137	5293	6494	5161
R2	0.4736	0.6304	0.3482	0.3884	0.3456
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE XXXIV

PERCENT OF TOTAL UNINSURED (AGE 18-64), ALL LARGE U.S. COUNTIES BY GRANT DOLLAR PER UNINSURED^a

Variable	All Counties	Medicaid Expansion Only	Non Medicaid Expansion	States using Federal Marketplace	Federal Marketplace & Non Medicaid Expansion
Grant \$/per Uninsured	-0.0025 (0.0033)	0.0057 (0.0059)	-0.0047 * (0.0024)	-0.0039 (0.2491)	-0.0048 * (0.0024)
Year 2	-0.3169 *** (0.0624)	-0.6135 *** (0.1019)	-0.2911 *** (0.0673)	-0.3238 *** (0.0602)	-0.2916 *** (0.0674)
Year 3	-1.3424 *** (0.1249)	-1.7871 *** (0.2097)	-1.2415 *** (0.1387)	-1.2897 *** (0.1228)	-1.2419 *** (0.1393)
Total Population Estimate	-0.0001 *** (2.5106)	-0.0001 *** (3.4106)	-0.0001 ** (3.7706)	-0.0001 ** (3.0406)	-0.0001 ** (3.7906)
Percent High School Graduates	0.0001 (0.0188)	-0.0130 (0.0309)	0.0089 (0.0202)	0.0065 (0.0180)	0.0095 (0.0204)
Percent Unemployed	0.3869 *** (0.0584)	0.4549 *** (0.0931)	0.2969 *** (0.0650)	0.3263 *** (0.0540)	0.2916 *** (0.0662)
Medicaid Expansion	-0.2581 *** (0.0524)			-0.0589 (0.0656)	
Median Household Income	0.0001 (0.0001)	0.0001 ** (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)
Percent Black	26.8825 (10.7117)	63.6587 *** (17.8823)	-1.7164 (12.5687)	1.3142 (11.0661)	-2.1861 (12.6260)
Percent Hispanic	-40.4976 ** (13.9414)	-28.6583 (23.1648)	-35.3881 * (14.6079)	-14.1390 (13.4601)	14.6475 * (14.6475)
_cons	20.2195 *** (2.9197)	9.329 * (4.5730)	31.2182 *** (3.7011)	25.6405 *** (3.1707)	31.3430 *** (3.7422)
County Fixed Effects	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes
Observations	1758	979	779	1326	771
R2	0.8252	0.8307	0.8351	0.8323	0.8328
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XXXV

PERCENT OF TOTAL UNINSURED (AGE 18-64), ALL COUNTIES BY ANY GRANT^a

Variable	All Counties	Medicaid Expansion Only	Non Medicaid Expansion	States using Federal Marketplace	Federal Marketplace & Non Medicaid Expansion
AnyGrant	0.1863 * (0.0789)	0.4351 *** (0.1062)	0.1031 (0.1004)	0.0885 (0.0827)	0.0941 (0.1005)
Year 2	-0.3632 *** (0.0463)	-1.0328 *** (0.0572)	-0.3805 *** (0.0515)	-0.4374 *** (0.0461)	-0.3687 *** (0.0515)
Year 3	-1.6427 *** (0.0758)	-2.7976 *** (0.1056)	-1.3773 *** (0.0906)	-1.5219 *** (0.0830)	-1.3497 *** (0.0908)
Total Population Estimate	-5.2006 * (2.5606)	2.9806 (4.3606)	-0.0001 *** (3.8006)	-8.2406 ** (2.9106)	-0.0001 *** (3.8406)
Percent High School Graduates	0.0164 * (0.0078)	0.0159 (0.0114)	0.0188 (0.0101)	0.0207 * (0.0094)	0.0200 (0.0103)
Percent Unemployed	0.2652 *** (0.0324)	0.2551 *** (0.0459)	0.2701 *** (0.0421)	0.2704 *** (0.0388)	0.2751 *** (0.0428)
Medicaid Expansion	-0.7326 *** (0.0595)				
Median Household Income	-0.0001 ** 0.0000	-0.0001 * 0.0000	-0.0001 *** 0.0000	-0.0001 *** 0.0000	-0.0001 *** 0.0000
Percent Black	-2.6202 (7.3656)	17.1889 (12.7251)	-7.0707 (8.6321)	-6.3215 (7.9971)	-7.1872 (8.6353)
Percent Hispanic	17.9458 ** (6.8403)	10.5178 (10.5627)	20.1585 * (8.1971)	19.89 * (7.8867)	18.0582 * (8.3930)
_cons	21.4946 *** (1.3241)	11.2126 *** (1.8617)	27.4480 *** (1.8553)	24.2040 *** (1.5585)	27.2627 *** (1.8697)
Covariates	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	9425	4137	5290	7473	5202
R2	0.4736	0.6304	0.3482	0.3851	0.3456
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XXXVI

PERCENT OF TOTAL UNINSURED (AGE 18-64), LARGE COUNTIES BY ANY GRANT^a

Variable	All Counties	Medicaid Expansion Only	Non Medicaid Expansion	States using Federal Marketplace	Federal Marketplace & Non Medicaid Expansion
AnyGrant	0.0077 (0.0640)	0.1263 (0.1077)	-0.0684 (0.0772)	-0.0508 (0.0626)	-0.0707 (0.0774)
Year 2	-0.3236 *** (0.0633)	-0.6299 *** (0.0948)	-0.2908 *** (0.0693)	-0.3152 *** (0.0605)	-0.2910 *** (0.0694)
Year 3	-1.3508 *** (0.1253)	-1.8040 *** (0.2018)	-1.2440 *** (0.1395)	-1.2757 *** (0.1223)	-1.2443 *** (0.1400)
Total Population Estimate	-0.0001 *** (2.4806)	-0.0001 (3.2806)	-0.0001 ** (3.7306)	-0.0001 ** (3.0106)	(0.0001) ** (3.7506)
Percent High School Graduates	0.0002 (0.0188)	0.0104 (0.0309)	0.0087 (0.0202)	0.0059 (0.0179)	0.0093 (0.0204)
Percent Unemployed	0.3856 *** (0.0584)	0.4586 *** (0.0931)	0.2940 *** (0.0650)	0.3260 *** (0.0542)	0.2886 *** (0.0662)
Medicaid Expansion	-0.2568 *** (0.0524)				
Median Household Income	-0.0001 0.0000	-0.0001 ** 0.0000	-0.0001 0.0000	-0.0001 0.0000	-0.0001 0.0000
Percent Black	26.4882 * (10.8072)	55.7548 ** (18.3357)	-2.6985 (12.4914)	-2.7735 (11.0504)	-3.1777 (12.5466)
Percent Hispanic	-39.9962 ** (13.9346)	-27.5675 (22.9881)	35.4723 * (14.6900)	-13.6708 (13.7412)	-35.8194 * (14.7311)
_cons	20.2195 *** (2.9291)	8.9234 (4.5518)	31.3907 *** (3.6842)	24.6163 *** (3.1850)	31.5198 *** (3.7243)
Covariates	Yes	Yes	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	1758	981	779	1328	771
R2	0.8251	0.8292	0.8349	0.8310	0.8326
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XXXVII

PERCENT OF TOTAL UNINSURED (AGE 18-64), ALL COUNTIES BY GRANT LEVEL^a

Variable of Interest	All Counties	Medicaid Expansion Only	Non Medicaid Expansion	States using Federal Marketplace	Federal Marketplace & Non Medicaid Expansion
Any Grant	0.1863 *	0.4351 ***	0.1031	0.0885	0.0941
None			Omitted		
Low: < \$485,049	0.1645	0.4112 **	0.0230	0.0210	0.0117
High: >= \$485,049	0.2111 **	0.4687 **	0.1841	0.1603	0.1774
None			Omitted		
Low: (25%) < \$241,749	0.0993	0.2555 *	-0.0224	-0.0922	-0.0340
Mid Range: (26%-74%) >= \$241,749 & < \$806,045	0.2040 **	0.5256 **	0.1050	0.1224	0.0953
High: (75%) >= \$806,045	0.2604	0.5973 **	0.2208	0.2208	0.2159
None			Omitted		
Very Low: (10%) <= \$137,283	0.1631	0.0348	0.2666	0.1492	0.2532
Mid Range (11%-89%) > \$137,283 & < \$1,715,613	0.1856 **	0.5147 ***	0.0535	0.0682	0.0441
Very High (90%) >= \$1,715,613	0.2341	0.2975 ***	0.4585	0.2415	0.4626

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XXXVIII

PERCENT OF TOTAL UNINSURED (AGE 18-64), LARGE COUNTIES BY GRANT LEVEL^a

Variable of Interest	All Counties	Medicaid Expansion Only	Non Medicaid Expansion	States using Federal Marketplace	Federal Marketplace & Non Medicaid Expansion
Any Grant	0.0077	0.1263	-0.0684	-0.0508	-0.0707
Low: < \$485,049	-0.0068	0.0420	-0.0751	-0.0707	-0.0785
High: >= \$485,049	0.0216	0.2281	-0.0631	-0.0336	-0.0645
None			Omitted		
Low: (25%) < \$241,749	-0.0230	-0.0671	-0.0022	-0.0698	-0.0045
Mid Range: (26%-74%) >= \$241,749 & < \$806,045	-0.0269	0.1097	-0.0911	-0.0716	-0.0939
High: (75%) >= \$806,045	0.1140	0.4979 ***	-0.0750	0.0141	-0.0762
None			Omitted		
Very Low: (10%) <= \$137,283	-0.1027	-0.2029 *	0.0542	-0.0727	0.0534
Mid Range (11%-89%) > \$137,283 & < \$1,715,613	-0.0057	0.1502	-0.1016	-0.0621	-0.1040
Very High (90%) >= \$1,715,613	0.3135	0.4902	0.1741	0.1134	0.1717

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.

TABLE XXXIX

PERCENT OF SUB-GROUP UNINSURED (AGE 18-64), LARGE COUNTIES BY GRANT DOLLAR PER UNINSURED^{a,b}

Subgroup	n (counties)	Population 100K+	n (counties)	Population 100K+ & Non Medicaid Expansion	n (counties)	Population 100K+ & Non Medicaid Expansion & FFM	Notes
Total Uninsured (18-64)	1758	-0.0025	779	-0.0047 *	771	-0.0048 *	
Male	1758	-0.0012	779	-0.0039	771	-0.0039	
Female	1758	-0.0014	779	-0.0027	771	-0.0027	
White (Non-Hispanic)	1758	0.0130	779	-0.0059	771	-0.0057	limited to counties with min 5% white
Black (Non-Hispanic)	1089	0.0022	581	-0.0199	581	-0.0199	limited to counties with min 5% black
Hispanic	1177	-0.0129	563	-0.0322 ***	557	-0.0321 ***	limited to counties with min 5% hispanic
Asian	327	0.0936 **	81	0.4232 ***]	81	0.4232 *	limited to counties with min 5% asian

^a Significance is measured using the following levels * p < .05, ** p < .01, *** p < .001.^b All models include county and year fixed effects as well as controls for population, median household income, percent unemployment, percent black, percent hispanic, percent high school graduate.

7.5 Discussion

This study allows us to examine how the added structural social capital (in the form of Navigator grant programs within communities) contributes to the diffusion of the ACA policy innovation. The outcome of interest is the uninsurance rate – as we can consider this in part an indicator of the confirmation of ACA enrollment decision-making. For Aim (2.B.1), Table XXXIII demonstrates a positive and significant relationship between the grant dollars per uninsured spent within a county and the uninsurance rate when we examine all counties throughout the United States. This is the opposite of what was predicted in Hypothesis 2.B.1 and therefore it cannot be upheld. In Table XXXIV we examine the same hypothesis – but restrict the analysis to counties with populations exceeding 100,000 individuals. In these models, we observe an inverse relationship as predicted in Hypothesis 2.B.1 – but with varying degrees of significance based on key ACA policy decisions. Given these conflicting results, we conclude that the number of counties with grant dollars relative to the total number of counties without grants, ultimately does not have enough power to observe an accurate effect. Overall, the results suggest that the hypothesis may be upheld in counties with larger populations, specifically those that are in states that use the federally facilitated marketplace, or did not choose to expand Medicaid. This gives some amount of insight into where the addition of structural social capital becomes especially important. When other policy decisions are made that may inhibit the diffusion of something like the ACA (i.e. choosing to not expand Medicaid), the addition of a Navigator program has a greater observed effect.

In Table XXXV through XXXVIII we examine this question in the form of binary and categorical variables – attempting to observe an effect for counties with grants vs. those that did not receive grants, as well as, through variation in the levels of those grants. When we focus on the binary variable, the results suggest a positive relationship when all counties are included, and a moderately inverse (but not statistically significant) relationship between the presence of a grant and the percent uninsured over time. To complicate our interpretation further, in the categorical models in XXXVII and XXXVIII, we see a number of positive and statistically significant relationships between the uninsurance rate and the variables of interest.

Aim 2.B.2 is addressed by the results in Table XXXIX where we look at key sub-populations and examine the impact of the additional structural social capital the Navigator grants bring, to these communities. The associated effects from grant dollars per uninsured are not consistent across all subgroups of interest. When the sample is restricted to states with specific policy decisions – such as not expanding Medicaid, and use of the FFM, restricted to the uninsurance rate of this sub-group we see a inverse association (-.0032), between the Hispanic uninsurance rates and the Grants per uninsured that is highly significant at a $p < .001$. We also observe a large magnitude and significant positive relationship emerging for percent of Asians uninsured (-.4232). This is significant at a $p < .05$. From these analyses, we find that Hypothesis 2.B.2 can only be partially upheld given the inconsistent findings.

7.6 Limitations

The limitations of this study are related to those in the first study. First, while the county fixed effects model is able to control for time-invariant county characteristics it is unable to control for time-varying shocks at the county level. For example, if a large employer moves into an area bringing new jobs and employer sponsored health insurance or if there was a State level policy change that promoted this type of investment by employers in communities with high rates of poverty. Since it is not an individual model, it also is unable to capture person level changes – such as migrant effects (people moving from place to place and having greater support as a result).

Related to this concern, given that navigator funding is not completely random, there is cause for skepticism regarding endogeneity in the independent variable of interest. What we may want to be worried about is that there is something implicitly different about the counties that Navigators are funded in versus those that they are not. Typically, the most preferred way we would want to address this concern is by using a two-stage least squares model with an instrumental variable (IV). By using an IV to predict the presence of Navigator funding – rather than using the actual Navigator grant itself, we would be able to avoid the endogeneity problem.

An additional limitation is reflective of one of the key hypotheses that Navigators have the greatest impact within the communities they are working, in the original model, there is no ability to measure any type of spillover effects in neighboring communities. Unfortunately, we cannot and should not assume that navigators or

the uninsured adhere to strict county boundaries. In areas throughout the states, there is likely to be overlap between these geographic areas. It would be valuable to estimate the secondary effects that navigators have in neighboring communities – especially in those that do not have their own navigator present, using a geospatial fixed effects model.

It is worth noting that all of the data for this project comes in the form of survey research which can be subject to multiple forms of error in the data collection process. First, we think about sampling error, in which it is possible that those we wind up surveying are actually not representative of the population that we are intending to learn about. This can be further compounded by selection bias, wherein we find that a certain type of person is more likely to participate in or complete a survey. We also need to be aware of recall bias – all surveys are asking people to self-report and remember data correctly. Mistaken information can come in the form of respondents systematically failing to accurately report answers to instrument questions.

7.7 Policy Recommendations

The inconsistent findings in this study make identifying clear policy implications somewhat challenging. Part of the difficulty in evaluating the use of the grant dollars may be a function of the lack of more granular data like we had available in the Illinois-based study. One important policy implication, might suggest the importance building in a mechanism to collect and share data to track and measure the effects of high dollar value programs intended to improve the uptake of policy changes like the Affordable Care Act Navigators. Without the ability to isolate the effect to a smaller geographic region, such as zip code rather than county, the true effect of Navigator grant program remains inconclusive.

7.8 Conclusion

Given the limitations of this study, including the small number of counties receiving Navigator grant funding, it is difficult to establish a clear relationship between this grant program and its intended outcome of reducing the rate of uninsured individuals as part of the Affordable Care Act. However, despite some of the mixed findings, some patterns appear to emerge. First, the results suggest that there may be a stronger inverse relationship

between the grants per uninsured and the uninsurance rate in counties with larger populations. Further that relationship becomes even more apparent in counties that have made two specific ACA-related policy decisions: those that use the federally facilitated marketplace, as well as, those that did not choose to expand Medicaid. Intuitively this makes sense, because states that use the FFM do not also have a state-based consumer assistance program – therefore making the federal grant dollars even more critical. Additionally, without an expansion of Medicaid, coverage gains are more challenging. The presence of Navigator grant resources to assist the uninsured community in those areas is needed. The inverse association between Grant Amount/Uninsured and the uninsured rate of Hispanic Latinos grows to a higher magnitude (-.0321) and remains highly statistically significant. All three of these findings are consistent with what we would expect from our theoretical model, and the importance of Navigator-like entities becomes especially clear, when these types of social capital barriers are more pronounced.

8 STUDY THREE: USING THE DIMENSIONS OF A SOCIAL CAPITAL FRAMEWORK TO EXAMINE A BROKER'S ROLE IN SMALL EMPLOYER HEALTH-RELATED DECISION SUPPORT

8.1 Introduction

Similar to the individuals we have discussed in studies one and two, we find that small businesses rely on external forms of decision-making support about health-related employee benefits. Mainly this is true because small and mid-sized employers (25-500 employees), while interested in offering wellness programs, often lack knowledge about and resources for implementing workplace health promotion programs (Harris, 2014). Much of what is understood about health insurance brokers comes through descriptives of the workforce in grey literature and reports published by industry associations (National Association of Health Underwriters, 2014; National Association of Insurance Commissioners 2012) and from very few peer-reviewed academic articles (Marquis and Long, 2000; Conwell, 2002; Karaca-Mandic et al., 2016). The first of these articles uses data from the 1997 Robert Wood Johnson Employer Health Insurance Survey, and finds that 54% of all employers nationwide uses external consultants to help make decisions about health insurance and benefit offerings. The second study expands Marquis and Long's findings to describe the kinds of work that brokers do with employers including obtaining prices, explaining benefits to employees and problem solving for employers. Finally, Karaca-Mandic focuses on the impact of a robust market of health insurance agents and brokers on employer sponsored health insurance programs – and finds that small firms in concentrated broker markets are more likely to health insurance, often reaping rewards of lower premium costs. Together these two publications confirm that brokers are relied on extensively by employers, and the robust presence of this workforce of them provides beneficial outcomes in the market. None of this prior work helps explain or examine the mechanisms underlying these impacts – to help explore why this type of role is so critical to the decision-making process.

This study broadens this growing body of knowledge on the role of health insurance brokers, by providing insight into the way they provide external decision-making support in health insurance related enrollment and offerings. This study uses data collected as part of a larger study looking to better understand this interaction between brokers and employers – specifically as it relates to new innovations in health-related products. The key

contributions include: the application of the combined conceptual framework to a second group beyond the ACA Navigators to better understand underlying mechanisms by which health insurance decision support workforces harness their social capital to improve the uptake of new policy decisions intended to expand insurance coverage. This is beneficial to the project more broadly, because it can help us understand the ways that Navigators and Brokers differ, offering additional support to better explain why Navigators in particular were effective in ACA enrollment, given broker's long tenure in doing the similar type of work.

8.2 Context of the broader study

The aims of the original study were as follows:

- A. Determine whether health insurance brokers include ACA-related wellness programs in their choice set when advising small employers on health insurance decision-making and the reasons they attribute to this approach.
- B. Identify the ways that compensation influences brokers to include ACA wellness programs in their choice set for small employers.
- C. Assess whether and how broker typologies can advance understanding in the variation of broker reports about product availability and employer interest.
- D. Identify broker perceptions of barriers to their work, opportunities to provide greater educational support for providing greater value, and ways to cultivate them as assets in dissemination under a changing health policy landscape.
- E. Compare broker patterns, typologies, and perceptions of barriers to their work to that observed among Navigators.

Study Three can now be conceptualized into three distinct components – the second component will be the focus of this piece of the dissertation project. The three components include: (1) Brokers perspective on small employer motivation and interest in offering wellness programs (2) Brokers perspective on their role in the process of employers offering wellness programs and (3) Brokers perspectives on the availability and features of wellness programs. Each component and the corresponding codes are displayed in Figure 16.

Figure 16. Research components of the broader broker perspectives project

Manuscript One: Brokers perspective on Small Employer Motivation and Interest Levels in Offering Wellness	Manuscript Two: Brokers perspective on their role and responsibility in wellness for small employers, ongoing education needs and resources	Manuscript: Market Analysis - Small Employer Wellness program availability and features
Key Codes Used:	Key Codes Used:	Key Codes Used:
Employer Interest Employer Motivation Employee Incentive Employer Knowledge Wellness Program Availability	Broker Knowledge & Familiarity Broker Role in Wellness Broker Future Resources Broker Continuing Education Broker Incentive	Wellness Program Feature Wellness Program Availability

8.3 Aims and Hypothesis

By honing in on component 2, a few minor revisions needed to be made to the study aims. First, Aims 3A and 3B are part of the original study, and will not be completed in this component. This study will instead focus on the 3rd and 4th of the original aims with some revision:

3C. Assess whether and how brokers perceive themselves leveraging dimensions of social capital in their role in providing enrollment and decision-making support to small employers considering health promotion and wellness programs.

3D. Identify broker perceptions of barrier to their work, opportunities to provide greater educational support for providing greater value and ways to cultivate them as assets in dissemination under a changing health policy landscape.

The final aim 3E, will be addressed separately in the integration chapter 9.

8.4 The Conceptual Framework and Health Insurance Brokers

With some adjustment the original conceptual framework applied to studies one and two can be appropriate for use in this study as well. As brokers work in a parallel environment to Navigators, it is an interesting question to test to see if they have similar perceptions of their role and the support they provide to their clients. While this

study focuses on decision-making support around small employer health promotion and wellness plans, rather than uninsured individuals gaining health insurance, the social capital model has been applied to organizations in previous studies that model a similar relationship. Here, social capital is observed as a resource at the larger group level, which can positively impact both the organizations and groups, as well as the individuals that comprise them.

The most focused application of the dimensions of social capital, would be using it to help predict whether employer would have knowledge about a specific type of business tool or performance-enhancing resource. One example examined employers' knowledge of financing alternatives and found the importance of the cognitive dimension of social capital – by recognizing that entrepreneurs or firm principals with a business background combined with experience in accounting or finance will possess a broader resource pool of financing alternatives. Beyond that – their results demonstrated a relational component as well, finding that having a strong financial network to leverage was further positively associated with greater understanding and awareness of finance alternatives (Seghers et al., 2012).

This model has also been used more broadly to better understand small employers specifically, who tend to have lower access to internal resources, and therefore have a greater reliance of social networks, external partners and advisors. Several studies have shown that small employers that leverage social capital can positively influence their competitiveness, financial performance and innovation (Lee, 2015; Petrou and Daskalopoulou, 2015; Molina-Morales et al., 2010; Cooke and Willis, 1999). Mechanisms observed include reliance on relational social capital in the form of building networks to identify mentors; an organizations' ability to employ knowledge from external sources; and a great importance is revealed on the design of external networks ensuring that they include not only breadth but also thought leaders and individuals with new, creative perspectives.

Finally, the closest comparison to this work, described the influence of social capital on an employers' use of occupational health services (Stahl et al., 2015). This qualitative study examined 60 public employers in Sweden and their perspectives on their relationships and effectiveness with occupational health services in rehabilitation of employees and effective return to work outcomes. Employers emphasized the importance of trustful relationships, knowledge and expertise, long-term established contracts and good communication for good

relationships as being critical components in this dynamic. Social capital was key to exploring the context for collaboration and action in the use of occupational health services, focusing in on the three key dimensions.

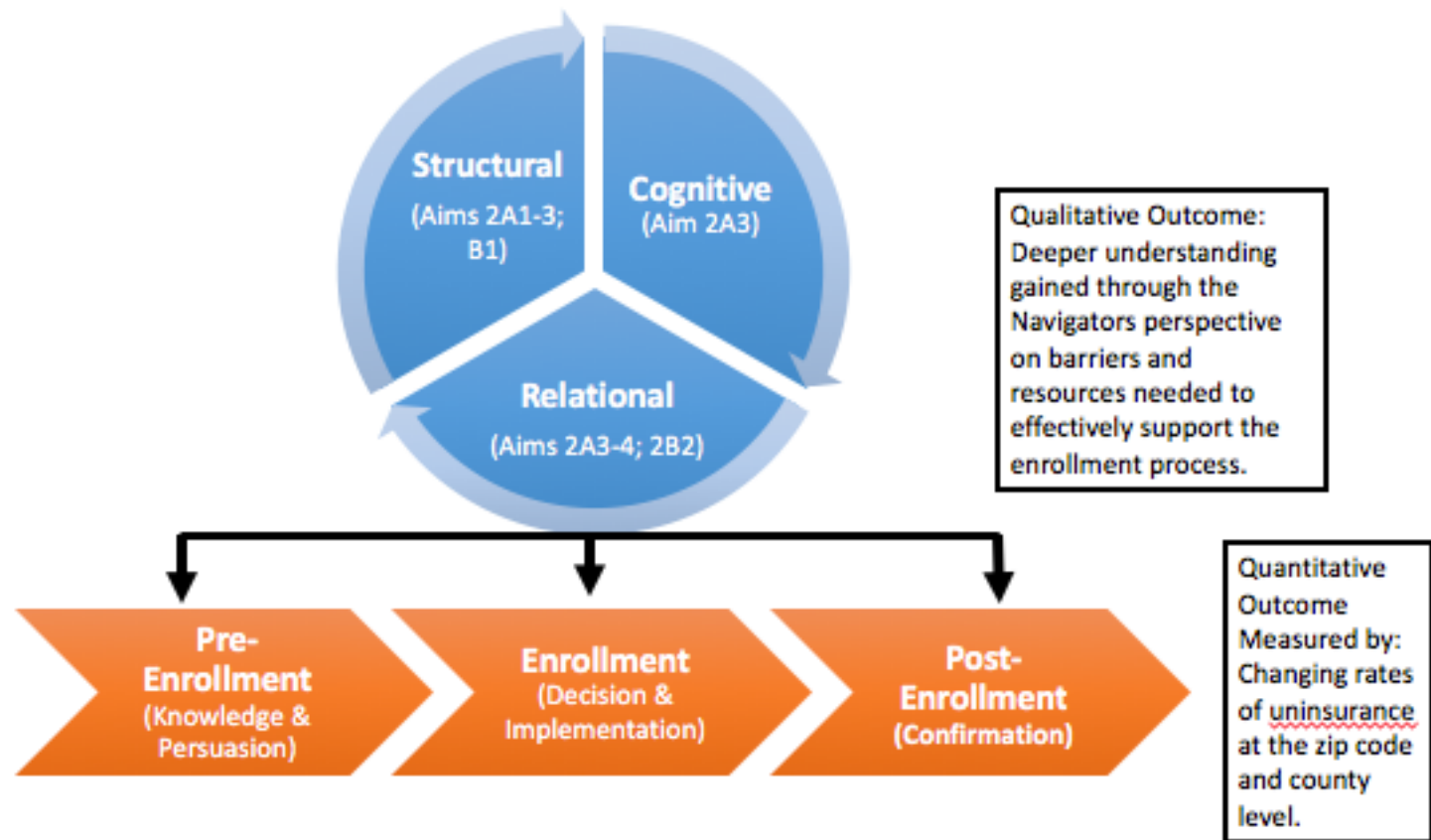
To my knowledge, a social capital framework has never been used to understand the mechanisms behind the importance of the broker and employer relationship. A modification of the original conceptual framework from this study is presented in Figure 14. Here we are examining the brokers' role in whether or not small employers decide to offer a health promotion or wellness program. Like the Navigators in Study One and Study Two, the role of the broker can span across each of the three dimensions of social capital (structural, cognitive and relational). Brokers in this study discuss how they perceive their role, specifically in small employers' interest and motivation to adopt and keep an employee wellness program. As we collapsed the insurance enrollment process into 3 stages, simplifying the diffusion of innovation model in the first two studies, we do the same here. We conceptualize each dimension of social capital having the ability to influence an employer's decisions in all three stages of wellness plan adoption (pre-adoption, adoption and plan continuance). By using this parallel model we are able to describe the broker's role as well as compare it to that of the ACA navigators.

8.5 Data

The data for this study was collected by 4 partner universities within the Workplace Health Research Network, (University of Illinois at Chicago, University of Washington, University of North Carolina, and the University of Minnesota), each supported separately by a grant from the Centers for Disease Control and Prevention (CDC). Each site conducted between 4 and 6 telephone interviews with brokers and agents, and followed a common interview guide (See Appendix D) and research protocol. Each interview was recorded and then subsequently transcribed, after obtaining consent from the participant. The script included basic demographic questions, some specific response-oriented questions and then a majority of open-ended questions about practices, knowledge and skills. Each interview lasted between 30-45 minutes.

Participants were identified through a snowball sampling methodology, and relied heavily on recruiting through local National Association of Health Underwriters (NAHU) chapters and leaders. Brokers and agents were considered eligible for this study if they met the two following criteria:

Figure 17. The conceptual framework and health insurance brokers



1. Broker or Agent had been licensed to sell insurance for at least one year
2. Broker or Agent had experience with selling insurance to small and mid-sized employers.

22 interviews were conducted originally, but 2 have been excluded due to place of employment of the subjects.

Basic descriptive statistics of the study sample can be found in Table XL. It was determined by the research team that the sample was fairly balanced in terms of the core demographic characteristics (geographic region, employer type, role, experience with wellness and years' work experience). Upon initial review of the results, the research team determined that theoretical saturation had been achieved, and as a result, no further interviews were deemed necessary at this time. A full visual slide deck describing the sample population can be found in Appendix E.

8.6 Methods

Upon completion of the interviews each researcher completed a summary document outlining their key findings for each of the key constructs in the interview guide. I reviewed and synthesized these summaries across all 20 interviews, and after synthesizing the summaries, and sharing the preliminary potential codes and themes with the other interviewers for verification I began to develop a formal codebook.

The codes were taken from the summary document, and then defined. 144 codes in 13 subject areas were initially developed. Some of the codes were categorized into parent and child codes as a manner of categorizing related codes. Parent codes can be considered an umbrella code, and the child codes are subsets underneath that broader code category. The codes and their definitions were uploaded to DeDoose and accessible to all researchers participating in the analysis (codebook can be found in Appendix F). Analysts from each institution tested the codebook on a complete transcript, and the coders met to reconcile differences. Coders went through this process one subsequent time, and then met to code a transcript jointly in real time to ensure consistent use of coding procedures and code application, resulting in a third and final draft of the codebook. At each stage of feedback, codes were added and removed, and definitions were clarified, resulting in a final shared codebook across all 4 institutions (Boyatzis, 1998; Bradley et al., 2007).

TABLE XL
BROKER STUDY POPULATION CHARACTERISTICS

		Total (n)	%
Number of Interviews		20	100%
Type of Brokerage			
	Large	9	45%
	Small	11	55%
Role			
	Broker	10	50%
	Owner	8	40%
	Benefits Team	2	10%
Wellness Expertise			
	High	6	30%
	Average	7	35%
	Low	4	20%
	Bundled Only	3	15%
Years Experience			
	0 to 10	5	25%
	11 to 20	9	45%
	21 to 30	2	10%
	30+	2	10%
	Missing	2	10%
State			
	Washington	6	30%
	Illinois	5	25%
	NorthCarolina	5	25%
	Minnesota	4	20%

Upon completion of the final codebook, the three analysts blind coded the same transcript (coding without discussion, or the ability to observe one another's coding choices.) After this exercise, the researcher measured a score of Inter-rater reliability (the degree to which our coding is in agreement with one another), as an indicator of the clarity of the codebook and definitions. The joint-probability of agreement method which can be described as the times a rating is used by each rater, then that sum is divided by the overall number of ratings. Once a satisfactory score is achieved in this process (above 80%) the coders can then complete the coding process of all remaining transcripts (Ubersax, 1987). The analysts achieved 95% agreement after 2 rounds of the joint-probability method, and from there, felt comfortable moving forward to code the remaining transcribed interviews.

Throughout the coding process, the analysts memoed their thoughts and observations of emerging themes. These memos were used alongside of the code analysis methods – observing frequencies and co-occurring codes to begin to articulate the emerging themes from the data. Codes will also be analyzed by important descriptors that each interview transcript has been tagged with (size of employer, years experience, and broker role). Key messages and direct quotes will be highlighted throughout the process, as a means to directly support the emerging themes in the voice of the participants directly (Guest, 2012).

Following the revision of the initial study aims, to refine my specific data use and interest as well as to align this project more closely with the conceptual framework of the overarching project, 3 additional parent codes were added to the original codebook. We included the social capital dimensions of structural, relational and cognitive capital – as a way to discern any patterns and similarities between the brokers and the navigators being studied. These additional codes were only applied by one researcher, targeting the specific parts of the individual interview transcripts that discussed the broker's perception of their role in relationship to their clients. These supplemental codes were defined in an amended version of the original codebook and can be found in Appendix H.

8.7 Results

Aim3C: Assess whether and how brokers' perceive themselves leveraging dimensions of social capital in their role in providing enrollment and decision-making support to small employers considering health promotion and wellness programs.

The results of this aim are categorized within the framework of each of the three dimensions of social capital, and can be seen summarized in Table XLI. Beyond that, the primary and sub themes are discussed in greater detail, providing additional support with quotes directly from the study respondents. Each quote provided reflects statements from a unique respondent.

Our first theme focuses on the structural dimension of social capital.

Primary Theme 1: Brokers can help eliminate barriers to resources, act as a connector to existing networks and generate new wellness opportunities within the network.

Sub Theme 1A: By eliminating barriers to implementation, as well as, continuance of wellness programs, brokers can ease the process and encourage adoption by small employers. In some employer groups actual financial, physical or technological barriers exist when implementing wellness programs. In a few cases, brokers reported directly working to ease or eliminate those barriers in very concrete ways through providing discrete resources on site for an employer.

"I've probably [directly assisted with screenings] maybe all of five times, and then on those particular times I've shown up with laptops and let them do their health assessments. Our office, we've brought laptops in to let people do it, but those have been more like blue-collar companies where they thought that maybe their employees wouldn't be able to and wouldn't have access to the Internet, you know? There would be some other sort of challenge around doing the online health assessment, and so they asked for kind of our help in making sure that there wasn't an issue with their employees being able to actually do it — if they wanted to. ...I guess we have like a mechanics shop and some of the people, you know, they may not have computers at home or whatever. We just kind of do that because the owner, you know, he just wanted to make sure that like technology wasn't a barrier. Some of his employees were like lower wage and they don't have Internet at home or whatever the case may be."

"We're there all year long for employee questions, [problem-solving], et cetera. As claim issues come up and as employment issues come and all kinds of these questions that end up leading back to benefits or benefit cost — that is our purview."

TABLE XLI

BROKERS' PERCEPTION OF THEIR ROLE IN SMALL-EMPLOYER WELLNESS, CATEGORIZED BY SOCIAL CAPITAL DIMENSION

Social Capital Dimension	Structural	Relational	Cognitive
Primary Theme	1. Brokers can help eliminate barriers to resources, act as a connector to existing networks and generate new wellness opportunities within the network.	2. Broker is seen as a trusted advisor who can use access and influence to encourage or discourage wellness adoption.	3. Brokers' expertise and credentials qualifies them as information source, facilitator and educator in wellness-related research and analysis.
Sub-Themes	<p>1a: By eliminating barriers to implementation, as well as, continuance of wellness programs, brokers can ease the process and encourage adoption by small employers.</p> <p>1b: The broker brings the network they leverage to their employer client, therefore broadening their access to relationships and resources in the wellness sphere.</p> <p>1c: Brokers who are passionate about wellness may create and develop unique tools to broaden the available options and resources tailored specifically to the small employers within their network.</p>	<p>2a: Education and awareness about wellness can be built in to existing activities and dynamics that are already established in the employer-broker relationship.</p> <p>2b: Brokers can directly influence an employer culture through candid opinions and recommended action.</p> <p>2c: Brokers provide this service to further bolster the relationship, even when there is not a clear monetary gain.</p> <p>2d. Some brokers report negative perspectives about wellness programs and recount sharing them with employer clients regardless of reported client interest level.</p>	<p>3a: Brokers train and advance their education to gather sophisticated levels of knowledge and information about wellness to provide greater value and benefit to employer clients.</p> <p>3b: Clients have an awareness of wellness programs but brokers can use their expertise to move conversation to a more complex exploration of how they might influence and impact the employers and employees.</p> <p>3c: Brokers can facilitate the examination and better use of existing employer wellness-related resources.</p>

Sub Theme 1B: The broker brings the network they leverage to their employer client, therefore broadening their access to relationships and resources in the wellness sphere. Brokers can be seen as a connector. There is a large network of insurance carriers, vendors and wellness resources available, and identifying the right choices for an employer can expend significant limited resources if the employer does that work independently. Typically, small employers rely on the established relationships that a broker has and connects to them through that network. This expedites and simplifies that relationship acquisition process for an employer – removing another barrier to the adoption of wellness programs.

“If I have a client that is interested in pursuing, um, wellness outside of the carrier plans then I would go out and get, find vendors that I think will fit what I think they’re looking for. And I will use the marketing from that vendor to relay the plans to the client.”

“We, um, you know, we’ve contacted the vendors, got them to, um, the fairs, um, you know, make sure the employees filled out their medical risk assessments. Um, but, we’re, you know, we’ve always been involved in that. Participating in, you know, a lot of times they’ll have, once a year, a wellness fair and [inaudible—I second] you know, we help get the right vendors there for them, and, um, educational speakers there and then if the employees are required to do any type of tracking, we help them, you know, with that as well.”

“That means that we have access to pretty much every plan available in Washington for our clients. We don’t just represent a Blue Cross (BCBS), or any particular HMO. We don’t just represent, you know, one dental plan either or vision, or disability or life insurance plan. We represent a ton of companies.”

Sub Theme 1c: Brokers who are passionate about wellness may create and develop unique tools to broaden the available options and resources tailored specifically to the small employers within their network. Not only are brokers connecting employers to resources and networks, but when the resources they identified as needs did not appear to exist, they reported taking the initiative to create their own offerings. Brokers that took this route appear passionate, and work within and through their networks to expand and grow the resources within them, for the benefit of their communities and clients.

“Wellness when we used to talk wellness and it first started coming out and a lot of it tied to the health insurance companies, employees and employers both would think of the traditional 10,000 steps program, starts off with a band, and then kind of dies out and we can’t get people involved. And it typically was just around the physical aspect. And quite frankly that wasn’t fitting the need that we were seeing from our employers so we, with the Greater St. Cloud Development Corporation and a few other employers started to work on our wellbeing initiative in the area. So if you’re familiar with the wellbeing book by Tom Rath, that’s our platform. Where it looks at five different areas. So yes, physical is one, but it’s also community wellbeing, career wellbeing, financial wellbeing, and social wellbeing.”

“So then in the smaller groups I have at one point — this is 15 years ago that I partnered with gentleman who is a nationally known speaker and author on wellness. His name is <deleted>. We sort of conjured up this program called at that time Eight Weeks to Wellness. It was around motivational and inspirational presentations and then the specific steps for people to follow and track themselves from the beginning and at the end of the eight weeks.”

“We are not going to do the work of this; although, we have had staff here develop something called Wellness in a Box which was a shelf product in a way. You could do it and it gave people three paths to follow with like three budget areas on that. That was easy to use with smaller employers. It gave them ideas.”

These three brokers represented a minority of the sample, but their visions for small-employer wellness solutions were robust, and present and interesting opportunity to share this approach with other employers as a way to engage with wellness even if there are not existing market-based solutions within their community networks. A larger number of brokers reported that their brokerages were hiring wellness coordinators that would provide traditional wellness based services such as health promotion campaigns or smoking cessation initiatives.

“So typically what will happen is, you know, you’re speaking to a group and they’re, we’re having a conversation and they’re discussing they really would like to work with their employees to help them quit smoking. Then I would talk to them about, um, you know, our wellness coordinators being able to come back to them and work with them about maybe doing a campaign on quitting smoking.”

The next set of themes focuses on the second dimension of social capital – relational.

Primary Theme 2: Broker is seen as a trusted advisor who can use access and influence to encourage or discourage wellness adoption.

Sub Theme 2a: Education and awareness about wellness can be built in to existing activities that are already established in the employer-broker relationship.

Brokers report being fairly visible and active within contracted employer clients. This includes both with the higher level decision makers, but also with employees directly. Although, the main stated purpose of a meeting with a leader in an organization may be to focus on other typical benefits such as health or dental insurance – brokers report being able to use that time to steer a conversation to include the related benefits of wellness programming.

“We just sort of have an annual planning process that includes a pre-renewal strategy meeting at least once a year, and then more if they’re larger clients. We will bring up what are you doing to talk to your people about health and wellbeing.”

“when we do renewal on the smaller ones. Any, any, any wellness program that the company has available free-of-charge, we always advise our clients on.”

“I guess that I’m one of those people that just fundamentally believes in the value of a wellness program and healthy employees. That probably comes through when I talk to my clients.”

Part of a broker’s relationship with a small employer generally includes educating the employees on their benefit plan and assisting them in using or signing up for benefits. This can typically occur around the open enrollment period, or when a new hire comes on board. Brokers can also use their direct access to employees to build awareness and greater usage of wellness benefits.

“Even in one of our most regular jobs on behalf of a client which is conducting employee meetings at renewal time for open enrollment, we frequently work in some wellness education in there. So when I’m standing up in front of a group of employees on behalf of a client and I’m saying that blah, blah, blah and your benefits, I’m saying, “Remember, preventive benefits are free. Everyone here should go and get their annual exam and have the tests that are appropriate for their age and gender. This is highly supported in the health plan that you have right now.” There are ways to do it that are just tying it very simply and even going for your annual dental exam. It’s paid at 100 percent — cleaning, exam, X-rays. Why is that? That’s to incent people to go and have that very basic thing done. Not everybody does that, believe it or not. Anyway, I’m trying not to get on a soapbox, but to just point out really easy recommendations and especially where the incentive is built into the program design, or if maybe the client will sweeten that a little bit in some instances.”

“We do try to make sure that they know that through their medical carrier, I know Blue Cross Blue Shield, they get discounts for gym membership so we try to make at the employee meetings that they are all aware of they, get on this site, see if your gym is participating in this so that they can get some type of reward for working out, again through the medical carrier, Humana, they’re also offering that through their Vitality program. So those types of resources are available now currently through the medical carriers, it’s just educating the employees to take advantage of it.”

Sub Theme 2b: Brokers can directly influence an employer culture through candid opinions and recommended action.

Brokers with established relationships may use that trusted status to make specific targeted wellness-related suggestions for a given work environment. While many of these recommendations are not formal wellness programming, or ideas that cost significant resources, they are examples of ways that culture and informal wellness could be influenced by a trusted advisor.

“I tell my employers it wouldn’t kill you to have apples out at the front desk, you know, just to kind of subliminally remind people that the goal is to be healthy and not use your plan if at all possible. So, I kind of try and plant those seeds with my employers and I don’t bring them donuts when we have meetings.”

“Again, the employers that cannot staff to having a resource that runs around doing this all the time — there are lots of things available that are sort of just ready to take out of the box. And then if you need more than that, we would always advocate that there be a committee, if possible, so that individuals in the organization are participating.”

Sub Theme 2c: Brokers provide wellness-related services to further bolster the relationship, even when there is not a clear monetary gain.

Most brokers earn their compensation through a commission or fee based arrangement. Clients will pay insurance premiums, and subsequently a related commission is then paid to the broker by the insurance company. When asked about whether or not they receive similar compensation for wellness benefits they were advising clients on, some brokers were not even certain whether they did. Although the financial gains were uncertain at best, brokers did acknowledge that there were other beneficial outcomes to them for including wellness in their purview with a client.

“You know that is a great question. And I don’t know the answer if there is a commission on that and I probably should.”

“I never really, that’s not really, it never really crossed my mind in terms of getting a commission off of something like that. I think that’s more, in my head anyway, or in my outlook on it, I think that if there was an employer willing to bring that service in, I certainly wouldn’t be looking for a commission. You know I think it’s more so for the employer to actually see some results in their medical renewals and claims and utilization. If it could help them overall save money, year 2, year 3, things like that to kind of curb the condition, I certainly, that would be the goal, not necessarily whether I’m getting a commission on wellness but if there is a commission, great. That would be fantastic.”

“You know what, I’m going to be honest with you, I don’t believe I get paid doing [to work with stand-alone wellness vendors]. It’s pretty hard right now, to have an outside company come in and do the work that can connect [everything I am doing for my client] when I’m not getting paid for it. And so I would rather do what I’m doing in having high touch with the client because I get paid to touch that client - because they stay.”

This final point, focuses on solidifying the relationship is a key observation. Not only do brokers, leverage their relationship with clients to engage with them about offering wellness programming, but providing wellness related services can also provide a unique benefit in strengthening the relationship itself.

Sub Theme 2d: Some brokers report negative perspectives about wellness programs and recount sharing them with employer clients regardless of reported client interest level.

Some brokers reported a lack of confidence, or disbelief in the value of wellness programs. They recognized that at times this could be at odds with the clients’ desires, and shared insight into how they approached these conflicting situations.

“There are some administrators or groups whom you can tell right away are really dialed onto wellness. They believe in it and they want to reduce their costs, and in their heart they believe it will work as their paradigm. We then don’t argue and push our anti-wellness perspective — I actually even shouldn’t say anti-wellness, but our true opinion of does wellness make a big difference and just help them into wellness programs, because they want to offer something to their employees.”

“Yes, and the client in that case called us. They said, ‘We want to do wellness this year.’ Our response is great and let us help you administer that, you know? I don’t get into oh, it’s not going to work and no one wants to do that. That’s not helpful, because that’s not what they’ve asked me.

“I often get asked ‘do you think that wellness will help me manage our healthcare costs?’ Then I can talk about my opinions of wellness. But when they say, ‘Hey, we want to do wellness this year for our employees,’ then we just go ahead and we walk them through it.”

“Correct, if it’s not for the cost savings, then it will be because of some other altruistic reason driven by the owner or HR manager. But if there isn’t a cost savings — the broker, us — we’re not compensated on wellness. In fact, it’s extra work for us and our staff to administer and for the administrator to administer wellness. If it won’t do anything for the group from a financial or benefits standpoint, it’s really hard to get brokers like us to then bring it up on our own just because.”

Although the brokers here report being will to still engage with an employer if they initiate a discussion about wellness, it is important to recognize how different the employer relationships with subset of the broker population would look relative to those with employers that proactively discuss wellness in a variety of manners with their employer clients. The influence we have identified can move in both directions – to encourage or discourage the adoption of wellness programming. And even those these brokers note that “they will not argue” with an employer that wants to offer a wellness program, there are still all of their other clients to consider where neither party in the relationship are broaching the topic of wellness.

The final set of themes relates to the Cognitive Dimension of Social Capital.

Primary Theme 3: Brokers’ expertise and credentials qualify them as information source, facilitator and educator in wellness-related research and analysis.

Sub Theme 3a: Brokers train and advance their education to gather sophisticated levels of knowledge and information about wellness to provide greater value and benefit to employer clients.

Health insurance brokers are required to take continuing education to maintain their health insurance license annually, and are monitored by the state they practice within. However, a number of respondents spoke at length about the additional education and certifications they have completed to advance their knowledge about employer-based wellness programs. This knowledge is can be gained first informally through internal resources within the broker’s employer.

“I’ll start out with our organization. We have had an internal workplace wellness committee and so we were trying things out and really walking the talk here for over twenty (20) years. I don’t come into this, you know, Johnny come lately. It’s always been an important piece of our organizational culture and who we are, and so that helps us probably be better at bringing what is really a wide spectrum of possibilities in the area that you’re talking about to clients.”

“We have a total rewards framework ... that would include subject matter expertise around the clients’ wellbeing or wellness programming, data and analytics, communication, HR support, those sorts of things.”

Wellness knowledge can also be obtained through formal certifications and schooling – that extend outside of the broker’s specific workplace knowledge. Reported outlets for this type of education include professional organizations and traditional academic institutions.

“...all my account specialists and account executives on the benefits department are certified WELCOA (Wellness Council of America). They are able to have access to that and expand that to their clients as well.”

“In 2001 I attended a one-week course at Stevens Point in Wisconsin. It was the University of Wisconsin to get a health cost management certificate. I went to school for five days 8:00-5:00 and all we were doing was looking at wellness and that kind of thing.”

Sub-Theme 3b: Clients have an awareness of wellness programs but brokers can use their expertise to move conversation to a more complex exploration of how they might influence and impact the employers and employees.

Given their reported level of education and knowledge on wellness programs, brokers are well positioned to move a client’s awareness and understanding around wellness to a deeper level. Employer clients have a need to delve into how the wellness programs will directly impact them in a number of ways. One of the most common reported, was that employers want a clear understanding of the financial impacts both in the immediate and long term.

“There’s a general awareness that [wellness programs] exist and that there are things out there. However, more conversations come up of how is this gonna save me money in the long run and or what’s the immediate cost impact now.”

“Well, it’s just kind of working with the executives at the group and determining, based on reporting, what’s most beneficial to them as an employer, um, and the employees as far as budgeting, what would be the best benefits to put in place?”

Brokers also can assist the employer in analyzing their own specific workplace culture and identifying solutions that will be the best fit for their specific employee community. This is a way to help employers narrow their set of available options, and choose something that will complement their existing culture, or help shape their culture in a new direction to move towards meeting new goals.

“There is no one-size-fits-all. Blue Cross is offering one thing and United is offering one thing. That might not fit the culture that they’re looking for. They may want to be more intense than that, more intentional with what they’re doing.”

“When we’re looking at helping a client implement a well-being program, we typically are going to do an assessment of what they offer today to their employees and perhaps even to their employees’ families around well-being, whether it’s a robust program where employees are doing certain things to get certain rewards or if it’s more informational to provide them the resource that they need to make choices in their lives that perhaps could lead them to a healthier state of being.”

“We help them build out that strategic plan and framework and then an operating plan and then say here are the things you want to do, here’s the resources, tools, who needs to do what, so we’re going to help them manage that piece of it as well.”

Brokers report taking an active role in the strategic planning and implementation phase of wellness programming. This can take a variety of intensities in levels – beginning at basic decision-making and extending all the way into hands-on activation of the outlined strategies.

“We help them figure out what they want to do”

“I’m responsible for setting strategy and help employers manage their employee benefits plan, which could be medical, dental, life, disability, wellness programs...”

“Yes, we’ll advise them about how they operate; what benefits they can provide; how they are perceived by employees, and what it will take to get the employees to complete them”

“They develop a plan. And they, they assist them with implementing that plan. They’re available to, um, coordinate, you know, the health fairs or the campaigns or, you know, any flyers that can be communicated to the employees or, you know, they’re, they work one-on-one with the group to put it in place and get it established, and make sure it’s implemented.

Sub-Theme 3c: Brokers can facilitate the examination and better use of existing employer wellness-related resources.

Some employers that brokers encounter may have already begun the process of implementing a wellness program in their organization. The brokers in this study highlight their role in helping employers understand and bring greater value to the resources they already have at their disposal.

If we find that most of the wellness programs that are available to small employers are embedded within their existing health plans, in some cases because it’s not a separate charge, the employers are not even clear that they have wellness resources.

“Over time we have seen insurers embed some tools and resources, generally online tools and resources for clients who are buying fully-insured products. I frequently find that clients don’t use all of those tools available to them already. I’ll usually say if somebody expresses any interest first,

“Let’s get knowledgeable about what you’re already paying for and have access to and aren’t using.”

“Yes we’re, yeah we’re that consultant that will bring you to the table and say here are your resources, here’s what we can do. Let’s get your team together, start from the bottom up, and see what we can do.”

Conversely, if an employer is aware of the resources they have, they may still struggle with how to disseminate that information to their employee population. Part of this process may be as straight-forward as aiding the employer in communicating and building awareness of the resources within their employee population.

“the first step is making them aware of what those are and helping to figure out how to communicate those resources to their employees so that’s sort of your basic even acknowledgment from the employer that these resources exist and that they’re malleable and let’s make sure that those employees know that those resources are available to them and essentially putting together an overview of that so that they can communicate that out to their employees.”

Some brokers discussed the importance of measurement, analysis and benchmarking. For employers that are currently providing a wellness benefit, the brokers suggest a place for them in the assessment of how the benefit is working for the employer – specifically when looking toward the future and making recommendations for changing or continuing the benefit program.

“Well I think the most valuable pieces that we provide would be around the valuation and feedback on what they do today or what they could be doing differently and using best practices and benchmarking and expertise to be able to get to that point. So we begin in that evaluation phase and then building that into a strategy, taking into consideration their budget, their resources, how big they are, what are their goals, etc.”

“And they do, you know, they assist with any reporting to be able to document and quantify to the employer that it’s working or not, so that they can tweak for the next year.”

Aim 3D: Identify broker perceptions of barrier to their work, opportunities to provide greater educational support for providing greater value and ways to cultivate them as assets in dissemination under a changing health policy landscape.

The results of this aim are meant to clarify brokers’ input two key areas, the barriers they observe in doing this type of work, as well as how they currently seek out support and resources to inform and improve their work with clients related to wellness. Both of these response areas provide useful insight when considering policy implications and dissemination avenues.

The barriers that brokers report can also be considered within all three dimensions of Social Capital (Structural, Relational and Cognitive). While this reflects potential deficits in their social capital, it also could be considered as opportunities and avenues to invest resources to boost this relationship with small employers.

When we consider the structural dimension, Brokers often referred to just not having the necessary resources themselves – either internally at their brokerage, or within their network to successfully offer or recommend wellness to their clients. Often times these brokers spoke of wellness programs optimistically – or aspirationally,

as something they would like to have more engagement with to add even more value to the employer clients they contract with.

“I think that’s where, you know, if there were some good vendors that were, you know, could offer and do a good job, that’s where a broker would come in and be able to educate the business owner, and, you know, let them know why it would be a good option to provide.”

“I don’t think it is, just because then I feel like the scope of wellness programs, to run a successful wellness program you really have to have some education, you know, even in exercise and physiology to be able to run it successfully. I think if a brokerage is lucky enough to be able to have that type of team — absolutely, they could offer that I think. Where I’m at, not at the moment, but the really large and maybe national size brokerages are probably able to do that, but it’s just if they’re able to have that skilled team.”

“I think that because that hasn’t been done in the industry, that’s why a lot of broker/consultants don’t bring it up. We’re busy negotiating renewals and doing employee meetings and things like that. It’s because a lot of broker/consultants and HR folks don’t have “here’s an easy manual,” because it can’t be a big, thick book. I mean, it has to be sort of a really good cut into it. I’m sure that these might exist somewhere in different ways or I could put them together myself; I have, but not in this way. I was thinking about this when I saw your questions that you sent me. I thought maybe I should write that book.”

Brokers are sensitive to the high value of their relationship with their client and would likely be opposed to doing or suggesting anything that could jeopardize that. As a result, some brokers, with less solid relationships with their client, or greater risk of losing them, might hesitate to challenge or encourage branching out from the status quo, or the adoption of a new employee benefit. These excerpts reflect an awareness of the barriers related to the relational dimension of social capital.

“I think all of our brokers have a tendency to promote this but it’s kind of like anything else because they can only promote it so hard. It takes the lead from that employer or the upper management to be able to promote it any more.”

“Uh-huh, it sucks a lot of time and if something goes wrong or someone didn’t get their biometrics screening kits, then we’re calling the wellness company and we’re tracking that down. Where did it go? Oh, they moved and they have to change their address, you know? It would be another moving part in our role that could just really be a [deterrent].”

Brokers report cognitive barriers as well. Professional continuing education opportunities regarding wellness are available to brokers, but brokers had mixed responses about whether or not they had taken - if they had, it had not been recently.

“It’s probably been a couple year [since I have taken continuing education about wellness]. I didn’t get a certification. Like I would even have to go look to see what it was for specifically. But yeah, we’ve had like you know obviously vendors come in and sponsor meetings so when they do that, if I have the opportunity to go to that, if it’s relevant, then I can access it that way.”

"I would have to say in the 14 years I'm sure there has been [continuing education on wellness]. But no, [nothing stands out in my mind]."

"actually, a couple of years ago... It was an online course. The name will come to me of the organization at some point."

"Continuing Education on wellness is something that I personally have an interest in for sure. I think that it is something that is going to continue to grow."

Brokers report time constraints as well – which could reflect a lower priority for wellness education.

"Well typically its just webinars or, I have not taken the certification for wellness. That's one of the only ones I haven't done yet. I have most of their certifications but I have not done the wellness certification. And I do want to do that, it's just a matter of finding the time to do it....if the demand is there, I would certainly bring it to the table, but it's right now I would say it's not at the top of my list."

"You know [name] there is a ton of it. I can't say there's a lack of information. There might be a lack of interest. And it might take second fiddle to certain people. But I shouldn't, I'm not saying any certain people but I'm just saying in general. It takes a backseat to the majority of people. Where they prioritize things in their life".

The brokers in this study identified both existing and desired areas of support around wellness programming for their clients; the findings of which are summarized in Table XLII. Following that table we go into greater depth on each area of support, and provide examples of brokers responses related to these key findings.

TABLE XLII

BROKERS' EXAMPLES OF WELLNESS-RELATED SUPPORT AND RESOURCES

Existing Resources	Desired Resources
Self-education through academic and research-based organizations	Case Studies or success stories
Professional Associations	One trusted, unbiased resource or clearing house for research and information
Insurance Carriers	New creative viable solutions
Community Based Organizations	

We can begin by reviewing reported existing resources and areas of support. Brokers report doing a lot of self-education, and being interested in sound research sources. Some brokers are aware of and seek out existing

academic sound research. While this is a minority in our sample, it is useful to consider that brokers are interested and engaged with research from sources outside their immediate field and network.

“Other than research that I can find online or studies that either show up on Kaiser Family Foundation or organizations of that type — no, I mean, a lot of it’s kind of self-found, self-researched.”

“They’re looking at media and studies that are coming out. That sort of depends on the broker. My dad owns a small agency and works predominantly with groups that are 2-1,000, more in the small market and I would say someone like him is often looking to articles and studies and those sorts of things, so it depends on the association of the broker too.”

Professional associations were named as a strong resource – and first place to go for many brokers. Brokers report high reliance on professional associations for information sharing and gathering. The benefit from these organizations comes in two fashions, directly as a part of participating in and attending association functions – but secondarily based on the opportunity they provide to connect and network with their peers within the industry to share ideas.

“They’re looking at their associations, so NAHU would be a resource to say who are your partners or what programming to do you have for training, those sorts of things”.

“I do actually go on to the NAHU website because I know that they’ll have timely like relative resources. I definitely go on their compliance corner especially because with the legislative issues and things going on, so yes there, that NAHU website, nahu.org, I do go to that most likely as like my first go-to in terms of hey what’s out there, what are other brokers doing or using.”

“I would say I get a lot of information from talking to brokers. Not just from Illinois but from across the country in my NAHU dealings. We talk, we just don’t talk about membership or professional development stuff but we talk about business.”

“We belong to HR associations and I do, and so I get daily newsletters from employee benefits and HR organizations that give me lots and lots of tidbits to help people out.”

Insurance carriers were seen as a key source for information. Given that so many of the wellness programs for small employers are embedded in health insurance programs, a strong link to support and resources from the carriers was evident. Brokers recognize that getting information directly from the vendor, as a go-between for their client was an important component of their shared relationship.

“I would probably go to EBRM first since they, I run a lot of stuff through them for the Blue Cross Blue Shield so I’d go to them first.”

“I would say first from the carriers and reading their literature on it.”

“We use the insurance carrier websites. And, you know, they have a lot of flyers and, um, but mainly I get the website that they have set up.”

"I always start with what are they already paying for that's embedded with a vendor, and with their employee assistance plan there frequently are quite a few resources that are available to them there."

Brokers extended the networks they leveraged beyond direct health insurance resources and looked to the communities they operated within to identify other specific organizations that might have useful expertise in health promotion or wellness programming. These resources included healthcare providers, non-profits and national advocacy organizations.

"there are community resources of both larger healthcare systems. In Pierce County there is MultiCare Health System and the Franciscans. They have a lot of resources that are available there, and actually publish weekly magazines or newsletters to people trying to help tie them in to that. It's everything from diabetes support groups to nutritionists on hand."

"And then typically we would also be exploring what are all of the resources that exist to support individuals. And then individuals in their workplaces in the community and so organizations like the American Heart Association (AHA), the American Cancer Society (ACS), the American Diabetes Association (ADA) will frequently field resources and/or have actually shelf products for running wellness programs."

"I mean, I guess that along with the community organizations and just because I've been involved and engaged with lots of different organizations over time that I stay in touch with, I get lots of information as do most employee benefits professionals."

Although brokers identified many existing areas of support, they also noted some things that they would appreciate or desire in their work. These suggested resources indicate an interest to continue and deepen dialogue with employers and have effective support tools to aid the conversation's development.

Brokers reported an interest in knowledge outside their own backyard and clientele. They were interested in learning about other employers. They requested a case study or a leave behind that could be shared directly with employers about what other employers are doing. Brokers were looking for a tangible asset that could help to imprint on employers the value and potential impact of small employer wellness programs.

"I think we sometimes get very focused on just central Minnesota. It'd be great to have this expand all over the state and understand where the wellbeing numbers fall within different, whether it's counties or what have you. And see if there's any conclusion that can be drawn from that. But I think if you were to tap into the other employers that are out there, what is it that gets them engaged?"

"I think a useful tool or resource for a broker like myself to be able to go in and share with employers is maybe some actual facts on groups in that 2 to 50 market that say hey, we watched this group over the course of you know two years span, three year span, and here's the direct impact. I think maybe access to some studies that show whether it was a white collar group or both would be helpful, white collar group, a blue collar group and say this is the timeframe we studied this group. This is what they participated in. Here's the direct impact on the costs of their healthcare and how it affected their renewals or premiums. That would be helpful".

“And then not too much information where it’s like a piece that like I could leave as a leave behind or email to all of our clients and say hey, this is really working, this is really happening for these groups. Check it out. See if this is something that you’d be willing to promote.”

Several brokers expressed an interest in having one main place to go to find information and resources needed that would give them better tools for working in the wellness space. The key findings including the desire for one clearing house type space, rather than having to work hard to find all of the information they need in a variety of places. This format would eliminate some complexities, but also could provide some level of trust or credibility. Many brokers stressed that something like this would have to have the appearance and reputation of being unbiased (in terms of it not coming from a vendor/sales based organization) and apolitical and not tied to any particular Republican or Democrat policy change or ideologic set of beliefs.

“If there was an objective place that they could go to - to have information housed and translated into bite sized pieces that they can give to their clients, I think one of the biggest advantages that a bigger firm like mine has is we have communication working with our health outcomes wellness program or wellness resources but communication works with health outcomes, works with compliance, works with legal, to come up with messaging and translation of rulings and those sorts of things that we can provide back to our clients and so I think there’s a lot of nervousness right now among brokers, agents, and employers around what you can and can’t do with wellness programs. If there’s one lead out there that would be helpful it probably would be interpretation of the regulations and how you can do wellness programs with your employees and within your organizations and be compliant and not risk being slapped on the hand for doing something a lot of them are seeing the reports that are coming out and saying well not only do we not know if this is worth the effort, but we could be at risk of doing something that could get the employer in trouble so we’re just going to avoid it.”

“So I think it’s communication and compliance that there was some sort of resource available where brokers or small employers could go to and trust that they’re getting information that is accurate around compliance and communication around well-being and wellness programs. I think that would be a helpful resource.”

“You know, we don’t get as far as I’m concerned the actual literature. It’s basically embedded somewhere and you have to run out and try to find it. And navigate all these weird websites. I would think that as a carrier rep or a regular company rep downtown, whatever the case may be in their general office, once a year or once every six months would send out a brochure saying here is our wellness program that we are doing now. Click on this link to go directly into this area to find out more information. Instead of having to run around and try to find where it is.”

“The only thing that would be really helpful for me to have for the employers would be a good, easily-digestible summary of data that shows employers why implementing a wellness program is worth it — both from the positive, in my view, the employee morale or the employee satisfaction because some employees like doing this stuff, but then also the practical but “don’t get your hopes up that this will make your costs go down.” Some type of balanced approach which isn’t political that just says here is the data”.

“I think just solid websites. I think proof from like I guess maybe a study, or just proof from a company or a carrier that their wellness program actually made a difference.”

Brokers observe that the small and middle employer size market, has just not really gotten any clear attention or solutions that were designed with them in mind. There is a general outcry for the lack of options, and hopes for something new, or a creative option to share with this client population.

“Maybe any programs out there that you know, are made for, you know, small middle group, um, and kind of what’s involved in that and the cost of that. I think more, you know, small or midsized group that would be really helpful.”

8.8 Discussion

Health insurance brokers have a clear, well-established role within small employers when addressing issues related to employee benefits. Brokers report components of that role falling into each of the three dimensions of social capital (cognitive, relational and structural). As such the relationship between them and the employer client is of high value and offers significant influence and access. Brokers are able to leverage these dimensions of social capital to either encourage or in some cases discourage employers from adopting new benefit initiative like wellness programs.

8.9 Limitations

This initial study is not meant to be generalizable to all brokers and agents across the United States. Given the small size, and snowball sampling methodology, the research team understood that the benefit of this type of study was to gain initial insight into a population that has not been widely observed or explored.

8.10 Policy Recommendations

As policy makers identify, legislate and implement new initiatives to promote health and wellness within work-based settings, it is critical to understand the roll and influence of the health insurance broker on the decision-making process of the small employer. When engaged and supported with resources, brokers can be an effective champion for these types of programs if they believe and perceive that it will provide value to their client directly, or enhance the relationship between them. We encourage the involvement of health insurance brokers in the development of such initiatives given their close proximity to employer groups – as well as the creation of tools to ease and simplify their work in this area.

8.11 Conclusion

Examining the role of the broker through the dimensions of social capital is a useful first step towards understanding the dynamic relationship between this workforce and their clients. We identify a clear description of the variety of ways that brokers can leverage social capital to encourage the adoption of wellness programs by their clients.

Given the limited amount of study that has been conducted on health insurance brokers up to this point, this insight has provided a new baseline to begin examining their role more closely. Future studies can be done from a variety of perspectives, including a qualitative exploration of an employer's perspective on the brokers role in offering wellness and health related benefits. Further, it would be useful to develop a quantitative study that examines uptake of wellness programs by employers over time, as a function of their broker or their brokers' characteristics (such as years' experience, level of education, additional certification, or network features).

9. SYNTHESIS OF STUDIES ONE, TWO AND THREE

9.1 Integrated results and final mixed method aims

While the study settings, populations and methods vary across each study, all three are able to tell us something new about the way external decision support is used in health insurance decision-making. By combining the learning from each, we are able to gain a clearer understanding of the broad spectrum of individuals that work in this capacity, and insight into whether we can observe an association between their work and the reduction in uninsurance rates or diffusion of new health policy, health insurance related innovations.

Aim 3E is to Compare broker patterns, typologies and perceptions of barriers of their work to that observed among Navigators. The use of a shared conceptual model across all three studies is valuable as we consider two unique workforces. Although their roles are similar they leverage the dimensions of social capital in ways unique to their own expertise, networks and relationships. Table XLIII provides a side by side comparison of the two studied workforces and their use of the dimensions of social capital.

TABLE XLIII

COMPARING NAVIGATORS AND BROKERS' LEVERAGE OF SOCIAL CAPITAL

Social Capital Dimension	ACA Navigators	Health Insurance Brokers
Cognitive	Participate in Grant Funded training. Conduct meetings and events in multiple languages.	Provide professional expertise, advanced training and certification.
Relational	Develop relationships through outreach to stakeholders in the community including businesses, schools, faith organizations and healthcare providers	Use longstanding relationships and trusted advisor status to influence decision-making.
Structural	Build networks with other Navigator organizations Conducts educational presentations and awareness fairs	Brokers can help eliminate barriers to resources, act as a connector to existing networks and generate new wellness opportunities within the network.

Navigator and brokers exhibit some similarities in reports of barriers/needs in relation to their work. Both the Navigators and the Brokers report a desire for additional training, although the topic areas discussed, there was recognition from both workforces that additional training would benefit themselves and the clients they serve. Additionally, both Navigators and Brokers discussed an interest in more efficient and effective tools to help them conduct this work. For brokers this emerged in the form of a desire to see case studies to better deliver their messages to employers and an unbiased, a-political online site that operates as a clearinghouse for sound, valid information. Navigators echo a similar request in their work, as they identify their struggles with existing websites and tools available to them for educating and persuading difficult populations to enroll in coverage.

9.2 Overarching Policy Recommendations

Throughout this project we have identified a number of important policy recommendations. To review they are as follows:

From the Study One, we find that given the significant association between both the presence of a navigator in a zip code, as well as the number of navigators in a zip code, it is reasonable to assume that in future policy roll outs intended to produce a drop in the uninsurance rate, that the inclusion of a consumer facing outreach and enrollment workforce similar to the ACA Navigators would amplify the results of the policy implementation. Further, as identified in the Outreach Activity Index, such a workforce should be trained to conduct a wide variety of outreach activities including door to door canvassing, and the nurturing of stakeholder relationships such as those with businesses and healthcare providers. It is worth pointing out that Navigators may be especially beneficial in reducing uninsurance rates minority communities such as Blacks, Asians and those communities that fall below 138% of the FPL. Further, since Navigators share the same social context with the uninsured community they are in a unique position to identify barriers to enrollment and solutions to improve their role in the process. Given this important role as a feedback loop, resources should also be included to measure and evaluate their work, insight and measure their effectiveness on an ongoing basis to create even more effective settings for them to work within.

From Study Two, the inconsistent findings in this study make identifying clear policy implications somewhat challenging. Part of the difficult in evaluating the use of the grant dollars may be a function of the lack of more

granular data like we had available in the Illinois-based study. One important policy implication, might suggest the importance building in a mechanism to collect and share data to track and measure the effects of high dollar value programs intended to improve the uptake of policy changes like the Affordable Care Act Navigators. Without the ability to isolate the effect to a smaller geographic region, such as zip code rather than county, the true effect of Navigator grant program remains inconclusive.

Finally in Study Three, we learn that as policy makers identify, legislate and implement new initiatives to promote health and wellness within work-based settings, it is critical to understand the roll and influence of the health insurance broker on the decision-making process of the small employer. When engaged and supported with resources, brokers can be an effective champion for these type of programs if the believe and perceive that it will provide value to their client directly, or enhance the relationship between them. We encourage the involvement of health insurance brokers in the development of such initiatives given their close proximity to employer groups – as well as the creation of tools to ease and simplify their work in this area.

9.3 Dissemination Products

Two final important integrated aims of this project are to share this work in a practical and applied manner with the workforces that informed the studies. Although grant funding for navigators is not likely to continue into the future, there are still many types of individuals and organizations that could benefit from the findings of this study – that intend to continue working with and for individuals that are uninsured – or are struggling to stay insured. Upon completion of all final results and conclusions, I intend to share my findings in the following ways:

1. Best practices guide and related web-based training module disseminated through the Illinois Coalition for Health Access (ICHA), which is the network of remaining Illinois outreach and enrollment workers, ahead of the 2017-2018 open enrollment cycle.
2. Web-based continuing education module disseminated through the Illinois State Association of Health Underwriters (health insurance agent and broker association).
3. Both constituent groups materials will include not only best practices, but actionable data and easy to visualize “heat maps” on the remaining uninsured population in Illinois. Many organizations that continue to

do this work are operating their outreach programs using pre-ACA statistics. As they continue to serve the uninsured, having more current information of where and who they are will be extremely beneficial.

9.4 Future Research Directions

The study of both ACA navigators and health insurance brokers is still truly in its infancy. While this project has advanced our knowledge of these two health insurance decision-making workforces, it also has illuminated many additional opportunities for additional inquiry. The framework put forth, in this project, the combination of the Diffusion of Innovation theory, and the Social Capital Model creates a platform to examine these questions. This paper added significant evidence to the link of the first dimension of social capital – structural, through the majority of the quantitative findings in Aims 1A1-3, 2A1-2, Aim 2B1-2. The second and third dimensions – relational and cognitive, added insight in all of the qualitative aims as well as the construction and testing of the Navigator Outreach Activity Index. I believe it is these two areas that have the strongest opportunity for further exploration.

As it is currently constructed, the Navigator Outreach Activity Index tells us that these types of activities appear to be associated with and significant in the Navigators work to enroll the uninsured and ultimately reduce community level uninsurance rates. A useful next statistical approach to this piece of the work would be to conduct a Principal Component Analysis (PCA), a method first described in the field of Mechanics and has been adapted for use in a wide range of fields including the study of health literacy and health promotion (Pearson, 1901; Abel et al., 2015). A PCA would allow us to transform a set of variables that are likely correlated with one another, into a set of uncorrelated variables called principal components. For this particular data set, that type of analysis would allow us to more closely examine the variance between each of the variables that currently make up the data set, and decompose it into a smaller and more intentional set of included items. This could in turn, produce a clearer differentiation of the role of each of the three dimensions of social capital that we test in the outreach intensity index. Following this analysis, the index should also be tested in other settings and studies should be undertaken to establish validity and reliability.

Additional work could also leverage the other aspects of the large Navigator dataset that we have yet to include. One particularly relevant addition that could further delve into the relational aspect of social capital,

would be to examine the role of Navigator characteristics and their alignment with the characteristics of the community within which they are conducting the outreach and enrollment activities to diffuse the ACA policy innovation. We would hypothesize that the more closely a Navigator's demographics align with the population they are hoping to engage, the stronger their association would be with declining uninsurance rates. This should be tested on both uninsurance rates across the communities, but also within key sub-populations of interest.

It is also worthy to mention, that given the limitations we have discussed in this study, relative to the empirical models, it would be beneficial to reproduce these results in future studies using a model that can provide evidence of causality should the data allow. This could include identifying an instrumental variable to address endogeneity concerns or the development of a randomized control trial in which different health insurance decision makers were assigned to different groups of decision support. A larger data set, with additional observations at the zip code level throughout the United States would also allow for a more robust spatial analysis.

Finally, the qualitative study that we have conducted on health insurance brokers is hypothesis generating. It would be useful to collect or identify new datasets that can provide empirical evidence for the themes generated in this project so that we might identify further support for the theory we employ connecting brokers' work through with employers through a social capital lens.

9.5 Overarching Conclusion

The social capital model provides us with a useful vehicle to examine the implications of workforces like ACA navigators and health insurance brokers on the actions and decisions made by the clientele they focus on. Although each group leverages the three core dimensions of social capital (Cognitive, Relational and Structural) in slightly different manner – we find some similarities do exist. Further, it appears that to some extent that the ability to leverage social capital on behalf of a client, exists in both study populations. This ability can contribute to achieving the desired end result – health insurance enrollment by the uninsured in the case of the ACA navigator; and adoption of employee health promotion and wellness programs by small employers in the case of health insurance brokers. The study of both of these workforces and the mechanisms behind their influence over decision-making in this arena is in its infancy. Both ACA navigators and health insurance brokers could be

examined in a number of additional research projects to isolate and estimate their true effect on the clients they serve. These additional research questions regarding external decision support like that provided by Navigators and Brokers have merit, and would provide key insight and benefit to industry, stakeholders and policy makers as they strive to see policy changes they enact have the most effective outcomes and ultimately increase uptake to realize their greatest potential impact.

CITED LITERATURE

- Abel, T., Hofmann, K., Ackermann, S., Bucher, S., and Sakarya, S. (2015). Health literacy among young adults: A short survey tool for public health and health promotion research. *Health Promotion International*, 30(3), 725-735.
- Aron-Dine, A., Einav, L., and Finkelstein, A. (2013). The RAND health insurance experiment, three decades later. *The Journal of Economic Perspectives*, 27(1), 197-222.
- Artiga S., Stephens J., Rudowitz R., Perry M. (2014). What worked and what's next? Leading ACA enrollment efforts. *The Kaiser Commission on Medicaid and the Uninsured*. Retrieved from <https://www.kff.org/health-reform/issue-brief/what-worked-and-whats-next-strategies-in-four-states-leading-aca-enrollment-efforts/>
- Arrow, K. J. (2004). Uncertainty and the welfare economics of medical care. 1963. *Bulletin of the World Health Organization*, 82(2), 141.
- Atkinson, M., and Fowler, A. (2014). Social capital and voter turnout: Evidence from saint's day fiestas in mexico. *British Journal of Political Science*, 44(1), 41-59.
- Baicker, K., and Finkelstein, A. (2011). The effects of medicaid coverage — learning from the Oregon experiment. *The New England Journal of Medicine*, 365(8), 683-685.
- Baicker, K., Congdon, W. J., and Mullainathan, S. (2012). Health insurance coverage and take-up: Lessons from behavioral economics: Health insurance coverage and behavioral economics. *Milbank Quarterly*, 90(1), 107-134.
- Baicker, K., Taubman, S. L., Allen, H. L., Bernstein, M., Gruber, J. H., Newhouse, J. P., et al. (2013). The oregon experiment--effects of medicaid on clinical outcomes. *New England Journal of Medicine*, 368(18), 1713-1722.
- Barker, A. R., Londeree, J.K. et.al (2013). The Uninsured: An Analysis by Income and Geography. Center for Rural Health Policy Analysis, Brief No. 2013-6. 1-4.
- Barnes, A. J., Hanoach, Y., and Rice, T. (2015). Determinants of coverage decisions in health insurance marketplaces: Consumers' Decision-Making abilities and the amount of information in their choice environment. *Health Services Research*, 50(1), 58-80.
- Barnes, A. J., Hanoach, Y., Rice, T., and Long, S. K. (2016a). Moving beyond blind men and elephants: Providing total estimated annual costs improves health insurance decision-making. *Medical Care Research and Review*, 74(5), 625-635.
- Barnes, A. J., Hanoach, Y., and Rice, T. (2016b). Can plan recommendations improve the coverage decisions of vulnerable populations in health insurance marketplaces? E0151095. *PLOS One*, 11(3)
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage Publications.

- Bradley, E. H., Curry, L. A., and Devers, K. J. (2007). Qualitative data analysis for health services research: Developing taxonomy, themes, and theory. *Health Services Research*, 42(4), 1758-1772.
- Brooks, T. (2014). Open enrollment, take two. *Health Affairs*, 33(6), 927-930.
- Calhoun E.A., Whitley E.M., Esparza A. et al. (2010). A National Patient Navigator Training Program. *Health Promotion Practice*, 11(2), 205-215.
- Centers for Disease Control and Prevention. (2011) "Health Disparities in Health Insurance Coverage." Retrieved from <http://www.cdc.gov/minorityhealth/CHDIR/2011/FactSheets/Insurance.pdf>
- Centers for Disease Control and Prevention (2016). National Health Interview Survey Early Release Estimates. Retrieved from <https://www.cdc.gov/nchs/nhis/releases/released201611.htm>
- Centers for Disease Control and Prevention (2014). Social Determinants of Health. Retrieved from <https://www.cdc.gov/nchhstp/socialdeterminants/definitions.html>
- Center for Medicare and Medicaid Services. (2013). Navigator grant recipients. Retrieved from <https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/navigator-list-10-18-2013.pdf>
- Center for Medicare and Medicaid Services. (2015). Navigator grant recipients. Retrieved from <https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/Navigator-Grantee-Summaries-UPDATED-05-05-15.pdf>
- Center for Medicare and Medicaid Services. (2013). Patient protection and affordable care act; Exchange functions; Standards for navigators and non-navigator assistance personnel; Consumer assistance tools and programs of an exchange and certified application counselors. Final rule. Federal Register 78 (137) 42823-62.
- Chatterjee, S., and Nielsen, R. B. (2010). Health insurance participation: The role of cognitive ability and risk aversion. *Theoretical and Applied Economics*, 17(11), 103-112.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95-S120.
- Coleman, J. S. (1988). "Social capital" and schools. *The Education Digest*, 53(8), 6.
- Congressional Budget Office (CBO). (2005). The Price Sensitivity of Demand for Nongroup Health Insurance. Retrieved from <https://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/66xx/doc6620/08-24-healthinsurance.pdf>
- Conwell, L.J. (2002). "The Role of Health Insurance Brokers: Providing Small Employers with a Helping Hand." Issue Brief Center for Studying Health System Change, 19(22), 12.
- Cooke, P., and Wills, D. (1999). Small firms, social capital and the enhancement of business performance through innovation programmes. *Small Business Economics*, 13(3), 219-234.

- Coughlin, T. A., Holahan, J., Caswell, K., and McGrath, M. (2014). An estimated \$84.9 billion in uncompensated care was provided in 2013; ACA payment cuts could challenge providers. *Health Affairs (Project Hope)*, 33(5), 807-814.
- Cummins, J.D., and N.A. Doherty. (2006). "The Economics of Insurance Intermediaries." *Journal of Risk and Insurance*, 73(3): 359-396.
- Culter, D. M., and Reber, S. J. (1998). Paying for health insurance: The trade-off between competition and adverse selection. *The Quarterly Journal of Economics*, 113(2), 433-466.
- Davern, M., Quinn, B. C., Kenney, G. M., and Blewett, L. A. (2009). The American community survey and health insurance coverage estimates: Possibilities and challenges for health policy researchers. *Health Services Research*, 44(2 Pt 1), 593-605.
- Davis, K., Collins, K. S., Schoen, C., and Morris, C. (1995). Choice matters: Enrollees' views of their health plans. *Health Affairs*, 14(2), 99-112.
- Dorn, S. (2008) Uninsured and Dying Because of It: Updating the Institute of Medicine Analysis on the Impact of Uninsurance on Mortality. The Urban Institute. Retrieved from <https://www.urban.org/sites/default/files/publication/31386/411588-Uninsured-and-Dying-Because-of-It.PDF>
- Drukker, D. (2008) Analyzing spatial autoregressive models using Stata. Proceedings from the Summer North American Stat Users Group meeting. Retrieved from http://repec.org/snasug08/drukker_spatial.pdf
- Enard, K., and Ganelin, D. (2013). Reducing preventable emergency department utilization and costs by using community health workers as patient navigators. *Journal of Healthcare Management*, 58(6), 412-427.
- Enroll America. (2014) Illinois Announces Grantees for State Outreach and Education Effort. Retrieved from <https://www.enrollamerica.org/resources/week-in-review/september-30-2014-october-6-2014/>
- Enroll America. In-person assistance maximizes enrollment success. Washington (DC): Enroll America; 2014 Mar. Retrieved from www.enrollamerica.org/in-personassistance-maximizes-enrollmentsuccess/
- Erlyana, E., Acosta-Deprez, V., O'Lawrence, H., Sinay, T., Ramirez, J., Jacot, E. C., and Shim, K. (2015). health insurance information-seeking behaviors among internet users: An exploratory analysis to inform policies. *Journal of Health and Human Services Administration*, 38(1), 5-16.
- Frank, K. A., Zhao, Y., and Borman, K. (2004). Social capital and the diffusion of innovations within organizations: The case of computer technology in schools. *Sociology of Education*, 77(2), 148-171.
- Furtado, K. S., Kaphingst, K. A., Perkins, H., and Politi, M. C. (2016). Health insurance information-seeking behaviors among the uninsured. *Journal of Health Communication*, 21(2), 148.
- Garcia Mosqueira, A., Hua, L. M., and Sommers, B. D. (2015). Racial differences in awareness of the affordable care act and application assistance among low-income adults in three southern states. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, 52, 11.

- Gardner, D. (2013). ACA implementation: A vulnerable and misunderstood endeavor. *Nursing Economic, 31*(6), 307.
- Garnick, D.W., K. Swartz, and K.C. Skwara. (1998). Insurance Agents: Ignored Players in the Health Insurance Reforms. *Health Affairs 17*(3), 137-143.
- Glowacki, E. M., Centeio, E. E., Van Dongen, D. J., Carson, R. L., and Castelli, D. M. (2016). Health promotion efforts as predictors of physical activity in schools: An application of the diffusion of innovations model. *Journal of School Health, 86*(6), 399-406.
- Gonzalez, G. (2007). Too many choices equals paralysis; pension plan sponsors advised to match options and employee needs. *Business Insurance, 41*, 4.
- Graves, J. A., and Mishra, P. (2016). The evolving dynamics of employer-sponsored health insurance: Implications for workers, employers, and the affordable care act. *The Milbank Quarterly, 94*(4), 736.
- Greene, J. C., Caracelli, V. J., and Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(3), 255-274.
- Greene, M. R. (1963). Attitudes toward risk and a theory of insurance consumption. *Journal of Risk and Insurance (Pre-1986), 30*(2), 165.
- Grob, R., and Schlesinger, M. (2015). Educating, enrolling, and engaging: The state of marketplace consumer assistance under the affordable care act. *Health Affairs, 34*(12), 2052-2060.
- Grossman, M. (1972). On the concept of health capital and the demand for health. *Journal of Political Economy, 80*(2), 223-255.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology, 78*(6), 1360-1380.
- Gruber, J., and Poterba, J. (1994). Tax incentives and the decision to purchase health insurance: Evidence from the self-employed. *The Quarterly Journal of Economics, 109*(3), 701-733.
- Guest, G., MacQueen, K. M., and Namey, E. E. (2012). *Applied thematic analysis*. Los Angeles: Sage Publications.
- Hall, M.A. (2000). "The Role of Independent Agents in the Success of Health Insurance Market Reforms." *The Milbank Quarterly, 78* (1): 23-45.
- Hamel, L., Firth, J., Brodie, M., Jankiewicz, A., and Rousseau, D. (2014). Public opinion of the ACA at the end of the first open enrollment period. *JAMA, 311*(19), 1957-1957.
- Hamel L., Norton M., Levitt L., Claxton G., Cox C., Pollitz K., et al. (2016). Survey of non-group health insurance enrollees. Menlo Park (CA): Henry J. Kaiser Family Foundation. Retrieved from <http://kff.org/health-reform/report/survey-ofnon-group-health-insuranceenrollees/>
- Harris J.R., Hammerback K.R., Hannon P.A., et al. (2014). Group Purchasing of Workplace Health Promotion Services for Small Employers. *Journal of Occupational and Environmental Medicine. 56*:765-770.

Hay, J., and Ricardo-Campbell, R. (1986). Rand health insurance study. *The Lancet*, 328(8498), 106-106.

The Henry J. Kaiser Family Foundation (2013). Key Facts about the Uninsured Population. The Kaiser Commission on Medicaid and the Uninsured. Retrieved from <https://kaiserfamilyfoundation.files.wordpress.com/2013/09/8488-key-facts-about-the-uninsured-population.pdf>

The Henry J. Kaiser Family Foundation (2014). Assessing American's Familiarity with Health Insurance Terms and Concepts. Retrieved from <http://kff.org/health-reform/poll-finding/assessing-americans-familiarity-with-health-insurance-terms-and-concepts/>

The Henry J. Kaiser Family Foundation. (2017) State Decisions for Creating Health Insurance Marketplaces. Retrieved from <http://kff.org/health-reform/state-indicator/health-insurance-exchanges/>

Howard, D. (2009). Insurance literacy in the United States. *World Hospitals and Health Services : The Official Journal of the International Hospital Federation*, 45(3), 4-6.

Hu, J., Wang, F., Sun, J., Sorrentino, R., and Ebadollahi, S. (2012). A healthcare utilization analysis framework for hot spotting and contextual anomaly detection. *AMIA . Annual Symposium Proceedings / AMIA Symposium. AMIA Symposium, 2012*, 360.

Illinois Department of Healthcare and Family Services. "Funding Opportunity: Illinois In-Person Counselor (IPC) Grant Program." (2013). Retrieved from https://www.leadingageil.org/portals/0/pdf/weeksnews/2013/May13/HFS%20Illinois%20InPerson%20Counselor%20Grant%20Program_051313.pdf

Illinois General Assembly. (2013). Public Act 98-0524. Retrieved from <http://www.ilga.gov/legislation/BillStatus.asp?DocTypeID=SB&DocNum=1194&GAID=12&SessionID=85&LegID=71332>

Illinois Senate Bill 1555. (2011) "Health Benefits Exchange." Retrieved from <http://www.ilga.gov/legislation/fulltext.asp?DocName=&SessionId=84&GA=97&DocTypeId=SB&DocNum=1555&GAID=11&LegID=57442&SpecSess=&Session>

Institute of Medicine. (2002). Insuring Health: Care Without Coverage, Too Little Too Late. Retrieved from <https://www.nationalacademies.org/hmd/~media/Files/.../Uninsured2FINAL.pdf>

Institute of Medicine. (2003). Hidden Costs, Value Lost: Uninsurance in America. Retrieved from <https://www.nationalacademies.org/hmd/~media/.../2003/.../Uninsured5FINAL.pdf>

Institute of Medicine (US) Committee on the Consequences of Uninsurance. (2003). A Shared Destiny: Community Effects of Uninsurance. Washington (DC): National Academies Press (US); Geographic Differences in Uninsured Rates. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK221318/>

Institute of Medicine. (2004). Health Literacy: A Prescription to End Confusion. Washington, DC: National Academies Press. Retrieved from <https://www.nap.edu/read/10883/chapter/1#ii>

Internal Revenue Service. (2014). The premium tax credit. Retrieved from <http://www.irs.gov/Affordable-Care-Act/Individuals-and-Families/The-Premium-Tax-Credit>

Iyengar, S. S., and Lepper, M. R. (1999). Rethinking the value of choice: A cultural perspective on intrinsic motivation. *Journal of Personality and Social Psychology*, 76(3), 349-366.

Karaca-Mandic, P., Feldman, R., and Graven, P. (2016). The role of agents and brokers in the market for health insurance: Health insurance agents and brokers. *Journal of Risk and Insurance*, DOI: 10.1111/jori.12139.

Kelejian, H. H., and Prucha, I. R. (2010). Specification and estimation of spatial autoregressive models with autoregressive and heteroskedastic disturbances. *Journal of Econometrics*, 157(1), 53-67.

Kilduff, M., and Krackhardt, D. (2008). *Interpersonal networks in organizations: Cognition, personality, dynamics, and culture*. Cambridge; New York; Cambridge University Press.

Kim, J., Braun, B., and Williams, A. D. (2013). Understanding health insurance literacy: A literature review. *Family and Consumer Sciences Research Journal*, 42(1), 3-13.

Knowles, M.S. (1995). *Designs for Adult Learning: Practical Resources, Exercises, and Course Outlines from the Father of Adult Learning*. Alexandria, VA: American Society for Training and Development (ASTD).

Kongstvedt, P. R. (2016). *Health insurance and managed care: What they are and how they work* (Fourth ed.). Burlington, Massachusetts: Jones and Bartlett Learning.

Kreuter, M. W., McBride, T. D., Caburnay, C. A., Poor, T., Sanders, V. L., Thompson, et al. (2014). What can health communication science offer for ACA implementation? five evidence-informed strategies for expanding medicaid enrollment. *The Milbank Quarterly*, 92(1), 40-62.

Krishna, A., and Uphoff, N. (2002). 'Mapping and measuring social capital through assessment of collective action to conserve and develop watersheds in Rajasthan, India.' Pp. 85 – 88, 115 – 124 in *The Role of Social Capital in Development*, edited by Thierry Van Bastelaer. Melbourne: Cambridge University Press.

Kwon, L. (2015). Rural affordable care act outreach and enrollment: What we learned during the first marketplace open enrollment period: Rural affordable care act outreach and enrollment. *The Journal of Rural Health*, 31(1), 1-3.

Leana, C. and Pil, F. (2006). Social Capital and Organizational Performance: Evidence from Urban Public Schools. *Organization Science*. 353-366.

Lee, L., and Yu, J. (2010). Estimation of spatial panels. *Foundations and Trends in Econometrics*, 4(1-2), 1-164. Retrieved from <http://www.nowpublishers.com/article/Details/ECO-015>

Lee, W. (2015). Social capital as a source of business advantages for a woman entrepreneur in the context of small-size business. *Asian Social Science*, 11(12), 155-167.

- LeSage, J. P. (2014). What regional scientists need to know about spatial econometrics. *Review of Regional Studies*, 44(1), 13-32.
- Loewenstein, G., Friedman, J. Y., McGill, B., Ahmad, S., Linck, S., Sinkula, S., et al. (2013). Consumers' misunderstanding of health insurance. *Journal of Health Economics*, 32(5), 850-862.
- Lohr, K. N., Brook, R. H., Kamberg, C. J., Goldberg, G. A., Leibowitz, A., Keeseey, J., Newhouse, J. P. (1986). Use of medical care in the rand health insurance experiment: Diagnosis- and service-specific analyses in a randomized controlled trial. *Medical Care*, 24(9), S1-S87.
- Long, S., Kenney, G., Zuckerman, S., Goin, D., Wissoker, D., Blavin, F., et al. (2014). The health reform monitoring survey: Addressing data gaps to provide timely insights into the affordable care act. *Health Affairs*, 33(1), 161-167.
- Lopez Bernal, J., Cummins, S., and Gasparrini, A. (2016). Interrupted time series regression for the evaluation of public health interventions: A tutorial. *International Journal of Epidemiology*, dyw098.
- Loskutova, N., Tsai, A., Fisher, E., LaCruz, D., Cherrington, A., Harrington, T., et al. (2016). Patient navigators connecting patients to community resources to improve diabetes outcomes. *Journal of the American Board of Family Medicine*, 29(1), 78-U283.
- Marquis, M.S., and Long, S.H. (1995). "Worker Demand for Health Insurance in the Nongroup Market." *Journal of Health Economics*, vol. 14, no.1, pp. 47-63.
- Marquis, M.S. and Long, S.H. (2000). Who helps employers design their health insurance benefits? *Health affairs (Project Hope)*. 2000;19:133-138.
- McCarty, S. (2015). Frontline assisters prove federal navigator grants to be good public policy: Commentary. *Public Administration Review*, 75(6), 827-828.
- McManus, K. A., McGonigle, K. M., Engelhard, C. L., and Dillingham, R. (2016). PPACA and low-income people living with HIV: 2014 qualified health plan enrollment in a medicaid nonexpansion state. *Southern Medical Journal*, 109(6), 371-377.
- Medicare Payment Advisory Commission. (2012) Chart 6-22. Change in Medicare hospital inpatient costs per discharge and private payer payment-to-cost ratio, 1987-2010." p. 82.
- Miller, S. C., Frogner, B. K., Saganic, L. M., Cole, A. M., and Rosenblatt, R. (2016). Affordable care act impact on community health center staffing and enrollment: A cross-sectional study. *The Journal of Ambulatory Care Management*, 39(4), 299-307.
- Molina-Morales, F. X., and Martínez-Fernández, M. T. (2010). Social networks: Effects of social capital on firm innovation. *Journal of Small Business Management*, 48(2), 258-279.
- Morris, P.J. (2013). The Affordable Care Act. Introduction. *North Carolina Medical Journal*. 74:297.
- Morrisey, M. A. (2014). *Health insurance* (Second ed.). Chicago, Illinois: Health Administration Press.

- Mur J. and Angulo, A. (2005). A closer look at the Spatial Durbin Model. European Regional Science Association. Retrieved from <http://www-sre.wu.ac.at/ersa/ersaconfs/ersa05/papers/392.pdf>
- Nahapiet, J., and Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *The Academy of Management Review*, 23(2), 242-266.
- Natale-Pereira, A., Enard, K. R., Nevarez, L., and Jones, L. A. (2011). The role of patient navigators in eliminating health disparities. *Cancer*, 117(S15), 3541-3550.
- National Association of Health Underwriters. Value of Agents, Brokers and Consultants. http://www.nahu.org/legislative/Agent_Value/index.cfm. Accessed December 1, 2014.
- National Association of Insurance Commissioners. (2012). Health Insurance and Managed Care Committee. Marketing and consumer information white paper: Navigators, Agents and Brokers, Marketing and Summary of Benefits and Coverage. Retrieved from http://www.naic.org/documents/committees_b_related_wp_marketing_consumer_info.pdf
- National Association of Insurance Commissioners. State Insurance Regulation. History, purpose and structure. Retrieved from http://www.naic.org/documents/consumer_state_reg_brief.pdf
- Newton, M. F., Keirns, C. C., Cunningham, R., Hayward, R. A., and Stanley, R. (2008). Uninsured adults presenting to US emergency departments: Assumptions vs data. *JAMA*, 300(16), 1914-1924.
- Niu, X., Roche, L., Pawlish, K., and Henry, K. (2013). Cancer survival disparities by health insurance status. *Cancer Medicine*, 2(3), 403-411.
- Nyman, J. A. (2008). Health plan switching and attrition bias in the RAND health insurance experiment: Commentary. *Journal of Health Politics, Policy and Law*, 33(2), 309-317.
- Office of the Governor Pat Quinn. State of Illinois. (2013). Governor Quinn Announces 44 Community Organizations to Drive Affordable Care Act Outreach and Enrollment. Retrieved from <https://getcovered.illinois.gov/en/press-releases/Pages/governor-quinn-announces-44-community-organizations-to-drive-affordable-care-act-outreach-and-enrollment.aspx>
- Ottaviani, C., and Vandone, D. (2015). Decision-making under uncertainty and demand for health insurance: A multidisciplinary study. *Journal of Psychophysiology*, 29(2), 80-85.
- Outreville, J. F. (2014). Risk aversion, risk behavior, and demand for insurance: A survey. *Journal of Insurance Issues*, 37(2), 158-186.
- Paez, K. A., Mallery, C. J., Noel, H., Pugliese, C., McSorley, V. E., Lucado, J. L., and Ganachari, D. (2014). Development of the health insurance literacy measure (HILM): Conceptualizing and measuring consumer ability to choose and use private health insurance. *Journal of Health Communication*, 19(sup2), 225-239.
- Pan, J., Lei, X., and Liu, G. G. (2016). Health insurance and health status: Exploring the causal effect from a policy intervention: Health insurance and health status: Exploring the causal effect. *Health Economics*, 25(11), 1389-1402.

Patient Protection and Affordable Care Act, 42 U.S.C 18001 (2010).

Pauly, M. V. (1968). The economics of moral hazard: Comment. *The American Economic Review*, 58(3), 531-537.

Pauly, M. V., and Pagan, J. A. (2007). Spillovers and vulnerability: The case of community uninsurance. *Health Affairs*, 26(5), 1304-1314.

Pearson, K. (1901). On Lines and Planes of Closest Fit to Systems of Points in Space. *Philosophical Magazine*. 2 (11): 559–572.

Petrou, A., and Daskalopoulou, I. (2015). Social capital and small business competitiveness: Evidence from cross-section tourism data. *Journal of the Knowledge Economy*, 6(4), 946-967.

Phillips, M. M., Goodell, M., Raczynski, J. M. and Philyaw Perez, A. G. (2012), Creating and Using Index Scores in the Analysis of School Policy Implementation and Impact. *Journal of School Health*, 82: 253–261.

Politi, M. C., Kaphingst, K. A., Kreuter, M., Shacham, E., Lovell, M. C., and McBride, T. (2014). Knowledge of health insurance terminology and details among the uninsured. *Medical Care Research and Review*, 71(1), 85-98.

Politi, M. C., Kaphingst, K. A., Liu, J. E., Perkins, H., Furtado, K., Kreuter, M. W., et al. (2016). A randomized trial examining three strategies for supporting health insurance decisions among the uninsured. *Medical Decision-making : An International Journal of the Society for Medical Decision-making*, 36(7), 911.

Pollitz, K., Tolbert J., Ma R. (2015) 2015 Survey of Health Insurance Marketplace Assister Programs and Brokers. Menlo Park (CA): Henry J. Kaiser Family Foundation; Retrieved from <http://kff.org/health-reform/report/2015-survey-of-healthinsurance-marketplace-assisterprograms-and-brokers/>

Polsky, D., and Weiner, J. (2015) The Skinny on Narrow Networks in Health Insurance Marketplace Plans. Leonard Davis Institute of Health Economics. June 2015. Retrieved from <http://www.rwjf.org/en/library/research/2015/06/the-skinny-on-narrow-networks-in-health-insurance-marketplace-pl.html>

Quincy, L. (2012). What's Behind the Door: Consumer's Difficulties Selecting Health Plans. Washington, DC: Consumers Union. Retrieved from <http://www.consumersunion.org/wp-content/uploads/2013/04/Consumer-Difficulties-Selecting-Health-Plans-Jan-2012.pdf>. Accessed April 19, 2013.

Quinn, K., Schoen, C. and Buatti, L. (2000) On Their Own: Young Adults Living Without Health Insurance. The Commonwealth Fund. Retrieved from http://www.commonwealthfund.org/usr_doc/quinn_ya_391.pdf.

Rand Health. (2006). The Health Insurance Experiment – A classic RAND study speaks to the current health care reform debate. Retrieved from http://www.rand.org/pubs/research_briefs/RB9174.html

Rogers, E.M. (1995). *Diffusion of Innovations*. New York: Free Press.

Rosenberg, K. (2011). Patient navigators improve colorectal cancer screening rates. *The American Journal of Nursing*, 111(10), 15-15.

Rudd R, Anderson J, Oppenheimer S, Nath C. (2007). Health literacy: an update of public health and medical literature. In: Comings J, Garner B, Smith C, eds. *Review of Adult Learning and Literacy*. Vol 7. Mahwah, NJ: Lawrence Erlbaum Associates; 2007:174-204.

Sabik, L. M. (2012). The effect of community uninsurance rates on access to health care. *Health Services Research*, 47(3pt1), 897-918.

Schmidt, J. R., and Deichert, J. A. (1996). Predictions of county uninsured rates: Accuracy and stability. *Journal of Health Care for the Poor and Underserved*, 7(2), 94-111.

Schuller, T. (2012). More choice isn't always better. *Adults Learning*, 24(2), 32.

Schur C., and Feldman J. (2001). *Running in Place: How Job Characteristics, Immigrant Status, and Family Structure Keep Hispanics Uninsured*. New York: The Commonwealth Fund.

Scott, C., and Hofmeyer, A. (2007). Networks and social capital: a relational approach to primary healthcare reform. *Health Research Policy and Systems*, 5, 9.

Schwartz, B. (2005). The paradox of choice: why more is less. *Journal of Macromarketing*, 25(2), 103-105.

Schwartz, J., Hadler, N. M., Ariely, D., Huber, J. C., and Emerick, T. (2013). Choosing among employer-sponsored health plans: What drives employee choices? *Journal of Occupational and Environmental Medicine*, 55(3), 305-309.

Sinaiko, A. D., and Hirth, R. A. (2011). Consumers, health insurance and dominated choices. *Journal of Health Economics*, 30(2), 450-457.

Solon, O., Peabody, J. W., Woo, K., Quimbo, S. A., Florentino, J., and Shimkhada, R. (2009). An evaluation of the cost-effectiveness of policy navigators to improve access to care for the poor in the philippines. *Health Policy*, 92(1), 89-95.

Sommers, B., Maylone, B., Nguyen, K., Blendon, R., and Epstein, A. (2015). The impact of state policies on ACA applications and enrollment among low-income adults in Arkansas, Kentucky, and Texas. *Health Affairs*, 34(6), 1010-1018.

Stahl, C., Aborg, C., Toomingas, A., Parmasund, M., Kjellberg, K., Humanistisk-samhällsvetenskapliga vetenskapsområdet, . . . Institutionen för psykologi. (2015). The influence of social capital on employers' use of occupational health services: A qualitative study. *BMC Public Health*, 15(1), 1083.

Stata Press, "Stata spatial autoregressive models reference manual." Release 15. Retrieved from <https://www.stata.com/manuals/sp.pdf>

- Stewart, R. W., Hardcastle, V. G., and Zelinsky, A. (2014). Health disparities, social determinants of health, and health insurance: Social determinants of health. *World Medical and Health Policy*, 6(4), 483-492.
- Strombom, B. A., Buchmueller, T. C., and Feldstein, P. J. (2002). Switching costs, price sensitivity and health plan choice. *Journal of Health Economics*, 21(1), 89-116.
- Tashakkori, A., and Creswell, J. (2007). The new era of mixed methods. *Journal of Mixed Methods Research*, 1(1), 3-8.
- Tobler, W.R. (1970). A computer movie simulating urban growth in the Detroit region. *Economic Geography*, 46: 234-40.
- Tripp, H. L. (2015). The voyage of a navigator. *Politics and the Life Sciences*, 34(2), 91-104.
- Uebersax, John S. (1987). "Diversity of decision-making models and the measurement of interrater agreement" in *Psychological Bulletin*. Vol 101, pp. 140–146.
- United States Census Bureau. (2014) American Community Survey Subject Definitions. Retrieved from https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2014_ACSSubjectDefinitions.pdf
- United States Census Bureau, (2011). "Cartographic Boundary Shapefiles." Geography. Retrieved from https://www.census.gov/geo/maps-data/data/cbf/cbf_zcta.html
- United States Census Bureau, (2014). "Health Insurance Coverage Status. 2013 American Community Survey 1 Year Estimates." Retrieved from <https://www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes/2013/1-year.html>
- United States Census Bureau, (2015). "Health Insurance Coverage Status. 2014 American Community Survey 1 Year Estimates." Retrieved from <https://www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes/2014/1-year.html>
- United States Census Bureau, (2016). "Health Insurance Coverage Status. 2015 American Community Survey 1 Year Estimates." Retrieved from <https://www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes/2015/1-year.html>
- United States Department of Health and Human Services. (2013) "HHS Partners with Illinois on health insurance marketplace." Retrieved from <http://www.hhs.gov/news/press/2013pres/02/20130213a.html>
- United States Department of Health and Human Services. (2013). "Health Insurance Marketplace. Training Overview." Retrieved from <https://marketplace.cms.gov/technical-assistance-resources/training-materials/training.html>
- United States Department of Health and Human Services. Health Insurance Marketplace. (2013) Important marketplace deadlines. Retrieved from <https://www.healthcare.gov/marketplace-deadlines/2014/>

United States Department of Housing and Urban Development. (2013). HUD USPS County Crosswalk Files. Retrieved from https://www.huduser.gov/portal/datasets/usps_crosswalk.html

United States Department of Housing and Urban Development. (2013). HUD USPS Zip Code Crosswalk Files. Retrieved from https://www.huduser.gov/portal/datasets/usps_crosswalk.html

Uphoff, N. (1999). "Understanding social capital: Learning from the analysis and experience of participation." Pp. 215-253 in *Social Capital: A multifaceted perspective*, edited by Ismail Serageldin. Washington, DC: World Bank

Valente, T. W., and Fosados, R. (2006). Diffusion of innovations and network segmentation: The part played by people in promoting health. *Sexually Transmitted Diseases*, 33(7), S23-S31.

Vargas, R. (2016). How health navigators legitimize the affordable care act to the uninsured poor. *Social Science and Medicine*, 165, 263-270.

Veenstra, G. (2000). Social capital, SES and health: An individual-level analysis. *Social Science and Medicine*, 50(5), 619-629.

Veenstra, G. (2002). Social capital and health (plus wealth, income inequality and regional health governance). *Social Science and Medicine*, 54(6), 849-868.

Veenstra, G. (2005). Location, location, location: Contextual and compositional health effects of social capital in british columbia, canada. *Social Science and Medicine*, 60(9), 2059-2071.

Veenstra, G., Luginaah, I., Wakefield, S., Birch, S., Eyles, J., and Elliott, S. (2005). Who you know, where you live: Social capital, neighbourhood and health. *Social Science and Medicine*, 60(12), 2799-2818.

Westfall, J. M. (2014). Cold spotting. *Families, Systems and Health : The Journal of Collaborative Family Healthcare*, 32(1), 10-11.

Wilper, A. P., Woolhandler, S., Lasser, K. E., McCormick, D., Bor, D. H., and Himmelstein, D. U. (2009). Health insurance and mortality in US adults. *American Journal of Public Health*, 99(12), 2289-2295.

Wong, C., Nirenburg, G., Polsky, D., Town, R., and Baker, T. (2015). Insurance plan presentation and decision support on HealthCare.gov and state-based web sites created for the affordable care act. *Annals of Internal Medicine*, 163(4), 327-328.

Wyn, R., (2005). Women and Healthcare: A National Profile. Kaiser Family Foundation. Retrieved from <https://kaiserfamilyfoundation.files.wordpress.com/2013/01/women-and-health-care-a-national-profile-key-findings-from-the-kaiser-women-s-health-survey.pdf>

Yun, L., Boles, R., Haemer, M., Knierim, S., Dickinson, L., Mancinas, H., . . . Davidson, A. (2015). A randomized, home-based, childhood obesity intervention delivered by patient navigators. *BMC Public Health*, 15(1), 506.

APPENDICES

APPENDIX A

Illinois Navigator Demographic Survey

What is the name of your Organization or Employer?

How many years have you been working in this organization or for this employer?


Please describe the organization where you work:




If you chose "other" in the previous question, please describe the organization you work:

Sub-Question: Show when Other (please specify below) is selected.

Have you completed the Federal Navigator/Assister Training?

APPENDIX A (Continued)






 * If you have completed Federal Navigator/Assister Training, please specify the date of your training:   ▼




Sub-Question: Show when Yes is selected.

^




v

 * What is your age?   ▼

v


 * What is your gender?   ▼




v

 * What choice best describes your Race/Ethnicity? (check all that apply)   ▼

☐ Native American or Alaska Native
☐ Asian
☐ Black or African American
☐ Hispanic
☐ Pacific Islander or Hawaiian Native
☐ White
☐ Other (If Other, Please specify)

Ethnicity





















 * Please specify your Race/Ethnicity?   ▼

Sub-Question: Show when Other (If Other, Please specify) is selected.

^

APPENDIX A (Continued)

	<div> <div>  * What is your primary language (the language you speak at home)? Please specify one:    </div> <div> <input type="text"/>  </div> <div> Primary </div> </div>
	<div> <div>  * Please specify your primary language:    </div> <div> Sub-Question: Show when Other is selected. </div> <div> <input type="text"/> </div> </div>
	<div> <div>  * What other languages do you speak fluently? Please mark all that apply:    </div> <div> <div> <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Chinese Language <input type="checkbox"/> French <input type="checkbox"/> German <input type="checkbox"/> Philippine Language (Tagalog, Ikano, Other) <input type="checkbox"/> Vietnamese <input type="checkbox"/> Italian <input type="checkbox"/> Korean <input type="checkbox"/> Russian <input type="checkbox"/> Native American Language (Navajo, Dakota, Other) <input type="checkbox"/> None <input type="checkbox"/> Other (If other, please specify) </div> <div> Secondary </div> </div> </div>
	<div> <div>  * Please specify the other languages you speak fluently:    </div> <div> Sub-Question: Show when Other (If other, please specify) is selected. </div> <div> <input type="text"/> </div> </div>

APPENDIX A (Continued)

What languages do you anticipate using in your role as an assister? Please mark all that apply:

☐ English
☐ Spanish
☐ Chinese Language
☐ French
☐ German
☐ Philippine Language (Tagalog, Ikano, Other)
☐ Vietnamese
☐ Italian
☐ Korean
☐ Russian
☐ Native American Language (Navajo, Dakota, Other)
☐ Other (If other, please specify)
Language in Role

Please specify the languages you anticipate using in your role as an assister:


Sub-Question: Show when Other (If other, please specify) is selected.




What is your official Job Title?

☐ Lay Health Worker
☐ Promoter
☐ Community Health Worker
☐ Patient Navigator
☐ Advocate
☐ Navigator
☐ Marketplace Assister
☐ Social Worker
☐ Case Manager
☐ Benefits Counselor



APPENDIX A (continued)




☐ Case Manager
☐ Benefits Counselor
☐ Health Educator
☐ Other (If other, please specify)







• What is your job title:
 




Sub-Question: Show when Other (If other, please specify) is selected.







• How many years of professional experience do you have in your field?
 









• Will being an assister be your main or only duty?
 





















• If assisting is not your only duty, what other tasks do you complete on a daily basis? You may select more than one.
 



☐ Administrative tasks (coding, billing, patient intake)
☐ Providing medical care
☐ Providing nursing care
☐ Providing social work services
☐ Providing counseling/mental health services
☐ Research study related functions
☐ None
☐ Other (If other please specify)



• Please specify the other tasks you complete on a daily basis:
 



APPENDIX A (continued)

	<div><div>⋮</div><div>What is the highest grade or level of education you have completed?</div><div></div></div>
	<div><div></div></div>
	
	<div><div>⋮</div><div>If you have completed College/University (4 Year) degree program please specify your major:</div><div></div></div>
	<div>Sub-Question: Show when College/University Degree (4 Year), [Please specify major] is selected.</div>
	<div><div></div></div>
	<div><div>⋮</div><div>Please specify</div><div></div></div>
	<div>Sub-Question: Show when Some post graduate or professional school [Please specify] is selected.</div>
	<div><div></div></div>
	<div><div>⋮</div><div>Please specify:</div><div></div></div>
	<div>Sub-Question: Show when Post Graduate or professional school degree [Please specify] is selected.</div>
	<div><div></div></div>
	<div><div>⋮</div><div>Please specify:</div><div></div></div>
	<div>Sub-Question: Show when Other [Please specify] is selected.</div>

APPENDIX A (continued)

Please specify any licensure or credential that you maintain. Check all that apply:

☐ Emergency Medical Technician (EMT)
☐ LPN/LVN
☐ Certified Nurse Assistant (CNA)
☐ Registered Nurse (RN)
☐ Licensed Clinical Social Workers (LCSW)
☐ Licensed Insurance Producer
☐ Other (if other, please specify)

Please specify the licensure or credentials that you maintain:

Sub-Question: Show when Other (if other, please specify) is selected.

What kind of health insurance do you have?

Separator

If you chose "other" please specify the kind of health insurance you have:

Sub-Question: Show when Other (if other please specify) is selected.

APPENDIX B

Illinois Navigator Outreach Activity Survey

IL Health Insurance Marketplace In-Person Assister Program Follow UP

Start of Block: Default Question Block

Q1 Please enter your NPN Number:

Q2 Name:

APPENDIX B (continued)

Q3 Since completing your Assister training, which of the following outreach activities have you conducted? (Choose all that apply).

- ☐ Door to door (1)
- ☐ List serv (2)
- ☐ Mailings (13)
- ☐ Health fairs (4)
- ☐ Phone calls (5)
- ☐ One-on-one with community stakeholders (6)
- ☐ Out of office events (7)
- ☐ Educational presentations (9)
- ☐ Organization website/web presence (26)
- ☐ Social media campaigns (22)
- ☐ Visibility events (10)
- ☐ Other (11)
- ☐ None (12)

APPENDIX B (continued)

Q4 Which of the following social/new media tools have you utilized in your outreach efforts? (Select all that apply)

- ☐ Facebook (2)
 - ☐ Twitter (3)
 - ☐ LinkedIn (4)
 - ☐ Constant Contact (5)
 - ☐ YouTube (12)
 - ☐ Tumblr (13)
 - ☐ Text message campaigns (6)
 - ☐ Other (Please specify) (7) _____
 - ☐ None (8)
-

Q5 Have you identified any community stakeholders and met with them?

- ☐ Yes (2)
 - ☐ No (1)
 - ☐ N/A (4)
-

Display This Question:

If Have you identified any community stakeholders and met with them? = Yes

APPENDIX B (continued)

Q5a If yes, who have been the community stakeholders you have met with and are they willing to provide messages (e.g., voice, email, paper) to their constituents, handout materials, and/or hold events?

	Yes, have met with (1)	Yes, willing to provide messages (2)	Yes, willing to provide handouts (3)	Yes, willing to hold events (4)
Local political leaders (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schools (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Small business groups (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health care providers (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faith-based organizations (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community/social service organizations (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify) (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX B (continued)

Q6 Please provide an estimate of the number of individuals you have enrolled in Medicaid.

- ☐ 0 (1)
 - ☐ 1-9 (2)
 - ☐ 10-25 (3)
 - ☐ 26-50 (4)
 - ☐ 51-75 (5)
 - ☐ 76-100 (6)
 - ☐ 101-200 (7)
 - ☐ 201-300 (8)
 - ☐ 301+ (9)
-

APPENDIX B (continued)

Q7 Please provide an estimate of the number of individuals you have enrolled in the Marketplace.

- ☐ 0 (1)
- ☐ 1-9 (2)
- ☐ 10-25 (3)
- ☐ 26-50 (4)
- ☐ 51-75 (5)
- ☐ 76-100 (6)
- ☐ 101-200 (7)
- ☐ 201-300 (8)
- ☐ 301+ (9)

[illegible]

APPENDIX B (continued)

Hispanic/Latinos (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individuals with limited English speaking capabilities (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individuals/families with incomes qualifying them for Medicaid (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individuals/families with incomes qualifying them for premium tax credits and cost-sharing subsidies (incomes b/t 133-250% FPL) (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individuals/families with incomes qualifying them for premium tax credits only (incomes b/t 250 - 400% FPL) (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immigrants (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Justice Involved (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Healthy individuals (no chronic conditions) (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individuals with chronic conditions (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX B (continued)

Q9 What enrollment barriers have your clients encountered? (Select all that apply and elaborate in the space provided)

- ☐ Financial (2)
- ☐ Limited access to computers (3)
- ☐ Website difficulties (4)
- ☐ Confusion about Medicaid/Marketplace eligibility criteria (including likely eligibility for Marketplace premium tax credits/cost-sharing) (15)
- ☐ Difficulty collecting necessary paperwork (16)
- ☐ Concern about provider networks/own doctor being in available plans (17)
- ☐ Transportation (5)
- ☐ Language (6)
- ☐ Cultural/beliefs (7)
- ☐ Lack of social support/family issues (8)
- ☐ Psychological (9)
- ☐ Literacy (10)
- ☐ Distrust/fears (11)
- ☐ Citizenship (12)
- ☐ Other (please specify) (13) _____
- ☐ None (14)

APPENDIX B (continued)

Q10 Have you collaborated with other Navigators/IPCs?

☐ Yes (1)

☐ No (2)

Q11 Have you accessed the online resource repository that was discussed in training?
<http://illinoishealthmatters.org/resource-repository/>

☐ Yes (1)

☐ No (2)

Q12 Have you accessed the online HelpHub website?

☐ Yes (1)

☐ No (2)

APPENDIX B (continued)

Q13 Which of these have been beneficial forms of support? Check all that apply.

- ☐ General internet searching (1)
 - ☐ State Resource Center (2)
 - ☐ Continuing education (3)
 - ☐ Referring back to training materials (4)
 - ☐ Webinars (5)
 - ☐ The state Marketplace staff (6)
 - ☐ Co-workers (7)
 - ☐ HelpHub (8)
 - ☐ Resource Repository (9)
 - ☐ Other (Please Specify) (10) _____
 - ☐ None (11)
-

APPENDIX B (continued)

Q14 Assessing Future Training Needs

We want your feedback to help guide the choice of content for future continuing education efforts. Please indicate your opinion regarding how important it is to include the below topics in future continuing education/training initiatives for enrollment specialists (navigators, IPCs, CACs, etc.):

	Not Important (1)	Somewhat Important (2)	Very Important (3)
Marketplace: Knowledge about the specific details of the Marketplace plan options and policy related to tax credits and subsidies. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marketplace: Technical assistance on how to navigate www.healthcare.gov and the application process. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medicaid: Knowledge about Medicaid plans and policies (e.g. eligibility requirements, managed care, provider availability, etc.) (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medicaid: Technical knowledge on how to navigate ABE and the application process. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eligibility Information: Income-related issues (e.g. types of income counted, disregards, etc.) (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eligibility Information: Citizenship (e.g. identity verification process, documents needed, etc.) (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eligibility Information: Household/Tax Filing (e.g. clarification on tax filer application question, addressing "separation" status in married partners, etc.) (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX B (continued)

Linkage to Other Social Services: Educate assisters about and provide links to available social services resources. (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Special Populations: (e.g. Veterans, Justice Involved, LGBT) (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication & Interpersonal Skills: Active listening, problem solving, and motivational skills; ability to assess literacy of enrollees, ability to adapt educational materials to appropriate cultural and linguistic levels. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outreach Efforts: Assistance on how to interact with your targeted communities, how to get stakeholders on board, how to identify outreach locations, etc. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organizational Skills: Ability to set realistic goals and plans, juggle priorities and manage time, maintain records/logs/tracking system, and assure adherence to document protocols. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning from Peers: Meet with other assisters to share best practices and troubleshoot roadblocks. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX B (continued)

Q15 Are there other areas of future training you would like to see?

Q16 How long would you estimate the certification process took for you?

- ☐ 1 - 6 days (1)
- ☐ 7 - 14 days (2)
- ☐ 15 - 31 days (3)
- ☐ 32 - 62 days (4)
- ☐ 63 - 93 days (5)
- ☐ More than 93 days (6)
- ☐ I am not certified (7)

End of Block: Default Question Block

APPENDIX C

TABLE XLIV

ILLINOIS NAVIGATOR CODEBOOK Q10 AND Q18

Id	Parent Id	Depth	Title	Description
1	0	0	Nav Barriers	Key insight by Navigator into what barriers remain for enrollment into insurance coverage
2	1	1	Disparity - Age	Excerpt discusses age, young adults, their interest/disinterest
3	1	1	Disparity - Gender	Excerpt discusses gender, specifically related to the barrier of getting men to enroll
4	1	1	Disparity - Race/Ethnicity	Excerpt discusses variation by race/ethnicity in the enrollment process
5	1	1	Disparity - Income/Affordability	Excerpt discusses anything related to cost and affordability barriers, or the income disparity in enrollment
6	1	1	Disparity - Literacy	Excerpt discusses the challenges related to low health and/or health insurance literacy in enrollment
7	1	1	Structural	Navigator identifies a barrier that links to structural social capital, regarding network, access, resources
8	1	1	Relational	Navigator identifies a barrier that links to relational social capital, regarding trust, personal relationships, connectedness
9	1	1	Cognitive	Navigator identifies a barrier that links to information, context, language
10	0	0	Navigator Support	
11	10	10	Structural	Navigator identifies an area of support for their work that would increase their ability to use structural social capital
12	10	10	Relational	Navigator identifies an area of support for their work that would increase their ability to use relational social capital
13	10	10	Cognitive	Navigator identifies an area of support for their work that would increase their ability to use structural cognitive capital

APPENDIX D

WHRN Broker Interview Guide

Understanding the Role of Brokers and Agents in the Adoption of Wellness Programs by Small Employers

Interview Guide

My first questions ask about your position and clients.

1. When were you licensed as a broker?
2. Do you work for a company or on your own? [Don't ask for the name of the company]
 - a. If company :

What type of company do you work for?

 1. Suggested options include:
 - Self-Employed/Sole Proprietor
 - Small agency or brokerage (50 or fewer employees)
 - Large agency or brokerage
 - General Agent
 - Insurance carrier or Vendor

How long have you worked there?

Can you briefly describe your position?
 - b. If on their own: How long have you worked on your own?
3. What kinds of business clients do you typically work with?
 - a. How many employees per group?
 - b. Where are they located?
 - c. What types of industries?

My next questions ask about your services to businesses.

4. What types of products and services do you typically provide your business clients? Probe for each of these:
 - a. Health insurance?
 - b. Wellness?
 - c. Retirement?
 - d. Other? (ask to briefly list)
5. Are you familiar with employer wellness programs? These may also be called workplace or worksite wellness or health promotion programs.
 - a. If yes, how would you define these types of programs?
 - b. What do these programs typically include? [types of benefits]
6. Are wellness programs available to small and mid-sized employers in your service area?
 - a. If yes, how many programs or plans are available for businesses or employers to choose from?
 - b. Are these wellness programs typically bundled with health insurance plans or sold separately? How are wellness programs typically priced? [built into insurance premium or add-on]

APPENDIX D (continued)

7. Have you ever sold a wellness program or product to your employer clients?
 - a. If yes, was it bundled with other products or a stand-alone purchase?
8. Do you advise your clients about wellness programs?
 - a. If yes, would the programs be offered in conjunction with health plans?
 - b. Do you ever advise clients about wellness products they can purchase as stand-alone products?
9. Do you provide assistance to clients with implementing a wellness program at their worksite?
 - a. If yes, can you describe the nature of the assistance you provide?
10. Do you ever work with wellness program vendors separately from health insurers?
 - a. How often have you served as a link between wellness vendors and employers?
 - b. How would you charge for this service?

My next questions ask about your impressions of small and mid-sized business' interest in employee wellness.

11. For the small and mid-sized companies you work with, how interested are they in wellness programs?
12. Are certain types of companies more likely to be interested in wellness programs?
 - a. If yes, please describe.
13. What are the primary reasons that your small and mid-sized employer clients say they are interested in wellness?
14. Do you think that your small and mid-sized business clients are knowledgeable about wellness programs?
15. Have you seen any changes in employers' interest in wellness during the time you have worked as a broker/agent?
 - a. If yes, please describe. [May want to ask a specific time period – past 5 years, past 10 years, over your career, etc.]
 - b. What do you think are the reasons for these changes?
16. Have any of your employer clients purchased wellness products in the past 3 years?
 - a. If yes, what were the reasons they did so?
 - b. If no, what were the reasons they didn't?

My last set of questions asks about resources you currently use or may be interested in using in the future related to workplace wellness products

17. What resources do you currently use related to wellness programs?
 - a. May want to ask about specific sources of information, such as health insurers, wellness vendors, CDC, NAHU, etc.
18. Have you ever taken a continuing education course focused on wellness programs?
 - a. If yes, please describe.
19. What kinds of resources or information would be helpful to have in the future about wellness programs for your employer clients?
20. Do you have any additional information you would like to add about wellness programs and products that I haven't addressed today?

APPENDIX E**WHRN Broker Sample Population Characteristics PowerPoint Presentation**

WHRN Broker Interviews on Wellness Programs

Basic Demographic Information

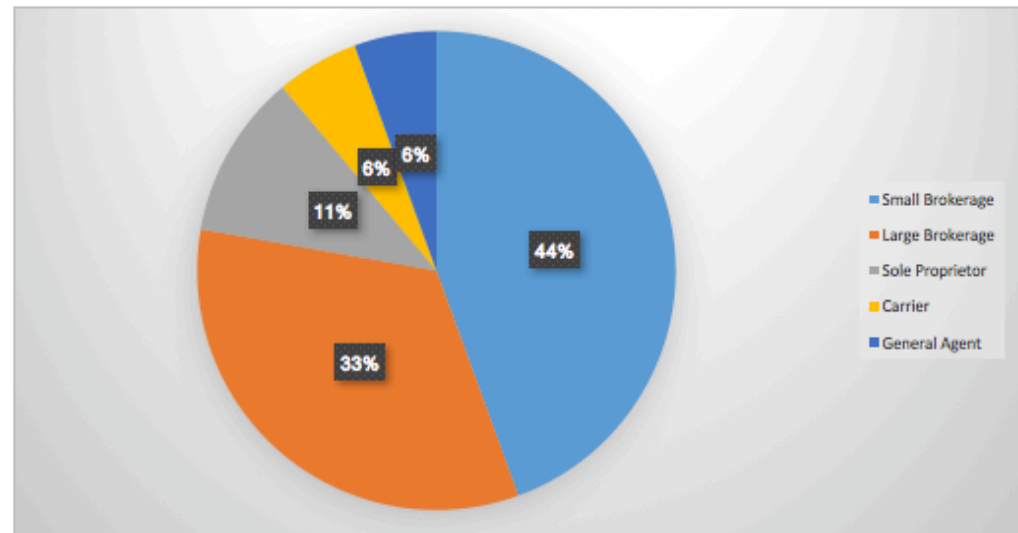
Prepared By: Michele Thornton, January 2017

Presented to Research Collaboration Team

APPENDIX E (continued)

Types of Employer n = 18

Small Brokerage	8
Large Brokerage	6
Sole Proprietor	2
Carrier	1
General Agent	1
Total	18

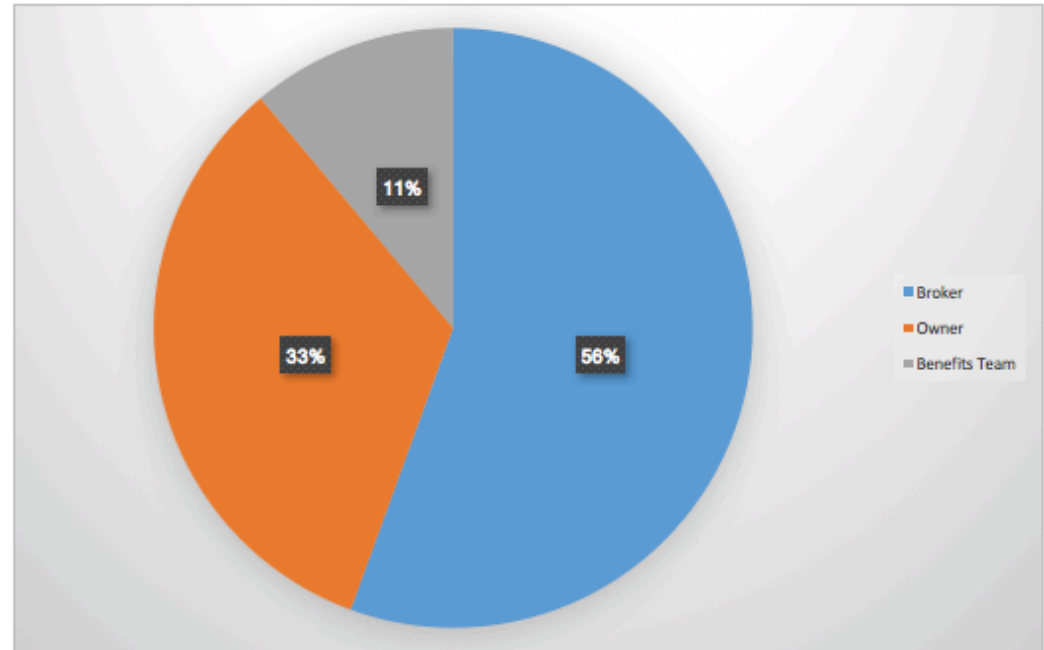


Thornton Presentation to WHRN Research Team – January 2017

APPENDIX E (continued)

Role at Organization n = 18

Broker	10
Owner	6
Benefits Team	2
Total	18



Thornton Presentation to WHRN Research Team – January 2017

APPENDIX E (continued)

Broker – Years
Experience

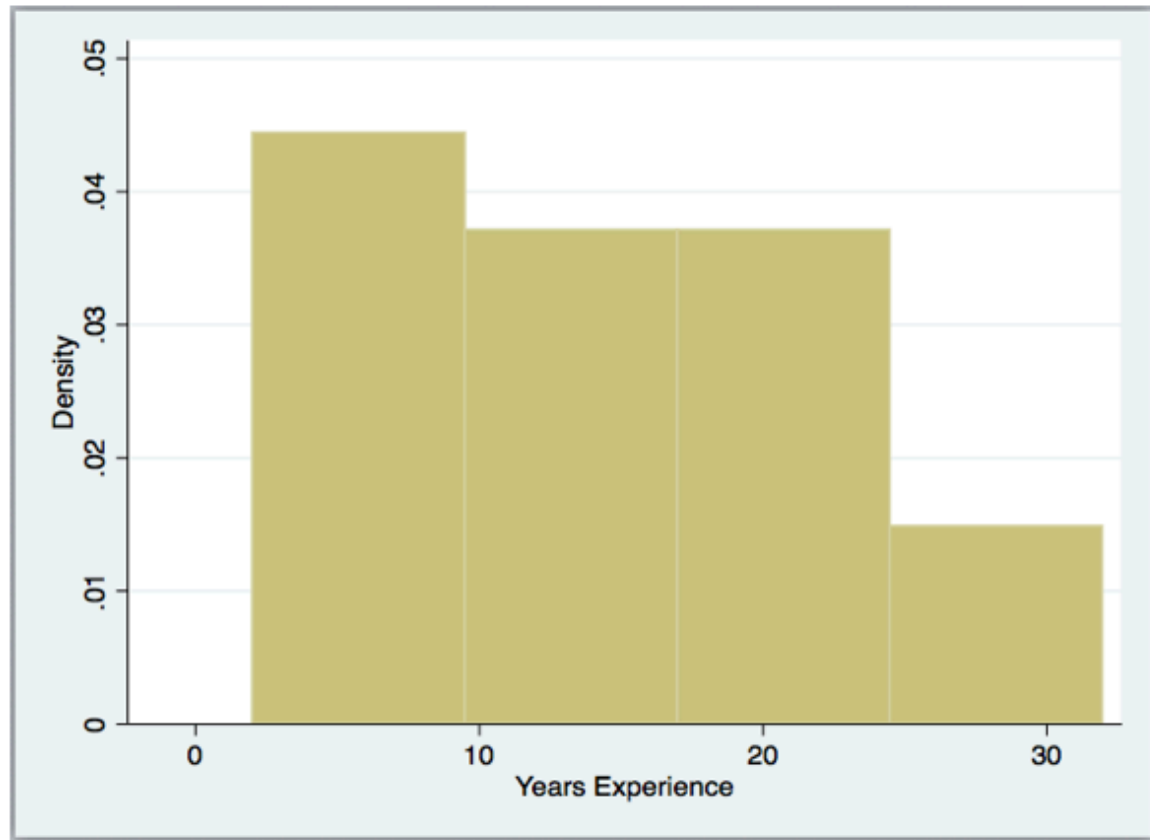
N = 18

Mean = 15

SD = 7.65

Min = 2

Max = 32

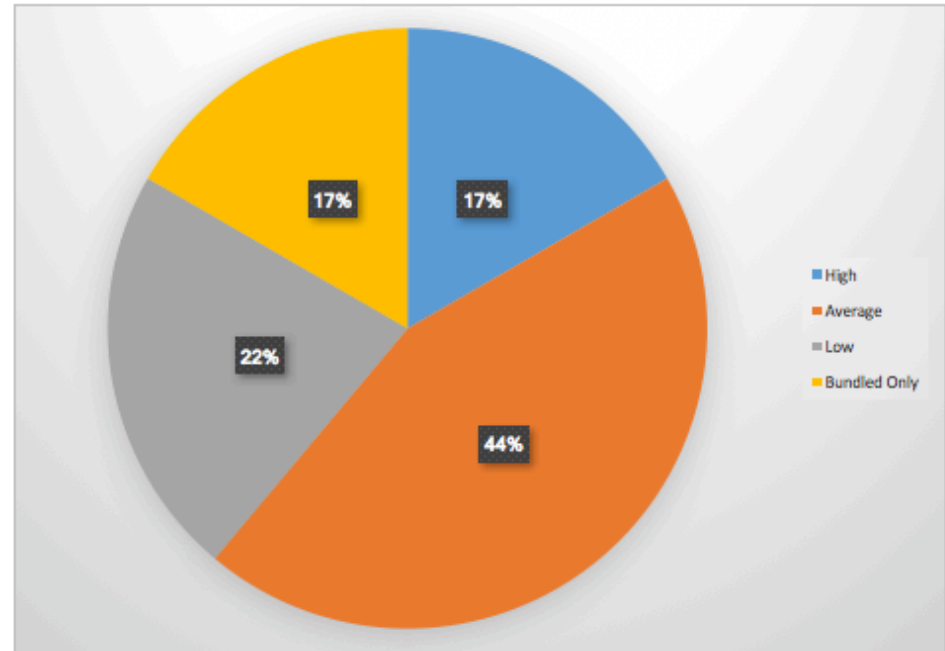


Thornton Presentation to WHRN Research Team – January 2017

APPENDIX E (continued)

Wellness Program Experience

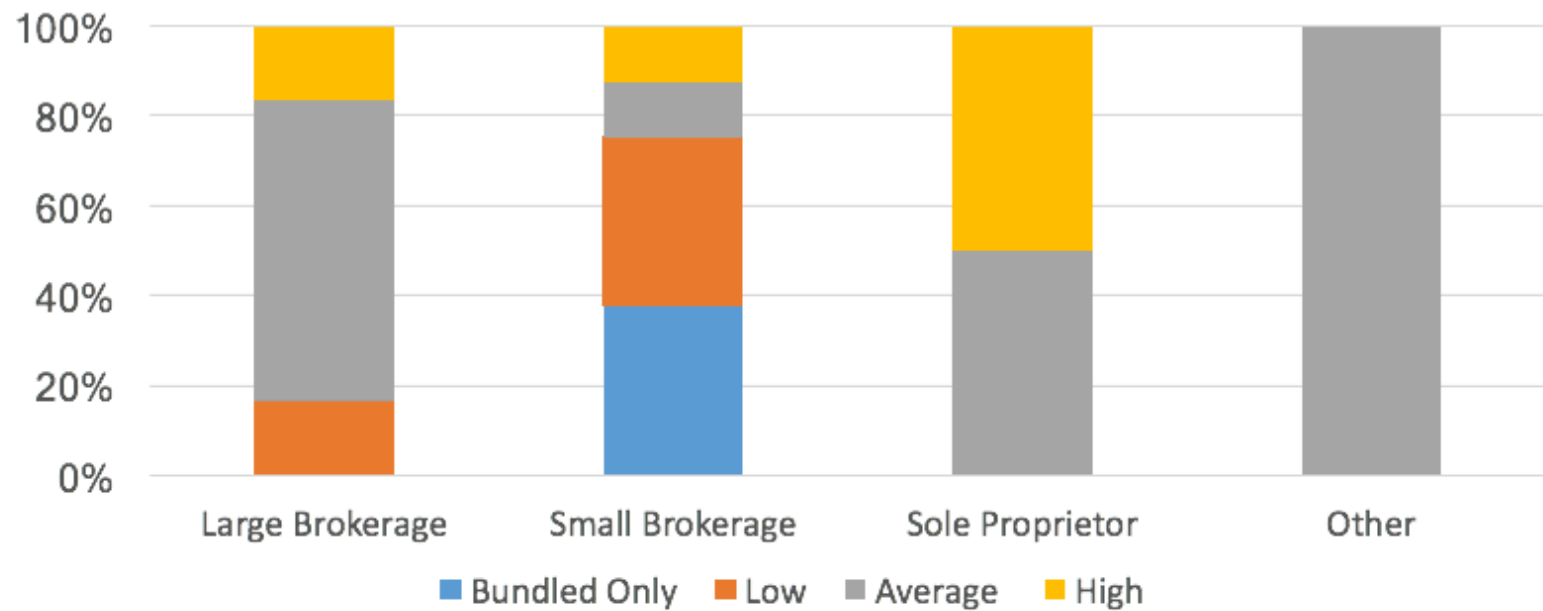
High	3
Average	8
Low	4
Bundled Only	3
Total	18



Thornton Presentation to WHRN Research Team – January 2017

APPENDIX E (continued)

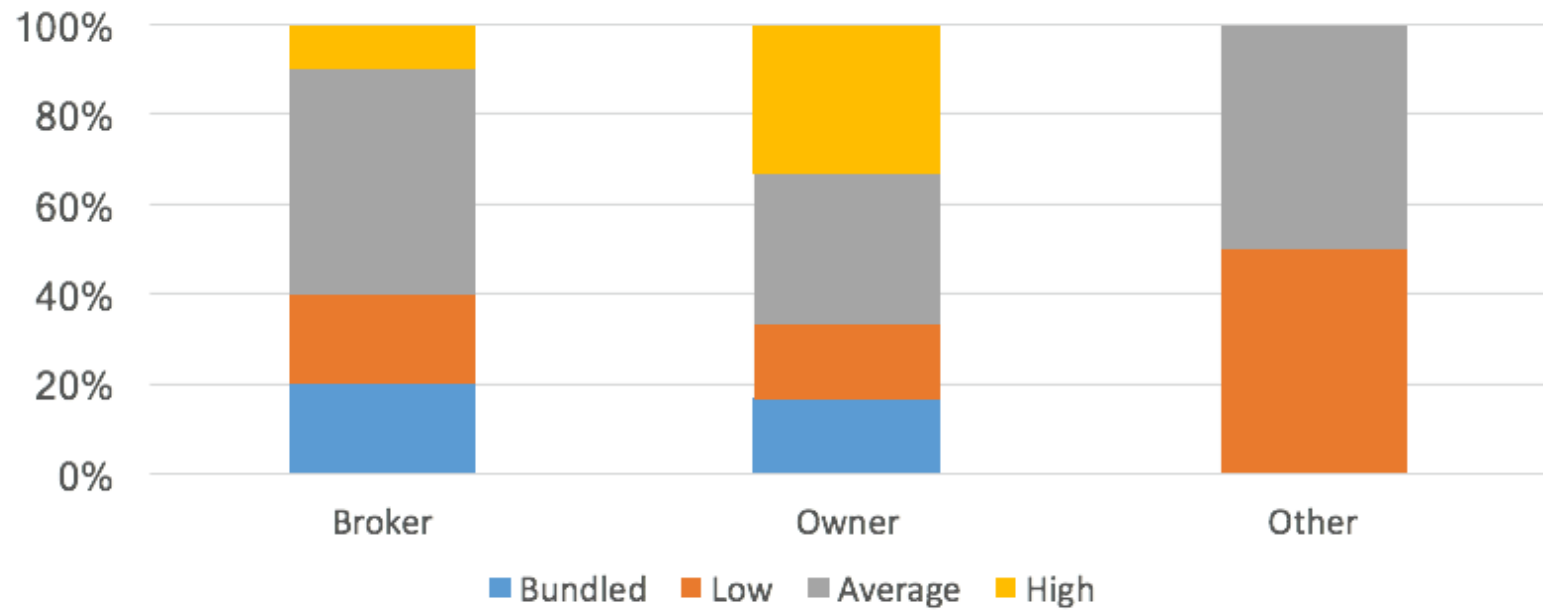
Wellness Program Experience (By Type of Employer)



Thornton Presentation to WHRN Research Team – January 2017

APPENDIX E (continued)

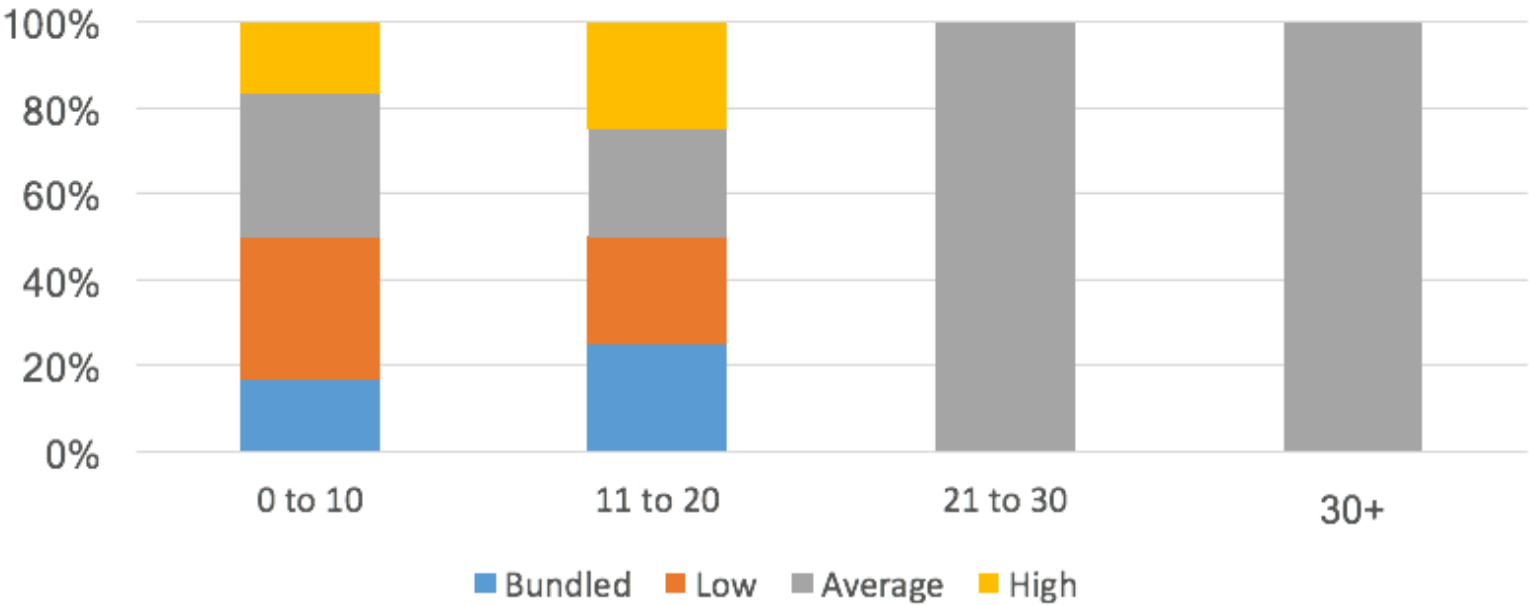
Wellness Program Experience, By Role



Thornton Presentation to WHRN Research Team – January 2017

APPENDIX E (continued)

Wellness Program Experience (By Years Exp)



Thornton Presentation to WHRN Research Team – January 2017

APPENDIX F

TABLE XLV

WHRN BROKER CODEBOOK

WHRN Broker Interviews - DeDoose Codebook - Thornton - March 17, 2017				
Id	Parent Id	Depth	Title	Description
1	0	0	Broker Knowledge/Familiarity	Broker's report of their own knowledge and/or familiarity with employer based wellness programs.
2	1	1	High	Broker states they have a lot of experience with wellness and has implemented wellness programs with more than one client
3	1	1	Moderate	Broker states having some familiarity with wellness programs, and reports some limited engagement with at least one employer regarding wellness
4	1	1	Low	Broker reports little/low familiarity with wellness programs.
5	0	0	Broker Typology	A description used to help understand the broker's overall approach to wellness - used when comments are made that provide insight to support this description.
6	5	1	Early Adopter	Broker appears to be very positive about wellness, has a long history of experience in the area, and is actively engaging clients in wellness.
7	5	1	Knowledge Seeker	Broker displays some interest, curiosity in wellness - may have begun "dipping their toe" in wellness offerings
8	5	1	Nay-sayer	Anti-wellness... doesn't believe they work, that employers are interested, or that there is much need/availability.
9	5	1	Wary & Cautious	Has some familiarity with wellness, but is unconvinced of their appeal/effectiveness. Isn't confident enough to recommend to clients.
10	0	0	Employer Interest	Broker's perception of employer interest in wellness

APPENDIX F (continued)

TABLE XLV (continued)

WHRN BROKER CODEBOOK

11	10	1	By Type	Categories of employers that have varying levels of interest in wellness
12	11	2	Employee Demographics	Employee characteristics that may make an employer more interested in wellness.
13	12	3	Younger workforce	
14	12	3	Unhealthy - need to adjust risk	
15	12	3	Highly educated/White Collar	
16	12	3	Full Time	
17	12	3	Very health conscious	
18	11	2	Employer Characteristics	Employer characteristics that may make an employer more interested in wellness.
19	18	3	Sophisticated	
20	18	3	Financially abundant	
21	18	3	Paternalistic	
22	18	3	Competing for talent	
23	18	3	Large	
24	18	3	Small	
25	11	2	Health Plan Characteristics	Health plan characteristics that may make an employer more interested in wellness.
26	25	3	Self-funded	
27	25	3	HDHPs/Consumer Driven	
28	10	1	Change in Interest	Descriptions of how employer interest in wellness has changed over time.
29	28	2	Rising	Employer interest is increasing over time
30	29	3	Accessibility	Interest is on the rise, because programs/information is easier to access.
31	29	3	Become more affordable	Interest is on the rise, because wellness programs have become less costly.

APPENDIX F (continued)

TABLE XLV (continued)

WHRN BROKER CODEBOOK

32	29	3	Society/employee demands	Interest is on the rise, because more employees are demanding it - there has been an overall societal switch towards greater demand for wellness.
33	29	3	Technological advancements	Interest is on the rise, because improvements in technology make it more appealing.
34	28	2	Waning	Employer interest in wellness is decreasing over time
35	34	3	ACA impact	Employer interest is declining, because the ACA has shifted focus elsewhere.
36	34	3	Concerns over effectiveness	Employer interest is declining, because employers are unsure if it even works/makes a difference.
37	34	3	Financial pressure	Employer interest is declining, because costs have risen so fast elsewhere in healthcare, the employer can't afford additional benefits.
38	34	3	Lack of employee engagement	Employer interest is declining, because they have tried it in the past and employees just didn't participate/engage/take advantage.
39	28	2	Fluctuates over time	for varying reasons - employer interest in wellness goes up and down
40	28	2	Steady	Broker reports seeing no change up or down in employer's interest in wellness.
41	10	1	Drivers	Employer beliefs/values that will motivate them towards a wellness program
42	41	2	Consistent with culture	Wellness is perceived as aligned with corporate environment, culture, goals
43	41	2	Financial stake/impact	Wellness is perceived to be a tool that can impact/reduce overall healthcare spending.
44	41	2	Leadership values it	The organizational leadership personally values wellness
45	10	1	Level	Amount of interest employers have regarding wellness programs.
46	45	2	Low	Broker reports a low level of interest by employers in wellness programs.
47	45	2	High	Broker reports employers show a high level of interest in wellness programs.
48	45	2	Medium	Broker reports employers show a moderate/medium level of interest in wellness programs.
49	45	2	Negative/Disinterest	Broker reports that employers show no/lack of/ or actual disinterest in wellness programs
50	0	0	Employer Knowledge	Characterizes the broker's perspective on the level of knowledge of their clients regarding wellness programs.

APPENDIX F (continued)

TABLE XLV (continued)

WHRN BROKER CODEBOOK

51	50	1	Low	Broker reports that his employer clients have little/low/no knowledge on employer wellness programs.
52	50	1	Moderate	Broker reports that his employer clients have some/moderate amount of knowledge on employer wellness programs.
53	50	1	Key Insight on Employer Knowledge	describes something more in depth about employer knowledge on wellness
54	50	1	High	Broker reports that employer clients have a large/high/significant amount of knowledge on wellness.
55	0	0	Broker Role in Wellness	Characterizes the way a broker sees their role - related to their clients - (or lack thereof) in employer wellness programs.
56	55	1	Active Coordination	Broker takes an active role in wellness beyond initiation/implementation
57	55	1	Educator	Broker should make clients aware of wellness options, educate them about the benefits.
58	55	1	Implementation	Broker helps get wellness programs started, procures vendors, but doesn't participate beyond that.
59	55	1	Someone else's role	Broker reports a separate team/individual that works on wellness, not a direct part of the broker role.
60	0	0	Broker Continuing Education	Codes that describe the experience of getting formal education/training/professional development specifically focused on wellness programs
61	60	1	None	Broker has not taken any continuing education related to wellness
62	60	1	Some	Broker reports having some amount continuing education related to wellness
63	60	1	Uncertain	Broker isn't certain if they have or have not taken any continuing education
64	60	1	Would be interested if available	Has not taken CE related to Wellness, but would if they saw something available.
65	60	1	Education Insight	Key understanding about wellness related continuing education for brokers.
66	0	0	Wellness Program Availability	Broker's characterization of how available wellness programs are in their market.
67	66	1	Stand Alone	
68	67	2	Narrowly Available	Broker may be aware of 1 stand alone wellness program

APPENDIX F (continued)

TABLE XLV (continued)

WHRN BROKER CODEBOOK

69	67	2	Widely Available	Broker has several examples of stand alone wellness plans available.
70	67	2	Moderately Available	Wellness programs sold as stand alone benefits are moderately available (broker knows of a few - 2 to 3).
71	66	1	Large Employers Only	Broker reports that wellness programs are only available for large employers
72	66	1	Small Employer	Broker reports available wellness programs for small employers.
73	66	1	Ad-Hoc (Employer created)	Employer creates wellness benefits internally/informally
74	66	1	Embedded in Health Plan	Broker reports that the only wellness available is what is embedded in health plans with no added costs
75	66	1	Health Plan Add on Services	Health plan offers additional services to policy holder for extra costs
76	0	0	Wellness Program Incentives	Codes that focus on the incentives related to wellness programs at all levels (broker, employer, employee)
77	76	1	Broker Incentive	Specific reason brokers give that motivate them to offer wellness programs to their clients.
78	77	2	Differentiator	Offering wellness sets brokers apart from their competition
79	77	2	Financial	Depending on whether or not the broker receives a commission on wellness impacts their choice to offer.
80	77	2	Value Add	Wellness programs bring added value for the broker in the client relationship.
81	76	1	Employee Incentive	Specific reason brokers give that motivate employees to participate in wellness programs.
82	76	1	Employer Motivation	Specific reason brokers give that motivate their clients to offer wellness programs to their employees
83	82	2	"Right thing to Do"	employer believe that offering wellness is the right thing to do for their employees
84	82	2	Culture of Health	Employer is trying to create culture change
85	82	2	Absenteeism	Wellness can reduce absenteeism
86	82	2	Employee Satisfaction	Wellness can increase employee satisfaction with job/benefits.
87	82	2	Engage/Motivate employees	Wellness can motivate employees broadly

APPENDIX F (continued)

TABLE XLV (continued)

WHRN BROKER CODEBOOK

88	82	2	Keep employees healthy	Wellness can improve health of employees
89	82	2	Loyalty	Wellness can create employee loyalty to organization
90	82	2	Productivity	Wellness can improve productivity
91	82	2	Reduce costs	Wellness can reduce health care costs
92	82	2	Self-funded plan - reduce risk	Wellness can reduce future risk of costs under a self-funded plan.
93	0	0	Wellness Program Objections	Stated reasons for not offering for wellness programs
94	93	1	Objections - Broker	Reasons why a broker would not offer wellness programs to employers.
95	94	2	Fragile relationship	Concerned about recommending anything unproven - that could upset the relationship between broker and client
96	94	2	Information Accurate?	Just not certain that the information about wellness is reliable. Conservative approach to giving advise/recommendations.
97	94	2	Only helps the people that already are healthy	Belief that wellness is not actual useful to improve health of an employee population.
98	93	1	Objections - Employer	Reasons why an employer would not offer wellness programs to employees
99	98	2	Competing interests	Employer has too many other things to think/worry about.
100	98	2	Evidence of ROI	Employer won't move with out evidence of a return on their investment.
101	98	2	Lack of Time	Wellness programs take time, and employers don't have it.
102	98	2	Not willing to pay for it	Employer will not dedicate funds to wellness.
103	98	2	Perceived lack of value	Value proposition in wellness is unclear.
104	98	2	Privacy concerns	Employer doesn't want to overstep - or be seen as invading employees health privacy.
105	0	0	A Great Quote	A stand out example of a direct quote we believe showcases the concept/idea/theme that we may want to use in a future write-up
106	0	0	Broker Place of Employment	Type of organization that the broker is employed by
107	106	1	Large Broker	

APPENDIX F (continued)

TABLE XLV (continued)

WHRN BROKER CODEBOOK

108	106	1	Small Broker or Sole Propreitor	
109	106	1	Other	
110	0	0	Broker Future Resources	Things that the broker would like to see, or believes would be beneficial in the future to assist them in promoting wellness programs.
111	110	1	Sources	Place that a broker reports getting information about wellness
112	111	2	NAHU Meetings and Seminars	
113	111	2	Insurance Carriers	
114	111	2	Wellness Vendors	
115	111	2	Colleagues	
116	111	2	Internal Wellness Team	
117	111	2	Healthcare providers/community	
118	111	2	Research	
119	110	1	Helpful in Future?	Specific types of wellness-related resources the broker believes would be beneficial in the future.
120	119	2	Not needed/Not interested	
121	119	2	Actual product information	
122	119	2	Useable research	
123	119	2	ROI/Data	
124	119	2	Case Studies	
125	119	2	Success Stories	
126	119	2	Small Group solutions	
127	119	2	High utilizer strategies	
128	0	0	Wellness Program Feature	Specific wellness program components the broker has observed or engaged in with their clients.

APPENDIX F (continued)

TABLE XLV (continued)

WHRN BROKER CODEBOOK

129	128	1	Biometric Screenings	
130	128	1	Counseling or Coaching	
131	128	1	Telemedicine	
132	128	1	Online Education Tools	
133	128	1	Wearables	
134	128	1	Giveaways	
135	128	1	Healthy food choices	
136	128	1	Smoking cessation	
137	128	1	Communication/Promotion	
138	128	1	Disease Management	
139	128	1	Nutrition	
140	128	1	Contests/Competitions	
141	128	1	Weight Loss	
142	128	1	Health Fairs	
143	128	1	Walks/5K	
144	128	1	Gym membership	

APPENDIX G

TABLE XLVI

WHRN BROKER SUPPLEMENTAL CODES

Id	Parent Id	Depth	Title	Description
1	0	0	Social Capital	Broker's perception of their role, excerpts which indicate how they leverage social capital in their work with employers
2	1	1	Structural	Broker reports connecting client to external network and resources
3	1	1	Relational	Broker reports activities directly linked to the personal relationship, trust, and close ties they have with clients
4	1	1	Cognitive	Broker reports sharing information, expertise, and guidance that the client would otherwise not have access to

APPENDIX H
IRB DETERMINATION

2017-0993 Page 1 of 2 September 18, 2017

UNIVERSITY OF ILLINOIS
AT CHICAGO

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

Determination Notice
Research Activity Does Not Involve “Human Subjects”

September 18, 2017 Michele

Thornton, MBA
Health Policy and Administration 1603
W Taylor St
Chicago
Phone: (708) 752-8282 / Fax: (708) 597-2945

RE: Research Protocol # 2017-0993
“The Role of External Support in Health Insurance Decision-making under the Affordable Care Act”

Sponsor(s): None

Dear Ms. Thornton:

The above proposal was reviewed on September 18, 2017 by OPRS staff/members of IRB #7. From the information you have provided, the proposal does not appear to involve “human subjects” as defined in 45 CFR 46.102(f).

The specific definition of human subject under 45 CFR 46.102(f) is:

Human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains

- (1) data through intervention or interaction with the individual, or
- (2) identifiable private information.

Intervention includes both physical procedures by which data are gathered (for example, venipuncture) and manipulations of the subject or the subject’s environment that are performed for research purposes. *Interaction* includes communication or interpersonal contact between investigator and subject. *Private information* includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.

All the documents associated with this proposal will be kept on file in the OPRS and an electronic copy of this

APPENDIX H (continued)

letter is being provided to your Department Head for the department's research files.

If you have any questions or need further help, please contact the OPRS office at (312) 996-1711 or me at (312) 355-2908.

Sincerely,

Charles W. Hoehne, B.S., C.I.P.
Assistant Director, IRB # 7
Office for the Protection of Research Subjects

cc: Lisa Powell, Health Policy and Administration, M/C 923

VITA

MICHELE THORNTON

EDUCATION

University of Illinois at Chicago Chicago, IL
PhD in Public Health, expected December 2017 (field: Health Policy & Administration)
 Committee: Lisa Powell(Chair), Elizabeth Calhoun, Jennifer Hebert-Beirne, Emily Stiehl, Lisa Brosseau

DePaul University Chicago, IL
MBA, Health Sector Management, Graduated with Distinction, 2010

Illinois Wesleyan University Bloomington, IL
Bachelor in Psychology, 2000

AWARDS & GRANTS

Research Grant to Study Post-ACA Health Needs of Chicago Small Businesses 2016
 Health & Disability Advocates - \$12,000

Viron L. Diefenbach Award for Excellence in Student Research 2016
 UIC Health Policy & Administration Division

Best Abstract – Translation & Dissemination Interest Group 2015
 Academy Health – Annual Research Meeting

Paul Q. Peterson Public Health Doctoral Scholar 2015
 UIC School of Public Health

Hamilton Research Scholarship in Health Policy 2015
 UIC School of Public Health

UIC Doctoral Student Research Award 2014
 UIC School of Public Health

EXPERIENCE

Assistant Professor
State University of New York – Oswego. School of Business, Health Services Administration 2017-Present
 Health Economics (MBA)
 Health Policy (MBA)
 Healthcare Leadership (MBA)
 Human Resources Management

Instructor
DePaul University – Kellstadt Graduate School of Business, School of Nursing, School of Public Health 2012-2017
 Health Economics
 Health Insurance and Employee Benefits

Concordia University – College of Graduate and Innovative Programs 2012-2015
 Introduction to the Healthcare System

DISSERTATION

The Role of External Support in Health Insurance Decision-Making Under the Affordable Care Act:

Health insurance decision-making in the United States is a challenging process plagued by complex eligibility guidelines, unfamiliar product choices, increasing financial burdens, and an ever-changing regulatory environment. The Affordable Care Act (ACA) attempted to increase access to healthcare, in part by alleviating some of the barriers to gaining health insurance coverage. However, complexities persist in health insurance decision-making and enrollment and as a result, many Americans remain uninsured. This study broadens this growing body of knowledge on the role and mechanisms by which both ACA Navigators and Health Insurance Brokers provide external decision-making support in health insurance enrollment and offerings.

WORKING PAPERS

M. Thornton, L. Leininger, E. Calhoun. Illinois navigator workforce: An analysis of training efficacy.

M. Thornton, E. Calhoun, L. Powell. The use of social media communication tools in grassroots Affordable Care Act (ACA) outreach campaigns.

RESEARCH IN PROGRESS

M Thornton. *Affordable Care Act (ACA) awareness and health insurance needs of small employers in Chicago*. Research funding through Health & Disability Advocates (HDA).

J Hebert-Beirne, J. Felner, M Thornton. *Using Community Health Worker Typologies to Describe the Nature of Community-Based Health Work to Sustain a Culture of Coverage*. Research funding through the Chicago Community Trust (CCT)

L Brousseau, J. Abraham, M. Thornton et.al. *Health insurance brokers perception on small employer wellness programs*. Research funding through the Centers for Disease Control (CDC).

M Thornton, M. Martin. *Effective case studies and critical pedagogical modules for educating future human resources professionals on health insurance and employee benefit design*.

RESEARCH APPOINTMENTS

Research Assistant to Elizabeth Calhoun, UIC Health Policy & Administration	2013-2016
Project: State of Illinois ACA Navigator and Marketplace Training	

Research Assistant to Jennifer Hebert-Beirne, UIC Community Health Sciences	2015-2016
Project: Community Based Participatory Research – Health Insurance Coverage to Care	

Research Assistant to Lisa Brousseau, UIC Environmental & Occupational Health	2015-2017
Project: The Role of Health Insurance Brokers in Promoting Worksite Wellness	

PROFESSIONAL EXPERIENCE

ThorntonPowell Insurance	2000-Present
Health Insurance & Employee Benefits Consultant, Human Resources Director	

The Children's Foundation	1998-1999
Residential Treatment Specialist, Certified Trainer	

CONFERENCE ACTIVITY

Papers Presented***ACA Health Insurance Navigators: Does face to face decision-support improve enrollment?***

- American Public Policy and Management. November 2017.

Illinois ACA Navigators Outreach in Minority Populations

- American Public Health Association. November 2015.
- Minority Health in the Midwest. April 2015.

ACA Navigators and the Use of Social Media in Outreach Campaigns

- Academy Health. June 2015
- American Public Health Association. November 2014.

Implementing Positive Change in Your Organization

- National Association of Health Underwriters. June 2014.

The Role of Navigators and Brokers in the ACA Health Benefit Exchange

- National Association of Insurance and Financial Advisors. June 2013.
- National Association of Health Underwriters. June 2013.
- Illinois State Governor's Health Reform Implementation Council. August 2013.

Panel Moderator***Using mHealth and Social Media for Health Behavior Change***

- American Public Health Association. November 2015.

Tune In, Turn On, Get Healthy? Media, Communication and Health

- American Public Health Association. November 2015.

Assessing strategies, programs, interventions to improve patient experience and outcomes.

- Health Economics Symposium – DePaul University. February 2015.

SERVICE TO PROFESSION

Health Policy & Administration Doctoral Student Research Group
 Founder & Board President

2014-Present

National Legislative Council
 National Association of Health Underwriters

2016-Present

Abstract Reviewer
 American Public Health Association

2015-2016