Reaching the Unreachable: Insuring the Remaining Uninsured in Massachusetts

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Reaching the Unreachable: Insuring the Remaining Uninsured in Massachusetts

SECIAH MICHELLE AQUINO ARGUETA

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Dissertation Advisor: Dean. Nancy Turnbull   Seciah Michelle Aquino Argueta

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Abstract

Massachusetts led the country with its 2006 health care reform initiative and, over the past twelve years, has made tremendous progress in insuring the uninsured. It has successfully reduced the percent of those without coverage to 2.5%, the lowest rate in the United States (Barnett & Berchick, 2017). Despite slight variations, the uninsurance rate has largely remained stagnant since 2008. Data from the DOR show that two-thirds of the uninsured have incomes below 150% of the FPL (MA DOR, 2007). At this level, the uninsured would be eligible for free health insurance through Medicaid or through state subsidies. Lack of coverage is seen at higher rates for people of color, particularly young Latinxs, and this gap has persisted over time even though Massachusetts has made dedicated efforts to close the racial and ethnic gap in coverage.

This DELTA project explored two formal approaches to increasing health insurance access to the remaining uninsured in Massachusetts: a creative marketing and outreach approach and a strict policy approach. The marketing approach focused on a deep assessment of the Archipelago campaign, a targeted marketing campaign undertaken by the Health Connector during the 2016–2017 OE period. The policy approach examined the potential for Massachusetts to strengthen its individual mandate by applying policies similar to those of the Netherlands and Switzerland, two countries that have nearly achieved universal coverage.

The impact of the Archipelago campaign was explored using a quasi-experimental design study with matched controls. In order to isolate the effect of the intervention, a Difference in

Difference analysis was run. The results show a statistically significant association between the Archipelago campaign and enrollment gains in target communities between 2016 and 2017. On average, 304 (95% CI: 143–465, p: 0.0004) new enrollees and 595 (95% CI: 416–774, $p < 0.0001$) total enrollees per target community, can be attributed to the Archipelago campaign.

This work furthers current health communication research by demonstrating the importance of intentionally targeting population type and using their preferred communication networks. Only a holistic approach -combining policy and outreach solutions- will address the diverse needs of communities across the state.

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Acknowledgements

By the grace of God, this dissertation marks the end of a three-year chapter in my life. But the journey began much earlier than that. Eighteen years ago, my parents sacrificed their families and careers to give my sisters and I a chance, not only at survival but a chance of achieving the American Dream. Their sacrifice and vision is epitomized in this doctoral dissertation. This journey was made possible by God who has so clearly guided every one of my steps and who has blessed me with guardian angels along the way. Today, I want to acknowledge and thank every one of you.

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Respectfully Yours,

Seciah Aquino
Boston, MA
April 20th 2018

DELTA Doctoral Project
Reaching the Unreachable: Insuring the Remaining Uninsured in Massachusetts

Section 1

The Problem and Project

Massachusetts led the country with its 2006 health care reform initiative and, over the past

twelve years, has made tremendous progress in insuring the uninsured. It has successfully

reduced the percent of those without coverage to 2.5%, the lowest rate in the United States

(Barnett & Berchick, 2017). Despite slight variations, the uninsurance rate has largely remained

stagnant since 2008. Data from the Department of Revenue show that two-thirds of the uninsured

have incomes below 150% of the federal poverty level (MA DOR, 2007). At this level, the

uninsured would be eligible for free health insurance through Medicaid or through state subsidies

(ConnectorCare). Lack of coverage is seen at higher rates for people of color, particularly young

Latinx people, and this gap has persisted over time even though Massachusetts has made

dedicated efforts to close the racial and ethnic gap in coverage. Latinx here is used as a gender-

neutral term to describe Latin American cultural or racial identity, and lieu of the more

commonly utilized Hispanic/Latino terminology. The state has also experienced higher rates of

uninsurance in certain geographic areas; for non-elderly adults (aged 19–64) the uninsurance rate

was at or above 10% in 171 neighborhoods across 13 counties: Barnstable, Berkshire, Bristol,

Dukes, Essex, Franklin, Hampden, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and

Worcester (Skopec & Bart, 2017). These communities of interest vary greatly in population size,

which can make it difficult to understand uninsurance issues across the state. For example,

Nantucket County had the second highest uninsurance rate in the state (7.5%) but actually had

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the lowest number of uninsured residents (789) averaged over the 2011–2015 period. While Middlesex County, a community with one of the lowest uninsurance rates in Massachusetts (3.3%) actually had the highest number of uninsured residents (50,500) averaged over the 2011–2015 period. The level of analysis is also extremely important to keep in mind. At a county level, Suffolk, Dukes, and Nantucket stand out as counties with the highest level of uninsurance. A census tract analysis, however, unmasks high pockets of uninsurance spread out across the state; many of these areas are focused around urban centers and include: the greater Boston area, Lowell, Worcester, and Springfield (Skopec & Bart, 2017). Therefore, in order to prioritize areas with higher need, it is extremely important to understand each community and how to best address their needs.

Reaching a stable and low rate of uninsurance has been a tremendous achievement amid political and financial turmoil. Massachusetts has overcome various difficulties, such as the state budget problems after the 2008 national recession, the adverse publicity against the Affordable Care Act (ACA), the state's unsuccessful launch of its first ACA-compliant website (2013), and the intensified assault against the ACA since the 2016 election including negative political rhetoric and the elimination of the cost sharing reduction subsidies (CSRs). It is also a challenge to make sure people maintain their coverage, even when they are eligible.

Churn—the process of transitioning between different types of insurance coverage and/or no coverage—proves a mighty enemy of coverage. Over time, many in the insured population move between eligibility categories for Medicaid, subsidized coverage, and unsubsidized coverage. In Massachusetts, approximately 31% of all monthly additions to the state-based health insurance marketplace (MA Health Connector, 2017) are people moving over from MassHealth (which consists of Medicaid and the Children's Health Insurance Program (CHIP). On average, 3,900

members per month move from MassHealth to Health Connector coverage, while 2,750 members move in the other direction (MA Health Connector, 2018). This instability of moving between eligibility categories, in addition to the administrative barriers of the renewal processes, places a burden on the insured and puts them at risk of losing coverage.

The question remains: Can Massachusetts make more progress to further reduce the uninsured rate? This DELTA project explores two aspects of this question, one from a marketing and outreach perspective and the other from a policy perspective. The first part of the project (Section 6) assesses the results of a targeted outreach and marketing campaign undertaken by the Health Connector during the 2016–2017 open enrollment period. The campaign focused on increasing coverage among minority groups and within geographic areas that exhibited high rates of uninsurance, including Latinx and Asian communities across the greater Boston area. This project will be referred to as the Archipelago project, after the name of the marketing firm that was hired by the Connector to run this campaign.

The second part of the project (Section 7) examines the potential for Massachusetts to strengthen its individual mandate as a policy approach to increasing coverage. I analyze the individual mandate in two other countries—the Netherlands and Switzerland. These countries have achieved nearly universal coverage and exhibit success through their more stringent individual mandates. I examine how the individual mandate in these countries is structured and enforced (e.g., penalties and incentives) in order to find potential areas of improvement for Massachusetts. The goal is to determine whether there are policy lessons that can be instructive for Massachusetts to make more progress towards achieving universal coverage. This part of the project has become more timely with the recent decision by the federal government to no longer enforce the individual mandate. Federal irresponsibility has left Massachusetts as the only state,

once again, with an individual mandate and the responsibility to continue to lead the country. The level of stability that Massachusetts has achieved perfectly positions it for innovation; the Commonwealth, free from any conflicts between the state and federal mandates, can now consider revisions to the mandate in order to improve its effectiveness. While any change to the mandate would require legislative action from State leadership, the changes might come at an opportune time to create positive results.

Section 2

Host Organization

The Massachusetts Health Connector is the state-based health insurance marketplace in Massachusetts. It was created by the 2006 health care reform law as an independent state agency with the responsibility to provide health insurance to residents of Massachusetts and to support policy approaches that expand coverage. Its mission is "to improve access to high quality health care and to transform the health care system by serving as the leading edge marketplace for Massachusetts residents and small businesses to come together and easily find and enroll in affordable health insurance" (MA Health Connector, 2017).

The Health Connector offers health insurance through three different programs:

- ConnectorCare: a subsidized coverage program
- Commonwealth Choice: an insurance program for uninsured adults who do not qualify for subsidies
- Small group plans

All programs are available via the Connector's website, which differentiates plans by providing detailed comparisons of benefits, costs, deductibles, and consumer-reported quality ratings.

The Connector has a unique purchasing role as part of its mandate. It qualifies and approves health plans to be offered to individuals through its "Seal of Approval" process. This annual procurement process approves plans based on the actuarial value of a federal and state standardized set of benefits. The Connector negotiates lower premium bids and rejects those plans that do not meet the standards. Through this process, the Connector has the opportunity to

manage affordability and, with the aid of the Massachusetts' Division of Insurance, plays a powerful role in monitoring premium variation for the state (MA Health Connector, 2013).

The Health Connector is governed by a board of directors and is led by its executive director, Louis Gutierrez. The organization's goals include: provide a marketplace that is accessible and easy to use and which beneficiaries can use to understand their options as well as enroll in and maintain affordable coverage; improve the health insurance market by increasing competition; and execute regulatory responsibilities with excellence (MA Health Connector, 2013).

I was hired as a doctoral fellow and worked under the leadership of Audrey Gasteier, the Connector's Chief of Policy and Strategy, and under the direct supervision of Marissa Woltmann, Director of Policy and Applied Research. Marissa and I met once a week to discuss project progress and strategy. In addition, I had the privilege of working closely with other members of the Health Connector team: Tamara Pitts, Director of Reporting, discussed with me data availability, feasibility, and analysis; Jason Lefferts, Director of Communications, discussed with me outreach and communication strategy. The expertise and professionalism displayed by the Health Connector team played a key role in the support and implementation of my project.

Section 3

Public Health Context for the Project: Why Is health Insurance Important?

Health insurance addresses the need for protection against unexpected and unaffordable health crises. It is a cultural and societal standard commonly accepted among high-income countries across the world; the United States is the only developed nation without a universal health care system. In the United States, 27.6 million non-elderly adults (aged 19–64) are without coverage (KFF, 2017). While this uninsurance rate is still quite high, the Affordable Care Act was able to decrease the number of uninsured people from 44 million in 2013 to 27.6 million in 2016, a 37.3% decrease. Most of these remaining uninsured people are non-elderly adults and belong to working families with low incomes (KFF, 2017). In 2016, 75% of uninsured families had a least one family member working full-time, and an additional 11% had at least one family member working part-time. Unfortunately, many of these families have lower incomes: in 2016, 8 out of 10 families who were uninsured had incomes under 400% of the federal poverty level (Rudowitz et al., 2016). These uninsured families are more likely to face health disparities exacerbated by structural and social conditions in which people are born, grow, live, and work.

The uninsured have commonly been identified as disenfranchised groups that tend to face higher levels of economic barriers (Rudowitz et al., 2016). Across the country, Latinx, Black, and Asian communities, and those living inside the principal city in metropolitan areas face disproportionate rates of uninsurance. While 44% of the uninsured are non-Hispanic Whites, people of color make up over half of the total uninsured population. Nationally, the Latinx community faces a 16.9% uninsurance rate, the African American community an 11.7%

uninsurance rate, and the Asian community a 7.6% uninsurance rate (KFF, 2017). This disparity has been reduced through the sustained efforts of the Affordable Care Act; in 2014 there were larger coverage gains for people of color than for Whites. Geographically, individuals living in the South and the West are more likely to be uninsured. In 2016, eight of the twelve states with the highest uninsurance rates were in the South. Among the 33 states that expanded Medicaid to low-income families, in 2016, Alaska had the highest rate of uninsurance (15.2%), followed by Arizona (14.0%) and New Mexico (13.0%) (KFF, 2017). And among the non-expansion states, the ones with the highest rates of uninsurance are all in the South: Texas has the highest (17.1%), followed by Florida (14.6%) and Georgia (13.7%). This variation highlights state diversity in economic conditions, Medicaid expansion, and demographics. In addition, the vast majority of the uninsured (78%) are US citizens (KFF, 2017).

Having health insurance can increase consistent access to health care services (Sommers, 2017). Numerous studies show that the insured receive more regular preventive care and primary care and have better health outcomes (Wallace, 2016). The uninsured, thus, suffer an increased risk for both unexpected out-of-pocket expenditures and poor health due to their lack of access to preventive care. In 2016, one in five uninsured adults did not receive necessary medical services due to the cost of services (McWilliams, 2009). As a result, many uninsured people postpone or forego care, while facing severe consequences of preventable or chronic conditions. In many ways, insurance carries the power to dictate where and when an individual will receive care. When the uninsured do receive healthcare, they face problems paying for their medical bills (because they lack savings), and this can quickly transform into medical debt. In 2016, the uninsured were twice as likely to experience problems paying for care than their insured

counterparts (Kirby & Kaneda, 2010). This inhibits patients from successfully completing follow-up treatment or buying necessary prescription drugs.

Another layer of limited access is the lack of a known venue for care. Nearly half (49%) of the uninsured do not have a regular, trusted doctor to visit (Garfield, 2014). Because of this lack of regular outpatient care, when the uninsured are hospitalized for likely preventable causes, they receive fewer therapeutic and diagnostic services. This lack of holistic care results in higher mortality rates among the uninsured (Clarke et al., 2017). Much of the financial cost is borne by safety net hospitals, which continually struggle to provide care when faced with limited resources, limited service capacity, and lack of complete financial stability (Hoehn et al., 2016). Safety net providers are the saving grace of the uninsured. Research demonstrates that a positive change in insurance status considerably reduces these adverse effects. A review of research that focuses on Medicaid expansion under the ACA found that the expansion led to increased access, use, and affordability of medical care, in addition to improving financial stability for low-income communities (Antonisse et al., 2018).

Section 4

Massachusetts: History, Structure of Law, and Results

History of Health Insurance in the United States

The health insurance journey in the United States has evolved over time and has in more recent

years been colloquially recognized as a movement towards a reform (KFF, 2016). The US health

care reform battle has extended over 84 years. It began in the early twentieth century with

President Theodore Roosevelt and his proposal for universal health coverage. Franklin D.

Roosevelt followed with his New Deal efforts, and the journey continued to be shaped through

the efforts of every subsequent president (Palmer, 1999). With the 1965 implementation of

Medicare (a federal program that provides health care coverage for those aged 65 and older and

those who are disabled) and Medicaid (a federal program that is administered by each state and

provides health care coverage for those with low incomes). President Lyndon Johnson managed

to enact historic changes that radically redefined health care in the United States (Morone, 2010).

Any and all attempts at change received pushback from a variety of opposing forces—from the

AMA to media and politicized interest groups. Forty-five years after the passage of Medicare

and Medicaid, the Obama administration led to the enactment of the Patient Protection and

Affordable Care Act, the biggest health insurance expansion since 1965.

The Affordable Care Act radically improved the status quo by making health coverage more

accessible and affordable: provided protection against discrimination from pre-existing

conditions; provided federal funding for state Medicaid expansions; created centralized insurance

marketplaces; and mandated that health insurance plans include certain "essential health

benefits." This powerful piece of legislation increased insurance coverage to over 20 million

Americans (ObamaCare, 2017). The national rate of uninsurance continued to decline from 13%

for non-elderly adults in 2013 to 9.1% in 2015 (KFF, 2015). Unfortunately, the country has

begun to see a reversal in the level of uninsurance. According to Gallup, the uninsurance rate for

adults rose to 10.9% in 2016 and continued to rise in 2017 to 12.2% (Auter, 2017). Current

political leadership is actively looking to dismantle the Affordable Care Act.

Massachusetts Health Care Reform

One of the main players in the policy and political process that led to the design of the

Affordable Care Act was the state of Massachusetts. Massachusetts exhibited great leadership in

taking the initiative to use its reserved state powers to demonstrate that health care reform was

achievable. The 2006 Massachusetts health care reform was a successful "trial run" that then led

to the policy design of a national effort through the Affordable Care Act. It demonstrated that

bipartisan efforts can bring change to improve health insurance coverage.

The Massachusetts health care reform law, Chapter 58 of the Acts of 2006: An Act

Providing Access to Affordable, Quality, Accountable Health Care, expanded coverage through

several major approaches.

The Act:

- mandated that Massachusetts residents obtain a minimum level of insurance coverage, if
  they had affordable coverage available;
- provided free health insurance for residents earning less than 150% of the federal poverty
  level (either through Medicaid or a new state program);
- provided subsidized health insurance for those with income up to 300% of the federal
  poverty level;

- enacted a number of regulatory changes to the private health insurance market designed

  to make coverage more accessible and affordable, including, allowing individuals up to

  the age of 26 continued eligibility through a parent's health insurance;

- created a new state-run health insurance marketplace, the Health Connector, to make it

  easier for individuals and small employers to shop for coverage; and

- required employers with more than 10 full-time employees to provide employer-

  sponsored insurance or to pay an assessment (BCBS, 2006).

The law led to a rapid fall in the rate of uninsurance, from 10.3% of adults (aged 19–64) in

2006 to 4.1% by 2009 (KFF, 2015). The success of the law in Massachusetts was a major policy

and political influence in the enactment of the ACA in 2010. However, from 2009–2013, the rate

of uninsurance in Massachusetts remained largely unchanged between 4% and 5%. Although this

rate consistently remained the lowest in the country, significant efforts to continue decreasing

uninsurance in the state have been sustained by investments from government, advocates,

community groups, provider organizations, and other partners (KFF, 2015). It is these efforts that

pushed the stagnant rate of uninsurance to a slight decrease over the last couple of years: 2.8% in

2015 and 2.5% in 2017 (Norris, 2018). Given the volatility of insurance coverage, particularly

for people with lower incomes, the state must continue their considerable efforts to keep people

insured and so maintain the state's high rate of coverage. This experience raises the question:

What is the lowest feasible rate of uninsurance? And, if the goal is an interesting universal

coverage, what else can Massachusetts do to reach the hardest-to-reach populations?

The Remaining Uninsured in Massachusetts

Massachusetts has studied the remaining uninsured populations through a considerable body of research and analysis conducted over many years. People without coverage vary in basic characteristics such as sex, age, immigration status, income level, language spoken, duration of being uninsured, and reason for not having coverage. The uninsured are disproportionally working adults between the ages of 19 and 64, male, single, Hispanic, and are in the low-income earning bracket. The vast majority—more than 90%—are US citizens (KFF, 2017). Data from state tax filings show that two-thirds of people who are uninsured report very low incomes (<150% of the federal poverty level, or about $18,090 for a single person) (KFF, 2017). At this income level, most people in Massachusetts qualify for free health insurance, either through Medicaid or the Health Connector's programs.

In surveys, people without coverage report various reasons for uninsurance, including unaffordable costs, limited health insurance literacy, and attrition or churn rates due to job availability and insurance eligibility. A large majority of the uninsured highly value health insurance and wish that enrollment processes were easier to navigate and that insurance was more affordable. Only 19.1% percent of uninsured people were uninterested in applying (Skopec, 2017).

Thus, most people without coverage are willing and interested in being insured. The majority actually appear to be eligible for free or low-cost health insurance, but they face structural issues that need to be understood and addressed (Skopec et al., 2017). Most of these barriers seem to be rooted in social determinants of health that prevent them from being able to access the coverage they need and that would otherwise be available to them.

Section 5

The Current Situation in Massachusetts: Why this project?

Although Massachusetts enjoys the lowest rates of uninsurance in the country, there is still 2.5% of the population that lacks this essential component of access to healthcare (Norris, 2018). Uninsurance in Massachusetts disproportionately affects low income and minority communities. Males, single adults without children, Latinx populations, and those with a family income below 400% of the federal poverty level (FPL) are more likely to be uninsured (Skopec et al., 2017). These differences are disproportionately represented and further revealed through gender, racial, geographic, and income disparities. (See Table 1.)

Characteristic	% Among the Uninsured	% Among the MA Population
Aged 19-64	86%	63%
Male	65%	48%
Single individual, no children living with them	63%	40%
Hispanic	24%	12%
Family income below 400% of the FPL	78%	59%

Table 1. Demographics of the Uninsured in Massachusetts
CHIA MHIS (2017)

Gender Disparities

Men in Massachusetts are more likely to experience uninsurance. This coverage disparity sheds light on the dynamic between parental and marital status. Currently, there are nearly 13.6 million single parents in the United States; only 16% are single fathers (Livingston, 2013). Single parents have a closer proximity to the health care system given the infrastructure that protects children's health and requires a high involvement from parents. Greater exposure to the system, thus, increases the likelihood that a single mother will receive insurance information and seek coverage for herself. Furthermore, this disparity reflects the different experiences of men and women with employment and public policies that lead to coverage. Firm size, income range, and job type (full-time vs. part-time) can have a major impact on the type of coverage available to each gender (Parker et al, 2016). Women tend to have a lower than average income than men, which reduces their rate of employment-based coverage but increases their likelihood to qualify for Medicaid coverage, especially during pregnancy and as a parent of infants and young children. While it provides the infrastructure to provide coverage through Medicaid, eligibility procedures for public coverage can be unstable and thus place women at a larger chance for churn (Barnett & Vornovitsky, 2016). This provides clarity in a dynamic that may be leaving men behind in uninsurance rates. Marital status also plays an important role in gender disparities. Married men are more likely to be offered employment-based coverage than married women and have higher rates of uptake than married women. This is due to the greater likelihood that married women are insured as dependents on their spouse's health insurance policy (Fronstin & Roebuck, 2014). Conversely, single men with no children tend to enjoy healthier lives and are less likely to interact with the health care system; this dynamic might be leading them to face

higher levels of uninsurance. These occurrences highlight the unique dynamics between gender, marital status, and parental status and their impact on uninsurance rates.

Racial Disparities

The 2017 Massachusetts Health Insurance Survey revealed that Latinxs represent 11.9% of the total Massachusetts' population but disproportionately represent more than twice that, 24.2%, of the uninsured population (Skopec et al., 2017). Communities of color also face the most coverage instability (lack of continuous coverage during the last 12 months): 16% of African Americans and 20.6% of Latinx faced a lapse or loss of coverage in 2017. Conversely, only 5.3% of Whites faced coverage instability. The literature attributes racial disparities in coverage to lower rates of employment-based coverage, higher proportions of lower-income families, lower educational attainment, and immigration status (including mixed-status families) (IOM, 2001). The Kaiser Family Foundation reported that people of color are more likely to earn lower incomes, participate in part-time and low-wage jobs that provide limited to no access to Employer Sponsored Insurance. This leads to a higher propensity of uninsurance and the inability to afford private coverage (KFF, 2013). Low incomes can also have an effect on educational attainment of these communities. The lack of higher education can disenfranchise communities from the health care system, and many then are not aware of the resources available to them or how to seek out these resources. Finally, many people in communities of color are immigrants or are connected to recent immigrants, and are subject to a chilling effect that deters eligible individuals from seeking coverage for fear of endangering the safety of a loved one. These combined dynamics highlight poverty-driven cycles that ultimately create racial disparities in health insurance coverage.

Geographic Disparities

There are also significant regional disparities in uninsurance that are likely correlated with family income and the ethnic composition of the region. From 2009 to 2013, the counties with the highest and lowest uninsurance rates remained unchanged. Dukes County (which consists mainly of Martha's Vineyard) represented the highest uninsurance rate at 8.1%, and Norfolk County (roughly south and west of Boston, outside the I-95 circle) represented the lowest uninsurance rate with at 2.2%. Rates of uninsurance also varied by gender; Dukes County had the highest rate of uninsured men (11.4%), while Nantucket County had the highest rate of uninsured women (5.7%). The areas with the greatest need were spread throughout the state, in eleven of the states' fourteen counties; Barnstable, Berkshire, Bristol, Dukes, Essex, Hampden, Middlesex, Nantucket, Plymouth, Suffolk, and Worcester represented the highest rates of uninsurance. And more than 50 census tracts (one tract is roughly equivalent to a neighborhood) around the state had uninsured rates of over 10% for nonelderly adults (Skopec et al., 2017).

Dukes County provides an interesting case study as it had a high uninsurance rate for four years, but it consists mainly of Martha's Vineyard, an expensive vacation island. Upon further focus, Dukes County has a high rate of Portuguese, Khmer, and Slavic speakers, which reveals that uninsured residents might be lower-income immigrant workers who live there year-round to tend vacation property (Data USA, 2017). At a census tract level, both Dukes County and Nantucket County reveal pockets with high levels of uninsurance, some even above 10% (Skopec et al., 2017). The presence of immigrant and seasonal workers in an otherwise very wealthy population, therefore, might be indicative of the disparities in health insurance. Audrey Shelto, president of the Blue Cross Blue Shield Massachusetts Foundation, attributes Massachusetts' geographic differences in uninsurance to unique characteristics within ZIP codes

such as: seasonal employment, poverty, and immigration status (Freyer, 2015). The Institute of Medicine highlights the decentralization of labor and health service markets, population characteristics, and local public policies as dimensions that influence the disparate rates in uninsurance (IOM, 2001).

These dimensions can be further dissected to differences in industrial economic base, employment type, eligibility for public insurance, and relative purchasing power of the families in that community (IOM, 2001). Ormond et al. (2001) further delve into the uninsurance differences between urban and rural settings and find that while more than four times as many uninsured live in urban areas, rural and urban residents are actually equally likely to be uninsured. The authors discuss infrastructure and available resources as a distinguishing difference between urban and rural uninsurance. Urban areas provide a higher rate (71% vs. 68%) of private coverage, while rural areas have higher public coverage (14% vs. 11%) (Rhoades and Chu, 2000). This type of dynamic reflects the differences in available employment type; rural uninsured workers are more likely to be employed by lower waged corporations to work on provisional time periods and in sectors with lower than average coverage rates, such as agriculture. While urban uninsured workers more easily find jobs in settled but small businesses with a lower likelihood of providing insurance policies for their employees. In order to fully reach the remaining uninsured, therefore, geographic strategies are needed to prioritize areas with higher needs and unique population needs.

Income Disparities

Most people who are uninsured in Massachusetts have low incomes. Among the currently uninsured, 78.4% had a family income below 400% of the federal poverty level, suggesting that many, if not all, may be eligible for free coverage through MassHealth or for fully subsidized coverage through the Massachusetts Health Connector (CHIA, 2017). In 2017 the federal poverty level for a four-person family was an annual income of $24,600; four times this is $98,400. The median household income in Massachusetts is $66,900, with a range of incomes from the 20th percentile to the 95th percentile of $24,900 to $239,200 (ASPE, 2017). Given the economic representation in the state, the payer composition of health insurance coverage has remained fairly stable, with unsubsidized commercial insurance companies and MassHealth bearing the largest enrollment numbers (CHIA, 2017).

The implications of health insurance coverage for helping to address access, propensity to use, and financial burdens of healthcare are profound, particularly in low-income and minority communities that are disproportionately burdened by high rates of uninsurance. As such, it is imperative that we understand the best strategies to reach the uninsured, particularly those who are eligible for Medicaid or subsidized coverage, and help them to successfully enroll in health insurance. The Kaiser Family Foundation (Garfield et al., 2017) estimated that nearly 40% of uninsured adults (age 19–64) in Massachusetts were either eligible for Medicaid (23.2%) or tax credits through the Health Connector (15.3%). As uninsured families in the state have expressed that the affordability of health insurance was still a significant hurdle (Chin et al., 2016), failure to enroll may reflect a lack of awareness about the individual mandate and/or the free and subsidized coverage options available; advertising and outreach can play a significant role in helping to overcome these barriers.

Extensive literature in health policy examines the implication of intentional outreach strategies for the uninsured. Evidence from Massachusetts and beyond suggests that focused attention to specific uninsured subgroups will result in higher levels of coverage among those groups, particularly among those with health literacy and language barriers. Karaca-Mandic et al. (2017) provide an excellent example of this. In 2014, the Affordable Care Act established state-based and federal insurance marketplaces and expanded Medicaid in 24 states. This was accompanied by substantial media marketing campaigns from several partners including federal, state, nonprofits, insurance companies, and health care delivery systems. The campaigns aimed to inform consumers about the existence of the new marketplaces and insurance products. Karaca-Mandic et al. examined the relationship between these ACA insurance advertisements and county-level health insurance changes between 2013 and 2014 across the United States. They found that counties exposed to higher volumes of local insurance advertisements experienced larger reductions in uninsurance rates than other counties. Furthermore, advertisements were categorized by sponsor: federal, private, state, and other entities. State-sponsored advertisements were found to have the strongest relationship with declines in uninsurance. The authors highlighted the need for financial investment in outreach and marketing as a strategy to stabilize marketplaces with healthier individuals. The results of this study, and other literature, widely support the importance of strategic investment in advertising as a tool to increase health insurance enrollment.

Massachusetts provides the opportunity to learn from previously implemented strategies for reaching the uninsured. Its deep understanding of uninsured communities in Massachusetts, as well as a rich variety of outreach and policy strategies, provide a unique example of the detailed efforts necessary for addressing the needs of diverse communities. Furthermore, the national

political environment around health care and immigration issues has intensified since the 2016 election and further reinforces the relevance of this project, providing a privileged position to explore the tense dynamic between policy goals and political pressures.

Although Massachusetts has managed to reach the highest levels of insurance in the US—it is the only state to have more than 95% of the population covered consistently year after year (CHIA, 2017)—significant disparities persist. This is a key argument for continued investment and innovation in outreach. To lower an already low (2.5%) uninsurance rate, state officials must practice patience and perseverance because it might take a longer period of time to reduce this rate. But removing outreach and enrollment support would not be a good idea because this could result in reversals of the progress made so far. Massachusetts can learn from the unfortunate example of another highly successful, state-based marketplace: Kentucky's kynect.

Kentucky's State-based Insurance Marketplace: kynect

Kentucky was an early success story under the ACA. It established kynect, their state-based marketplace, and sponsored a robust multimedia marketing campaign to educate its residents and create awareness of coverage opportunities. In two years, Kentucky saw a dramatic drop in their uninsurance rate: from 20.4% to 7.5% (Scott, 2017). Unfortunately, after the 2015 gubernatorial election, the new administration declined to renew the advertising contract and canceled any pending advertisements in the 2016 open enrollment period, and Shafer et al. (2017) examined the effects of this change by examining the relationship between advertising volume and information-seeking behavior. The authors found that advertising volume was strongly associated with information-seeking behavior through the kynect website. Their estimates show that without the television campaign, there were 450,000 fewer page-views, 20,000 fewer visits,

and 20,000 fewer unique visitors per week during open enrollment than there might have been with the television campaign. The authors emphasize that the removal of the marketing campaign destroyed a critical step in helping consumers shop for plans, understand eligibility and affordability, and enroll in coverage. This research provides evidence to support the claim that less advertising leads to less engagement and likely to lower enrollment. Furthermore, enrollment numbers confirm a correlation between advertising and enrollment: enrollment fell from 106,300 in 2015 under the Beshear administration to 93,700 in 2016 under the new Bevin administration (a drop of 11.8%), and another drop to 81,200 in 2017 (a drop of 13.3%) (Scott, 2017). The Kentucky case demonstrates the damaging effects of removing support from state marketplaces.

Massachusetts continues to develop and experiment with both outreach and policy strategies. It would benefit the state to increase targeted outreach strategies to attack persistent disparities, while maintaining a lower level of general outreach to keep the issue of health insurance in the mind of the average consumer. This, in addition to simultaneously strengthening individual mandate policies, will help the state continue to lead the country and advance towards 100% coverage.

In this section, I describe the campaign to reach uninsured populations in Massachusetts, and then I analyze what was learned from the campaign.

The Health Connector Hires Archipelago

The Health Connector, a Massachusetts' state agency that connects people with affordable health insurance plans, has progressively improved its strategies to increase enrollment of those who are disproportionately affected by uninsurance. In 2016, the Connector analyzed internal and external data on the remaining uninsured, with a special focus on demographics, geographic communities, and labor markets (economic, job, and housing sector analysis). This research confirmed the need to address barriers keeping low-income and ethnic communities from being insured. The Connector then developed a data-informed plan for reaching these population segments during the 2016–2017 open enrollment season. The agency sought to join forces with marketing specialists, It first conducted a competitive search for marketing vendors and, after an extensive process, selected a firm with expertise in marketing to ethnic minority populations. Archipelago Strategies Group, a marketing and communications consulting firm, was chosen to lead the marketing, media, and community outreach campaign in Massachusetts.

Archipelago chose to target 18 geographic communities across the Commonwealth. These were communities that demonstrated high concentrations of uninsured ethnic minorities, and many are recognized in the state's economic development strategy as "Cities"—industrial cities that used to provide good jobs and a gateway to the American Dream. Since 2011 many

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MassWorks public infrastructure grants have been directed to Gateway Cities to strengthen their cities' housing, job, and economic sectors (MassINC, 2017). Through Archipelago, the Health Connector thus engaged in a more focused marketing campaign, intentionally targeting the 16 different minority groups present in the target communities: Brazilian, Cambodian, Cape Verdean, Chinese, Colombian, Dominican, Guatemalan, Haitian, Mexican, Peruvian, Puerto Rican, Polish, Portuguese, Salvadoran, Somalian, and Vietnamese. The campaign was designed to reach these communities by understanding the specific needs of each minority group and by using communications strategies that have been proven to engage each group. The media and community outreach was thus carried out in the 9 different languages used by the 16 minority groups.

In order to understand the diverse and specific needs of each minority group, Archipelago conducted extensive research prior to the 2016–2017 open enrollment season. In addition to thoroughly assessing the literature, it led focus groups and in-depth interviews with members and leaders of each community, both before and after the campaign. This qualitative research led to key differences in messaging, so that each minority group would be addressed, engaged, and moved toward action. The Archipelago campaign included pre-intervention work, intervention implementation and a post-intervention focus group. These are described below.

Pre-Intervention: Insights Gathered from Focus Groups

The Connector–Archipelago campaign intentional focused on the details of the different minority groups in order to create a strategy that is effective, efficient, and provides a high return on investment. The following information contains insights gathered from focus groups and interviews with a variety of members from the target communities. (Please note that for clarity in

the organization of this chapter, some information included here was gathered from focus groups conducted post-intervention.)

Diversity within Minority Groups

In August 2016, Archipelago led culturally appropriate focus groups with members of different Latinx communities. Focus group participants were identified through trusted local community organizations, and trained facilitators led the sessions in Spanish. The focus group in Western Massachusetts included participants from Springfield and Holyoke; this population is more than one-third Puerto Rican, and many are US citizens with existing knowledge of the health care system. The second focus group, held in Eastern Massachusetts, included participants who represented immigrant communities from the Dominican Republic, El Salvador, Guatemala, and Colombia. Many individuals in the second focus group were not familiar with the US health care system and actually do not pursue health care until they visit their home countries (Archipelago, 2017).

Hence, the two focus groups gave completely different feedback on what messaging would be appropriate for the communities they represented. The Western Massachusetts focus group responded well to an upbeat, authentic message, communicated by actors who reflected their family and community; the group requested messaging with clear information about open enrollment, including information about low-cost plans, and suggested that in-person Spanish assistance be made readily available. However, Eastern Massachusetts Latinxs suggested using dramatic stories about the consequences of being uninsured, such as the results of a work injury or a sports injury, to successfully engage their communities. They requested messaging that creates drama, urgency, and a sense of one's responsibility to get insured (Archipelago, 2017).

Other focus groups and in-depth interviews with Cape Verdean, Haitian, Portuguese, Asian, and other Latinx communities exposed four main topics: enrollment difficulties, ways to sustain enrollment from year to year, outreach and marketing strategies, and other effective ways to share information with the community.

Enrollment Difficulties

Focus group participants identified a number of enrollment difficulties: a lack of knowledge about eligibility, deadlines, and how subsidies work; an overly complicated enrollment process; and not enough one-on-one assistance to help complete the paperwork. Participants also discussed the chilling effect of the enrollment process on undocumented individuals, who fear discovery of their immigration status and who think they can't afford the high cost of copayments and deductibles; they also have a perception that they are healthy and do not need to waste money on insurance.

Sustaining Enrollment

Focus group participants identified one-on-one aid and trusted contacts as a means of sustaining enrollment. Documented immigrants would appreciate health insurance being an integrated part of the new Massachusetts residential process—a procedure where documented immigrants set up the necessary documentation needed to establish residency in Massachusetts. Because many people in the community go directly to health care centers and emergency rooms for their health care, participants suggested that these centers too play a more direct role in outreach and enrollment efforts.

Outreach and Marketing Strategies

Focus group participants identified a few ways to successfully connect with the Latinx community: promote lower costs, provide straightforward and clear enrollment instructions, and a use a personal touch. They emphasized family-based messaging and using community organizations to help with the enrollment process. In addition, they suggested advertising in Spanish newspapers and on Spanish television and radio stations. They said that their community holds in high regard the leaders in these communication venues.

Other Effective Ways to Share Information

Focus group participants identified social media, specifically Facebook, as another effective venue for sharing information with customers. They also recommended creating advertisements with more identifiable branding that highlights the Connector logo. They also suggested creating a step-by-step enrollment booklet written in different languages, for both regular and special enrollment periods.

Implementation of the Archipelago Intervention

Once marketing materials were prepared, Archipelago set out to implement the campaign across all 18 targeted geographic communities. It did so by tapping into a powerful combination of established networks of trust and communication. The printed marketing material was disseminated through popular magazines and newspapers for each ethnic population and in their preferred language—20 different publications in total. The printed material, which clearly highlighted the Health Connector's logo and information, was also displayed in businesses that are visited often by members of targeted communities. The display material included 918

window signs and 18,500 multilingual information cards with contact information for the local

navigator. These window signs (seen via foot traffic) reached about 200,266 people. Radio

messages were shared in 8 different languages across 28 different stations and played

approximately 8,900 times. Television ads were aired 2,658 times and reached up to 1 million

people across the target communities. Web media banners and Facebook ads made 917,442

digital connections.

As communities began to identify with these paid messages, news stories also began to play a

role. In total 56 stories ran on television, radio and digital media. 48 print media stories were

published in 22 ethnic newspapers. Twenty-six radio interviews were conducted with Health

Connector representatives and local navigators, and 12 television interviews were conducted

with Univision and Telemundo—two of the most popular Spanish television networks in the

nation. Archipelago also organized 5 regional enrollment events with a total of 500 attendees and

two live televised help lines with 200+ callers receiving assistance in Spanish.

Communities received different degrees of campaign intervention: 12 communities received

a "high level," and 6 received a "significant level," as measured by the frequency of messaging.

Archipelago produced the materials, organized the events, and planned, set up and implemented

the campaign, but the power that brought the campaign to life was the community members

themselves. These included community partners with whom Archipelago has developed close

connections and who were more than willing to help reach out to their communities with

valuable health information. Printed material was disseminated by sub-contractors hired by

Archipelago; these were women and men from the communities who knew the area, had

connections to the people there, and who received training before beginning. This information

was disseminated upon contact and did not involve much education, rather direction on where to

go, who to contact, and awareness of deadlines. Television and radio strategies were carried out by identifiable leaders in these communities who had strong connections with the people and were trusted to provide sound advice.

Outreach was led by community partners who have established roots in these communities, who are trusted advocates, and whose advice is closely followed. Archipelago tapped over 120 community partners to lead this work. These partners included churches, youth centers, high schools, ESL classes, food pantries, and others who have nurtured trust and proven themselves worthy of this trust. Each partner was tapped strategically depending on the type of help that was needed, and each one executed the strategy differently. Some used time during their ESL classes to provide education on health insurance, while others used phone calls to reach their members and engage them with Health Connector information. Community partners played an extremely powerful role in the success of this campaign.

Results of the Intervention

At the end of the campaign, more than 63,000 new people signed up for health insurance coverage in 2017 compared with the 49,000 new enrollees in 2016. Targeted communities saw an increase of 37% new enrollees, compared to the 29% increase statewide. The outreach efforts also succeeded in attracting members from hard-to-reach segments:

- 45% of the new enrollees were under 35 years of age (33% of the renewing population were under 35);
- 46% of the new enrollees were men (34% of the renewing population were men);
- 26% of the new enrollees were in the 26–34 age group (up from 21% in 2016).

Nine of the target communities had new enrollment increases of more than 40% (eight of these had received the highest degree of media and community engagement). The Health Connector described this open enrollment strategy as their most comprehensive media and community engagement campaign to ethnic populations (Archipelago, 2017).

Post-Intervention: Insights Gathered from Focus Groups

In October 2017, Archipelago released a report on *Young, Multicultural & ConnectorCare eligible Individuals*. This qualitative study was based on information gained from two focus groups and looked at developing strategies to further reach the disproportionately uninsured ethnic populations. These focus groups were directed at only men and included young males of color and young adults—all eligible for ConnectorCare plans. ConnectorCare plans are high quality and affordable health insurance plans offered through Health Connector to individuals who: have household incomes at 300% of the federal poverty level or less, are lawful Massachusetts residents, do not qualify to enroll in Employer Sponsored Insurance, are not in jail, and do not qualify for Medicaid. Between both focus groups, various ethnic minorities were represented: Colombian, Dominican, Thai, Chinese, Puerto Rican, Salvadorian, Guatemalan, Mexican, Cambodian, Venezuelan, Haitian, and Jamaican. The young males represented a variety of communities and were between the ages of 25 and 42. Many considered themselves healthy and in no need of health insurance. The main themes extracted from the focus groups included issues of accessibility, affordability, and technical simplicity.

Strength of Community Networks

The focus groups revealed an evident gap between the Latinx communities present and the Chinese participants: while the Latinx participants listed a lack of community support and knowledge, Chinese participants actually felt that their communities are well-informed and plugged into the health care system. This insight further reveals that different minority groups hold varying degrees of network strength. Especially when it comes to health care, network strength appears to be indicative of the energy generated from within the community to increase access for their members. Chinese participants said that their neighbors and acquaintances who work in the health care field are more likely and willing to guide, inform, and even help them to enroll in coverage. This could be symptomatic of the little diversity found in our current health care workforce. The Association of American Colleges reported that in 2015 the nation's physician workforce consisted of 0.4% American Indian, 4.1% Black, 4.4% Latinx, and 11.7% Asian (AAMC, 2015). There is also very limited diversity among nurses: 0.4% American Indian, 4.8% Latinx, 8.3% Asian, and 9.9% Black (Minority Nurse, 2015). This slight increased representation between the Latinx and Asian groups within the health care professions might be the sources of increased insurance coverage we are witnessing at the community level. Communities without proper representation in health care professions lack the network strength to advocate for their members. Perhaps a rise in representation would result in the increased enrollment in the corresponding communities.

Female Role Model

An idea that was noted across all ethnic backgrounds was the importance of women in sparking behavior change. Focus group participants across all minority groups described women as caring,

trusted, and generous, and as strict influencers. Participants said that mothers, partners, or female enrollment assisters are more likely to engage the uninsured and successfully help them enroll in coverage. Tapping into this psychological bias could be powerful in future enrollment efforts.

Lack of Penalty Awareness

A worrying fact revealed in the second focus group was that all 8 participants were unaware of penalties associated with the individual mandate. This finding reveals a connection between the policy and outreach sections of this project. Clearly the uninsured lack knowledge about the individual mandate policy; therefore, greater efforts are needed to bring awareness to a penalty that has been shown to be effective in curbing behavior.

Evaluation Phase: The DELTA Project

This DELTA project began in August 2017, months after the culmination of the intervention and took a deeper dive into the Archipelago campaign, which began August 2016 and culminated January 31st 2017. I took on this project with the vision of providing valuable information to the Health Connector, the Executive Office of Health and Human Services (EHS), and Massachusetts as a whole—information that could then be used to improve current and future endeavors. An internal Health Connector and Archipelago post-intervention analysis revealed that the campaign had been effective and that the number of new enrollees had greatly increased from the previous year. But I analyzed the effects of the campaign and how the effects compared to communities that did not receive the treatment effect. My DELTA project fills a gap in the current literature by providing detailed information on the "treatment" campaign and

highlighting areas that were most effective and areas that the state could benefit from by continuing to invest in.

I started by researching the conditions that prompted this campaign. I studied formal and informal reports, qualitative and quantitative research data, published and gray literature, and even the minutes from board meetings, to understand the process the Health Connector took to address uninsurance in the state, an issue it has been fully committed to since its inception in 2006. In addition, I interviewed Health Connector leaders and staff members who have been part of the journey from the start. This was a privilege and a humbling experience. It became clear almost instantly that the Health Connector has a strong commitment to improving the health of the people of Massachusetts. Various iterations of outreach and marketing campaigns have successfully evolved from broad brushstroke educational campaigns to extremely focused enrollment campaigns. It became clear that the main reason a micro-targeted campaign was possible is because of the dedication and effort of the Health Connector for the past decade.

After understanding the foundation of the work, I researched methods to analyze the campaign. This also involved a parallel search of available internal and external data that could be used in the project. The Health Connector provided a variety of data including: internal surveys (enrolled but uninsured survey, new member survey), Department of Revenue tax data from 2012, and Health Connector enrollment data. Potential methods for assessment were narrowed down to four types of analyses: impact evaluation, econometric evaluation, behavior flow in marketing evaluation, and return on investment evaluation. Due to availability, time concerns, relevant information, and access, I chose three data sources: the American Community Survey (from the US Census Bureau), Health Connector enrollment data, and stakeholder

interviews with Health Connector staff. I chose two statistical analysis methods: a difference in difference assessment and a regression analysis.

While a randomized control trial was not possible, I decided to explore the impact of the campaign as a quasi-experimental design study with matched controls. A quasi-experimental design can be used to estimate the causal impact of an intervention on its target population without random assignment (Kim & Steiner, 2016). I decided to compare the 18 target communities that received the Archipelago treatment during the 2016–2017 open enrollment season to a set of matched control groups who did not receive the treatment but who actively participated in the enrollment season. The controls were statistically matched using the following variables and in this specific order of importance: uninsurance rate, ethnic/racial breakdown, and population size. This information was gathered from the 2012–2015 American Community Survey. Health Connector enrollment data was then used to compare absolute and percent enrollment increases across target and control communities. This provided an initial idea of enrollment trends. Further statistical analysis was performed with JMP statistical software to validate the changes. The information gathered from stakeholder interviews with Archipelago helped to paint a full picture of each of the communities, the strategies used to reach target populations, and any underlying dynamics that may have aided or interfered with the campaign. This final step of triangulation provides valuable information that, if used correctly, may aid the efficiency of future campaigns.

Data Sources

Data for this project was gathered from three main sources.

1. The American Community Survey (from the US Census Bureau)

2. Health Connector enrollment data

3. Archipelago stakeholder interviews

The American Community Survey provided detailed demographic information, including uninsurance rate, ethnic/racial breakdown, and population size of each county. This helped set the stage by describing in more detail what the communities of interest looked like. This information provided insight into what the needs of each geographic community were as defined by which ethnic populations were present. The 2012–2015 American Community Survey data was the only complete data set available to include town-specific information for Massachusetts. The data set was accessed through the US Census Bureau's American FactFinder webpage.

The Health Connector data provides a snapshot of the number of enrollments for each community on March 1, 2016 and on March 1, 2017. The 2017 date was chosen because it falls well after the open enrollment period ends on January 23 and ensures that the post enrollment process—full acceptance and successful activation—is complete. This data includes all enrolled members, including those in ConnectorCare, those who qualify for the federal subsidy (Advance Premium Tax Credit), and those enrolled in unsubsidized programs. New enrollments are limited to new members who have never been in the system prior to the open enrollment period; these members completed their application during open enrollment and were then approved and activated by March 1, 2017. Total enrollments include new enrollees and renewing members. This data was obtained through a formal request of the Reporting Team at the Health Connector.

Stakeholder interviews with the Archipelago team provided insight into the details of the campaign implementation and provided direct information from the leadership team who carried out the campaign, from its initial design to its culmination. This interview was set up through a two-step process. I first met with Archipelago's CEO to discuss the project and goals and then returned for a follow-up meeting with two of the directors to discuss strategy and community details.

Methods: Data Processes

Given that this is a post-treatment analysis, it was necessary to retroactively create criteria in which the "before" and "after" effects of the treatment could be analyzed and better understood. In order to create a baseline, four control communities were chosen for each of the 18 Archipelago targeted communities. These were chosen in order of several criteria: first, per comparable rate of uninsurance, second per comparable ethnic group present, and third per comparable size of the population. Given the variability of the target communities and the limited number of controls that matched across one or more of the criteria, several controls served as a control for multiple target communities—this resulted in a total of 41 distinct control communities. The control communities still represent a certain level of variability, but by comparing across each of the three dimensions, I hope to assess the full effects of the treatment. In order to explore the treatment effects, the main outcome of interest is total enrollment numbers per community. I hypothesize that areas that received detailed and focused marketing will increase their enrollment numbers at a higher rate than those who did not receive the treatment.
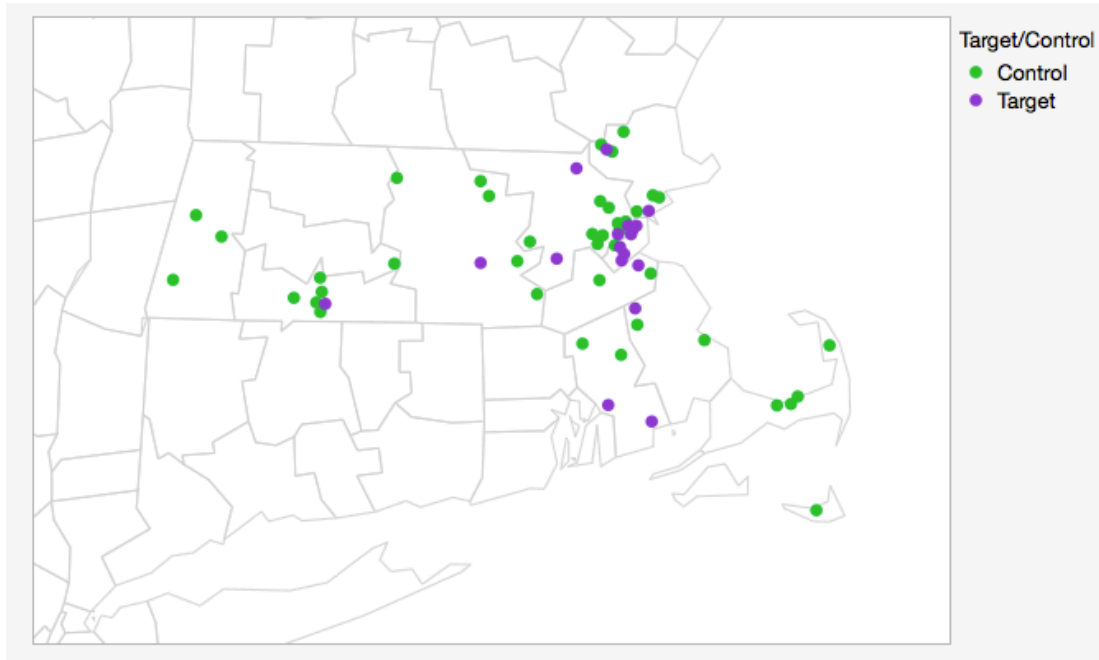
Figure 1. This map shows target and control communities across the state. Most target communities are in Eastern Massachusetts and around Boston.

		Control			Target		
	N	Mean	Std Dev	N	Mean	Std Dev	p-value
Total Population	41	37379	20539	18	84979	43401	0.0002
Median Household Income	41	$65,807	18827.9	18	$51,645	12222.3	0.0012
Uninsurance Rate	41	4.31	1.80	18	6.39	2.13	0.0012
% Asian	41	5.2%	5.9%	18	7.1%	7.3%	0.0021
% Latinx	41	9.4%	8.9%	18	27.4%	20.7%	0.0004

Table 2. Demographic data summary for Control and Target communities

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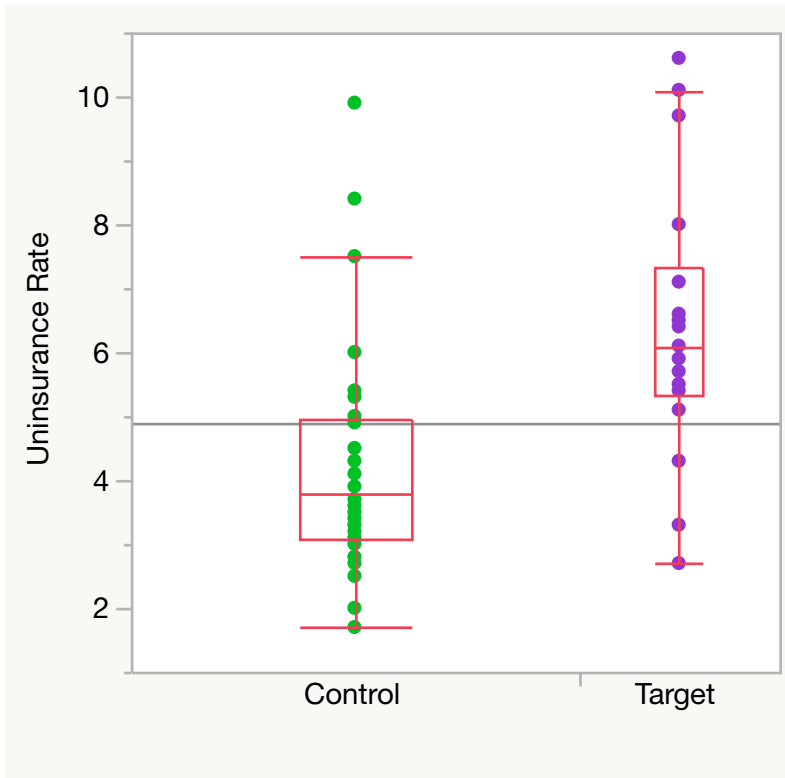
Figure 2. Uninsurance Rate Before Treatment
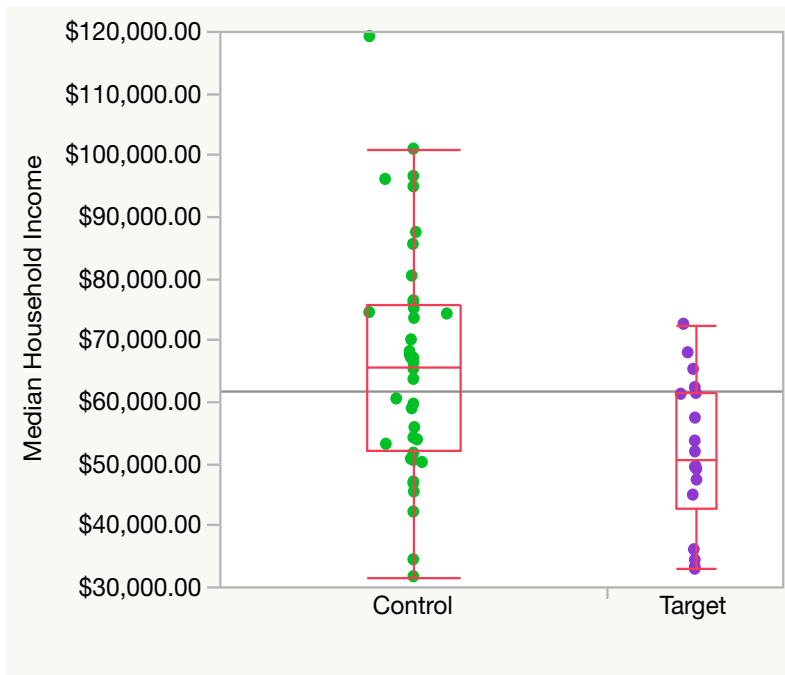
Figure 3. Household Income

The main outcome variables are Health Connector enrollments for new members and total enrollments. This data was gathered for both target and control communities. The key difference between the categories "New Members" and "Total Enrollment" is that each category reveals a distinctive set of assumptions. New Members counts members who have never been part of the Health Connector system and indicates the ability for that community to engage individuals who have never been in the system and whose action threshold is at a much higher level—thus requiring increased exposure to marketing and outreach strategies to carry them through the stages of change. Total Enrollment counts add up the number of new members and renewals while subtracting members who lose coverage. This measurement provides insight into member retention— how well that community is at keeping members engaged and how likely members are to continue enrolling at the same rate or increase this rate year after year. The rate of increase in Total Enrollment tends to be a more reserved figure compared to the rate of increase in New Members, but this merely highlights the fact that Massachusetts is dealing with the lowest rate of uninsurance in the country and most communities are for the most part making discrete increases in total enrollments. The higher New Member increases reveal that the Health Connector is efficiently attracting the uninsured, and that target communities performed better than most of their controls reveals the promising connection of the effects of the focused intervention. Absolute value increases were used as a basis for comparison. A difference in difference analysis was later used to validate these comparisons. This practice is used in order to reach a level of standardization of the unique variances between communities, including population size, ethnic/racial breakdown, and absolute value changes in enrollment numbers.
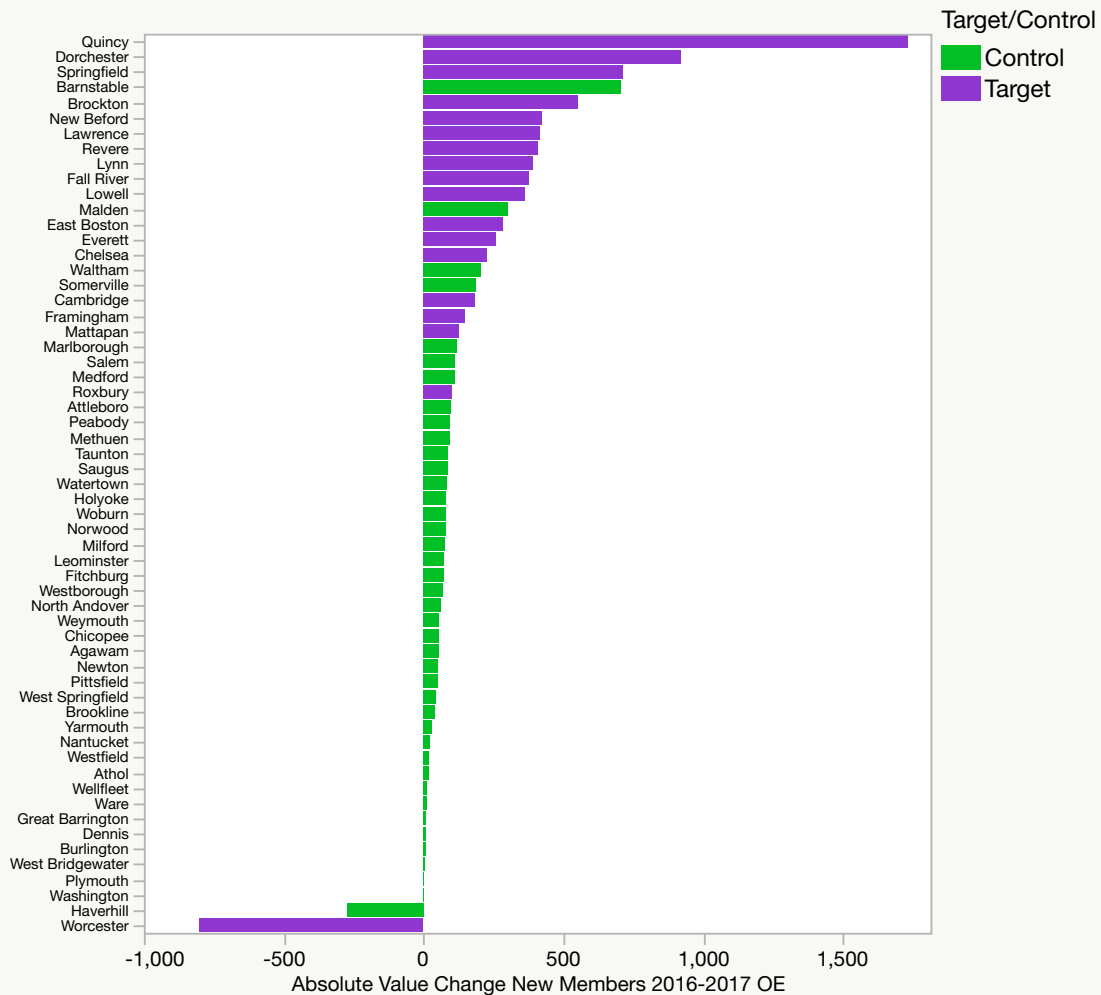
Figure 4. New Members 2016–2017 Open Enrollment

Absolute value changes were calculated for each of the target and control communities. By comparing the before and after effects of the treatment campaign, this DELTA project demonstrated that communities that received the Archipelago treatment indeed increased enrollment, and most outperformed their controls.
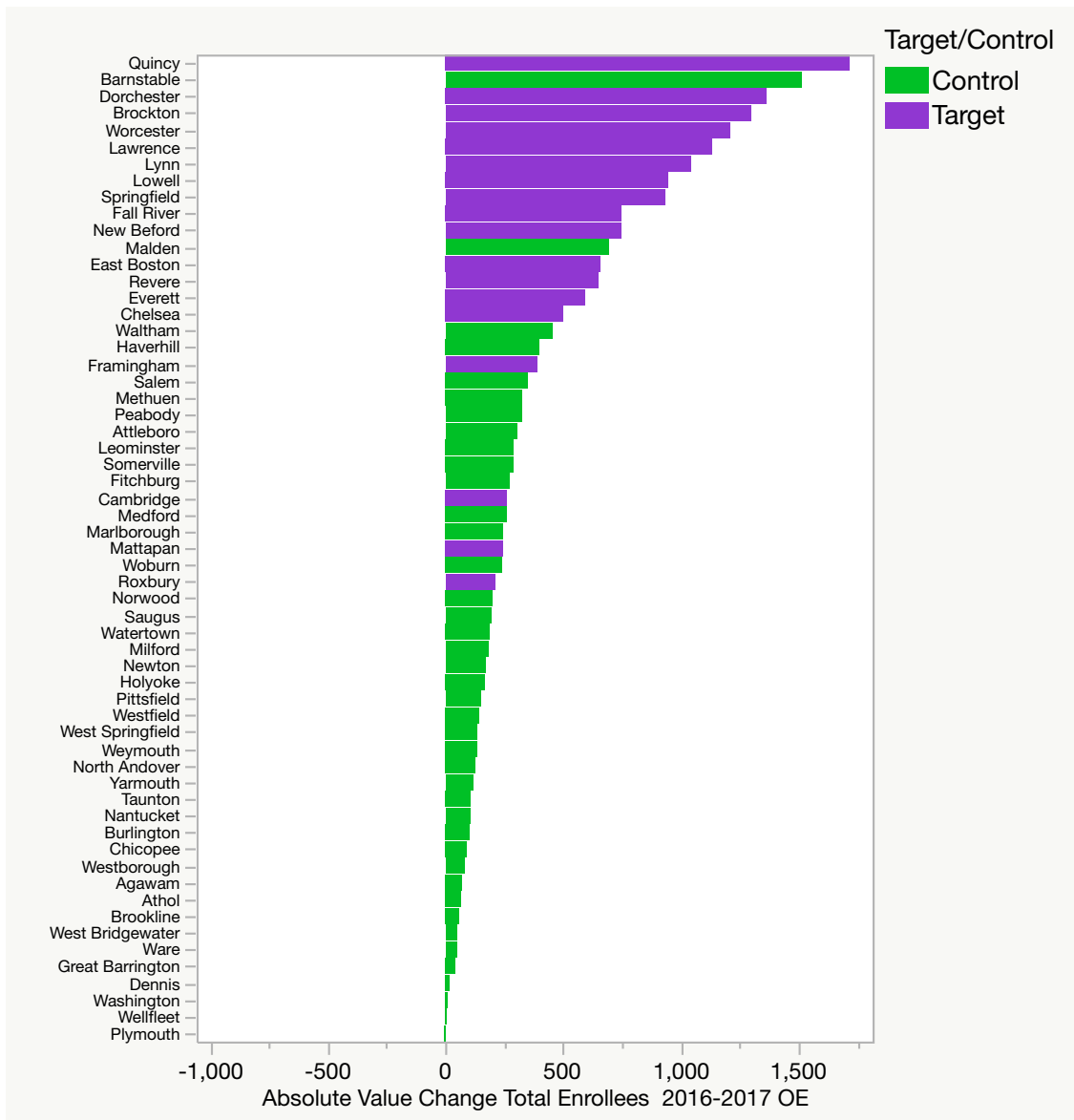
Figure 5. Total Members 2016–2017 Open Enrollment

Next, I compared the strategies in each of the communities. I obtained information about

strategies directly from Archipelago; variables included type of media (television, radio, etc.),

language, target population, and number of community partners. Through my in-person

interviews with Archipelago leaders, I discovered the themes regarding strategy implementation.

Based on the diversity of strategies, I expected to see better enrollment and total insurance rates

among those who received the targeted media campaign. These details about how each of the

strategies was carried out helped me understand enrollment trends for each of the geographic

communities.

Population	TV	Radio	Newspaper	Magazine	Web	Outreach
Brazilian	✓	✓	✓			
Cambodian	✓	✓	✓	✓	✓	✓
Cape Verdean	✓	✓	✓			
Chinese	✓	✓	✓			
Colombian	✓	✓	✓	✓	✓	✓
Dominican	✓	✓	✓	✓	✓	✓
Guatemalan	✓	✓	✓	✓	✓	✓
Haitian	✓	✓	✓			
Mexican	✓	✓	✓	✓	✓	✓
Peruvian	✓	✓	✓	✓	✓	✓
Polish			✓			
Portuguese	✓	✓	✓			
Puerto Rican	✓	✓	✓	✓	✓	✓
Salvadoran	✓	✓	✓	✓	✓	✓
Somalian						✓
Vietnamese	✓	✓				

Archipelago Campaign Stratetegies 2016-2017
✓ = Community's preferred choice of communication
✓ = Also received this strategy but not a preference

Figure 6. Archipelago Campaign Strategies

Target Community	Targeted Population	Languages Spoken	Community Partners
Brockton	•Cape Verdean •Haitian •Puerto Rican •Brazilian	•Portuguese •French Creole •Spanish	4
Cambridge	•Brazilian	•Portuguese	2
Chelsea	•Guatemalan •Salvadorean •Colombian	•Spanish	6
Dorchester	•Cape Verdean •Dominican •Puerto Rican •Vietnamese	•Portuguese •Spanish •Vietnamese	-
East Boston	•Guatemalan •Salvadorean •Colombian •Mexican	•Spanish	7
Everett	•Guatemalan •Salvadorean •Colombian	•Spanish	2
Fall River	•Cape Verdean •Portuguese •Brazilian	•Portuguese	2
Framingham	•Portuguese •Brazilian	•Portuguese	2
Lawrence	•Puerto Rican •Dominican	•Spanish	8

Target Community	Targeted Population	Languages Spoken	Community Partners
Lowell	•Cambodian	•Khmer	6
Lynn	•Guatemalan •Salvadorean •Colombian • Dominicans •Puerto Ricans •Peruvian	•Spanish	7
Mattapan	•Haitian	•French Creole	-
New Bedford	•Portuguese •Salvadorean	•Portuguese •Spanish	2
Quincy	•Chinese •Vietnamese	•Mandarin •Vietnamese	3
Revere	•Dominican •Puerto Rican	•Spanish	2
Roxbury	•Guatemalan •Salvadorean •Colombian •Mexican •Somalians •Dominican •Puerto Rican	•Spanish •Arabic	-
Springfield	•Puerto Rican •Dominican •Pole	•Spanish •Polish	3
Worcester	•Puerto Rican •Dominican	•Spanish	2

* BOSTON – 90 community partners (includes – Dorchester, Mattapan, Roxbury)

Figure 7. Archipelago Strategy Target Population & Language

Results

Assessment of the data shows a general increase in enrollments along both control and target communities for both new and total enrollments. However, target communities clearly demonstrate larger gains in enrollments. The data confirmed previous evidence: an inverse relationship between median income and rate of uninsurance, in addition to a higher number of minorities in communities with higher uninsurance rates (Fig 8 & Fig 9). Many control communities, however, have comparable numbers of ethnic populations, and some controls actually have larger numbers than some of the target communities themselves (Fig 10). Enrollment numbers varied widely across controls and target communities with higher gains in new enrollments and more modest gains in total enrollments.
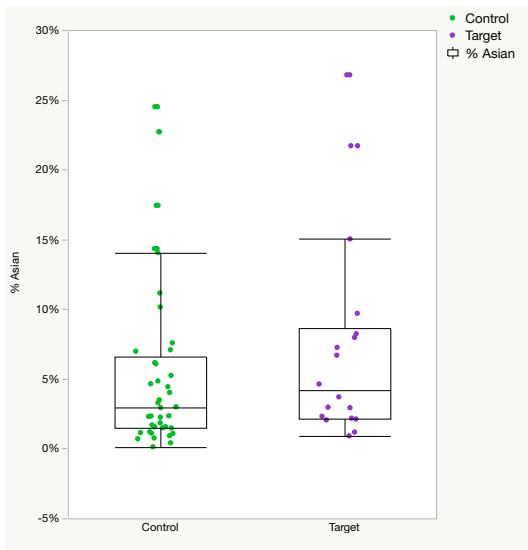
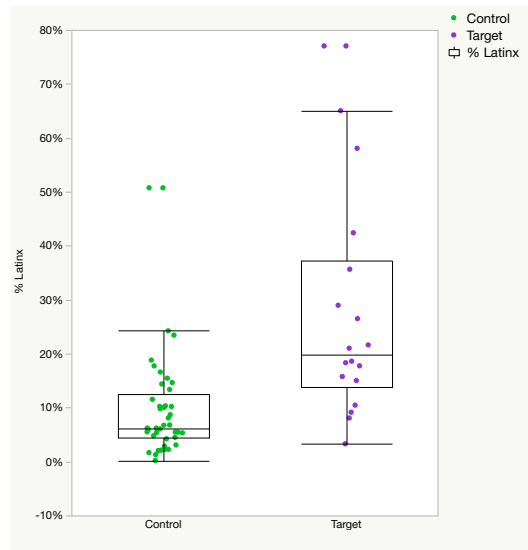Figure 8. Percent Asian in target and control communities

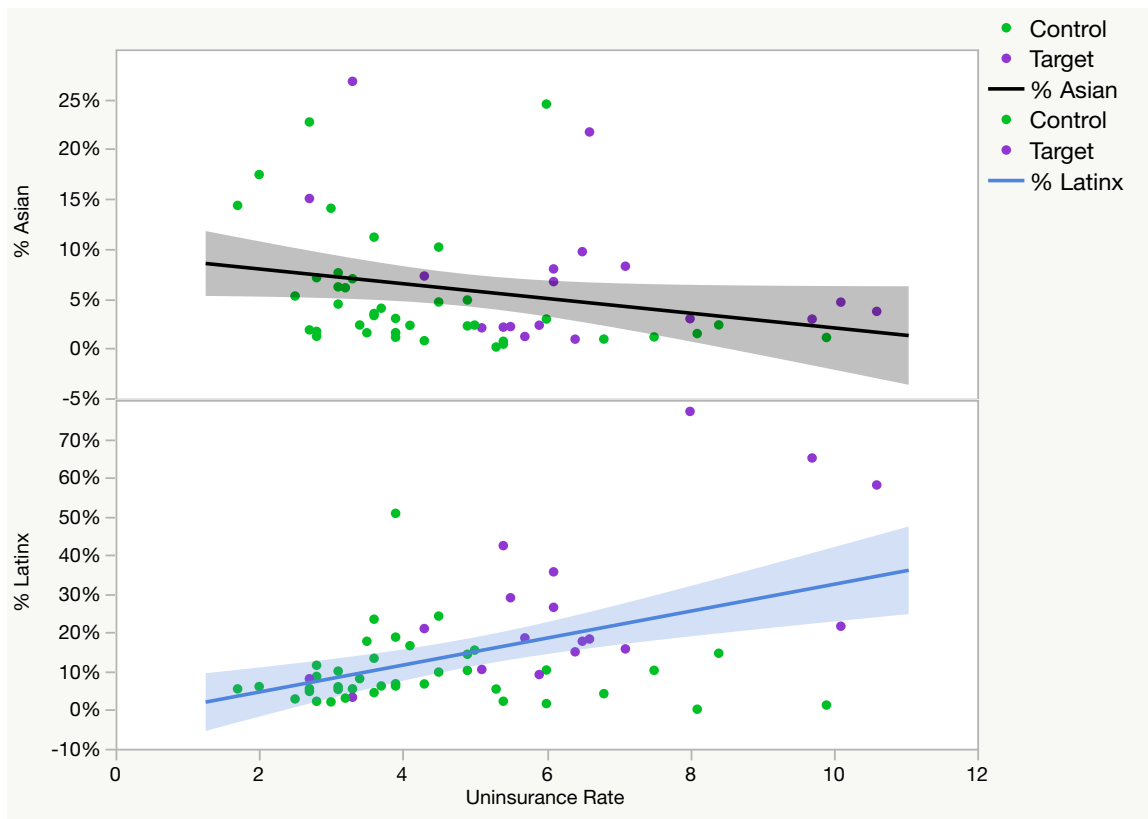Figure 9. Percent Latinx in target and control communities

Figure 10. Latinx and Asian communities by uninsurance

In total, 18 communities received the Archipelago strategy; their results were compared to 41 unique controls. Health Connector data was used to calculate absolute value changes in enrollments for both New Members and Total Enrollments between March 1, 2016 and March 1, 2017. This initial assessment demonstrated that most target communities performed better than most if not *all* of their controls. When comparing between a target and a control community, "better" performance was defined as having obtained a higher number of enrollments than their controls. Of these, 14 target communities saw a larger increase than all their controls for both new members and total enrollment numbers. Three target communities (Dorchester, Cambridge, East Boston) performed better than all their controls for new members but not for total enrollments. And only one target community (Worcester) performed better than all their controls for total enrollment but not new members. In the new members category, two communities stood out as extreme outliers: Quincy saw a 1,732 increase in new members, and Worcester saw a decline of 801 members. The increases in total enrollments demonstrate more modest gains at the extremes: Quincy performed the best with an increase of 1,716 members, while Roxbury, the lowest performer, saw only an increase of 210 members. The top three best performing target communities among new enrollees were: Quincy, Dorchester, and Springfield. The top three best performing target communities for total enrollments were: Quincy, Dorchester, and Brockton (see Table 3 below).

The worst performing communities for new members include Roxbury, Mattapan, and Worcester. The worst performing communities for total members include Roxbury, Mattapan, and Cambridge (see Table 4 below). All best performing communities received the highest degree of campaign activity, and two of the worst performing communities received a lower degree of campaign activity. Overall, controls experienced modest increases in enrollments. At

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the extremes, New Enrollments in control communities ranged from an increase of 708 members in Barnstable to a *decline* of 274 members in Haverhill (Fig 4). In Total Enrollments, the largest gain for controls was seen by Barnstable, with a 1,512-member increase and Plymouth, saw an 8-member *decline* (Fig 5).

Archipelago data represents a variety of strategies used to reach a diverse group of communities. Each community represented a different combination of cultural composition that it was difficult to extract the specific results of any one variable. What was easier to identify, were themes present across the 18 target communities and which had an impact in enrollments. The majority of target communities received information in Spanish (11 target communities represented this demographic). Communities with a combination of Mandarin and Vietnamese demographics saw the highest increases in enrollments. The 7 languages represented were merely one of the unique characteristics across the richly diverse minority groups targeted with this campaign. Puerto Ricans had the largest representation across all target communities, closely followed by Dominicans and Salvadorans. Six different communication networks were accessed; television radio, newspaper, magazine, web, and outreach through community partners, but each of the 16 different ethnic communities preferred a different combination of media strategies (Fig. 7). Television, radio, and newspaper were the most preferred methods of communication; communities that received information mainly from television and radio saw the highest increases in enrollments. Communities with 3–7 partners performed better than those with 2 or less. Communities with 3 partners saw the highest increase in enrollments. Total Enrollment trends resembled the New Member trends, except for the Haitian community who stood out as the best performer with the highest percent increases in total member enrollment.

New Members (Absolute Value increase):	Total Enrollment (Absolute Value increase):
1. Quincy – 1,732 members	1. Quincy – 1,716 members
2. Dorchester – 922 members	2. Dorchester – 1,364 members
3. Springfield – 714 members	3. Brockton– 1,297 members

Table 3. Best Performing Communities

New Members (Absolute Value increase):	Total Enrollment (Absolute Value increase):
1. Worcester – (- 801 members) Note: This is a decrease in new members.	1. Roxbury– 210 members
2. Roxbury – 103 members	2. Mattapan – 245 members
3. Mattapan – 128 members	3. Cambridge – 262 members

Table 4. Worst Performing Communities

Statistical Analysis

Statistical testing revealed further insights. JMP Pro 13 Software was used to run various statistical analyses including: descriptive distributions and a difference in difference analysis. The unit of analysis was the total increase in enrollments during the November 1, 2016 to January 31, 2017 open enrollment season compared with the previous year; more specifically the unit of analysis was the difference between the snapshot of March 1, 2016 and of March 1, 2017. These numbers include all successful enrollments during the open enrollment period and provides ample cushion time for approval and activation proceedings. It was necessary to use the number of enrollees rather than the percent increase to more accurately compare the increase in numbers. The principal outcome measure was Health Connector enrollment numbers for new

enrollees and total enrollees. Enrollees were all in the 19–64 age group. Distribution analyses looked more closely at the difference between target and control communities and their increases in enrollments.

Difference in Difference Analysis

As discussed in the results section, the state saw an overall increase in enrollments during the 2016–2017 open enrollment period, especially in target communities. In order to isolate the effect of the intervention, a Difference in Difference (DID) analysis was run. The DID technique is commonly used in econometrics as a quasi-experimental design that uses longitudinal data to estimate the causal effect of a specific intervention (Columbia, 2013). It compares the outcome measure between target and control groups and obtains an appropriate counterfactual to estimate a causal effect. DID allows for a fair comparison even when comparison groups start at completely different levels of the outcome by using each community as its own control. By using panel data, it looks at how targeted subjects change over time and addresses observations on the same subjects at two different points in time. This technique is a powerful one as it removes biases in the post-intervention outcome comparisons that could be the result from permanent differences between the target and control groups. In addition, it addresses biases in the target group from comparisons that could be the result of trends due to other causes of the outcome (Columbia, 2013).This process, thus, provides a method to standardize the natural differences across target and control communities, which allowed for an accurate comparison and ultimately isolated the effect of the intervention campaign.
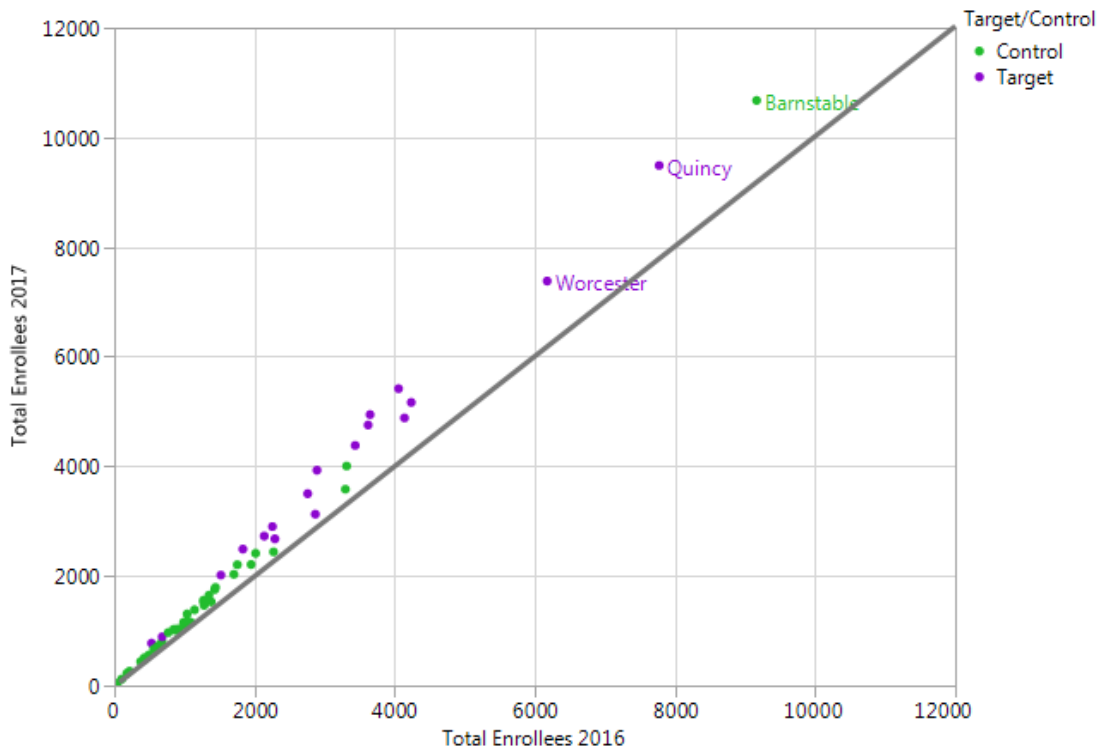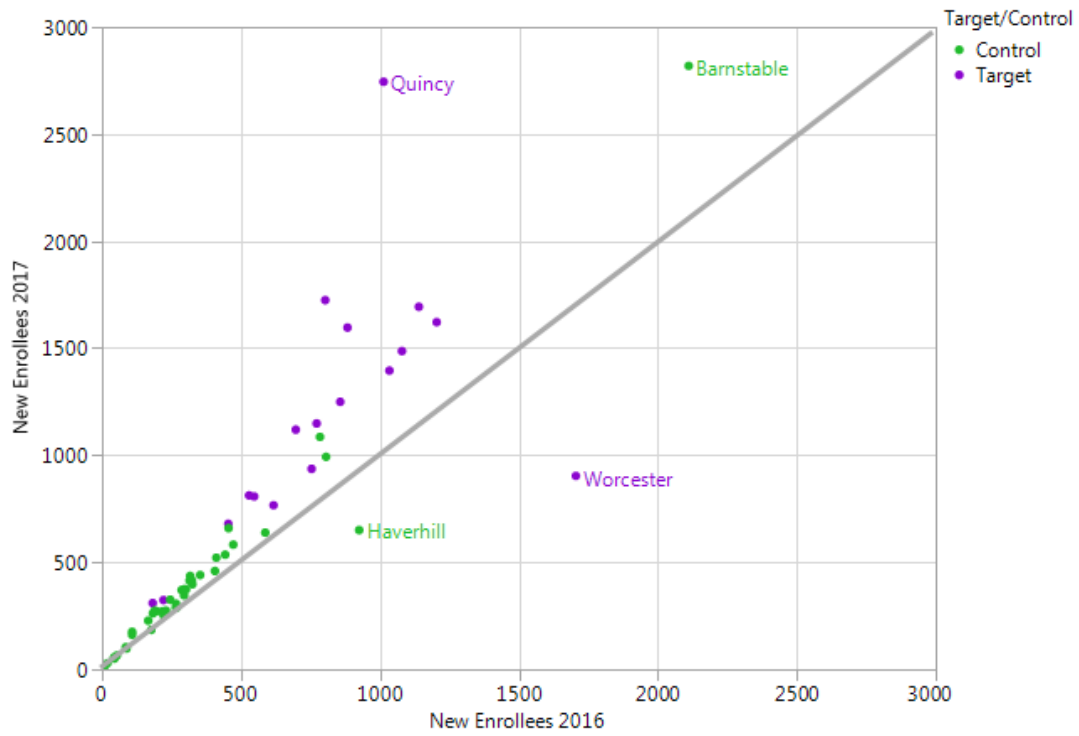
Figure 11. These graphs compare the number of enrollments per target and control communities between the two time periods of March 1, 2016 and March 1, 2017. Target communities demonstrate higher enrollments, especially among new enrollees. Communities on or closer to the diagonal line saw little to no change from one year to the next; while those further from the diagonal show a large change. These graphs also highlight how different each of the baselines are for each community and why a DID was needed to standardize for these differences. A DID uses each community as its own control.

New Enrollees 2016   New Enrollees 2017
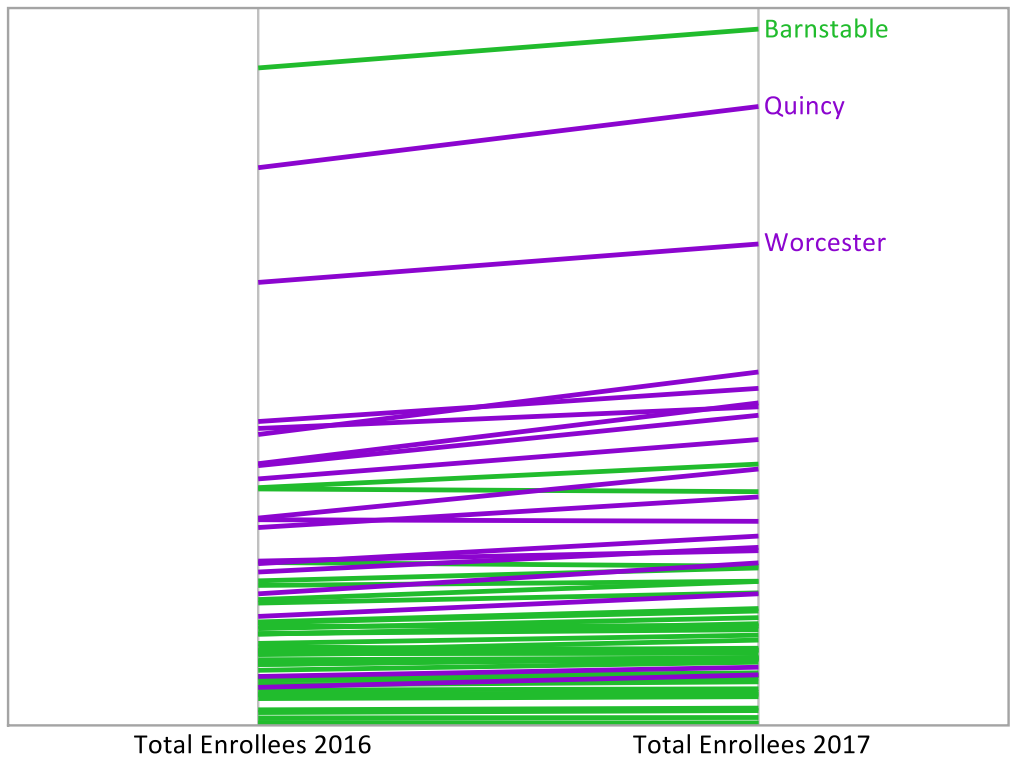
Figure 12. This graph shows the trajectory of each community during the 2016–2017 open enrollment period. DID allows for a fair comparison even when the control and target groups start at completely different levels of the outcome by using each community as its own control. The DID averages out all the trajectories and estimates an overall trajectory for the time frame of interest. The statistical significance and magnitude of the difference allows for the speculation of the association. Future work should look into obtaining data from additional previous years to obtain a more accurate trajectory.

Difference in Difference: Number of New Enrollees

The difference in difference analysis demonstrated a rise in enrollment numbers between the pre- and post-intervention periods. Control communities increased new enrollments by an average of 76 members and target communities increased new enrollments by an average of 380 members. The intervention trajectory shows a steeper slope as compared to the control group trajectory. The counterfactual trajectory demonstrates what would have been the normal

trajectory had the intervention not been present. The difference between the intervention

trajectory and the otherwise secular counterfactual trajectory represents the difference

attributable to the presence of the intervention. The interaction term estimates the difference in

difference; on average, 304 (95% confidence interval: 143–465, p: 0.0004) new enrollees were

seen per target community, and they can be attributed to the intervention. By extrapolation, a

total of 5,472 new enrollees (18 communities, each with 304 new enrollees) can be attributed to

the Archipelago campaign.

Figure 13. Difference in Difference for New Enrollees

Difference in Difference: Number of Total Enrollees

The difference in difference analysis demonstrated a rise in enrollment numbers between the

pre- and post-intervention periods. Control communities increased enrollments by an average of

218 members, and Target communities by an average of 813 members. The intervention

trajectory shows a steeper slope as compared to the control group trajectory. The counterfactual trajectory demonstrates what would have been the normal trajectory had the intervention not been present. The difference between the intervention trajectory and the otherwise secular counterfactual trajectory represents the difference attributable to the presence of the intervention. The interaction term estimates the difference in difference; on average, 595 (95% confidence interval: 416–774, $p < 0.0001$) total enrollees were seen per target community, and they can be attributed to the intervention. By extrapolation, a total of 10,710 enrollees (18 communities, each with 595 enrollees) can be attributed to the Archipelago campaign.
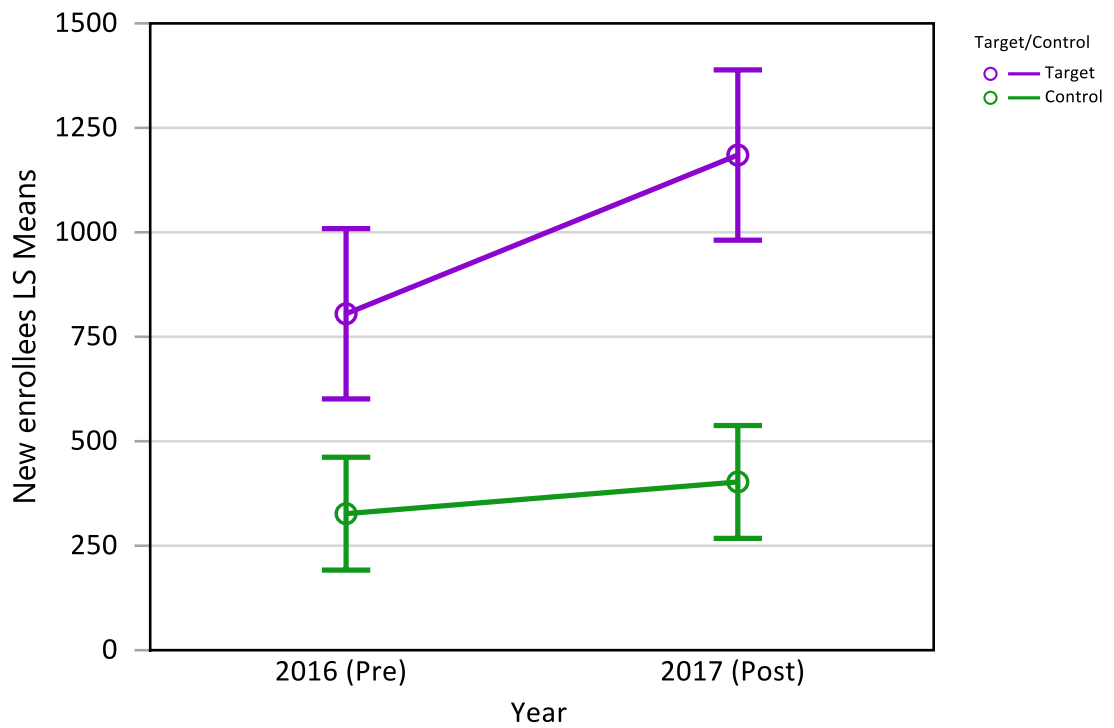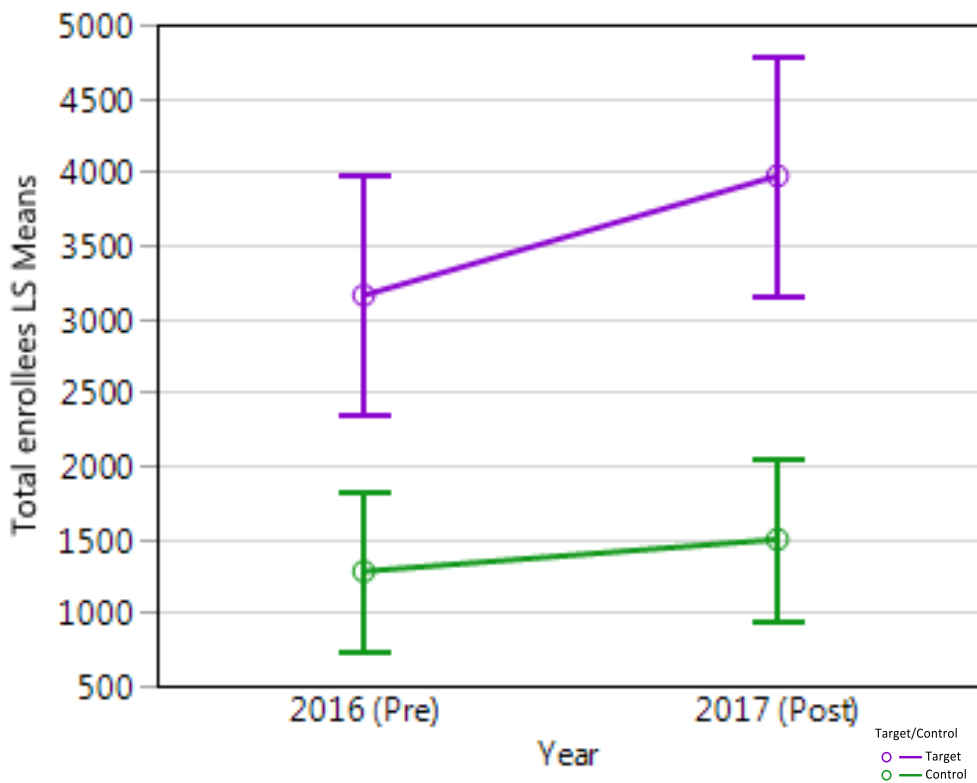

Figure 14. Difference in Difference for Total Enrollees

Discussion

These results show a strong, stable, and statistically significant association between the Archipelago campaign and Health Connector enrollment gains in target communities between 2016 and 2017. Specifically, the campaign translated into a total 5,472 new members and 10,710 total members; enrollees, which would have otherwise not been seen. This effect size proves a powerful measure of the campaign. The secular, or long-term, trajectory appears to be driven by the culture of coverage that has been built and strengthened in the state for the past 12 years, but the intervention greatly improves this trajectory. The direct effects of the intervention provide a valid measure for the return on investment of this campaign and provide clear guidance on future investments and the range of expected results.

The results highlight various other associations, which provide unique areas of evaluation and opportunities to further investigate, improve, or continue.

These associations include the following:

- The varying effects based on the degree of campaign intervention. The results showed a strong correlation between the degree of campaign intervention and increases in enrollment. While all target communities improved, target communities who received the highest degree of campaign presence increased their enrollments at a much higher level than those that received only a "significant" degree of intervention. The degree of campaign intervention was measured by the frequency of campaign strategies (media sources), such as: television, radio, newspaper, and outreach. Communities that received more than the average of 19 unique exposures through one or multiple media sources were considered having the highest degree of intervention, while the rest were labeled as receiving only a significant degree. There were only 6 target communities that received

the lower frequency, but they are mostly communities that saw a lesser amount of increased enrollment. This indicates that in future campaigns, all targeted communities, if possible, would benefit from receiving the highest degree of campaign frequency.

- Worcester was the worst performing target community for New Member enrollments. Even with the targeted campaign, it saw a 801 member decrease in enrollments. While Worcester consists of population groups found in other communities, there were two unique associations that may explain this surprising decrease. First, Worcester is a more traditional community; the majority of the population is white, and of the few minorities targeted in this community not many are recent immigrants. The information shared by stakeholder interviews with Archipelago revealed that there is a small minority of Dominicans and a larger minority of Puerto Ricans who have lived in this area for a long time. Perhaps assimilation implies a level of detachment from both the majority white community and the traditional ethnic community. It would benefit the Connector to further look into the effects of a targeted campaign on more assimilated immigrant communities versus recent immigrants. This type of work would lead to further understanding the unique barriers affecting each subgroup.

- Many control communities have comparable numbers of ethnic populations, and some controls actually have larger numbers of ethnic populations than some target communities themselves. These could become areas of priority in the next stage of the intervention. Communities with a large number of Asian populations include Malden, Newton, Brookline, Medford, Somerville, and Waltham. Communities with larger Latinx communities include Holyoke, Methuen, Haverhill, Fitchburg, Chicopee, Salem, Somerville, and Waltham. Further work would be needed to intentionally identify the

present need in each of these communities. While uninsurance rates are indicative of the need, it is necessary to understand the disproportionate rate that might be impacting ethnic communities in these areas. (Fig 10)

- A decline in enrollments was seen for a few control communities. This trend needs more analysis and exploration. Understanding more deeply why this is occurring would provide an area of priority for future outreach campaigns in these areas.

- Community partners in target communities stood out as a strong predictor of higher enrollments. Archipelago worked with up to 8 partners in each target communities, and worked with a total of 120 community partners. These partners were tapped for different responsibilities at different points in time, but their presence played an invaluable role in connecting to target communities. This is valuable information for the Connector, as they can explore further ways to bring current Archipelago partners to the table and perhaps have them play a more formal role at the Health Connector.

- The intentional use of customers' preferred method of communication proved beneficial to increasing enrollments in target communities. The media strategy revealed the strength of the communication networks for the targeted ethnic groups in this campaign. This information can help to guide more focused and efficient funding for the state. Future campaigns can now invest in the one best strategy for each minority group and, therefore, more efficiently increase enrollment numbers.

- Television and radio advertisements are media strategies that worked across most groups. It would benefit the Connector to increase the current level of television and radio advertisements and diversify the advertisements based on the tone of the message and the preferred language of the targeted group.

- The enrollment increases seen in target populations revealed network strength within those communities and between the community and health care system. It would be wise to diversify outreach aid based on the current demonstrated strength and do this by tapping into communities with the highest degree of network strength. By doing so, we could prioritize and more quickly decrease uninsurance in these communities. An example of communities with strong networks are Chinese and Vietnamese communities, whose target communities saw the highest degree of enrollments but also revealed through focus groups that many have access to the system through their neighbors, family, and friends who are more aware of the system and who personally help them navigate and enroll in health insurance. The Connector could prioritize targeted approaches towards these communities and then expand to other communities.

- Communities with Haitian residents performed the best in the total enrollment category. This highlights a strong effect of retention for this community and confirms the value of investment in this community, as a new Haitian member is more likely to remain in the system in the following years.

Overarching Themes of Success

The intentional focus of this campaign tackled three of the main barriers to enrollment: lack

of access to enrollment resources, structural difficulties, and retention of coverage.

Access to Enrollment Resources

Over the years, the uninsured in Massachusetts have stated that they highly value health

insurance but that they have trouble accessing the system (Chin et al, 2016). The Archipelago

campaign was able to connect the uninsured with existing enrollment resources through

appropriate communication channels. The Health Connector is member-centered and strives to

provide information on affordability, plan details, and application help via the web, phone, or in-

person venues. However, a large proportion of the uninsured were not currently accessing these

resources. The Archipelago campaign provided to the uninsured key information about existing

resources—such as links to web pages, and printed materials that included telephone numbers to

call centers and directions and hours of operation of local enrollment assisters—and this

information directing people to resources was in their preferred language. Archipelago did this

through networks of trust that the uninsured could safely believe were looking out for their best

interest and through communication networks that they understood, frequently accessed, and

trusted, such as Spanish television stations or local newspapers. The campaign helped the Health

Connector develop a stronger relationship with these communities; by constantly providing

information to the target communities, the campaign increased awareness of the Health

Connector and trust in it. Literature in the field often point to lack of access to enrollment

resources as a key barrier to coverage. Zuvekas and Taliaferro (2003) show that increased

awareness of the resources available acts as a pathway to address health disparities through

health insurance. The campaign guided many people to the resources and by doing so increased the Health Connector's return on investment. Increasing access to existing resources increased enrollment and in turn impacted the future well-being of the state by creating healthier communities.

Overcoming Structural Difficulties

The uninsured in Massachusetts have stated that they find the insurance application process difficult—due to technical challenges and to lack of knowledge regarding the appropriate plan to choose, the eligibility requirements, and the application or renewal dates—and they state a strong preference for in-person help, such as Navigators and other enrollment assisters (Chin et al., 2016). A large body of evidence strongly supports one-on-one enrollment help as a key to better enrollment practices. Castañeda et al. (2003) discusses enrollment assistance as a means of overcoming structural and systemic barriers in health insurance enrollment.

The Health Connector offers various types of one-on-one enrollment help: Navigators and enrollment assisters. There are about 15 Navigator organizations and 6 walk-in centers spread out across the state. Each of the centers is equipped with trained enrollment assisters who can serve in a variety of languages. During the 2017 open enrollment season, Navigators across the state submitted 5,724 applications for 9,037 people and assisted 4,800 new members in enrolling in coverage (Archipelago, 2017). They also provided continued support for members in the renewal process; they assisted 5,479 members through the redetermination and renewal process and answered 2,709 questions about premiums and bills. Similar services were provided at walk-in centers. These trained enrollment assisters are committed to increasing health insurance coverage by providing the necessary help. Archipelago addressed structural difficulties by

increasing access to one-on-one enrollment help. With this resource, the uninsured were able to

receive guidance during their application process and were more likely to begin and fully

complete their application. This helped many overcome application difficulties, such as choosing

an affordable plan, understanding fees and services, being aware of the approval process,

eligibility requirements, and deadlines. In addition, once a member of a community becomes

comfortable with the system, they are more likely to provide necessary information to their

family and neighbors to help them enroll.

Retention of Coverage

This work further strengthened the culture of coverage in Massachusetts, which can be

attributed to the years-long efforts of the Health Connector, Executive Office of Health and

Human Services, and community partners. By increasing the number of people receiving

coverage, the number of reenrollments in the system increases because people who are once

enrolled are more likely to come back. In addition, people discover the great value that insurance

can have for their health and the health of their families, and they are more likely to spread the

good news to others. By investing in this campaign, the state also invested in sustainability of

coverage and good health.

In a 2007 Health Affairs article, Sommers discusses the difference between retention versus

poor take-up (that is, initial enrollment in the system) (Sommers, 2007). By overcoming

uninsurance, the issue of poor take-up is addressed; however, once the individual is in the

system, retention of coverage becomes increasingly important, as it is vital that the individual

continues to access preventive care. Sommers found that inefficient eligibility renewal processes

were responsible for the loss of coverage for the previously insured. This is an area that the

Health Connector strives to address through their annual redetermination and renewals process. They have successfully set up a semi-automatic renewal process in which a series of steps guide the renewing individual through the eligibility redetermination process. This system has led to extremely successful results: in 2016 the system saw 94% retention of renewing members (Diamond et al, 2016). A key to sustainability of coverage is member retention, and this campaign helped to successfully adopt new members into the extremely successful renewal process that the Health Connector leads.

Recommendations

Based on these results and analyses, I recommend that the Health Connector:

1. Target high-performing populations.

   It would benefit the Health Connector to implement the intervention campaign among high-performing target populations (i.e., Chinese and Vietnamese). Greater intentionality would result in more efficient enrollment.

2. Explore the needs of poor-performing communities.

   Portuguese speaking communities were represented among all the worst-performing communities; it would be beneficial to run focus groups within these communities to understand if there are other communication networks or other types of messaging that would be more effective.

3. Formally engage with Archipelago's community partners.

   The community partners that Archipelago used during the campaign are very effective in engaging with ethnic communities. These partners included community groups that have a strong relationship with the communities, such as: churches, schools, health centers and

community centers. It would be beneficial to formally partner with them. Perhaps some community organizations would be interested in becoming Navigators or in receiving a Health Connector grant in order enroll people at their centers.

4. Engage in social media marketing.

Archipelago did not do much marketing over social media. The Health Connector should look into marketing within popularly used applications (such as Bumble, Hinge, Tinder, Uber, Lyft, Facebook, Instagram) to increase Health Connector awareness, especially among 25- to 35-year-olds.

5. Forge a partnership with MassHealth.

The Health Connector and MassHealth serve a population that churns between the agencies due to eligibility changes. It would be beneficial to pair up in enrollment efforts. The two organizations could share enrollment centers to increase geographic presence, especially in areas where the Health Connector lacks walk-in centers or Navigators; co-host enrollment events; and together set up auto-enrollment systems between the two agencies to address churn.

6. Provide on-the-go enrollment.

Go where the people are. Enroll at safety net clinics, supermarkets, WIC centers, food pantries, schools, churches, etc. Tap promotoras (lay Latinx community members who provide basic health education) to lead this work.

7. Consider provision of monetary incentives.

Provide monetary incentives for enrollment assisters. The health insurance marketplace in California—Covered California—currently provides enrollment assisters incentives of $58 per completed new enrollee application and $25 for renewals (Covered CA, 2013).

8. Assess geographic resources.

Lead a geographic analysis of one-on-one enrollment aid to fully understand where more resources are needed. The geographic approach will provide an idea of the current spread of one-on-one enrollment help. Based on this knowledge, the Health Connector can then seek partnerships in geographic areas that currently do not have one-on one resources. It would be beneficial to partner with current Archipelago partners, MassHealth, community clinics, non-profits, and other community leaders looking to increase access to health care. A joint-efforts approach will help to more effectively use already existing resources.

Limitations of this Study

This analysis focused on a real-life policy implementation. The campaign was not implemented in a strictly controlled environment, and therefore it is vital to discuss the various limitations that affected the project.

Unable to Access Data from MassHealth

Because the marketing campaign could not ensure that only those eligible for Health Connector services received the treatment, and because many of the target communities represent mostly low-income individuals, it is expected that individuals eligible for MassHealth (Massachusetts Medicaid) also received the treatment. It is assumed that those individuals received the targeted information, acted on it, but were then redirected to MassHealth due to their Medicaid eligibility. It is impossible to account for this group of individuals within the campaign data; therefore, an initial strategy was to include MassHealth data as part of my pre-

and post-enrollment analysis to complement enrollment levels and provide a more complete

picture of the higher enrollment rates of the uninsured. In Fall 2017, I submitted a formal data

request to MassHealth for their enrollment numbers for March 1, 2016 and March 1, 2017.

Unfortunately, MassHealth was reluctant to share this data. The process advanced to a formal

phone interview, but the request was not approved and is still under legal review. This affected

my original research design and took away from my ability to paint a more accurate picture of

enrollment. Future work should include this layer of data.

Imperfect Controls

Control communities were less than perfect. It was very hard to perfectly match

communities, as there is so much variation across the state in terms of uninsurance rates and

demographic spread. In order to account for these differences, three control communities were

used for each target community. But even then, many of the control communities looked much

different than our target communities. This is not by mistake, as the target communities were

purposely chosen for having the highest uninsurance rates and the highest rates of ethnic

minorities. While the comparisons are not perfect, they still provide meaningful insights into the

deeper story of uninsurance and how unique the needs of each community truly are. Future work

could create a mathematical algorithm that more accurately matches control communities.

Difficulty Determining Effect of Each Communication Method

Unfortunately, because the marketing campaign was so widespread, it was difficult to

attribute a specific method of communication to a specific case of enrollment. Community

members received various iterations of enrollment messages through television, radio, web, and

printed material, but the data could not specify which method of communication finally led them to take action. Future work could include leading a randomized control trial with different communication strategies among the varying population groups in order to determine a more direct correlation between communication method and enrollment.

Mismatch of Survey Data

There was a slight difference in the years of focus between the American Community Survey data and the Health Connector data. The US Census Bureau conducts the American Community Survey, and detailed information by town was only available as an average across three years, so we used the most recent data available—the 2012–2015 survey data. But the Health Connector data was from March 1, 2016 and March 1, 2017. However, the survey data was still significant and demonstrated close-to-accurate accounts of the populations and uninsurance rates. It is common practice in applied policy work to use readily available data, even if it is imperfect. Future research should re-run the analysis when the 2014–2016 data average becomes available.

Reliability of Health Connector Ethnicity Data

It must be noted that while ethnicity information from the Health Connector data was used to more closely compare communities, both the policy and reporting teams warned against the reliability of this data due to technical issues of the reporting software. Currently, the system does not accurately record ethnicity: when multiple ethnicities are reported, the system only records the first in alphabetical order. Therefore, many members are misidentified. In addition, this question is currently optional on the application questionnaire, so not every member answers it.

Conclusion

This work furthers current health communication research by demonstrating the importance of intentionally targeting population type and using preferred communication networks. While previous research shows that consumers are responsive to persuasive communication messages about health insurance, this project highlights unique communication strategies that resulted in high numbers of new and total enrollments. These strategies show the importance of tone messaging, using preferred communication networks, and partnering with local networks of trust. These results show the importance of strategic investment in outreach and marketing campaigns and suggest that intentional, focused, and targeted approaches will continue to improve enrollment in hard-to-reach populations. Furthermore, this research identifies ways in which the state can more efficiently invest in outreach methods and provides ideas for other states to consider when looking to more intentionally address uninsurance among subgroups in the population.

Section 7

Would strengthening the individual mandate improve coverage? What can Massachusetts

learn from the experience of other countries with individual mandates?

Background

The individual mandate is a policy provision requiring most citizens and documented non-citizens to enroll in health insurance. Under this provision, individuals who are eligible but do not comply must pay a penalty (CBO, 2017). This policy was first instituted in the 2006 Massachusetts health care reform and became more widely popularized in 2010 when the Patient Protection and Affordable Care Act was signed into law by President Barack Obama. The individual mandate ensures that both the healthy and the unhealthy are insured and moves the population towards universal coverage (CBO, 2017). MIT economist Jonathan Gruber used the three-legged stool metaphor to explain the shared responsibility between insurers, individuals, and the government in creating a culture of insurance. For the health care reform stool to stand upright and be steady—that is, for the financial risks of health care costs to be broadly distributed—each leg needs to abide by specific rules and regulations designed for it. These rules and regulations include both positive and negative incentives. The leg of the stool representing individuals includes: the *individual mandate* to enroll in an insurance program, a *penalty* for not enrolling, and *subsidies* for lower-income residents (from the government) to help pay insurance premiums (Gaba, 2017).

The Individual Mandate

The individual mandate ensures that a larger proportion of relatively healthy people purchase health insurance (Chandra et al., 2011). The premiums paid by healthy people help to balance the expenses of health care for that year paid by the insurance companies. The Commonwealth of Massachusetts led the US movement with its 2006 reform, and it now has the lowest national rate of uninsured residents at 2.5% (Norris, 2018). At the beginning of the Massachusetts phase-in, there was a greater increase in the number of healthy enrollees than in the number of enrollees with chronic illnesses (Chandra et al., 2011). It began with 1,000 new healthy enrollees in March 2007 and continued with a slight monthly increase over the next eight months. Finally, when the mandate became fully effective, in November–December 2007, the number of healthy enrollees jumped from an average of 2,000 per month to 6,000 per month. A similar trend was seen for the chronically ill but at a much smaller scale: a jump from 1,000 per month to 2,000 per month. The mandate clearly brought in a larger pool of healthy people than unhealthy people; we can thus deduce that the mandate had a causal role in improving risk selection (Chandra et al., 2011).

Penalty for Uninsurance

The penalty for uninsurance in Massachusetts takes into account both the state and federal individual mandates. For tax years beginning on or after January 1, 2014, nonexempt uninsured individuals were penalized with a *shared responsibility* payment and must be reported on their federal income tax return. In 2017, this was an annual federal penalty of $695 dollars per non-elderly adult (Gammon, 2017). To prevent charging the uninsured individual both a state and federal penalty, the state allows for the federal penalty to be deducted from the Massachusetts penalty owed. If the state penalty was less than the federal penalty, then only the federal penalty

would be charged. In Massachusetts a typical annual penalty for a 26-year-old earning above the 300% federal poverty level would be $888 (Mass.gov, 2017). (This information is accurate for the year 2017.)

Subsidies for Lower-Income Individuals

As a balance to the penalty, subsidies, paid for by the Massachusetts government, help pay insurance premiums of lower-income individuals and serve as a means to address affordability; subsidies are a positive incentive to encourage healthy individuals to enroll in health insurance (Chandra et al., 2011). Subsidies in Massachusetts are automatically calculated into the monthly premium fee based on an affordability standard per income bracket. Household incomes between 100% and 400% of the federal poverty level qualify for Advanced Premium Tax Credits which will help to reduce the premium paid each month; the individual can use this credit on their choice of four different plans (Platinum, Gold, Silver, and Bronze plans). The Health Connector sends the tax credit directly to the insurer. At the end of the year, the IRS will reconcile estimated income to the credits when taxes are submitted (Minuteman, 2017). In addition, households with incomes between 100% and 300% of the federal poverty level also qualify for savings on out-of-pocket costs; this is available through a special set of plans known as ConnectorCare plans. For a 26-year-old earning between 250.1% and 300% of the federal poverty level (this is an income between $29,701 and $35,640), the affordability standard would be 5.00% of their income and that individual would pay a premium of $124–$149 a month (Woltmann, 2017). This premium amount takes into account both of these subsidies. (This information is accurate for the year 2017.)

US Affordable Care Act

When the nationwide Patient Protection and Affordable Care Act (ACA) was implemented, the individual mandate was an essential part of it. The mandate was contentious, but it activated a culture of coverage across the nation, a culture in which people moved quite rapidly through the stages of change (precontemplation, contemplation, preparation, action, and maintenance) status (Wayne, 2016). Disentangling the effect of the mandate from the effects of other policy changes implemented by the ACA has proved a challenge. Thus, direct evidence on the effects of the nationwide mandate is relatively scant (Fiedler, 2017). After the mandate was implemented, however, enrollment data demonstrates that the uninsured rate among people with incomes above 400% of the federal poverty level fell by almost one third from 2013–2015 (Fiedler, 2017). This trend is consistent with the view that the mandate itself (and not the subsidies) increases insurance coverage because these individuals are not eligible for the ACA's subsidies. While this information cannot directly assess the effect of the individual mandate, it suggests that it has had meaningful results (Fiedler, 2017).

The way that people reacted to the uncertainty surrounding the 2017–2018 open enrollment for the ACA confirmed that more and more people understand the value of health insurance. Through activism, protests, and political involvement, Americans spoke up to defend their right to healthcare (Bonagovlia, 2017). A November 2017 CBO report assessed the mandate as highly effective and as a central pillar to the ACA. Without the penalty, the CBO estimates that healthier people would be less likely to obtain insurance, leading to higher/inaccessible premiums for those left in the pool, and resulting in lower numbers of insured individuals (CBO, 2017). Unfortunately, the federal individual mandate was repealed December 22, 2017 (Pallarito, 2017). But because of state powers, the Massachusetts' individual mandate still stands.

The concept of an individual mandate is not unique to the United States. Other countries practice their own versions of the mandate and enjoy much smaller rates of uninsured; they are much closer to universal coverage than even Massachusetts. The Netherlands and Switzerland represent two successful examples of the individual mandate, and we explore their policies to determine if Massachusetts could benefit from implementing them in its pursuit of 100% health insurance coverage.

The Netherlands, Switzerland, and Massachusetts

The Netherlands and Switzerland make up two of the healthiest populations in the world. According to the World Bank, both countries are among the top three countries in the world for life expectancies: 82 years for the Netherlands and 83 years for Switzerland. Their health system performance is highly rated among users, both in terms of effectiveness and access. While cost control continues to be an area of concern, these health systems have much to show for their investments. Currently the Netherlands, with a population of 17.02 million, spends about 10.9% of their GDP on health care, while Switzerland, with a smaller population of 8.37 million, spends 11.7% of their GDP on healthcare (Mossialos et al, 2017). According to a 2016 report by the Organisation for Economic Co-operation and Development (OECD), titled "Universal Health Coverage and Health Outcomes," life expectancy had a positive correlation with health coverage and with overall provision of health care resources (Pearson et al, 2016). The health outcomes displayed by both the Netherlands and Switzerland, therefore, may be correlated with these countries' strict individual mandates and extremely low levels of uninsurance.

The United States on the other hand, is commonly mentioned as an outlier when it comes to the relationship between health expenditure and life expectancy (Mossialos et al, 2017).The

United States, unlike other developed countries, actually demonstrates an inverse relationship between expenditures and health outcomes. Compared to other developed countries, the United States spends the highest amount of GDP on health, 17.1%, but demonstrates a much lower life expectancy of 78 years. While a state within the United States may not exactly compare to fully independent countries, Massachusetts, through effective stewardship of its resources, exhibits a strong commitment to the health of their residents. Massachusetts has a population of 6.8 million who enjoy a life expectancy of 81 years, which competitively parallels the highest life expectancies of the world. In addition, Massachusetts has a high-performing health care system, led the country with its health care reform, and has the lowest level of uninsurance in the country. The Commonwealth, however, is not fully satisfied. It continues to lead by example and is committed to improving the health care system through cost containment and low uninsurance levels. It is therefore wise for Massachusetts to glean lessons from successful policy examples elsewhere.

Among the three systems, the Dutch and the Swiss have virtually no uninsurance—with rates of 0.2% and 0.4%, respectively—while Massachusetts has a rate of 2.5% uninsurance. Benefits across all three systems are set by the government with a minimum level of required benefits. In this manner, all three governments play a key role as oversight leads, guiding the vision of care, but not taking a dominant role. The governments set high expectations so that the other key players in the health insurance system know what to expect and know what is expected of them.

Another aspect common to all three systems is whom the systems serve. All three systems require all documented adults—citizens, residents, and documented migrants—to be enrolled in coverage. Children (0–18) in Massachusetts and the Netherlands have their own health coverage system, while Switzerland includes both adults and children as part of the same mandate. In the

United States the individual mandate became a political issue because of self-agency concerns—

often argued as a "right of choice." But the European systems are able to call into action the

individual responsibility to contribute to the country and their fellow citizens as a whole, while

still respecting self-agency. In the Netherlands, those who consciously object to health insurance

are still required to make a tax contribution towards the system even if they personally choose to

remain without coverage.

Furthermore, exemptions to coverage vary across the three systems, but the European

systems are undeniably stricter. Massachusetts provides exemptions for those who are

experiencing extreme financial burden and those with religious concerns. The Dutch exempt

active members of the armed forces (who receive separate coverage) and those who consciously

object to health insurance. The Swiss only exempt tourists. Even so, there is a common group of

individuals who are unwillingly exempt: undocumented immigrants continue to remain

disenfranchised across all three systems. While non-profits and safety net hospitals provide

emergency care, this continues to be an area desperate for creative solutions.

These examples highlight only a few areas of comparison; for greater detail please consult

the comparison chart below. Ultimately, experience from the Netherlands and Switzerland

suggests that strict policies encourage citizens to participate in mechanisms of compassionate

responsibility. These mechanisms can have powerful effects for the health of a whole country—

and not just communities who can afford it.

	Netherlands	Switzerland	Massachusetts
Uninsurance Rate	0.2%	0.4%	3.7%
Covers: Adults/ Children	Adults	Adults & Children	Adults
Exemptions	Armed forces and conscious objection*	Tourists	Religious, unaffordability
Migrants Subject to mandate	Documented	Documented	Documented
Type of Coverage needed	Basic Package	Basic Package	Minimum Standards
Mandate Enforcement	Penalty & Warnings	Penalty & Warnings	Penalty
Who is uninsured	Undocumented	Undocumented	Low income, young, males, minority groups, undocumented

Table 5. Individual Mandate Comparison

Key Areas to Strengthen

Strict individual mandates in the Netherlands and Switzerland have led to very low uninsurance rates in both countries. These individual mandates have a number of similarities, which suggests that strengthening the mandate in Massachusetts—to look more like the European ones—could result in improved enrollment outcomes. Specifically, Massachusetts should address these three areas: penalties for not enrolling, automatic enrollment, and limiting the number of health plans. The rest of this section looks closely at these three areas and then lists recommendations for Massachusetts.

Penalties for Not Enrolling

Penalties in the Netherlands and Switzerland differ greatly, both in *magnitude* and in *frequency*, from those in Massachusetts. We look at each of these below. In general, penalties are used as a negative incentive to provoke a reaction from the uninsured and move them toward positive behavior. A 2015 study at Washington University (Kubanek & Mooshagian, 2015) found that, compared to rewards, punishments were two to three times more likely to influence a

specific behavior (see more details on this study below). The penalties in the Netherlands and Switzerland have been shown to greatly increase enrollment (Ginneken & Rice, 2013).

However, many uninsured individuals participating in focus groups organized in Massachusetts through Archipelago Strategies Group, a business management consultant, and the Blue Cross Blue Shield Foundation, indicated they were unaware of the penalty system and stated that the penalty did not actually play a role in their decision-making (Chin et al, 2016). This lack of awareness raised an interesting question: Which plays a greater role in the pursuit of behavior change through penalties—the magnitude or the frequency of the penalty?

Magnitude of Penalties

The Netherlands and Switzerland both have higher and more stringent penalties for not enrolling in health insurance than does Massachusetts. The Dutch charge $390.72 for every three months of unenrollment, and after six months of uninsurance (a total penalty of $781.44), automatic enrollment occurs (Esmail, 2016). The Swiss charge a one-time penalty of 30–50% above the cost of insurance before automatic enrollment occurs; the estimated penalty for an adult (age 26 or older) is $1,093.5 for three months of uninsurance after the initial warning and before automatic enrollment (Zamosky, 2016). Both the penalty and automatic enrollment occur at the same time, 3 months after the initial warning. In addition to the penalty, the uninsured Swiss individual is also responsible for pre-paying a full year of coverage that they are automatically enrolled in.

This is different from Massachusetts where it is "legal" to remain uninsured, as long as you pay the penalty. In Massachusetts the individual is charged a tax penalty at the end of the year for each month without coverage. The penalty cannot exceed 50% of the least costly insurance premium the individual would have qualified for. In addition, a gap of 63 days or less without

coverage is not penalized. The estimated penalty for a 26-year-old earning more than 300% of the federal poverty level is $222 every three months (Mass., 2017).

Monetary dis-incentives (penalties) can have two kinds of effects: a direct economic effect and an indirect psychological effect (Schweyer, 2017). The economic effect makes the incentivized behavior more attractive, and the psychological effect guides the individual's feelings about engaging in the incentivized behavior. Thus, a penalty encourages the uninsured to assess the economic repercussions, while triggering a negative psychological effect. Research shows that a combination of these two effects guides people toward behavior change (Schweyer, 2017). Monetary penalties incite action while tackling the psychological barriers of time-inconsistent preferences, future discounting, and an underestimation of the return on coverage (Frederick, 2002). Time-inconsistent preferences address the changing dynamic of an individual's preferences over time, thus explaining the lack of interest in health insurance during an episode of good health; whereas this preference will change when the individual is faced with an illness. Future discounting is the tendency for individuals to disregard the value of an investment in present time; in this case the individual does not see the value of a large investment in health insurance when there are serious and more direct costs—such as rent—in the present. Underestimation refers to the human tendency to underestimate the occurrence of a rare event and therefore undervalue a good, such as the return on coverage. Thus, it is important to understand if the *amount* of the penalty itself has an effect on behavior or if it's simply the *presence* of the penalty that has an effect. For this, we turn to research that provides a greater understanding of monetary incentives as extrinsic motivators.

Research at the University of Michigan (Rodgers, 2002) found that increasing the amount of an incentive (in this case, money) increased the rate of a desired behavior. In a separate study,

Willard Rodgers examined the longitudinal effects of monetary incentive size on the response rate for the Health and Retirement Study (HRS). HRS is a survey that has been administered biennially since 1992 and pays a $20 incentive to each successful respondent. In 2000, all eligible participants were randomly assigned to one of three different groups to be paid either $20, $30, or $50 (Rodgers, 2011). The results clearly indicate that the size of the monetary incentive did indeed impact the response rate of the participants. Those given $50 had a higher response rate than those given $20, and those given $30 fell in between the two extremes. While this experiment focused on a reward rather than a penalty, it still provides valuable insight into the effects of the magnitude of an incentive on behavior. Furthermore, it supports the notion that a higher penalty could potentially have a greater effect on the desired behavior.

However, Kubanek et al. (2015) found that while the size of the reward matters, the size of the penalty did *not* matter; that is, a penalty had a similar effect no matter the size of the penalty. All penalties curbed behavior equally. Researchers varied the magnitude of an incentive after an auditory task. Participants were given headphones and instructed to indicate whether the stimulus (a clicking sound) was coming from the left ear or the right ear; this was recorded through a control they held in each hand. They would then see a score on the screen indicating if they were correct or incorrect. The correct answer would receive a positive monetary score (reward), and an incorrect answer would receive a negative monetary score (punishment). The study looked at the choices made after the incentive was administered. If a choice was rewarded, participants were 53.0% more likely to repeat this choice (assuming a 50% chance of repeating "right" or "left" without any reward or punishment). If a choice was punished, participants were 57.3% more likely to avoid this choice; meaning, punishment was two to three times more likely to affect behavior (7.3% is 2.4 times larger than 3%).

The findings of Kubanek et al. confirm research such as Rodgers' on the HRS survey regarding the magnitude of a reward, but the findings also show that the magnitude of the incentive and the magnitude of the dis-incentive had differing effects. Intuitively, higher monetary scores for correct answers resulted in a stronger tendency for participants to repeat their previous choice. But more negative monetary scores (that is, larger losses) did *not* result in a stronger tendency to avoid their previous choice; regardless of how small or large a loss, the tendency to avoid the previous choice remained the same. These findings provide the evidence necessary to call into question the effectiveness of the larger penalty rate in the Netherlands and Switzerland as compared to Massachusetts.

Frequency of Penalties

The penalty periods in the Netherlands and Switzerland are shorter than in Massachusetts: six months in the Netherlands, three months in Switzerland, and as long as twelve months in Massachusetts (where the magnitude of the penalty actually ends up being higher than the other countries). In addition, the Netherlands and Switzerland use a warning system in which they automatically contact the uninsured within three months of uninsurance. I argue that it is not the *magnitude* of the penalty but rather the *frequency* of contact, to warn and penalize, that is more effective on behavior change.

This argument is supported by the concept in behavioral economics of frequency bias (Malina & Selto, 2015). Frequency bias can be described as an "associative machine" (words or situations that evoke memories and a subsequent emotional reaction) that individuals engage in when faced with a recurring stimulus that influences their behavior (Kahneman, 2011). This concept is commonly used in marketing and generally known as the "Rule of 7." Seven different

exposures are needed for a stimulus to result in the desired behavior (Zajonc, 1965). While this is generally a legitimate concept for advertising, when it comes to enforcing penalties, the Netherlands and Switzerland provide evidence that just one or two points of contact may be enough.

Furthermore, small and frequent monetary incentives (both positive and negative) have been shown to be more effective in creating behavior change than one lump sum (Loewenstein, 2013). This concept has been applied across various fields and has even been pitched as an effective means for improving Pay-for-Performance program designs (Wu, 2012). (Pay-for-performance programs pay hospitals and health care providers for specific quality measures, such as those typically associated with process, outcome, patient experience, and facilities and equipment. The providers can also be fined for not achieving certain quality measures.) It is this method of increased frequency, of both penalties and warnings, that needs to be further analyzed as a creative solution to increasing insurance enrollment.

Compared to Switzerland and Massachusetts, the Netherlands administers penalties to the uninsured with the highest frequency. Uninsured individuals are charged up to two penalties, once every three months. The Swiss charge a one-time penalty after six months of uninsurance, while Massachusetts charges a one-time penalty after 15 months of uninsurance. Both European countries establish the penalty at the beginning of the uninsurance period; that is, the uninsured are charged at the three-month mark. In the Netherlands, those who have failed to purchase health insurance will receive a letter from the National Health Care Institute requesting they do so. From that moment, they have three months to purchase a health plan. If after three months the person still does not have health insurance, a penalty (equivalent to $390.72 in US dollars) will be charged. If, after 3 more months, the individual still has not purchased insurance, another

$390.72 penalty will be charged (National Healthcare Institute, 2015a). Three months later, if the individual fails to purchase insurance, the Institute will purchase a 12-month plan on the person's behalf. This will be a legally binding contract for the standard insurance policy, and the premium will be deducted from the individual's income directly by the employer or social security agency (National Healthcare Institute, 2015a).

Switzerland, in a similar manner, monitors the uninsured, but this is performed by each canton (state); and while the method of contact differs by locality, this is done mostly by mail or in person. At the three-month mark, the cantonal authority will charge a penalty 30-50% above the cost of insurance; three months later, if the uninsured individual has not enrolled in coverage, the cantonal authority will assign an MHI (mandatory health insurance) company to them and will garnish their wages for this legally binding contract. The penalty can be charged in person or through the mail; if the individual refuses to pay, the Swiss government allows the insurance company to sue the individual for any outstanding debt (Ginneken, 2015).

These findings emphasize the importance of continued engagement with the uninsured *at the beginning* and *during* the period of uninsurance. Behavioral economics research provides powerful insight into the effects of penalties as incentives and has identified that loss aversion is the key determinant in the effectiveness of a penalty (Romanowich & Lamb, 2013). Therefore, in a mechanism with increased frequency, a constant reminder of the monetary loss would provoke action from the recipient. To apply this policy in Massachusetts, the current *magnitude* of the penalty could stay the same, but the penalty would simply be charged on a more frequent basis rather than as a lump sum at the end of the year. Increasing the frequency of a penalty would tap into the loss aversion mindset more consistently, instead of the larger penalty registering as a sunk cost after filing taxes.

The penalty could be administered as a citation or ticket. Americans are familiar with traffic tickets; therefore using tickets as a method of penalty administration for uninsurance would tap into an already active culture of loss aversion. This natural disdain for tickets would provoke a faster response to the penalty. Parking and traffic tickets prove to be some of the most effective methods in generating behavior change in the United States. A longitudinal study on speeding violators in Maryland noted that the increased perception of being caught and ticketed improved behavior change by lowering the frequency of speeding (Lawpoolsri & Braver, 2007). Furthermore, in 2014, the *Journal of Policy Analysis and Management* published a Harvard Kennedy School study exploring the effects of the Massachusetts "Click It or Ticket" program (Luca, 2015). This study showed that the campaign decreased motor vehicle crashes by roughly 11% and showed that tickets, while highly unpopular, did indeed impact the behavior of drivers in Massachusetts. Therefore, increasing the frequency of a penalty through a method of administration proven to tap into a loss aversion mindset can prove extremely beneficial in incentivizing the uninsured to enroll in coverage.

In addition, the Netherlands and Switzerland have a warning system, which also increases the frequency of contact with the uninsured individual. Both countries contact uninsured individuals with a warning within three months of uninsurance; thereafter each penalty, in itself, is a warning and a punishment. In Massachusetts there is no formal warning before the penalty. There is, however, some communication with the previously uninsured. Each year, since 2012, the Department of Revenue, through a contract with the Health Connector, mails enrollment information directly to last years' uninsured individuals before the open enrollment season. Beyond this open enrollment communication, there is no other form of communication or warning system with the uninsured. This lack of communication may be leading to the penalty

unawareness the uninsured have displayed. Establishing a warning system, as well as adding more frequent penalties, would be beneficial in further engaging the uninsured in Massachusetts.

Automatic Enrollment

Both the Netherlands and Switzerland have adopted an automatic enrollment policy. After warnings and penalties, the individual who continues to be uninsured is then automatically enrolled in a 12-month basic plan, and full payment is deducted from their income. Automatic enrollment communicates a clear message about the goal of the individual mandate policy: 100% coverage. In addition, for individuals who have a difficult time navigating formal insurance mechanisms, automatic enrollment helps them overcome these barriers. According to Ginneken et al. (2013), both European systems enjoy almost 0% uninsurance due to this very successful part of the mandate. Massachusetts does not currently have an automatic enrollment policy for the uninsured, but it would greatly benefit the state's vision to reach 100% insurance coverage.

Psychological Biases

The field of behavioral economics has strongly supported automatic enrollment or opt-out mechanisms (rather than opt-in mechanisms) as a means of helping individuals overcome psychological biases or system barriers. David Halpern, director of the UK Behavioural Insights Team, describes the intersection of behavioral economics and policy as a means of more effectively improving the lives of those governed (Madrian, 2014). Congdon et al. (2011) describes three psychological biases that automatic enrollment can address: imperfect optimization, bounded self-control, and non-standard preferences.

Imperfect Optimization. This psychological bias says that people actually aren't capable of perfectly maximizing their own welfare, especially when it comes to the health insurance system. A busy lifestyle, in combination with the complexity of the insurance system, can have a limiting effect on the attention and focus of the consumer, impeding their ability to make a yearlong financial commitment (Kahneman, 2011). This leaves some people uninsured. The variety of choices provided by the insurance system can overwhelm a person's mental capacity for computing which plan is best for them, and this can easily deter a consumer from choosing any plan at all or fully completing their insurance application.

Bounded Self-control. Individuals have limited levels of self-control; and temptation and procrastination can play a significant role in the discrepancy between intention and actual behavior. Qualitative studies in Massachusetts show that many of the uninsured do indeed value health insurance and actually intended to enroll, but the barriers the system posed deterred their enrollment action (Kahneman, 2011).

Non-standard Preferences. Typically, it is assumed that individuals prefer the outcome that maximizes their benefit, but this does not take into account the often-challenging paths that lead to those outcomes. The bias of non-standard preferences looks at other motivating factors that affect behavior, including the power of the status quo. For an individual who was uninsured last year and is now facing multiple barriers to choosing insurance, the status quo of remaining uninsured becomes a prominent option. The uninsured individual will evaluate outcomes in terms of relative reference points: if a year of no insurance proved relatively safe, then another year without insurance does not seem terrible (Kahneman, 2011). This concept agrees with the bias commonly seen in the uninsured population: the tendency to place much less weight on the

future relative to the present. For low-income communities, a large economic investment is inconceivable when they assess competing needs, such as housing and food.

Thus, automatic enrollment policies can be used as an effective strategy to help individuals overcome systemic barriers. It results in the successful enrollment of those who would have otherwise remained uninsured. And, because Americans value independence, an automatic enrollment policy could be used as the penalty itself.

Automatic Enrollment in Other Fields

In the United States, automatic enrollment has already been shown to be an effective intervention in children's health insurance coverage, 401K savings plans, and diabetes health plans.

Express Lane Eligibility was a policy introduced by the Children's Health Insurance Program (CHIP) Reauthorization Act of 2009. This policy enabled the automatic enrollment of children into the CHIP program by sharing eligibility information among partner agencies (TANF, SNAP, Medicaid, SNLP). This enabled the program to serve a higher number of children and save about $1 million annually in administrative costs. This policy also improved retention of coverage because automatic enrollment was extended to the renewal process (Hoag, 2015), thus proving that automatic enrollment can increase coverage, savings, and retention.

Automatic enrollment has also been used in retirement saving programs. Automatic 401K enrollment was encouraged by the Pension Protection Act of 2006 and demonstrated to have substantial benefits for employees (VanDerhej, 2010). Automatic enrollment dramatically increases participation, especially among younger and lower-income populations (Madrian & Shea 2001). VanDerhej (2010) demonstrated that under a voluntary system, the median 401K

accruals for the lowest income quartile of workers between ages 25–29 would only be 0.08 times their final earnings at age 65. Meanwhile, those with automatic enrollment and automatic deposit into their 401K demonstrated an accrual of 5.33 times their final earnings.

Finally, health promotion has seen a successful set of automatic enrollment interventions. Kimbro et al. (2014) studied strategies to optimize enrollment in insurance plans that focus on diabetes prevention and showed that automatic enrollment was one of the most effective strategies. Diabetes Health Plans (DHP) began in 2009 as a US wellness program from which self-insured employers across the nation purchased insurance plans that offered their employees free or discounted copayments for diabetes-related medications, testing supplies, and physician visits. This study focused on 5,014 eligible employees from 11 self-insured employers who had purchased DHPs; 6 of those employers used voluntary enrollment, while 5 used automatic enrollment. Automatic enrollment resulted in a 91% enrollment rate versus a 35% rate for voluntary enrollment. In addition, the strategy excelled at enrolling populations that tend to be disproportionately affected by diabetes—such as people with lower incomes, Hispanics, and those with comorbidities—and who would have otherwise not been enrolled (Kimbro et al., 2014).

Pre-implementation Planning for Automatic Enrollment

An important concern to keep in mind when it comes to automatic enrollment policies is the necessary pre-implementation planning. Issues of infrastructure, training, and education must be addressed in order to successfully administer the policy. Ginneken (2013) discusses the infrastructure necessary to successfully carry out the policy. Partners need accurate mechanisms that facilitate data sharing; this can be done through specifically designed databases and registries or by contracts that allow the sharing of data across agencies. Hoag (2015) lists

infrastructure as a key factor of success in the Express Lane Eligibility program. The upfront

investment in infrastructure permitted state agencies to share information and allowed for the

system itself, rather than staff, to determine enrollment eligibility. As an additional success

factor, Hoag recommends investment in training and education for those carrying out the

administrative implications of the policy. An automatic enrollment system for health insurance

must use a detailed protocol for successful monitoring, enrollment, and compliance of the

uninsured. This upfront investment has great rewards for the system. In two years of actively

tracking and automatically enrolling the uninsured, the Netherlands saw a 1.6% decrease in the

uninsurance rate. If the same rate of success was experienced in Massachusetts, in the span of

four years, we would see the uninsurance rate drop to about 0.5%.

Limiting the Number of Health Plans

The Netherlands and Switzerland offer a limited number of health insurance packages, two in

total: a basic and an optional package. In the Netherlands, these options come from 9 different

health insurers (Government of the Netherlands, 2017), and in Switzerland from 13 (CH.CH,

2017). Each basic package is equivalent across all insurers and includes the same type and

number of services. The optional package serves as an addition to the basic package; it varies

across insurers and offers diversity in services and pricing. The optional package is completely

voluntary and not necessary to meet the individual mandate requirement. Massachusetts offers

many more choices, an average of five plans (Platinum, Gold, Silver, Bronze, Catastrophic) from

13 different insurance companies. While each plan contains the mandated minimum benefits,

there is a large variability provided by insurer carrier, and so each plan is described in detail

along dimensions of premium price, deductible, out-of-pocket cost, benefits, carrier details, and

plan details (MA Health Connector, 2017). The insurer provider also dictates choice in provider and locations of services. This unique difference in choices between the three systems can provide an area of evaluation in the Massachusetts system, specifically regarding the negative aspects of too many choices.

Choice Overload

American psychologist Barry Schwartz discusses the issue of choice and consumer satisfaction in his Paradox of Choice theory and argues that eliminating consumer choices can greatly reduce anxiety for shoppers (Schwartz, 2004). Choice overload affects the consumer by increasing anxiety, stress, and dissatisfaction—which can ultimately lead to choice deferral. According to this theory, the number of health plans offered in the Massachusetts market create a stressful experience, which then inhibits consumers from choosing any plan or even from starting the application process. Choice overload is described by Simonson (1992) as a set of diverse options that overwhelm a consumer's cognitive resources and can lead to choice deferral. Numerous examples from behavioral economics show that choice overload is significantly influenced by four factors: the complexity of the choice set, the difficulty of the decision task, the consumer's preference uncertainty, and the consumer's decision goal (Chernev et al. 2014). Addressing these factors may decrease choice overload and lead to successful enrollment in health insurance.

The complexity of the choice set reflects value-based relationships among the choice alternatives (Chernev et al. 2014).. In our case, the complexity of insurance choices would focus around the value each plan holds for the consumer: How well does each choice align with the

needs of the consumer? The 13 different insurers offering (on average) five plans each greatly increases the choice set complexity in the Massachusetts system.

The difficulty of the decision task reflects the structural and operational properties of each choice (Chernev et al. 2014). In Massachusetts, this includes the complexity of the Health Connector website, the vocabulary around health insurance ("copay," "coinsurance," "HSA," "in-network," etc.), and plan descriptions based on a number of dimensions (premium, deductible, out-of-pocket cost, services, etc.). In addition, when a consumer is pressed for time and is navigating a system they're not comfortable with, it is easy to become overwhelmed by the number of choices and thus have greater difficulty making a decision.

The consumer's preference uncertainty reflects the degree to which the consumer understands and evaluates the benefits of each of the options and is certain which one would best serve them (Chernev et al. 2014). The uninsured population in Massachusetts has repeatedly expressed their struggle in understanding the system (Chin, 2016). This lack of expertise creates high levels of uncertainty for the uninsured; if they don't receive help, it is simply easier for them to leave their application unfinished.

The consumer's decision goal reflects the degree to which the individual aims to minimize the cognitive effort involved in making a choice. For the uninsured, who often face socio-economic disparities, financial responsibilities for housing and food take precedent in their cognitive focus; therefore they need an uncomplicated health system that requires only a minimum of cognitive effort on their part in order to make a decision.

Examples from literature support each of these concepts. Iyengar and Lepper (2000) found that an extensive array of options may seem appealing at first but actually reduces motivation to

purchase. They exposed hundreds of shoppers at an upscale grocery store to a tasting booth displaying a variety of flavors of jam. The shoppers either encountered a display of 24 jams or a display of just 6 jams. Of the shoppers who encountered the more extensive selection, 60% of them stopped at the booth, compared with only 40% who encountered the less extensive selection, demonstrating that a larger assortment is initially attractive to consumers. However, subsequent purchasing behavior of the shoppers who stopped at the booth reveals that the larger number of choices actually inhibited motivation to purchase. Only 3% of the group exposed to the larger selection subsequently purchased a jam, while 30% of the group exposed to a limited selection purchased a jam. Iyengar and Lepper's findings challenge previously supported theories of human motivation and rational choice and provide valuable evidence about the effects of large selections on purchasing behavior. This study provides powerful evidence that while a larger selection of health insurance plans in the Massachusetts system might seem attractive, the consumer is more likely to walk away without purchasing a plan. The simplicity of the two options provided in the Swiss and Dutch systems could improve the rate of insurance coverage in Massachusetts.

In addition, the basic insurance packages in Switzerland and the Netherlands are virtually equal in price across all insurers, and so the consumer can feel certain that the basic package will offer identical coverage no matter which insurer they choose. The lack of details makes the purchasing decision a lot easier. But in Massachusetts, because of the variability in price of each plan, the marketplace display provides more details, describing each plan along various dimensions (premium, deductible, services, etc.). This dynamic reveals that an increase in product description increases choice complexity and therefore deters individuals from making a choice.

In 2012, Corporate Executive Board, a company that studies best practices in businesses, surveyed thousands of consumers regarding their purchase experiences and interviewed hundreds of marketing executives. They found that the single best practice that resulted in consumers following through on a purchase decision was "'decision simplicity'—the ease with which consumers can gather trustworthy information about a product and confidently and efficiently weigh their purchase options" (Spenner & Freeman, 2012). It is this concept of simplicity that, if applied to way plan choices are described on the website, may lead to an increased number of plan selections and thus successful enrollments.

Ultimately, one the largest deterrents in the process of health insurance enrollment is a high number of choices. Chernev et al. (2014) found that choice overload can result in choice deferral. In our European examples, limited choice in plan type helps to overcome this barrier and encourages the consumer to successfully make a decision and purchase a plan. While American culture tends to pride itself on choice availability, evidence supports narrowing the number of choices to increase plan purchasing.

Conclusions

To increase health insurance coverage, Massachusetts would greatly benefit from strengthening its individual mandate by: increasing the frequency of penalties and warnings for the uninsured, creating an automatic enrollment policy, and limiting the number of health plans offered. Each of these are addressed below.

Increase the Frequency of Penalties and Warnings for the Uninsured

1. While it may be tempting to believe that a larger penalty would have a greater role in creating behavior change, evidence provided in this section shows that this is not the case. Any penalty, no matter the size, will curb behavior equally. It is the *frequency* in which the penalty is administered that has a greater effect on behavior change.

2. Based on evidence from our European counterparts and from behavioral economics research, I recommend Massachusetts adopt a more frequent penalty-and-warning system for their uninsured.

3. The penalty does not necessarily have to be greater. Rather, keep the current monthly penalty but warn the uninsured that they are being charged every three months.

4. I recommend sending this penalty warning in a ticket/citation format, indicating the amount of the penalty clearly in red. If the infrastructure exists to be able to charge this amount of money every three months, then administer it as a penalty. If the system cannot support this, then at least administer a ticket as a warning every three months and clearly show the price of the penalty.

Create an Automatic Enrollment Policy

1. I recommend creating a system to automatically enroll the uninsured by their second warning (after six months of uninsurance).

2. They can be enrolled in a basic package created specifically for this policy or can be enrolled in a catastrophic plan.

3. This policy must be communicated widely.

4. The automatically enrolled must receive clear guidance on how to pay for their new plan.

5. Like the Dutch and Swiss plans, I recommend that the money be automatically deducted from their income or taxes to avoid debt deferment.

Limit the Number of Health Plans

1. I recommend limiting the number of insurance plans to only two choices; either a basic or an alternative package.

2. I also recommend limiting the description of each plan. A basic package must be uniform across insurers; therefore it would not need to be described in as much detail as current plan descriptions.

It must be noted that the culture of each country plays a key role in the execution of these policies. The individual mandate is ultimately a political choice. But given the political commitment of the Commonwealth of Massachusetts to continue expanding coverage, a responsible way to accomplish this goal is to strengthen the individual mandate.

Section 8

Conclusion

This DELTA project explored two formal approaches to increasing health insurance access to the remaining uninsured in Massachusetts: a creative marketing and outreach approach and a strict policy approach. The creative marketing approach focused on a deep assessment of the Archipelago campaign, a targeted marketing campaign undertaken by the Health Connector during the 2016–2017 open enrollment period. The policy approach examined the potential for Massachusetts to strengthen its individual mandate by applying policies similar to those of the Netherlands and Switzerland, two countries that have nearly achieved universal coverage.

The Archipelago campaign led to an average increase of 5,472 new members and 10,710 total members in the 18 targeted communities. This work shed a light on how intentional strategies, focused on communities suffering from disproportionate levels of uninsurance, can not only engage individuals but also can lead them to successful enrollment. Target communities were comprised of previously labeled "hard-to-reach" populations—ethnic communities with lower household incomes and assumed disengagement from the health care system. The intentionality of this intervention uncovered specific networks of communication and trust that led to the successful dissemination of information, which resulted in a greater increase in Health Connector enrollments.

The policy approach considered a more focused analysis of stringent policies related to the individual mandate, which inspired me to recommend innovative tweaks to the current mandate in Massachusetts. This analysis shed light on three specific solutions: increased frequency of penalties, automatic enrollment, and a limited choice in health plans. These were recognized as

areas that both Switzerland and the Netherlands practice but that Massachusetts does not. A strengthening of these key areas can lead to a further reduction of the state's uninsurance rate. While the cultures of the Netherlands and Switzerland play a role in the execution of each of these policies, Massachusetts would greatly benefit from strengthening the mandate and in turn continue to expand coverage for its residents. This would continue to place Massachusetts at the forefront of state innovation and leadership.

Only a holistic approach will address the diverse needs of communities across the state. The Health Connector has constantly innovated and improved their outreach methods: they began in 2006 with broad-stroke strategies, and then set up the dynamics necessary to lead to the focused strategy ten years later by Archipelago. They have policies in place—such as the individual mandate, subsidies, and penalties—that augment the structure necessary to promote greater responsiveness to health insurance messaging. It is this structure that provides residents and state officials the boundaries to operate in and measure success by. It is therefore vital for Massachusetts to use a mixture of both the marketing outreach strategy and the policy strategy to continue making progress towards achieving universal coverage.

The information gathered, analyzed, and revealed in this work point towards larger implications. The networks of communication and trust, tapped into through the Archipelago campaign, were not only vital for the success of the intervention but also revealed the potential energy reserved by these networks. These networks could be respectfully used to strengthen community engagement and further spread other public health messages, as well as political and business concerns. Our country is currently experiencing the political implications of a disengaged public. By understanding how communities best engage and communicate with each other, we could better empower people with the tools to further strengthen their platforms. If we

could use these networks to share voting information, people in these communities would not only understand who the candidates are but would be engaged to act and to vote. With increased institutional wealth, the political arena would more accurately reflect a democratic range of voices, concerns, and ideas. This method would ultimately lead to a healthier and more just America. In addition, investing in these networks would mean engaging with an infrastructure that already exists and therefore would mean empowering the community itself. This level of understanding leads to more efficient investments, especially in cases of limited resources. This research repeatedly shows that diversity is what makes us stronger.

This research also shows that, when thinking about ethnic communities, it is time to move from a framework of lack to a framework of power. Society has long treated ethnic communities as "disempowered" and "disadvantaged" rather than seeing the great power these communities have for strengthening systems, states, and the country as a whole (Moffat & Fish, 2013). According to the Selig Center for Economic Growth, in 2016, US Latinxs controlled $1.4 trillion in buying power—this is larger than Mexico's GDP (Weeks, 2017). Furthermore, this younger and healthier population segment extends its purchasing power to the health care market. In 2016, Latinxs provided the market stability that the Affordable Care Act needed to cover expenditures from less healthier population groups (Commonwealth Fund, 2017). This claim to better health is fully supported in the literature by the Healthy Immigrant Effect (Kennedy et al., 2006). This project, by exposing the enthusiastic response of ethnic communities to an intervention that intentionally pursued their engagement, reveals the significant power of change that each of these communities hold.

Ultimately, this work reveals themes that support the Theory of Human Capital, which highlights the economic value of human resources. A community's knowledge, habits, social

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attributes, and ability to perform labor translate into economic power (Becker, 1993). Therefore,

an investment in health insurance enrollment leads to healthier individuals, which in turn leads to

a more productive population, and ultimately to increased investment in the state economy.

Massachusetts' investment in universal health insurance coverage is quite visionary and

ultimately empowers the state with healthier residents and a stronger economy, as well as a

powerful example for the country to follow.

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APPENDIX A

	Massachusetts	Netherlands	Switzerland
What is the rate of uninsurance?	2.5%	0.2%	<1%
Who is covered ?	Adults (19-64)	Adults	Adults & Children
Adults	Yes	Yes	Yes
Children	No	No	Yes
Exemptions? For Who?	Religious, unaffordability, homelessness	Active members of the armed forces and those who consciously object to health insurance	Tourtists
Migrants subject to mandate?			
Documented	Yes	Yes	Yes
Undocumented	No	No	No
What type of coverage must people meet?	Minimum creditable coverage	Basic package with the option of buying more coverage.	Basic MHI package with the option of buying more coverage.
Is there a set of mandated or minimum benefits?	Yes- mandated minimum benefits	Yes- mandated benefits	Yes- mandated benefits
How many Insurance companies	13	9	13
How many insurance plan choices do people have?	5 - Platinum, Gold, Silver, Bronze, Catastrophic (Commonwealth Choice) Number of Connector Care plans vary per geographic area.	2- Compulsory Basic & Optional Supplemental	2- Compulsory Basic & Optional Supplemental
Price of Premium?Monthly rate	$0-$12,060 --> $0 $12,061 -$18,090 --> $0 $18,091- $24,120 --> $44 $24,121 - $30,150 --> $84 $30,151- $36,180 --> $126 $36,181 - $42,210 --> $225 $42,211-$48,240 --> $267 $48,241 --> $324 *subsidies included in calculation	$0 - $23,000 --> $0 $23,524 - $25,382 --> $7 $26,001 -$26,620 --> $14- $20 $27,239- $27,858 --> $28- $35 $28,477- $29,097 --> $41- $49 $29,716- $30,335 --> $55-$62 $30,954 - $31,573 --> $70-$76 $32,192-$32,811 --> $83-$91 $33,430 -$34,049 --> $97-104 $34,668-$35,287 --> $111-$118 $35,905+ --> $123 *allowances included in calculation	Ages: 0-18 --> $56.14 19-25 --> $223 26+ --> $243
Price of Deductible? Annual rate	$0-$12,060 --> $0** $12,061 -$18,090 --> $750** $18,091- $24,120 --> $750** $24,121 - $30,150 --> $1500** $30,151- $36,180 --> $1500** $36,181 - $42,210 --> $0-$7,350* $42,211-$48,240 --> $0-$7,350* $48,241 --> $0-$7,350* **Subsidized *Unsubsidized	$465	$320.36 - $2,669.63
Different Pricing of Plan	Large variation depending on plan and individual's income	The price for the Basic insurance option is relatively equal across all insurers - no insurer may vary (discount) up to 10%	Varies per geographic area. Limit to 3 different prices per canton. Criteria for variance: age and level of deductible.
How is the Cost of the Plan covered?	1.Individual Premium 2.State and Federal subsidies	1. Premium 2. Income dependent contribution 3. Flat governmental contribution	1. Premium 2.Tax financed budgets for health care providers 3. MHI Premiums 4. Social Insurance contribution (gathered from accident, old age, disability, military insurances)
How often can people switch insurer?	Once a year during Open Enrollment, or through a qualifying life event such as a marriage or change in household dependents.	At the end of each year	Once a year - by the end of November
How are premium rates developed?	Community rating and income tresholds	Community rating + income rating	Canton community rating
Is there an affordability standard?	Yes. State establish afforability standards based on income.	Yes, based on income	Yes, based on income
What does the government do to ensure coverage is affordable?	Combines State and Federal funding in order to provide subsidies.	Asset testing and income ceilings to cover community rated premiums. About 4.42 million or 25% of the population receive allowances. The allowances are set on a sliding scale.	Income based subsidy by canton and federal government to cover MHI premium. If the premium is higher than 8% of the person's income, the government provides a cash subsidy to pay for any additional cost of the premium.
Does the government provide any subsidies? Is so, for whom?	Yes, per income tresholds.	Yes, governmental health care allowances (subsidies) - to cover the premium. For singles earning less than $32,662 USD the allowance is between $2.40-$100 USD and for households earning less than $40,828 USD the allowance allotted is between $12 - $191 USD.	Yes, both canton and federal government help to subsidize MHI premiums for the low icome. Income based subsidies and the income treshold varies by canton. Subsidies are less generous, 2/3 of Swiss don't receive subsidies. The poor receive full subsidies.
What is the penalty for not complying with the mandate?	Individual is charged tax penalties for each month during the year that was spent without coverage. The penalty cannot exceed 50% of the least costly monthly insurance premium the individual would have qualified for through the state market place- Health Connector. A gap of 63 days or less is not penalized.	$390.72 every 3 months. Up to 2 times.	30-50% above the cost of insurance. One time penalty.
How is the mandate enforced?	The penalty will be charged through the state's income tax return.	1. The uninsured individual receives a warning from National Health care Institute to enroll. 2. After 3 months if they have not enrolled they are charged the $390.72 penalty. 3. 3 months later they are once again charged the penalty 4. If they do not purchase insurance after 2 penalties they are automatically enrolled ina 12 month plan and payment is deducted from their income.	1. Uninsured individual is warned and penalized; must buy insurance within 3 months. 2. 3 months after warning: Individual is assigned a plan and garnished wages for its payment.
What happens to people who do not comply with the mandate? Beyond the penalty	Nothing beyond the penalty.	1. Refusers: Those who morally oppose to health insurance are allowed to opt out but still have to pay a gerneral income tax that is taken to their personal health accounts to cover for their needs. 2.Defaulters: If they enroll but do not pay for their premiums - 6 months of no payment they are charged 130% of the standard premium and it is directly deducted from their income. This is charged monthly until they settle their debt.	Government allows insurers to sue for unpaid premiums
Do they get coverage	No	Refusers do not, Defaulters remain in the plan but cannot switch insurer.	No
What do we know about the people who are without health insurance	Low-income,working age, males, disporprtionatley affects minority groups, the undocumented.	Not much. Unclear if the uninsured are simply those who refuse to enroll. It is clear that the undocumented are not included in the count. It is my hypothesis that it might be documented migrants and those without a stable income or residence that are unable to be reached with the warning letter or penalty. The undocumented.	Virtually no uninsured. Except the undocumented.

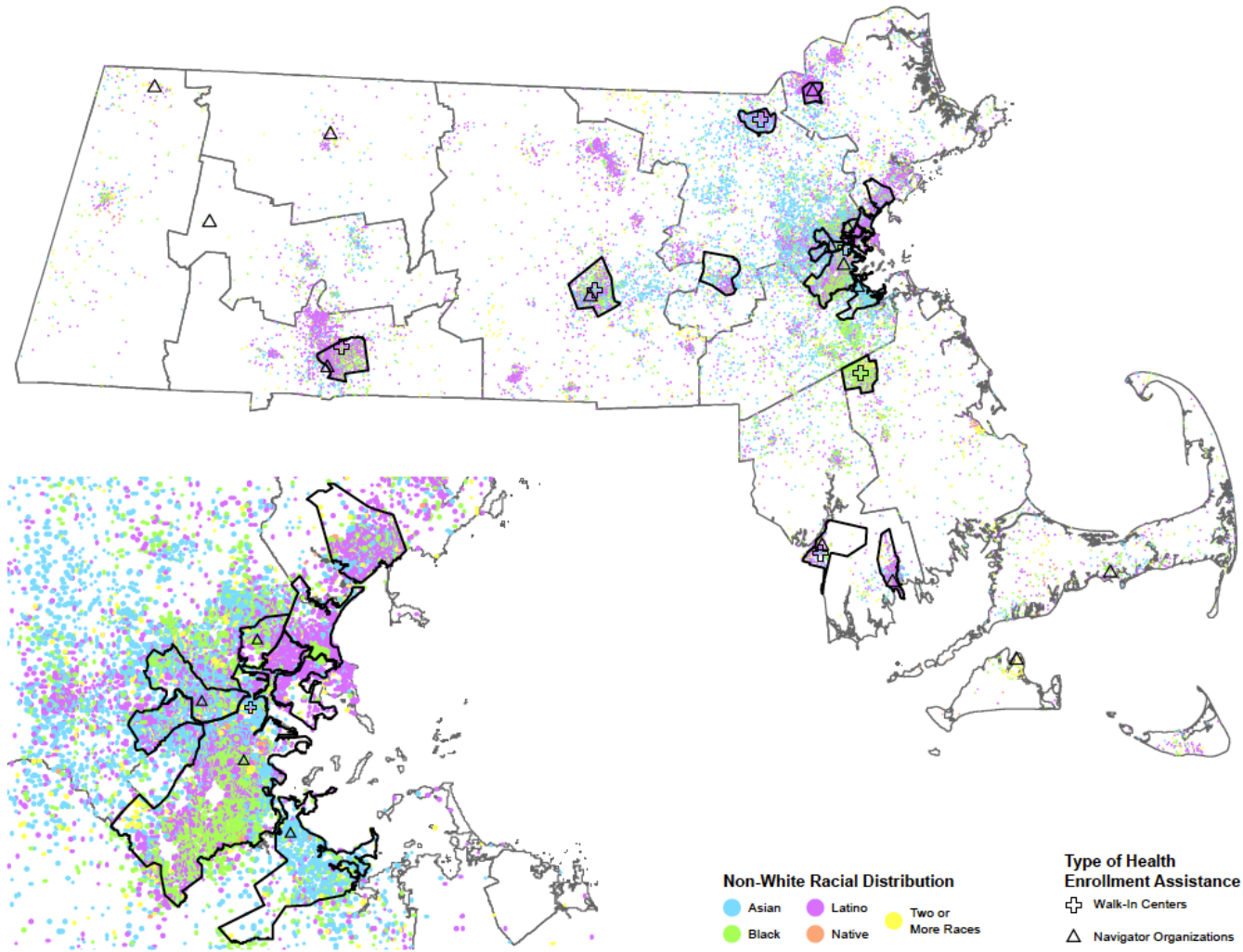Table A1. International Comparison of Individual Mandate

Figure B1. Geographic Needs Assessment by Race
ACS 2016 /Created using ArcGIS
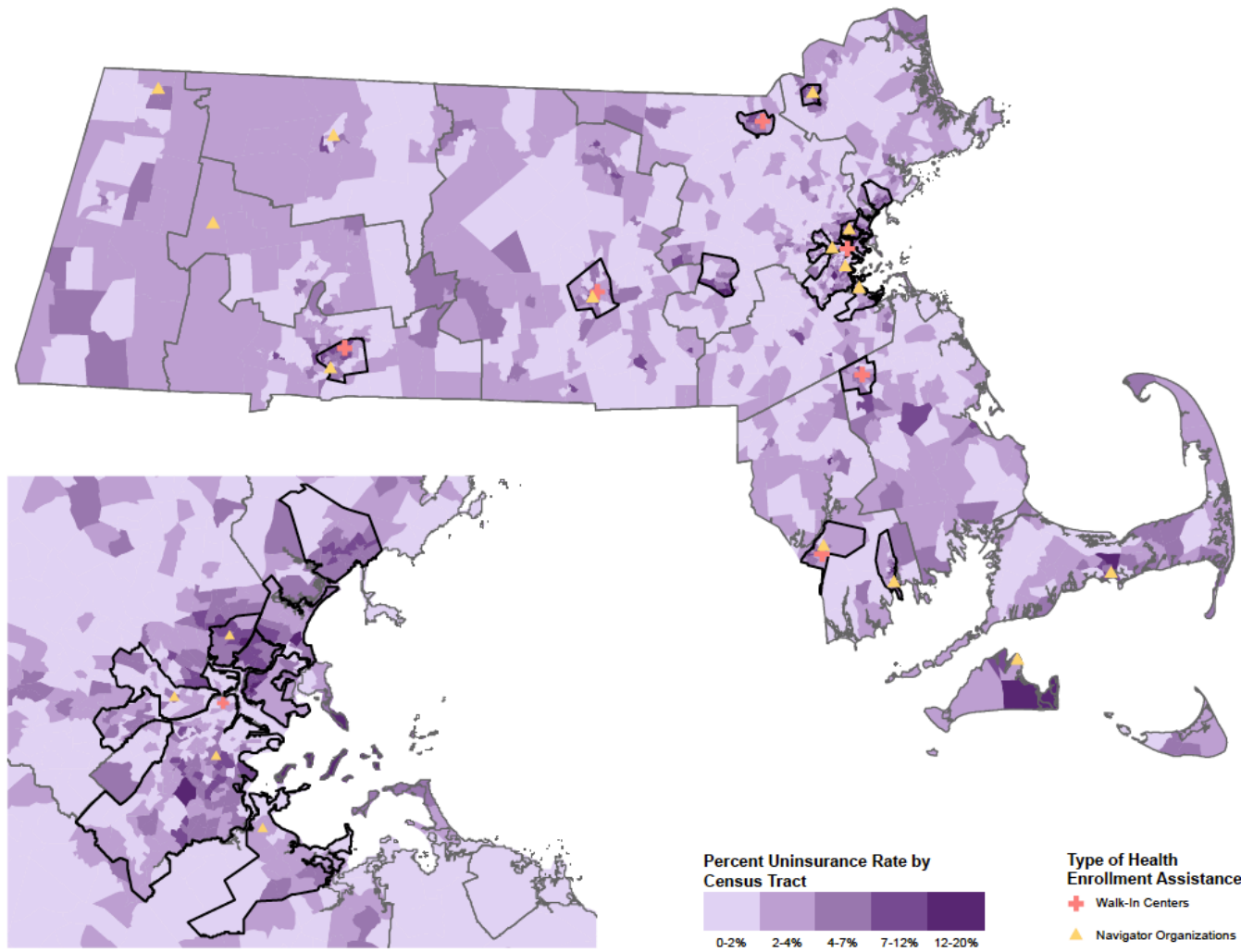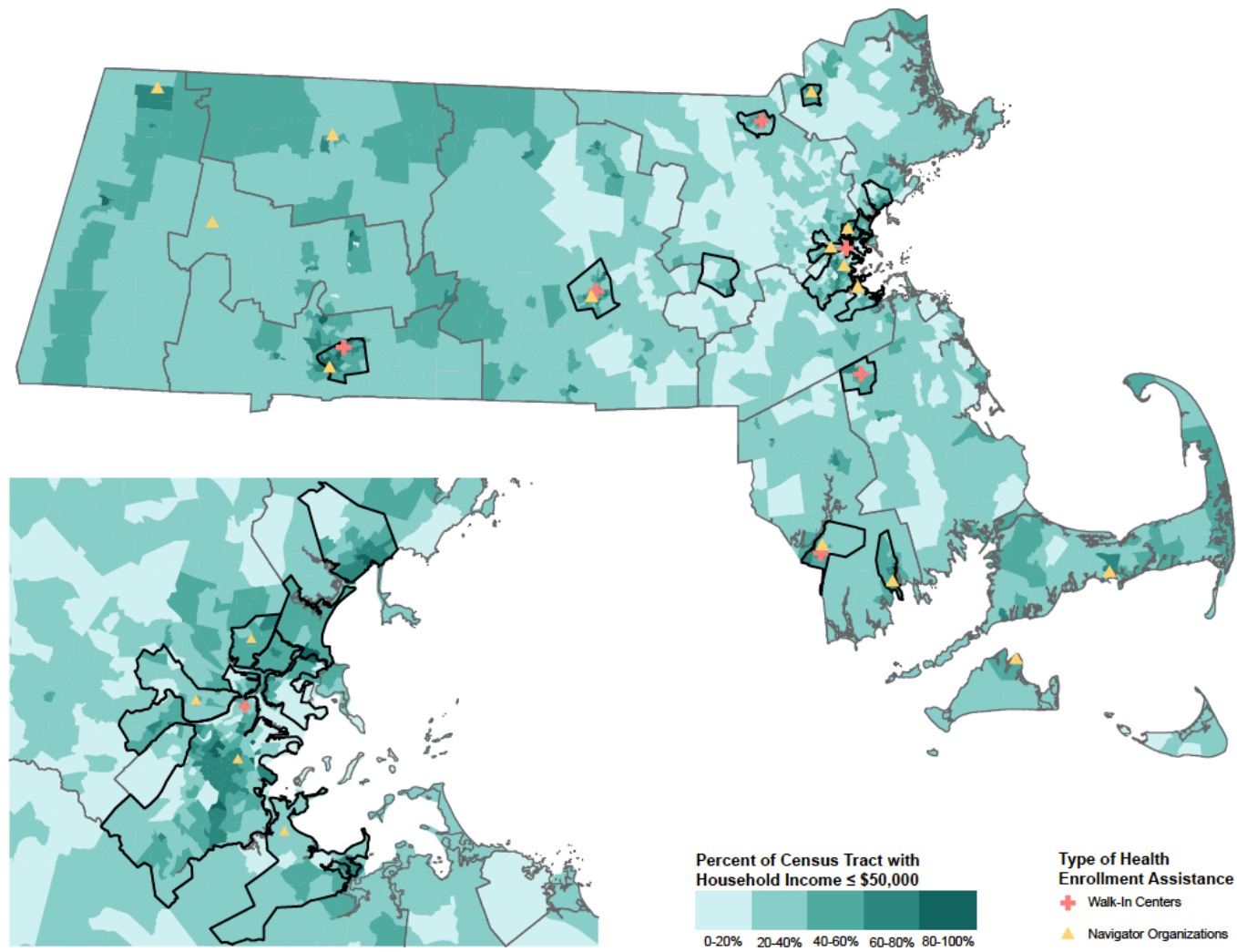
Figure B2. Geographic Needs Assessment by Uninsurance
ACS 2016 /Created using ArcGIS

Figure B3. Geographic Needs Assessment by Income
 ACS 2016 /Created using ArcGIS

"Fear not, for I am with you;
be not dismayed, for I am your God;
I will strengthen you, I will help you,
I will uphold you with my righteous right hand."

Isaiah 41:10