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Identifying the Newly Insurable Medicaid Coverage Gap Population Under the Affordable Care Act: Who They Are and Where They Live

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Abstract

The goal of this Capstone Project is to better define and geographically locate the potential distribution of individuals who fall within the current Medicaid Coverage Gap and those populations who would be eligible for Medicaid under expansion of Medicaid within the state of Nebraska. Using data from multiple United States Census Bureau sources, along with available data from the Health Resources and Services Administration (HRSA), this project looks to also locate populations of these individuals that may live within established Medically Underserved Areas (MUA's) or Health Professional Shortage Areas (HPSA's) within the state. American Community Survey 5-year Public Use Microdata Sample (PUMS) datasets was used to understand the demographic breakdown of eligible Medicaid Coverage Gap individuals. Potential Medicaid Coverage Gap population percentages by county were also compared to existing topography of documented MUA's and HPSA's throughout the state to see where the most vulnerable and medically underserved populations exist within the state.

By better defining the population makeup of these individuals (by breakdown of gender, ethnicity, and age) that may fall within current Coverage Gap guidelines for Medicaid services, stakeholders may be able to better coordinate on approaches to working on state Medicaid Expansion efforts (e.g., targeting younger single-parent homes as a basis of population makeup who would benefit from Medicaid Expansion). The results of this Capstone Project will also aid various stakeholders in identifying locations throughout the state where Medicaid Expansion may not be sufficient in ensuring quality medical care is available and accessible to the populations in question. Stakeholders can work with policy makers, government officials, community agencies,

healthcare organizations, community health centers, and other available resources to collaborate on approaches to bringing medical services and care to these individuals. Results from this Capstone Project can also be of note in comparisons of population and public health changes when looking at states that have opted to expand Medicaid and those that have not, namely Nebraska.

Introduction

Placement Site

For my Service Learning and Capstone Experience I had the pleasure of partnering with Nebraska Appleseed, a nonprofit organization in Lincoln that focuses on the promotion and defense of a wide range of social issues including: child welfare, immigration policy, healthcare, poverty, worker's safety, and economic justice, among others, for all Nebraskans. Nebraska Appleseed's division for healthcare issues is overseen by Mr. James Goddard, Program Director and Staff Attorney for the Economic Justice and Health Care Programs. Under the direction of Mr. Goddard, Molly McCleery serves as Deputy Director and Staff Attorney for the HealthCare Program within the organization. I had the pleasure of conducting my Service Learning activities as directed by Ms. McCleery during my time with Nebraska Appleseed.

While the focus of my Capstone and personal interest lie mainly within issues relating to healthcare and healthcare policy, I spent a significant portion of Service Learning Experience working with other departments and causes within Nebraska Appleseed. My time spent working with political advocacy and educational causes as well as research assistance for the economic justice, immigrant issues, and worker safety helped me realize the interconnectivity that many of these issues have in relation

to one another and the people involved at the center of the issues. My experience with Nebraska Appleseed served as an excellent opportunity to experience different levels of involvement with grassroots and professional advocacy campaigns.

Under Ms. McCleery's direction, I was able to involve myself into many informative, educational, and impactful events during my time on site. I believe that my involvements in projects relating to economic justice, worker and immigrant safety in the workforce, health policy brainstorming sessions, stakeholder educational events, and policy brainstorming sessions will help provide a robust "backbone" and more complete understanding of the relevance of this Capstone's research findings. Throughout my time working with those at Nebraska Appleseed it was apparent that they are a group of professionals committed to change and doing what is right and fair for all Nebraskans. It is my hope that this Capstone can help them in furthering that mission.

Issue Being Addressed/Project Importance

The impetus for my Capstone Project stemmed from discussions Ms. McCleery and I had early on regarding issues that are relevant to Nebraska Appleseed, as well as my own personal interests regarding current health policy issues. In looking at areas of common interest and realistic project ideas, we decided to focus efforts and outcomes of this project on the topic of Medicaid Expansion, the current Medicaid Coverage Gap population, and the benefit that Medicaid Expansion would bring to them regarding access to care and healthcare services. The Medicaid coverage gap population that I will be looking to further describe with this Capstone project are those individuals living within non-expansion states who currently do not meet eligibility guidelines for Medicaid services but should be eligible under Medicaid Expansion, one of the key components

of the Affordable Care Act. As defined by the Henry J. Kaiser Family Foundation, the Medicaid Coverage Gap is made up of “individuals in states that have opted out of Medicaid Expansion efforts who “hav[e] incomes above Medicaid eligibility limits but below the lower limit for [Affordable Care Act] Marketplace premium tax credits.” (Garfield & Damico, 2016) Individuals who fall within the Medicaid Coverage Gap most often find themselves in a position of being overqualified economically for Medicaid eligibility, but not having the financial resources to afford means of health insurance due to their lack of income. Those who may be classified as being within the Medicaid Coverage Gap may not fit into Medicaid eligibility categories such as childless adults who are not currently pregnant, childless adults without a documented disability, or individuals who might otherwise financially qualify for Affordable Care Act Marketplace subsidies but do not have the available financial means of affording even subsidized levels of health insurance.

In addition to being uninsured, select individuals that fall within the Medicaid Coverage Gap criteria may have the misfortune of living within currently Medically Underserved Areas and/or Health Professional Shortage Areas within the state. These individuals, who might have otherwise been granted access to insurance coverage through Medicaid Expansion within the state of Nebraska, might be in a position where had they had access to health insurance options they would be without access or availability of care in their immediate surroundings. These individuals may be in areas either Medically Underserved by lack of sufficient health services, or lacking sufficient healthcare professionals to provide care for the population.

To date there have been no comprehensive studies or research efforts conducted examining the demographic information and distribution of the Medicaid Coverage Gap population throughout the state in relation to existing Medically Underserved Areas and Health Professional Shortage Areas. By compiling general demographic information on this population subset (the age, gender, race/ethnicity of individuals within the Medicaid Coverage Gap), as well as identifying established Medically Underserved Areas and Health Professional Shortage Areas within the state as they coincide to the current percentage of uninsured populations by county within Nebraska (as well percentage of populations by county living below 138% Federal Poverty Level) this Capstone Project will help better identify who the makeup of the Medicaid Coverage Gap is within the state, as well as what medical services may or may not be readily available to them. Additionally, this Capstone Project may help in initially identifying areas for future projects that can assess potential mismatches in available medical services in relation to the number of potentially insured individuals who could come to access medical services if Medicaid Expansion were to come to fruition in Nebraska.

Issue Background

With 18 states currently choosing not to expand their Medicaid coverage, there is a population of individuals in each state where Medicaid Expansion has not occurred who currently do not meet Medicaid eligibility criteria that might otherwise have been covered under the expansion of the Affordable Care Act (“A 50-State Look,” 2017). In the state of Nebraska, a Non-Expansion state, Medicaid services are available to various eligible groups at different income levels (number of dependents, if the

individual is a parent or caretaker of a currently Medicaid eligible individual, individuals with disability) (“Medicaid and CHIP Eligibility Levels,” 2016). Current eligibility for Medicaid services is calculated in part by an individual’s measure of income or percentage measure against the Federal Poverty Level. The Federal Poverty Level (FPL) is an assessed measure of income issued through the Department of Health and Human Services which is used in determining an individual’s level of eligibility Under current Medicaid guidelines, parents, caretakers, and relatives of Medicaid eligible individuals are eligible for Medicaid as long as they are within the 0% to 58% range of FPL (“Medicaid and CHIP Eligibility Levels,” 2016). Non-disabled adults without children are currently ineligible for Medicaid coverage, regardless of where they are within the Federal Poverty Level (“Medicaid In Nebraska,” 2017). Were Medicaid Expansion to be enacted within the state, all eligible individuals 138% FPL and below would be eligible for Medicaid enrollment (“Medicaid In Nebraska,” 2017). Because of the inability to distinguish childless adults from eligible caretakers, parents, and caregivers of Medicaid eligible individuals given the available data, the Medicaid Coverage Gap population for the purposes of this study will be those observed individuals within the ranges of 58% FPL to 138% FPL. This population within the 58% to 138% Federal Poverty Level Range will be a conservative estimation of those Medicaid Expansion eligible populations who are currently without Medicaid eligible dependents within the state as it does not include those 0-57%FPL who might otherwise fall within the Medicaid Coverage Gap population criteria.

While a comprehensive overview and demographic description of the population within the Medicaid Coverage Gap would be most ideal in regard to assessing what

populations are most prevalent within this subset, given the available resources, data, and scope of this project limited some desired outcomes this research project hoped to achieve. Namely, the use of available datasets for statistical analysis for this project did not allow for the full identification of individuals who make up the population within the Medicaid Coverage Gap. Given available data, there were not sufficient indicators and reference criteria (ability to discern the number of dependents associated with each individual and those dependent's Medicaid eligibility status) within the original data sources used for this Capstone Project, to fully differentiate who fit within eligibility for Medicaid based on their parental or caretaker status of any dependents within the FPL ranges of 0% to 57%. As such, the decision was made to define the Medicaid Coverage Gap population of interest within this Capstone Project as individuals that fall within the 58% - 138% FPL range, as established by the Center for Medicare and Medicaid Services (CMS). This population of individuals would be one of the main groups who would be granted access to Medicaid services if Medicaid was expanded in Nebraska. While some of these identified individuals may currently qualify for Medicaid eligibility, they may not necessarily be uninsured currently. Additionally, while some of the individuals within the 58% to 138% FPL range may qualify for ACA Marketplace Healthcare Subsidies, they may not have the expendable income to even afford subsidized healthcare costs and expenses. Some of these identified individuals may currently have other means of insurance through employers, which would not be identified through this census data.

Dr. Brian Hanson of Wayne State University, is a former research partner with Nebraska Appleseed who helped estimate the total number of uninsured individuals

within the state of Nebraska. In a partnered research effort between the Center for Rural Affairs and Nebraska Appleseed, Dr. Hanson estimated that there were around 87,000 Nebraskans that fall within the current Medicaid Coverage Gap Population (Hanson, 2016). It has been well documented that adults that lack of health insurance often have less access to healthcare services available to them, often receive inferior quality of care compared to insured individuals, and can experience worse health related outcomes compared to insured populations (McWilliams, 2009). With the myriad of health issues and problems that can stem from the lack of health coverage in the United States, it is important to better identify the makeup and distribution of these individuals in states that have chosen not to expand Medicaid, as to better be equipped to provide them care and nearby medical resources as needed. In addition to this problem of individuals living without current access to health insurance, the potential problem of these individuals living in areas that are medically underserved also exists. Even if Medicaid Expansion coverage would be available to these individuals, they might find themselves in a position where there is still not a convenient or accessible means to the healthcare services they need if they live in a medically underserved area.

Project Significance

By identifying a more accurate and current population of Nebraskans who currently fall within the coverage gap under Medicaid eligibility, Nebraska Appleseed and their stakeholders can have a better plan of focus to provide the necessary resources and assistance to those individuals in acquiring them necessary healthcare coverage. I have identified four ways in which this Capstone Project would be beneficial to both Nebraska Appleseed and additional agencies and stakeholders.

- By helping Nebraska Appleseed identify areas of the state that may need additional focus in drafting policy or meeting with stakeholders to bring about changes through connecting with policy makers, elected officials, and current healthcare resources in each specific county;
- By identifying demographic information and breakdown of vulnerable populations who currently fall within the Medicaid Coverage Gap within the state, existing organizations and resources throughout the state can assess if they are able to help provide care, resources, and available talents in providing access and resources to care for these populations. Healthcare organizations may be able to utilize this information as a “needs assessment” as to how they are able to handle care for individuals who fall within the current Medicaid Coverage Gap;
- By extension of the previous objective, identify what areas of Nebraska may have to anticipate assessing their current levels of access to care to either ensure they are able to provide care and resources for those who would stand to benefit from state Medicaid Expansion programs, but also for areas that might otherwise become overwhelmed by increasing demand on their services and resources through a Medicaid Expansion program
- And finally, to help serve as a guide for discussions with policy makers, elected officials, and other vested stakeholders in the ongoing process to bring about Medicaid Expansion to the state of Nebraska. In providing updated, accurate totals of Nebraskans who are currently “falling through the cracks” it is my hope that this project can help aid in the humanizing aspect of helping drive the discussion of policy creation in the field of healthcare.

In looking to identify the makeup and demographic distribution of a portion of the current Medicaid Coverage Gap population it may be beneficial to stakeholders to inform these eligible-but-insured individuals of the potential benefits (financial, access, etc.) that may come to them by switching from a private insurance option to Medicaid enrollment were Medicaid Expansion to become enacted in the state. By better identifying the location of individuals or groups of individuals in Nebraska that may not have access to traditional health insurance coverage or Medicaid coverage due to a myriad of reasons, including falling within the current Medicaid eligibility coverage gap guidelines, Nebraska Appleseed can better identify ways to reach out and aid these pockets of Nebraskans as needed. By having a tangible and current number of Nebraskans who are most at risk by not having any form of medical insurance coverage, Nebraska Appleseed will be better suited in how to go about allocating their resources and manpower in efforts to drive changes towards state Medicaid offerings and expansion efforts.

Nebraska Appleseed can also take the information and findings of this Capstone Project to identify additional stakeholders needed that they may be able to partner with in proposing needed legislation, joint venture projects, and opportunities for resource collaboration with other organizations to provide assistance and information to the identified Medicaid Coverage Gap populations in Nebraska. State Legislators and elected officials who represent the identified areas deemed medically underserved or lacking in healthcare professional representation who also contain larger distributions of uninsured citizens may be of assistance in drafting legislation or identifying solutions for

their represented areas that would help in providing care and medical coverage solutions for these individuals. Outside organizations such as existing rural health clinics, Federally Qualified Health Centers (FQHC's), and other locally invested healthcare organizations can be approached by Nebraska Appleseed to see what services and joint solutions may be reached in helping provide medical coverage solutions to these previously uninsured groups.

In addition to this Capstone Project benefiting Nebraska Appleseed and their desire to better identify Medicaid Coverage Gap populations, the discovery of these populations mapped against existing Medically Underserved Area/Health Professional Shortage Area data can be of use to other organizations as well. These findings can help identify and map other organizations and stakeholders that may exist to help provide resources and support for these pockets of uninsured. Smaller local organizations that are more ingrained within the communities throughout the state they serve might also benefit from finding out what additional outreach and services may be possible for them to provide for the populations discussed in this project. As the resource capacity and organizational bandwidth of local agencies and organizations may not be as diverse as organizations dealing with state-wide issues, this Capstone Project and its findings may serve as an important partnership piece in connecting resources and strategies for bringing about additional support for issues related to the Medicaid Coverage Gap population.

Finally, this Capstone Project will help expand upon and update some of the initial findings by Dr. Jim Stimpson, former UNMC faculty, on the impacts that Medicaid Expansion would bring to the state of Nebraska through the Affordable Care Act. Dr.

Stimpson published a study highlighting the benefits that Medicaid Expansion under the Affordable Care Act would bring to Nebraska (Stimpson, 2012). Dr. Stimpson's research found that an estimated 90,000 to 109,000 new Medicaid enrollees would be eligible under Medicaid Expansion in the state of Nebraska (Stimpson, 2012). Dr. Stimpson's research also suggests that Medicaid Expansion would bring about a minimum of $700 million in new economic activity per year for the state of Nebraska through the year 2020 (Stimpson, 2012). By providing a more current estimate of the number of uninsured Nebraskans and those who would be eligible through Medicaid enrollment under a state Medicaid Expansion effort, it is my hope that these findings could be used to help in driving and supporting discussions to create and push for policy change to bring about State Medicaid Expansion efforts. By providing "hotspot" information of uninsured pockets and areas through the state of Nebraska, policy makers and stakeholders can better determine where efforts and critical impact efforts are needed. The addition of descriptive demographics (such as age, race, gender, etc.) would also be useful in defining this population to help better determine what specific groups of individuals would be most positively impacted (e.g., single parent households, minority families, elderly individuals versus younger individuals, etc.). Dr. Stimpson's work will also be of benefit from the combination of mapping research done by Dr. Brian Hanson, looking at the distribution of uninsured and those individuals meeting the Federal Poverty Level guidelines to qualify under Medicaid Expansion (Hanson, 2016). The combination of these two separate approaches to mapping and identifying the Medicaid Coverage Gap population may not give a single definitive look at the population in question, however, it can be of benefit in identifying who most likely is making up the

Medicaid Coverage Gap population throughout the state of Nebraska. It is also my hope that this framework and findings of this Capstone Project could be of use in the event of a widespread Medicaid overhaul or termination due to Legislative efforts at a national level. In the event even more individuals are left without medical coverage options, I hope that this can help in providing a framework of determining where at risk individuals and populations may be in relation to potential larger medically underserved areas in relation to their respective populations.

Literature Review

The Affordable Care Act

March 23rd, 2010 marked the most comprehensive and significant expansion effort towards health insurance in the United States since the initial inception of the Medicaid program, when former President Barack Obama signed the Affordable Care Act (ACA) in to law (Frean, Gruber, & Sommers, 2016; Stolberg & Pear, 2010). A highly debated bill throughout all branches of the government, the ACA looked to bring affordable health insurance options to Americans by expanding insurance coverage options, changing existing guidelines to the Medicaid eligibility criteria to allow for a larger population to become eligible for Medicaid services, and to focus on improvements towards population health. Intended to be a mandate for all 50 states of the United States, the law aimed to have Medicaid Expansion implemented across the country, ensuring that Medicaid services would be expanded to all eligible individuals (Price & Eibner, 2013).

Prior to the signing of the ACA, it was reported that 18% of all Americans under the age of 65 were without health insurance (Rice et al., 2014). The approach of the

ACA to change the makeup of the United States healthcare system was centered around three main approaches; a comprehensive overhaul of the current regulation of the private insurance marketplace, the mandate for all individuals to carry some form of health insurance (with some exemptions existing), and efforts to create and implement policies to make health insurance more affordable (Frean, Gruber, & Sommers, 2016). With aims to expand access to care to all those with insurance, improve insurance coverage rates to both elderly and younger Americans, and to better provide insurance coverage for individuals afflicted with pre-existing conditions, the ACA was a major overhaul for both private and public insurance (French et al., 2017; Frean, Gruber, & Sommers, 2016).

The passage, and current continuation, of the ACA in 2010 has allowed many states to determine their course of action in expanding their existing Medicaid coverage guidelines in relation to the Federal Poverty Level. In an effort to increase overall insurance coverage throughout the United States, the ACA enacted multiple strategies to bring about these changes. Increasing the age at which dependents can stay on their parents' plans until the age of 26, expand Medicaid services by increasing Medicaid eligibility to those who had incomes at or below the 138% FPL, and requirements for large employers to provide comprehensive health insurance to their full-time employees (French et al., 2016). Additional provisions of the ACA included the ceasing of discrimination in insurance policies turning away policy-holders with pre-existing conditions, and a government mandate requiring many Americans to obtain personal health insurance (Frean, Gruber, & Sommers, 2016).

With a recent political shift at the National level, Republican leadership has made multiple efforts to work at repealing (and in some cases presenting replacement healthcare legislation) the ACA (Neuman, 2017). A year in to his presidency, 45th President of the United States, Donald Trump, along with many other campaign promises, has been adamant of his commitments repeal and replacement of the Affordable Care Act with a Republican oriented healthcare plan (Neuman, 2017). During the State of the Union Speech on January 30th, 2018, President Trump lauded the recent repeal of the individual mandate as a victory for Republicans and vested parties in the abolishment of the Affordable Care Act (O'Donnell, 2018). Much of the legislative discussion during President Trump's first year in office was focused on the repeal (and in some cases also the replacement) of the Affordable Care Act. However, without a fully orchestrated and fine-tuned effort, much of the framework of the Affordable Care Act remains in place, save for the individual mandate for the coming year (O'Donnell, 2018). Despite relatively thwarted efforts of Republican-heavy efforts to repeal the Affordable Care Act throughout 2017, the threat still is prevalent for the coming months and years as legislative issues come about in the new year. Repeal legislation without a suitable replacement would leave not only those with health insurance currently in a precarious position, but would also prove especially dangerous for those currently living within the Medicaid Coverage Gap.

Medicaid Expansion

Despite the ambitious approach of the ACA to implement Medicaid Expansion for all states to ensure healthcare coverage for all eligible Americans, a Supreme Court ruling in the case of the *National Federation of Independent Business v. Sebelius* stated

that the expansion of Medicaid services was to be voluntary and left to the decision of individual states (Price & Eibner, 2013). Subsequently, the decision to expand Medicaid was deemed a state issue, leaving many states choosing not to pursue Medicaid Expansion efforts. Since the 2012 Supreme Court ruling, 32 states (and Washington D.C.) have come to expand Medicaid services, leaving 18 states left to expand Medicaid services ("A 50-State Look," 2017; "Status of State Action," 2017).

Since the enactment of the ACA studies that have looked at the economic and financial benefits that Medicaid Expansion has brought to states that chose to undergo Medicaid Expansion have shown that despite projections of enrollment often being exceeded by actual enrollment numbers, economic outcomes have been generally positive for expansion states. Multiple nationwide and multi-state studies have found that expansion states have seen increases in state Gross Domestic Product (GDP), revenue gains on new health plans and provider fees under newly insured populations, and replacement of general funds with Medicaid funds for other state funded programs such as public health and behavioral health programs (The Colorado Futures Center, 2016; Bachrach, et al., 2016). 70% of surveyed adults who were newly enrolled in Medicaid Expansion states stated that without Medicaid Expansion they would not have had the means to either afford or access the care they now utilizer prior to the ACA taking effect (Collins et al., 2016). Additionally, research looking at the economic impact that Medicaid Expansion had on local economies of hospitals found that Medicaid Expansion greatly increased the survivability of area hospitals where Medicaid Expansion was enacted in comparison to areas without (Sanborn, 2018). Rural hospitals, often serving more sparsely populated communities and areas, have been

able to take advantage of the increases in insured populations within their service area by providing additional outlets for Medicaid Expansion populations to access healthcare services from (Sanborn, 2018). This new influx of patient populations for rural healthcare settings has also helped in part ensure the economic viability and longevity of some rural hospitals and healthcare systems, that might otherwise not be financially viable in their communities (Sanborn, 2018). Research from the University of Colorado's School of Public Health found that hospitals in states that enacted Medicaid Expansion were 84% less likely to close than their counterpart hospitals in states without Medicaid Expansion; additionally, these hospitals also experienced a positive financial boost to their operating and total margins compared to non-expansion state hospitals (Sanborn, 2018).

With insured individuals confident in their ability to afford and access their care under Medicaid Expansion, and the availability of state funds able to go towards additional outlets such as progressing public health and behavioral health initiatives, states that have undergone Medicaid Expansion can better look ahead to the future with addressing their citizen's healthcare needs and hopefully providing preventive care and services to maintain better health outcomes. Hospitals in expansion states can also serve as examples for states thinking of expanding Medicaid services on how increases to operating margins and financial health can then be utilized to provide further levels of care to vulnerable and underserved populations.

Medicaid Expansion has been shown to lower marketplace premiums substantially lower (with expansion states reporting premiums benchmarked about 7% lower than non-expansion states), resulting in greater reductions in costs for health

insurance for individuals in expansion states than those in non-expansion states (Sen & DeLaire, 2016). This decrease in premium pricing can result in an even greater number of individuals located at the 138% level of the Federal Poverty Line (and greater) becoming economically capable of affording coverage. By not only creating a means by which individuals within the Federal Poverty Levels outside of current Medicaid eligibility are able to afford healthcare coverage, but also by alleviating financial burden on those who might be on the financial "in-between" of being able to afford health insurance, Medicaid Expansion further expands their ability to not be catastrophically affected by unanticipated healthcare costs. With a great body of research backing the connection between financial situation and health status, and the connection that lower income individuals and populations are more susceptible to poorer health outcomes, Medicaid Expansion allows for these susceptible individuals to better their chances of improved health status (Sen & DeLeire, 2016).

Finally, research focused on patient's access to healthcare services and facilities has found that overall access to medical services improved for previously uninsured individuals in Medicaid Expansion states compared to non-expansion states (Kirby & Vistnes, 2014). Expansion states have been found to report that adults were almost 5% more likely to have an established usual care source for healthcare needs when compared to adults in non-expansion states (Shartzer, Long, & Anderson, 2015). In addition to having a higher likelihood of having an established regular source of care, nonelderly adults in expansion states also were reported as having a higher rate of routine checkups and wellness screenings when compared to nonelderly adults in non-expansion states (Shartzer, Long, & Anderson, 2015). Research examining the effects

of Medicaid Expansion has also been done towards the effects and changes towards surgical conditions, with some findings indicating that Medicaid Expansion was often associated with improved patient reception of timely care for certain surgically necessary conditions (Loehrer et al., 2018). While having a point of care for patients might not address more overarching issues such as lack of access to convenient and nearby sources of care, having an established connection to healthcare services can be beneficial to treating patients' long term and addressing a wider variety of healthcare needs of the patient.

Despite positive research findings uncovered by the assessment of states and healthcare systems that have seen benefits of Medicaid Expansion in both economic and health based domains, there is still much from a research perspective that has been unanswered. Additionally, not all research findings have been positive towards the observed effects of Medicaid Expansion in some states. Research looking at recent levels of enrollment in to Medicaid services has found that compared to previous years, both 2016 and 2017 saw a decrease in Medicaid enrollment among eligible populations in both expansion and non-expansion states (Rudowitz, Valentine, & Smith, 2016). While this may be explained as previously eligible populations of newly expanded Medicaid services having enrolled prior to 2016 or 2017, some research suggests that new modalities and methods of outreach are now needed to reach out to populations who still are eligible but not able to enroll for Medicaid services (Rudowitz et al., 2016). There is potential for the pace of enrollment to outpace the supply of available medical services in areas where Medicaid has not yet been expanded, potentially overwhelming existing systems and healthcare infrastructures that are not properly staffed or equipped

to take on such an increase in the number of insured. Remaining amounts of uninsured but Medicaid eligible populations who have yet to enroll in Medicaid Expansion programs may also become costly endeavors to pursue, taking more effort and financial backing to reach these individuals and incite them to enroll.

It has also been argued that more long-term studies are needed to prove the benefit the ACA and Medicaid Expansion have contributed to health outcomes. Multiple studies analyzing self-reported assessments of health in individuals have found that there have not been any observed changes in health status or outcomes (Baicker et al., 2013; Wherry & Miller, 2016). While not as robust as a standardized measurement of health status among these newly insured individuals, if populations feel they are not benefiting from Medicaid Expansion within their state, it may decrease support in the program and initiatives. In addition to surveyed groups reporting no self-assessed changes in health status or health outcomes, certain studies have also found that in states where Medicaid Expansion occurred an increase in diagnoses towards chronic conditions (such as diabetes and hypertension) was reported to health organizations (Baicker et al., 2013; Wherry & Miller, 2016). While it is important that chronic health conditions are identified and treated, regardless of the presented population, without proper preparation and resource availability, treatments associated with these chronic conditions will have to be more widely spread across a growing patient base, potentially limiting resources. Additional research looking at more long-term effects of the ACA and Medicaid Expansion towards health outcomes will be beneficial in examining the true effects Medicaid Expansion plays on its populations.

Miscalculations of forecasted costs and expenditures related to enacting Medicaid Expansion efforts in states that chose to expand Medicaid are an often-cited deterrent by opponents of the ACA and Medicaid Expansion initiatives. In the state of Colorado, the forecasted cost for Medicaid Expansion was set to be $1.2 billion, with the final costs totaling almost $1.6 billion (Johnson et al., 2016). With additional research that suggests that Colorado will end up paying over $200 million in state allocated funds in 2020 and 2021 associated with Medicaid Expansion, opponents argue that cost savings of implementing Medicaid Expansion are not truly cost saving in nature, as they still require up front investments of state funds to operate the implementation and expansion of Medicaid services in the state (Johnson et al., 2016). Other states, such as Alaska and New Mexico have anticipated projected deficits due to Medicaid Expansion in coming years, but have attributed these to conservative estimates on revenues and excluding potential future cost saving measures that may offset future deficit amounts (or potentially result in surplus amounts) (Evans et al., 2016, Reynis, 2016).

Regarding health outcomes associated with Medicaid Expansion, some studies have found no significant difference in access measures such as delayed care by a patient, or forgoing care or medical services when looking at expansion states in comparison to non-expansion states (Wherry & Miller, 2016). States that have expanded Medicaid services have also found that Primary Care Physicians are seeing a considerable increase in the number of Medicaid patients within their patient panels, with around 67% of first-time Medicaid patients returning for care within the 18-months following the initial visit (Gray, Zink & Dreyfus, 2016). While greater levels of Medicaid

coverage and insured patients may be beneficial in treating previously non-insured patients, some research done at a national level has found that states that expanded Medicaid were found to report increased wait times for appointments at health centers in comparison to states that did not expand Medicaid (Shin et al., 2015).

Medicaid Expansion in Nebraska

While Medicaid Expansion has been adopted within 32 other states as of 2018, Nebraska is currently one of 18 that chosen not to expand Medicaid services yet ("Status of State Action," 2017). Despite positive research findings from in-state academic institutions regarding the economic and health-centered outcomes that Medicaid Expansion can bring to a state's population, the issue of Medicaid Expansion has been an ongoing debate for 7 years within the state government (Stimpson, 2012; Hanson, 2016). For the 2017 90-day State Legislative Session, Lincoln Senator Adam Morfeld proposed LB 441 to the State Legislature which would bring Medicaid Expansion to the state of Nebraska, but was ultimately defeated by the decision of the standing Health and Human Services Committee ("Morfeld proposes Medicaid Expansion," 2017; "Nebraska Legislature," 2017). For the current 2018 60-day Legislative session, Senator Morfeld has brought the issue of Medicaid Expansion to the State Legislature again. LR281CA, a constitutional amendment to legislatively refer the debate of Medicaid Expansion as a ballot initiative to be decided by a vote from the public has been put forth by Senator Morfeld in a continued effort to keep the topic of Medicaid Expansion within current Legislative issues for the state (Walton, 2018).

Dr. Jim Stimpson's 2012 research addressing the effects Medicaid Expansion would bring to the state of Nebraska estimated that Medicaid Expansion would bring

about Medicaid coverage for an additional 90,000 – 110,000 Nebraskans through 2020, with a proposed revenue impact of $3.0 to $3.5 billion through 2020 if implemented (Stimpson, 2012). Dr. Stimpson also stated that Medicaid Expansion for the state would cost a relatively low up-front amount to implement ($140 - $168 million) in relation to the generation of economic activity (around $700 million) and job financing (>10,000 jobs) that would occur were expansion to take place (Stimpson, 2012). An incursion of almost $1 billion in uncompensated care costs was thought to be realized by the state through 2019 if Medicaid Expansion was forgone, Dr. Stimpson also argued in his findings, with the potential for healthcare providers to have almost $330 million in savings associated with uncompensated care realized in the same timeframe if Medicaid Expansion were to occur (Stimpson, 2012). With this wealth of economic and healthcare metric data accessible and assumed, it might seem hard to argue against bringing Medicaid Expansion to the state with economic issues, and many medically at-risk individuals within the state.

While the fact is present that these poorer health individuals may account for a greater amount of healthcare expenditures within the first few years of insurance coverage, the fact that utilization rates among the majority of medical services also increase in these populations hopefully can offset future expenditures by mitigating future health problems these individuals present themselves with currently (Sen & DeLeire, 2016; Wherry & Miller, 2016). Despite the lack of overall evidence towards improved health outcomes in populations within expansion states, there is potential that as the health of these individuals improves as they become accustomed to access and use of healthcare services, that premiums rates will decrease even further for these

populations, making healthcare prices even more affordable for them, resulting in even further utilization (Sen & DeLeire, 2016). A continuation of these newly insured individuals accessing healthcare services through Medicaid Expansion driven healthcare access and insurance will hopefully lead to the same population experiencing better health outcomes, resulting in a cyclical pattern of better healthcare service usage and future cost savings as premium rate could further decrease while representing a healthier population.

Issues Facing the Medicaid Coverage Gap Population

Currently an estimated three million individuals in the United States who currently fall within the Medicaid Coverage Gap, despite 32 states and territories having had expanded Medicaid (Garfield & Damico, 2016; “Status of State Action,” 2017). With 22 million individuals estimated to potentially lose coverage in 2026 if legislation to repeal the ACA passes, much of the work done to bring about greater population health and health outcomes for Americans will likely be quickly undone (Congressional Budget Office, 2017). In Nebraska, an estimated 87,000 individuals falling within the current Medicaid Coverage Gap, these individuals are no less immune to the potential ramifications of the repeal of the ACA (Hanson, 2016). The importance of identifying and being able to account for the healthcare needs of these individuals is key in the coming months and years when the progress and successes achieved under the ACA in providing coverage to Americans comes under scrutiny under a different presidential watch.

Within states that have undergone Medicaid Expansion, research has been done not only looking at the economic outcomes that have come about due to Medicaid

Expansion in the state, but also observing multiple health outcomes of the individuals utilizing healthcare services. Healthcare organizations and other interested parties have also studied and documented multiple healthcare metrics such as costs of uncompensated care to healthcare facilities, issues surrounding access to healthcare services, changes in payer mix, and healthcare disparities related to race, gender, and socioeconomic status. These findings have been used to not only aid officials in other states looking to bring about Medicaid Expansion in their states, but by advocates and opponents alike to point to the benefits (or drawbacks) of Medicaid Expansion.

Research conducted comparing rates of uninsured individuals in Expansion states compared to Non-Expansion states found that states that enacted Medicaid Expansion saw a larger decrease in the number of uninsured individuals in comparison to states that did not enact Medicaid Expansion (Cohen & Martinez, 2015). Medicaid enrollment outcomes between Expansion and Non-Expansion states found that enrollment of newly insured individuals often exceeded established expectations and projections of enrollment numbers especially in states where Medicaid Expansion occurred (Dorn et al., 2015). States that did not undergo Medicaid Expansion saw mixed levels of enrollment growth or no significant levels of growth as reported by multiple studies (Courtemanche et al., 2016; Karpman et al., 2016; Kenney et al., 2016). Some of the relevant health outcomes based on Medicaid Expansion have found that in states that expanded Medicaid services, Medicaid-funded prescription utilization increased by almost 20% in comparison to states that did not expand (Ghosh, Simon, & Sommers, 2017). Dental care usage in Medicaid Expansion states also increased in relation to non-expansion states among low-income newly insured individuals

(Winkelman et al., 2016). Populations in states that had been previously uninsured before Medicaid Expansion reported that they had at least one recorded healthcare visit with a provider after enrolling in Medicaid services within their state (Vistnes & Cohen, 2016). Notable increases were also found among surveys looking at individuals who had conducted health screening components such as blood pressure readings, preventive care screenings, and annual checkups in comparison to those who remained insured before and after Medicaid Expansion (Kirby & Vistnes, 2016). These findings suggest that individuals that are becoming newly insured are then utilizing their newfound access to healthcare, which can help in diagnosing previously untreated health conditions within this population.

Medically Underserved Areas and Health Professional Shortage Areas

Although there is the benefit that Medicaid Expansion can bring to those individuals in expansion states regarding obtaining health insurance, there still exists the issue of an overwhelming lack of easily accessible healthcare services for those newly insured individuals to access. Issues of rural populations and individuals living in designated Medically Underserved Areas often result in individuals not having a convenient or accessible point of healthcare to utilize, even in states with Medicaid Expansion. Medically Underserved Areas and Health Professional Shortage Areas both present issues for populations that live within them. Without convenient access to medical services, or without access to healthcare professionals (either due to workforce shortage, or excessive demand in relation to population) the populations living in these areas may be left in no better a position, in regard to health status, whether they have insurance coverage or not.

Medically Underserved Areas (MUA's) and Medically Underserved Populations (MUP's) are identified geographic areas or populations that lack access to primary care medical services. Medically Underserved Areas have shortages of primary health care medical services within a specified geographic area (e.g., county, census tract, group of counties). Medically Underserved Populations are sub-groups of people living within defined geographic areas who have a shortage of primary care medical services (e.g., low income, Medicaid eligible, migrants, Native Americans, homeless populations, low income). ("Medically Underserved Areas and Populations (MUA/Ps)," 2016). To qualify as an MUA, scoring is conducted and calculated out of 100 possible points on four qualifying indicators: Providers per 1,000 population ratio (28.7 points maximum), percentage of population at 100% Federal Poverty Level (25.1 points maximum), percentage population 65 or older (20.2 points maximum), and infant mortality rate (26 points maximum) ("Medically Underserved Area," 2016).

Health Professional Shortage Areas (HPSA's) are designated areas attributed to shortages of health care providers in the fields of primary care, mental health, or dental health as determined by the Health Resources and Services Administration (HRSA). Shortages may be based on geographic areas, certain population groups, or facilities who serve certain populations. Scoring for a designated HPSA is scaled from 0-25 for primary care and mental health, and 0-26 for dental health, with higher scores indicating greater severity of need ("Health Professional Shortage Areas (HPSAs)," 2016). HPSA's are classified by 3 categories: facilities, geographic area, population groups (Scarbrough et al., 2016). HPSA designation is calculated as a ratio of having a population to full time equivalent primary care provider of at least 3500:1. HPSA

designation is also calculated as a ratio of between 3000:1 to 3500:1 when the population has an unusually high need for primary care providers and services, or there is already insufficient capacity for primary care providers within the population and area (Scarbrough et al., 2016).

In Nebraska research has been done regarding the existence of MUA's and HPSA's within the state to better understand the distribution (or lack thereof) of medical services and professionals within the state. The Office of Shortage Designations, a department within the Health Resources & Services Administration, has conducted research to better understand the distribution and locations of existing MUA's within each of the United States. Findings from these mapping efforts specific to the state of Nebraska have shown some distribution of MUA areas throughout the Central part of the state, the Southcentral portion, as well as the Northeast ("Map Tool," n.d.). These discoveries tend to coincide with much of the population distribution for the state of Nebraska, with those areas tending to be less populated than the Eastern portion of the state. Findings from these research efforts aside, MUA's have not been confined to more rural and less populated areas however, with some documentation of MUA's existing even within pockets of larger metropolitan areas like Lincoln and Omaha ("Map Tool," n.d.).

Research conducted at UNMC looking at the ratio of mental health practitioners in relation to the state population of Nebraska shows an evident of the lack of overall resources available to rural Nebraskans. Research by Nguyen and colleagues has shown that compared to more urban areas of the state, Rural Nebraska contains considerably less mental health practitioners, which can severely limit a patient's

options in less populated areas of the state when it comes to seeking care (Nguyen et al., 2016). Considering the lack of services and availability of healthcare options for even insured individuals in rural areas of the state, uninsured individuals are even more at risk due to the lack of available low cost, or free, healthcare alternatives that could potentially be utilized if they were in a more urban area.

One proposed solution to the issues of MUA's has been the use of telehealth services and telemedicine. Telemedicine delivery allows for healthcare professionals to provide care and assessment of individuals without the healthcare professional being physically present with the patient. In the state of Nebraska, Medicaid is currently an accepted payer for telehealth medical services, meaning that Medicaid insured individuals would be able to access telehealth medical services within their area (Neb. Rev. Stat. § 71-8506 ({2014})). Unfortunately, research findings have found much of established telemedicine initiatives set up in MUA's do not become sustainable over time, either due to lack of supporting healthcare infrastructure and reimbursement for existing telemedicine facilities and staff, or time constraints to establish, operate, and maintain a telemedicine system for the population in need (Paul & McDaniel Jr., 2016). With the lack of a sustainable solutions present in the use of telemedicine services for underserved populations, the pressure of individuals in these MUA's to locate and receive continuous healthcare can greatly increase. Further research is needed to see what contributes to successful healthcare delivery through telemedicine initiatives, especially considering the acceptance of Medicaid as a payment source for telehealth and telemedicine services.

Previous research initiatives within Nebraska looking at both the effects of MUA's/HPSA's within the state, as well as estimations towards the benefits that Medicaid Expansion would bring to the state and the current numbers of uninsured. Located within the College of Public Health at UNMC, the Center for Reducing Health Disparities has been heavily involved in research and health promotion in the fields of MUA's, vulnerable populations, and healthcare disparities between racial groups to name some of the avenues they focus on ("Center for Reducing Health Disparities," n.d.). In addition to the work and focus conducted through the Center for Reducing Health Disparities, additional research from the College of Public Health has helped in paving the way and beginning to frame the discussion of how MUA's, HPSA's, and current uninsured populations all connect to one another. Research by UNMC's own Dr. Shinobu Watanabe-Galloway and colleagues has been conducted looking at perceptions towards recruitment and staff retention for mental health service providers in rural Nebraska (Watanabe-Galloway et al., 2015). Dr. Watanabe-Galloway's research has looked to address some of the underlying causes for mental health professional shortages, especially in the more rural areas of the state of Nebraska. Findings from Dr. Watanabe-Galloway's 2015 study looking at perceptions towards retention towards mental health service providers in rural Nebraska found that low levels of insurance reimbursement for services were one of the common themes discovered by her research (Watanabe-Galloway et al., 2015). Additional research by Nguyen and associates through UNMC found that the distribution of mental health service providers was drastically misrepresented between urban and rural areas, with rural mental health representation being especially poor in rural areas with greater numbers of adolescent

and elderly populations (Nguyen et al., 2016). Nationally, roughly half of all currently uninsured adults with existing behavioral health issues (around 2.5 million individuals) are in states that have not expanded Medicaid (Ali, Mutter, & Teich, 2015). With such a lack of access to behavioral health services to address health issues that may exasperate and compound if left untreated, lack of access to any type of healthcare service can be detrimental, including mental and behavioral health services. With lack of convenient access or availability of mental health service professionals, many individuals who would stand to benefit from treatment of mental health issues and other compounding health problems continue to be at risk in the state. By mapping the distribution more accurately of where specifically these underserved areas lie within the state, not only for mental health services but also for primary care and dental health, it can be better discovered where the most impact would be made with implantation of additional healthcare professionals.

An issue to consider when looking at assessed need of healthcare services, especially in the case of mental health, is the level to which capacity can increase in service provisions relative to the number of newly insured individuals who wish to access care. Areas that are underserved in a given healthcare domain (primary care, dental health, mental health) may not currently be equipped to handle an increase in patient demand for services, despite having insurance as a means of payment through Medicaid Expansion. It has been proposed that given current climate assessments of healthcare resource availability versus demand both Expansion and Non-Expansion states should utilize Community Health Centers as a way of extending mental health services to individuals in need of them. With their proximity to traditionally underserved

areas and locations within communities and rural areas, advocates state that the quality of care and readiness of resources available for Community Health Centers make for a natural fit to meet the unmet needs of those needing mental health services (Shin, Sharac, & Mauery, 2013). While both Community Health Centers in Medicaid Expansion states and Non-Expansion states have seen growth in capacity for mental health services and primary care services since 2014, health centers in Expansion states have seen greater levels of grown comparatively (Shin et al., 2015; Paradise et al., 2017).

Given that communities and states that have chosen not to expand Medicaid Services cannot fully rely on Community Health Centers, existing healthcare delivery frameworks, and current healthcare professional availability to ensure long-term health of their citizens, a better understanding of the true need of community and state health issues is needed, especially as they pertain to existing MUA's and HPSA's. The benefit of identifying existing MUA's and HPSA's is twofold in nature. First, it can help in identifying true areas of need where current healthcare services are lacking. A composite picture of what uninsured populations and those within the current Medicaid Coverage Gap are not able to access in regard to healthcare services can help policy makers and change agents identify solutions to help bring representation and care solutions to these groups. Second, documentation and mapping of MUA's and HPSA's along with additional information such as uninsured populations or populations in lower financial standing can be used as a base readiness assessment to determine where current capacity for patient care and healthcare services may not be sufficient given the passage of Medicaid Expansion in the state. Findings can be used to assess what

areas or populations may be overwhelmed, from which determinations can be made to implement changes to increase capacity.

Relevance to Public Health

Regarding how this Capstone Project is relevant to the field of public health; after having done thorough research and involvement in the issue of Medicaid Expansion, I would argue that Medicaid Expansion **is** Public Health embodied. As a future leader and professional in the field of healthcare, it is important that I recognize where my talents and those working alongside me are most needed. The saying “a rising tide lifts all boats,” is about as applicable as I can think of when looking at how Medicaid Expansion can be a benefit when looking through the lens of Public Health. The mechanisms and drivers of Medicaid Expansion are complex issues which are made up of many of the causes that are taught and fought for daily at UNMC; health care policy, healthcare administration, primary care, maternal and child health, health promotion, biostatistics, epidemiology, and occupational health. Medicaid Expansion is also a prime example of an Upstream Solution for what has been treated as a Downstream Problem for so long. By caring for the least fortunate of our State’s population and ensuring their health, wellbeing, and care, we can only stand to benefit from their improved health and the gains we receive from it. Whether the implementation of Medicaid Expansion leads to a myriad of successes as it has in other states (such as improved population health metrics, decreases in medical costs for high utilizers, economic gains in rural healthcare systems), or simply the improved wellbeing of those populations who have been overlooked and unable to access the realm of healthcare as they have needed, Medicaid Expansion is a cause I believe would be beneficial for the state of Nebraska.

In uncovering the descriptors and backgrounds of the populations that this Capstone work will impact, it is my hope that I can help make a difference for the overall health of current and future Nebraskans.

Methods

Due to individual level, location specific United States Census data being not readily available for this Capstone Project, with the direction of my Capstone Committee Chair, it was decided to break up the analysis of the Medicaid Coverage Gap population in to two separate groupings:

- Using available data samples through the United States Census (PUMS datasets) for the state of Nebraska, the demographical information of the Medicaid Coverage Gap population would be inferred through statistical analysis of this dataset.
- Through a combination of available data through both HRSA and the United States Census, a collective “picture” was developed to show the percentage of uninsured per county, as well as percentage of individuals falling below the 138% FPL designation. These population distributions were mapped with data from HRSA documenting the county-level designation of MUA & HPSA to establish an understanding of where medical need is most prevalent throughout the state in relation to uninsured and Medicaid Expansion eligible populations.

PUMS Data

The initial PUMS Dataset was obtained through the U.S. Census website. The PUMS Dataset is available as both 1-year and 5-year aggregate formats. The 5-year (2011-2015) aggregate data was selected to assess a wider range of answers and

changes in responses due to migration of surveyed individuals and changes in demographic trends in the state of Nebraska. To maintain consistency among differing sets and scopes of data, the 2015 PUMS Dataset for the state of Nebraska was used, as it aligned with the data available for both information obtained regarding Medically Underserved Areas and/or Populations (MUA/P) and HPSA designation, as provided by HRSA; and data regarding the uninsured populations per county, as provided by the U.S. Census' American Fact Finder website.

The initial dataset obtained from the U.S. Census website contained 94,701 unique, unidentified individual entries. Of these original 94,701 the final studied population consisted of 47,418 samples that were in turn classified in to two groups, those within the Medicaid Coverage Gap, and those above Medicaid Coverage Gap eligibility. Data was initially received and observed through Microsoft Excel, however data analysis was conducted with the assistance of IBM SPSS Statistics Data Editor Version 25. Using the PUMS entry fields of Citizenship Status, Age, Gender, Race, Hispanic Origin, and Income-to-Poverty Ratio, selection criteria for the two groups was developed with the following inclusion-exclusion criteria:

- All eligible individuals within the initial dataset whose Citizenship status was recorded as "*Born in the U.S.*", "*Born in Puerto Rico, Guam, the U.S. Virgin Islands, or the Northern Marianas*", "*Born abroad of American parent(s)", or "U.S. citizen by naturalization*" were included. Individuals whose response was "*Not a citizen of the U.S.*" were excluded from eligibility as with their current citizenship status they would be ineligible for Medicaid benefits. This inclusion-exclusion criterion took the initial sample size from 94,701 to 92,454 entries.

- Individuals were then filtered by age classification to further segment into eligible observational groups. With the current Age of Majority standing at 19 years old for the state of Nebraska, **19** was selected as the minimum eligible age for individuals included in observation and analysis (Neb. Rev. Stat. § 43-2101). Rationale for exclusion of individuals below 19 years of age will be discussed in the Limitations section. A maximum eligible age of **64** years was also established for the study population, with rationale for this decision also being included in the Limitations section. Individuals who fell below 19 years old or above 64 years old were excluded from the sample, bringing the total to 51,857 entries.
- Final inclusion-exclusion criteria for the observable population came through filtering responses along their Income-to-Poverty coding into one of two eligible groups. Individuals who fell within the range of **58% - 138% FPL** were deemed to fall within the Medicaid Coverage Gap population. The range of 58% - 138% FPL was used for this Capstone due to the inability to differentiate Medicaid eligibility of individuals who may or may not have Medicaid eligible dependents from single, childless adults in the 0% to 57% FPL range. Due to the exclusion of individuals within the 0% to 57% FPL range, numbers estimated as a result of data analysis for this project may be conservative in their summation. Compared to relevant literature estimating the number of eligible individuals for Medicaid Expansion in the state of Nebraska, this project will vary in its estimates towards a conservative measurement due to limitations in available data analysis measures and data availability. Individuals with responses of **>138% FPL** were coded as non-eligible Medicaid Coverage Gap populations with a maximum

inclusion criterion of 501% FPL. Responses to the Income-to-Poverty criteria that were more than 501% were top-coded at 501%. The Limitations section will further discuss the rationale for segmentation criteria of these two groups. Filtering the eligible 51,857 entries along Income-to-Poverty criteria resulted in an eligible study population of 47,418 entries.

- The eligible 47,418 entries were then analyzed with IBM SPSS Statistics Data Editor Version 25 to determine differences between the two groups, as well as document the demographic makeup of both groups along the classifications of gender, age, and race/ethnicity. Categorization of individuals along Income-to-Poverty level resulted in a Medicaid Coverage Gap population of 5,133 entries, with the Non-Coverage Gap population consisting of 42,285 entries.
- Crosstabs were created to observe statistical distribution differences between both groups of individuals based on differences in age, gender, and race/ethnicity. Crosstabs were created for age and gender distribution using a created inclusion/exclusion filter to leave out cases where individuals did not meet Citizenship, Age, or %FPL ranges. Crosstabs for race and ethnicity were created using Hispanic ancestry as an additional filter alongside the Citizenship, Age, and %FPL ranges to determine those in the identified ethnic categories who also reported having Hispanic ancestry/race.
- Pearson's Chi-Square test for validity was conducted for each of the three statistical analyses. Statistical analysis was conducted to determine differences, if any, among both groups in gender distribution, age distribution (presented as a separate histogram), and racial distribution. Results were compiled and

presented both as numerical amounts as well as percentile amounts of the respective sample sizes.

MUA/HPSA Designation

To ensure easy comparison and visualization of compiled data, information regarding MUA and HPSA status was compiled into a single Microsoft Excel Spreadsheet along with data regarding uninsured populations and populations below 138% FPL. Initial data regarding the status of a Nebraska county being designated as being either a Medically Underserved Area or Medically Underserved Population was obtained from the HRSA website and each designation was given a designated column assigned to each of Nebraska's 93 counties. MUA's were assigned a "Yes" or "No" based on their designation through HRSA. Medically Underserved Populations (MUP's) were differentiated from MUA designation by a categorization of "Yes" or "No" based on their designation through HRSA as well. While MUP's may be categorized as medically underserved areas in a given census tract, portion of a county, or within a single city or town, for the purposes of this Capstone Project, an overarching "Yes" was assigned to all counties that had MUP's within them. HPSA columns were assigned a "Yes" or a "No" for the three following categories: Primary Care, Dental Health, and Mental Health. Filtering was applied to allow for examination and trends in MUA/HPSA designation (e.g., how many counties had both HPSA – Primary Care and HPSA – Mental Health designations).

Uninsured Population Distribution

To better examine the distribution of uninsured populations and populations of individuals living below 138% FPL within each of Nebraska's 93 counties, data from the

United States Census Website tool American Fact Finder were compiled to map the data for better visualization of the population distribution. Information for both numbers of uninsured individuals and those below the 138% FPL mark were obtained from the 2015 5-year ACS Estimates master dataset. The data as described above was found in Document S2701 – “Selected Characteristics of Health Insurance Coverage in the United States.” To obtain values for Nebraska, data was filtered first by state level, then by county level. Information was gathered in Microsoft Excel alongside compiled data regarding County specific MUA/HPSA designation. Continuations of existing rows containing MUA/HPSA and population counts for each Nebraska county were given additional columns to display the number of uninsured individuals in each county, the percentage that uninsured population was of the county population, the number of individuals registered as below the 138% FPL mark, and the percentage of that <138%FPL mark population was of the county population. Full rankings were then compiled to show the counties within the state with the highest instances and percentages of uninsured individuals and low-income individuals living below 138% FPL in each county.

Microsoft Excel was used to compute the total number of uninsured individuals within the state of Nebraska, as well as the total number of individuals living below 138% FPL. Ranked lists were created to identify and characterize the 10 counties with the highest percentages of uninsured individuals as a portion of the county population (with the same calculations being done to identify the 10 counties with the highest percentages of county populations living below 138% FPL).

Data Mapping

Compiled information regarding MUA/HPSA status as well as uninsured and Medicaid Coverage Gap population distribution was paired with geographic identification markets obtained from the United States Census 2015 U.S. Gazetteer Files ("U.S. Gazetteer," 2012). Compiled data were uploaded to Tableau Public, which was then visualized in attached Tables 3.a. and 3.b. ("Tableau Public," n.d.). Visualizations were created to compare the distribution of HPSA designations, as well as population percentages of both uninsured and individuals living below 138% FPL with Tableau mapping capabilities.

Results

Characteristics of the Medicaid Coverage Gap Population

As of 2015, the state of Nebraska had a population of 1,840,934. Of those 1,840,934 Nebraskans, 5,133 individuals were determined to be eligibly within the Medicaid Coverage Gap based on the PUMS dataset sample. An additional 42,285 were found to be above Medicaid Coverage Gap qualifications based on the PUMS dataset sample. Chi-Square tests were used to compare the age, gender, and race and ethnicity group distribution within Medicaid Coverage Gap eligible group against those above the 138% FPL. Results were rendered in to a table using Microsoft Word below (Table 1). With a p-value of less than 0.001 we can determine that based on the sample of PUMS data, there is a significant difference between the gender distribution of those classified as within the Medicaid Coverage Gap and those above it. Compared to the population outside of the Medicaid Coverage Gap, a higher percentage of the Medicaid Coverage Gap population were female (57.0% vs. 49.4%).

Table 1 – Gender, Race/Ethnicity & Age Distribution of the Medicaid Coverage Gap Population				
		Medicaid Coverage Gap Population (57% - 138% FPL) N = 5,133	Outside the Medicaid Coverage Gap (≥138% FPL) N = 42,285	p-value for chi-squared test
Gender	Male	2,225 (43.3%)	21,411 (50.6%)	*<0.001*
	Female	2,926 (57.0%)	20,874 (49.4%)	
Race and ethnicity	Non-Hispanic White	4,234 (82.5%)	39,173 (92.6%)	*<0.001*
	Non-Hispanic Black	298 (6.0%)	799 (2.0%)	
	Hispanic	316 (6.2%)	1314 (3.1%)	
	Other Races	285 (5.6%)	999 (2.4%)	
Age group	19-34	2,192(42.7%)	11,256(26.6%)	*<0.001*
	35-49	1,385(27.0%)	13,192(31.2%)	
	50-64	1,556(30.3%)	17,837(42.2%)	
Percentages may not equal 100% due to rounding				

Crosstab comparison of the age distribution within Medicaid Coverage Gap eligible group against those above the 138% FPL were computed with Pearson's Chi-Square Test with a p-value of 0.05. Results were rendered in to a histogram using SPSS Graph Builder (Figure 2 – Medicaid Coverage Gap Population Age Histogram) in addition to grouping eligible populations in both groups into 15-year groupings for ease of analysis. With a p-value of less than 0.001 we can determine that based on the sample of PUMS data, there is a significant difference between the age distribution of those classified as within the Medicaid Coverage Gap and those above it. Observations of the distribution of the age-makeup of the Medicaid Coverage Gap population show that there is a significant difference between the makeup of 19 – 34 year old group (42.7%) when compared to the populations above the Medicaid Coverage Gap (26.6%). There is also a comparable and statistically significant difference among the distribution of 49 – 64 year old's within both groups as well (30.3% in the Medicaid Coverage Gap

group compared to 42.2% in the populations above the Medicaid Coverage Gap). This analysis and statistical distribution shows us that on average, the makeup of the Medicaid Coverage Gap is significantly younger than that of the general population of individuals who live above 138% FPL. Looking to the Histogram in Figure 2, the overall distribution within the 139% - 501% FPL group appears to be more uniform in its total population distribution, save for the increased number of individuals in the ages range of 48 – 64. Additional observations of the graph show that there is an inverse distribution of samples between the 58% - 138% FPL group and the 139% - 501% FPL. Younger individuals (ages 19 – 25) make up a larger proportion of the overall 58% - 138% FPL population than those in the other group. The age distribution of individuals making up the Medicaid Coverage Gap population appear to stay relatively constant in size with only 9 listed ages having above 150 eligible individuals in their groupings. Observations from the 139% - 501% FPL group show that on average, each ascending listed age has a greater percentage makeup of the 139% - 501% FPL group. As the population distribution based on age begins to thinly taper as age increases within the 58% - 138% FPL population, it appears to incrementally grow for the 139% - 501% FPL group to the right.

Race and ethnicity information were combined into four categories for analysis: non-Hispanic white, non-Hispanic black, Hispanics, and other. Due to small numbers in certain minority groups, multiple races and ethnicities were combined to an “Other” Category. Responses combined in to the “Other” category were: American Indian alone, Alaska Native alone, American Indian and Alaska Native tribes specified or American Indian or Alaska Native, not specified and no other races, Asian alone, Native Hawaiian

and Other Pacific Islander alone, Some Other Race alone and Two or More Races. Responses that were compiled to the “Hispanic” variable included: Mexican, Puerto Rican, Cuban, Dominican, Costa Rican, Guatemalan, Honduran, Nicaraguan, Panamanian, Salvadoran, Other Central American, Argentinean, Bolivian, Chilean, Colombian, Ecuadorian, Paraguayan, Peruvian, Uruguayan, Venezuelan, Other South American, and Spaniard. Pearson’s Chi-Square test results showed that there was a statistically significant difference of racial background and ethnic origin distribution between the two groups ($p<0.001$). A higher percentage of the Medicaid Gap Population were with minority race and ethnic background than the other group.

Distribution of Medicaid Coverage Gap Population by County in Nebraska

Total number of individuals found to be uninsured in the state of Nebraska was 189,101 (10.27% of the state’s 1,840,934 population in 2015). The number of individuals found to be living under 138% FPL was 355,370 (19.3% of the state’s population). There do not appear to be major distribution differences between the populations of uninsured and those living below 138% FPL. There are a few counties along the Southern Nebraskan border that appear to have a higher percentage of individuals living below 138% FPL as compared to their percentage population of uninsured, the same of which can appear to be said for the Western Panhandle and the Northeast side of the state as well (namely in the areas surrounding Thurston County).

The counties with the ten highest counts (and highest percentages of county population) of uninsured and individuals living below 138% FPL can be found within Table 3. The findings from Table 3 suggest that more sparsely populated counties and rural areas of the state may be more directly impacted by efforts such as Medicaid

Expansion, by measure of population percentages alone. While a greater overall number of individuals without insurance or who live below 138% FPL may reside in more populated cities within the state (Omaha, Lincoln, etc.), we can see for many rural counties and less populated areas of the state, a large portion of their county's population are currently living in conditions that would otherwise qualify them for Medicaid services if Medicaid Expansion were to occur. This information can be useful in determining if Medicaid Expansion alone would be enough of an additional healthcare resource to benefit these vulnerable populations. By further examining what existing healthcare resources and professional shortages may exist within these areas we can better determine where vulnerable populations in regards to Medicaid Expansion may be more lacking in immediate care options.

Referring to the third column of Table 3 – Counties with highest percentage and count of Uninsured and individuals living below 138% FPL we see the ten counties in Nebraska with the higher percentage of uninsured individuals as part of the county population. Between these ten counties there are 17,839 of the state's 189,101 uninsured (9.2%). Despite the high number of uninsured within these ten counties, combined they still contain less uninsured individuals than 2 of the most populous counties in the state, Douglas (531,473) and Lancaster (293,703). The combined totals from the fourth column of Table 2.b. show that the ten counties with the highest percentage of individuals living below 138% FPL would total 5th in the state of total number of individuals living below 138% FPL. In looking at the state of Nebraska's current capacity of available healthcare resources as shown by the HPSA distributions in comparison to the percentages of uninsured and potentially newly insurable by

county, there appears to be more research needed regarding the level of service capacity that different healthcare organizations have throughout the state to adequately provide care to the state population. Given that 10.3% of the state population is currently uninsured and almost 20% is currently living below 138% FPL there may be a considerable need to evaluate availability of healthcare resources, organizations, and professionals available in the state if an additional 90,000 to 108,000 individuals were to become insured through Medicaid Expansion and begin to utilize healthcare services.

Table 3 – Counties with highest percentage and count of Uninsured and individuals living below 138% FPL

	# Uninsured		# <138%FPL		% Uninsured		% <138%FPL	
1	Douglas	60,018	Douglas	111,741	Thurston	28.90%	Thurston	40.60%
2	Lancaster	28,478	Lancaster	62,221	Blaine	23.59%	Hooker	27.68%
3	Sarpy	10,884	Sarpy	16,599	Hayes	18.73%	Brown	27.09%
4	Hall	9,362	Hall	13,857	Dakota	16.06%	Richardson	26.78%
5	Scotts Bluff	5,147	Buffalo	8,950	Kimball	15.97%	Hitchcock	26.61%
6	Dodge	4,253	Scotts Bluff	8,547	Rock	15.82%	Sheridan	26.14%
7	Lincoln	3,923	Madison	7,676	Hall	15.60%	Pawnee	26.07%
8	Madison	3,856	Dodge	6,866	Dawes	15.30%	Box Butte	25.08%
9	Buffalo	3,672	Lincoln	6,520	Pawnee	15.08%	Furnas	24.95%
10	Platte	3,450	Dawson	5,794	Garden	14.37%	Kimball	24.80%
	Total	**133,043**	**Total**	**248,771**	**Total**	**17,839**	**Total**	**13,672**
	% of state Uninsured Pop.	**70.36%**	**% of state <138%FPL Pop.**	**70.00%**	**% of state Uninsured Pop.**	**9.43%**	**% of state <138%FPL Pop.**	**3.85%**

MUA/P & HPSA Distribution

Table 4 – Complete Capstone Mapping and Distribution Data for Uninsured and Vulnerable Populations gives full counts of all 93 Nebraska counties in regard to the

following information: population, MUA/MUP Designation, HPSA Designations for Dental Health, Primary Care and Mental Health, number of population uninsured, percentage population uninsured, number of population below 138% FPL, and percentage population below 138% FPL. Observations regarding the distribution and prevalence of MUA's within Table 4 show the number of counties found to be designated as Medically Underserved totaled 69 of 93, with 25 of those counties containing Medically Underserved Populations. The number of uninsured individuals within these counties totals 163,942 and the number of individuals below 138% FPL totals 307,476. That makes up 86.7% (189,101 total individuals) and 86.5% (355,370 total individuals) of the total uninsured and below 138% FPL populations of the state, respectively. Nebraska counties without either a Medically Underserved Area or Medically Underserved Population designation account for only 13.3% (25,159 individuals) of the uninsured population and only 13.5% (47,894 individuals) of the population living below 138% FPL.

Using compiled data regarding the number of uninsured and those below 138% FPL as a basis of these estimates, we can give a rough estimate as to the current (as of 2015) eligible population under Medicaid Expansion as well as an estimate as to the number of individuals within the Current Medicaid Coverage gap in the state. Based on the sum of all individuals in the state of Nebraska who are currently below the 138% FPL (and keeping some limitations of the figure in mind) there are currently 355,370 individuals who could be immediately impacted by Medicaid Expansion for the state. This is a very generous estimate of the Medicaid Expansion population as the <138% FPL data gathered by the U.S. Census accounts for current Medicaid beneficiaries, may

not consider criteria that would exclude individuals below 138% FPL as ineligible for Medicaid services, and that Medicaid Expansion would impact all included individuals in this estimate. This estimate also assumes that all impacted individuals and beneficiaries of Medicaid Expansion are present in the 355,370, which given the exclusion of certain groups (dependents, “flexible” FPL guidelines, medically compromised who are Medicaid eligible) for other estimations and calculations of this Capstone are not included. To get an idea of the number of individuals currently within the Medicaid Coverage Gap as studied by the Capstone Project, we must assume that the PUMS data collected is unbiased in its collection criteria (which while the data is “random” according to U.S. Census collection materials, the overall sample is not a true random sample of the population). Given the inclusion and exclusion criteria as mentioned in the Methods section we were left with a total Medicaid Coverage Gap population of 5,133 out of 94,701 original cases. Extrapolating the methodology of finding our eligible Medicaid Coverage Gap population across the 2015 Census estimate of 1,869,365 Nebraskans in the state, we could expect to find 101,324 Nebraskans within the Medicaid Coverage Gap.

Eighty-eight of Nebraska’s 93 counties had some designation towards at least one of the three Health Professional Shortage Areas, with only Douglas County (population of 531,473), Sarpy County (165,200), Dodge (36,136), Cass County (24,929) and Washington County (20,069) having none. Washington county also did not have any designations of being Medically Underserved either as an area or for designated populations, making it the only county to not have any designated healthcare resource shortages documented by this Capstone.

Dental Health HPSA designation was only found for three of the 93 counties; Dundy (population of 1,977), Jefferson (7,320), and Morrill (4,722). Primary Care HPSA designation was found for 16 counties, and Mental Health HPSA designation was the most prevalent, affecting 88 of the 93 counties in the state. The total number of uninsured populations within counties designated as shortage areas for Dental Health services totaled 1,467 (0.78% of total uninsured population), 3,706 (1.96%) for Primary Care services, and 110,938 (58.67%) for Mental Health services. Populations living below 138% FPL living within counties designated as shortage areas for Dental Health services totaled 2,687 (0.76% of total uninsured population), 6,346 (1.79%) for Primary Care services, and 214,994 (60.5%) for Mental Health services.

Turning attention to Figure 5.a – HPSA Distribution: Mental Health, we can see that lack of Mental Health Professionals is a stark problem faced by a large portion of the state. Based on Mental Health HPSA distribution, only 777,807 Nebraskans (42.3%) have sufficient mental health service providers and services available to them within their home county. Additionally, 32,562 Nebraskans are currently without adequate Primary Care Professionals and Providers in their county vicinity to provide care. While it was established that Dental Health Professional Shortages were the least prevalent HPSA designation for the state of Nebraska, they are still very much an issue for the residents of those counties and those who need adequate dental care services and health coverage. There are a combined 14,019 individuals residing in the three Dental Health Professional Shortage counties in the state, and while that may not equate to as large a number of need regarding healthcare service availability, it is something that

must be kept in mind when posing solutions and considering alternatives to care for these populations.

Figure 5.a. shows that Mental Health Professional Shortage Areas appear to be the most geographically prevalent HPSA issue for the state (only 5 of 93 counties sufficiently covered), with lack of sufficient Primary Care (Figure 5.b.) being the next most common (77 of 93 sufficiently covered). Shortages of Dental Health Professionals (Figure 5.c.) appears to be relatively isolated in regards state distribution, with only three counties (Dundy (population 1,977), Jefferson (7,320), and Morrill (4,722)) being designated as HPSA's. The counties designated as Dental Health HPSA's also appear to be relatively isolated from one another, with an average of 266 miles between the three counties. Whereas the issue of Mental Health Professional Shortage Areas appears to be statewide in its nature, lack of Primary Care Professionals appears to be more isolated to the Western half of the state, with no county East of Kearney County designated as Primary Care HPSA. Dental Health Professional Shortage Areas appear to be relatively spread out within the state, and while shortage areas exist for this measure, no county with this designation is bordered with another county also designated as a Dental Health HPSA.

Medically Underserved Areas and Populations are also shown visually in Figure 5.d. – Medically Underserved Area/Population to give a better understanding of the lack of medical service availability in comparison to the county's population. Whereas a county may not be designated as an HPSA in any of the three domains, there still could exist populations that are underserved medically, or the county may be underserved, as shown by Figure 5.d. Only 24 counties were found not to be designated as Medically

Underserved, or have Medically Underserved Populations within them. The distribution of MUA/P's throughout the state appears to affect all geographic directions of the state equally except for the panhandle region of the state, which contains eight of the 24 non-MUA/P designated counties.

Discussion, Limitations, & Recommendations

Discussion

Observations of the PUMS data analysis show that there are some clear cut and discernable differences between those above what we consider the Medicaid Coverage Gap, and those within the Gap itself. Population distribution along gender lines shows that there is a considerably larger number of females that make up the Medicaid Coverage Gap population in comparison to those above the Gap. Based on comparisons of gender distribution from 2015 ACS 5-year estimates, the female gender distribution of the 138% - 501% FPL population (49.4%) more closely resembles the distribution of females in the state of Nebraska (50.3%) than does the Medicaid Coverage Gap population (57.0%) (U.S. Census Bureau: AGE AND SEX, 2015). Males are also subject to unequal distribution between the two groups, with males within the Medicaid Coverage Gap representing only 43.3% of the population in comparison to the 49.7% of the general population, and when compared to the distribution within the group above the Medicaid Coverage Gap (50.6%).

Regarding age distribution, as noted in the Results section, there is a discernable difference between the distribution of younger individuals and older individuals between the two groups. Whereas the 19 – 33-year-old age range makes up roughly 40% of the total Medicaid Coverage Gap population based on the PUMS data, the same age range

only accounts for around 25% of the 139% - 501% FPL population. Inversely, individuals ages 50 – 64 within the non-Medicaid Coverage Gap population account for roughly a third of the total 139% - 501% FPL population, whereas the same age group only appears to represent around 20% for the 58% - 138% FPL population. The general uniformity of the age distribution as represented in the Histogram shows us that we are more likely to find younger individuals (specifically those below age 30) within the Coverage Gap as opposed to living above the Medicaid Coverage Gap. Using the same principle of thought, we would also be more likely to find individuals ages 50 and older outside of the Medicaid Coverage Gap than within in throughout the general population. This would coincide with the generally accepted notion that wealth is built later in one's life and one's financial worth is greater. This notion aside, the very prevalent distribution differences show that there is a staggeringly large number of younger individuals in the coverage gap than other age groups. Financial status and relative age should not be such heavily weighted determining factors towards one's ability to be able to receive healthcare. By immediately discounting the healthcare needs of younger individuals and age groups, a dangerous precedent is being set that demonstrate a lack of empathy towards offering solutions for their health problems and issues.

The impacts of having such a generally younger base of individuals identified within the Medicaid Coverage Gap are manifold in nature. Younger individuals, who in many cases are unfamiliar with the navigation of the healthcare industry by and large, may be more susceptible neglect of their own personal health issues than older age groups may be. The potential for learning and adopting contraindicated relationships to accessing and utilizing healthcare services and resources at younger ages (late teens

to early-mid 20's) may also have a more lasting impact on the overall health of individuals living within the Medicaid Coverage Gap if not corrected.

Comparisons between Race and Ethnicity as found by the PUMS dataset and Race estimations from the United States Census in 2015 (U.S. Census Bureau: RACE, 2015) for the state of Nebraska show some differences between both distribution of Caucasians and between multiple minority ethnic groups. Within the state of Nebraska based on 5-year ACS estimates, Caucasians make up 88% of the state populations, which corresponds more closely with the distribution of the Medicaid Coverage Gap population than that of those in the 139% - 501% FPL grouping (82.5% compared to 92.6%, respectively). Distribution of responses of African Americans and Blacks within the state population more correctly aligns with the distribution of those within the Medicaid Coverage Gap (4.7% compared to 6.0%, respectively), than it does to those in the 139% to 501% FPL group (2.0%). Hispanics, who account for 11% of the 2015 state of Nebraska population are underrepresented as a portion of both the Medicaid Coverage Gap population and the population of individuals above the Medicaid Coverage Gap, as it was calculated from the PUMS dataset. It is unknown given the PUMS dataset if minority populations made up a smaller percentage of the analyzed population due to lower response rates or made up a smaller percentage of the population due to truly lower levels of representation and prevalence in the general population.

Based on the trends and findings of the PUMS dataset, it would seem more prevalent for the makeup of the Medicaid Coverage Gap population in the state of Nebraska to be made up of younger individuals (ages 19 – 33), of primarily Caucasian

origin, with a higher prevalence of female than male within the population group. The Medicaid Coverage Gap population should be expected to more closely mirror the overall racial distribution of Caucasians and African Americans within the state, but would be disproportionally lacking in terms of Hispanics in relation to their distribution in the general population. Keeping in mind what our estimated makeup of the Medicaid Coverage Gap population may look like throughout the state, we can turn our attention to how these groups may be affected by where they reside throughout the state of Nebraska. As shown through observations in the mapping of MUA/HPSA distribution throughout the state, as well as distribution of the uninsured/individuals living below 138% FPL (who would have a higher likelihood of falling within the Medicaid Coverage Gap criteria), by and large those who would fall within the Medicaid Coverage Gap guidelines would find themselves in a position of not having access to one or more types of healthcare services and resources based on their location.

As a noted limitation of this Capstone research, the population of interest deemed to be within the Medicaid Coverage Gap (58% - 138% FPL) differed from that of what was chosen, and available for study, for the mapping portions of this Capstone research (<138% FPL). The inability to differentiate the Medicaid Coverage Gap population as whole based on the presence of cared for Medicaid eligible dependents was a limiting factor in fully determining the true Medicaid Expansion-impacted population from the PUMS dataset. Without a clearly defined filtering measure to determine what populations in the PUMS dataset truly fall within the Medicaid Coverage Gap, any estimations of the number or impact of the scope of individuals falling within the Medicaid Coverage Gap will be a conservative estimation. Similarly, a limitation of

the available data from the U.S. Census regarding the distribution of populations below 138% FPL presented its own set of challenges in being able to compare findings from the PUMS dataset to that of the U.S. Census data regarding uninsured populations and populations living below 138% FPL. Without an interconnected piece of available data between the two data sources (e.g., specific name, location, unique identifier, etc.), it is not possible to fully compare findings between the two datasets. Instead, inferences and any potentially noticed trends may serve as the basis for findings between these two groups of data.

Observations of the compiled data surrounding MUA/HPSA designation by county show that almost all Nebraskans, with few exceptions, are subject to a lack of available access to healthcare services in some capacity. Upon totaling the amount of Health Professional Shortage Areas throughout the state, it becomes quickly apparent the order of need for medical services in terms of HPSA Designation: Mental Health, Primary Care, Dental Health. Given this finding, it is entirely possible that given the current state of healthcare services and resources within the state compared to the number and distribution of uninsured and financially unstable that Medicaid Expansion alone would not address vulnerable populations' health concerns effectively enough. Of the 93 Nebraska counties only 24 are without an MUA/P designation, meaning that there is sufficient medical coverage for the given populations, however, only one county of the 24 (Washington) is without some other designation in the form of a Health Professional Shortage (either a combination of Mental Health, Dental Health and/or Primary Care). That means of the 1,840,934 individuals included in the population estimates used to map MUA/HPSA status, that only 20,069 individuals within

Washington county live in an area without any healthcare resource shortage. It is safe to say that despite Washington county's lack of any sort of healthcare resource shortage designation, the fact that there are still 1,455 uninsured individuals and 2,657 individuals living below 138% FPL means that there are still issues surrounding healthcare access and resource disparities in that county as well.

Limitations

While there were many interesting pieces of information uncovered by the Capstone Project and hopefully some benefit can be made from these discoveries, this project was not without its limitations in both scope and execution. In an ideal research environment, the information used to analyze and infer conclusions from would be complete and current in terms of its scope. Keeping that in mind, I have identified some of the main limitations that may be of benefit for considerations of further research surrounding this topic. The most prevalent limitation of this Capstone lies in the use of available PUMS data as opposed to a complete U.S. Census inventory of American Community Survey responses. By not having complete and unaltered Census data available there can be no direct and concrete conclusions of who specifically within the state makes up the current Medicaid Coverage Gap. Understanding the need for individual privacy the selected PUMS data gives a thorough demographic breakdown of the selected individuals included in the sampling data. While the selected PUMS

dataset used for this Capstone was sampled using methodologies that ensure that responses are not repeated in multiple years of datasets, the data used is not truly a random sampling of the Nebraska state population, so generalizability of information gathered from the PUMS data analysis should be taken cautiously. It is my belief however that given the explained methodology of selection of cases and inclusion/exclusion criteria of the PUMS datasets that the information presented still forms a fairly representative sample of the population makeup of Nebraska given the circumstances.

In addition to the limitations that the PUMS data presents in both sampling scope, there is also the limitation of non-transferability of data with findings made in regards the population distribution of the state. Without having a common geographic identifier to data obtained from both HRSA and Census information regarding the number of uninsured and underinsured throughout the state, we can make assumptions and draw inferences between the two datasets, but in their current states it would not be of benefit to combine the data together.

In my examination of the PUMS data itself, there are some limitations and potentially result altering differences that could be made based on different selection, inclusion, and exclusion criteria of the initial dataset as used for this Capstone Project. The decision to use the age range of 19-64 years old, while consistent of who would be the primary beneficiary of Medicaid (and Medicaid Expansion) services, overlooks the dependents and undocumented other individuals that the PUMS data does not account for. There is also the limitation of top-coding of the Income-to-Poverty variable that was used for statistical analysis, namely in how the demographic makeup of the population

who may fall within the >501% FPL may have on the demographic makeup of the two populations of comparison. While this Capstone did not focus on income or quality of life measures that may have been greatly impacted by differences in individuals' responses of >501%FPL, the inclusion of populations in the comparison group for statistical analysis may have some observable impacts on the data results.

Finally, regarding the selection of the Medicaid Eligible Population consisting of only those individuals falling within the 58% - 138% FPL classification, there is a strong possibility of overlooking populations on both ends of the Income-to-Poverty cutoff. As individual income, financial stability, and Medicaid eligibility may fluctuate given a period of time, the number and makeup of the eligible population may change given the observed time of year, or even frequency at which this data is analyzed. There is also attention that should be paid to the misalignment of the Census' segmenting of populations used in S2701 to only include individuals below the 138% FPL. By not including those at the 138% FPL mark as well, a segment of the potentially Medicaid Coverage Gap eligible population is potentially excluded from analysis as well.

Another limitation with the mapping and distribution portion of this Capstone project is the general classification of the "uninsured" populations. This Capstone project has operated and drawn conclusions based on the assumption that those classified as "uninsured" did not have any reported form of health insurance coverage. There may be some individuals of this population that either have health insurance provided to them through other means that are not reported through the available data of this project, or there is the possibility of individuals answering incorrectly to the responses indicating their current health insurance coverage. Without access to the

underlying methodology and responses to the Census data used to create the mapped portion of this project, it is unclear what (if any) differences there are in the true number of uninsured within the state compared to what was provided by the Census data.

Finally, an issue I will address in the scope of future projects in relation to this project is the way Medically Underserved Areas/Populations and Health Professional Shortage Areas was documented for this project. As described by HRSA, areas are designated as Medically Underserved or as Health Professional Shortage Areas and then are assessed a ranking based on their severity of need and availability of current resources. Due to the initial scope and available timeline of this project, a more thorough “risk scoring” of numerical MUA/HPSA assignment could not be established to determine the true “risk” each county had regarding access of healthcare services. Counties were assessed on a “Yes/No” basis of indicated MUA/HPSA designation, which still provided some insights as to the severity and need for healthcare resources (as well as professionals) throughout the state. However, without an established numerical ranking of the established severity at which each county was graded on in terms of MUA/HPSA scoring, there is still some ambiguity as posed by this Capstone Project as to where the truly most vulnerable areas of the state are as it stands. Future projects would be well served to further study the impact of numerical MUA/HPSA scoring and the percentage of “Medicaid Expansion-vulnerable” populations to determine where healthcare resource severity is most prevalent.

Public Health Contributions

This Capstone Project contributes to the field of Public Health and Health Policy in that its results help better identify the makeup of the current Medicaid Coverage Gap

population within the state. This information and demographic data is especially useful in light of recent political events at the state and federal level where the integrity and necessity of the Affordable Care Act has been called in to question, political and activist groups in non-Medicaid Expansion states call for further action on bringing Medicaid Expansion to their areas, and more data comes to light regarding the benefits that expanded access to medical coverage provides to citizens where Medicaid Expansion is available. Specifically for stakeholders in the state of Nebraska, the contents and information provided by this Capstone Project can help better identify where the next logical steps related to the hopeful passage of, and protection of, Medicaid Expansion for the state. By identifying and quantifying the vulnerable populations that may be unable to realistically access care or not have available healthcare resources at their disposal, this Capstone Project can help serve as a benchmark discussion on how to effectively provide resources for these groups of individuals. Demographic information provided on the sampling of Medicaid Coverage Gap eligible individuals can also help stakeholders and policy makers “stay the course” on ensuring that initiatives they bring forth or efforts they pursue are targeting the necessary populations of individuals who would be affected by Medicaid Expansion.

This Capstone Project can also be seen as an early version of a readiness assessment for state county officials, public health officials, and healthcare organizations to assess their capacity and ability to effectively serve a potentially new group of insurable and healthcare accessing populations throughout the state. Considering that Medically Underserved Areas and Populations are not partial to only one section of the state, and that Health Professional Shortage Areas are a rampant

problem especially as they relate to mental health, there is no shortage of further work and public health intervention that can be implemented to mitigate these problems. This Project, in addition to its discoveries and questions unanswered, can serve as a starting position for leaders wanting to bring positive healthcare changes to their communities and areas of the state.

Finally, while the demographic makeup of the Medicaid Coverage Gap population was more clearly defined through this Capstone Project, there is still much that can be done in better identifying the individuals who make up this group and would be directly affected through implemented Medicaid Expansion in Nebraska. In understanding that this information and limitation, it is equally important that in uncovering who makes up the Medicaid Coverage Gap, we are working to give them a voice to be heard by their elected officials, neighbors, friends, community members, and healthcare professionals who can help contribute to solutions. The methodologies used in this Capstone Project would be well served for additional efforts in looking to uncover and recruit individuals within the Medicaid Coverage Gap who are wanting to join the efforts of bringing Medicaid Expansion to Nebraska.

Suggestions for Future Projects

Suggestions for future projects looking to uncover additional information regarding those within the Medicaid Coverage Gap included both continuations of research of aspects of this project, as well as supplemental research efforts that may help better define the population in questions. Due to several limitations regarding the available data used for this project, as well as the proposed scope of the project given resources and timeframes, there is certainly much additional research that can be

beneficial to this continuation of work. Outside of the immediate scope of this project, future projects would also surely find some benefit looking to further research and investigate the following:

- Looking to risk stratify counties based on numerical rankings of HPSA and MUA/P designation to create a more consensus list of what areas of the state may be overburdened by a sweeping act of legislation that would ensure tens of thousands of Nebraskans looking to access healthcare services. A ranked listing of counties assessed on their readiness (or lack thereof) to accommodate additional healthcare utilizers would help further a needs assessment to determine the amount and scope of healthcare workers and resources needed throughout the state.
- Further research using more in depth and primary level Census data (which more than likely would be larger than the scope of a Capstone Project) is needed to establish a concrete methodology and aggregate to assist researchers in identifying vulnerable populations such as those within the current Medicaid Coverage Gap. The described methodology of this Capstone Project has transferability in its current state to be used in other states that currently do not have Medicaid Expansion, however the same number of limitations and restrictions towards the interpretability of the data would still exist. Given the difficulties presented in obtaining direct datasets from the Census, this project would take a good deal of forethought and research prior to execution.
- Given the presented methodology and scope of this project, future Capstone Projects could focus efforts towards identifying available resources within each

county as well as establishing a short-list needs assessment for counties where larger MUA/HPSA scored are identified regarding uninsured population percentage by county.

Conclusion

While this Capstone Project does not definitively answer the question as to who makes up the Medicaid Coverage Gap in the state of Nebraska, it does provide a clearer indicator of what kinds of individuals make up the population of interest. According to findings of this Capstone, there were 189,101 uninsured individuals within the state of Nebraska in 2015, along with 355,370 individuals who currently live below 138% FPL who may potentially benefit directly from the passage of Medicaid Expansion in the state. Findings also showed that those within the coverage gap, specifically those within the 58% - 138% FPL range, are predominantly more female than male, mostly Caucasian, and tend to be younger in age than those above the Medicaid Coverage Gap. Distribution of individuals over 24 to 25 years old within the Medicaid Coverage Gap seems to be relatively consistent in its makeup.

In looking at the healthcare services that are currently lacking in the state of Nebraska, especially when considering availability of services for potentially Medicaid Expansion eligible individuals, Mental Health services appear to be the least represented throughout the state. Primary Care Health Professional Shortages affect roughly 32,562 Nebraskans, and Dental Health Professional Shortages directly affect 14,019 Nebraskans. Based on these observations, there is a strong indication that individuals that currently fall within the Medicaid Coverage Gap may experience lack of availability in one or more of these healthcare domains based on current information.

Medicaid Expansion alone would provide a means of insurance and coverage for these individuals, but may not solve the issues of access and availability of healthcare services for them. By having a greater understanding of not only where the distribution of these individuals is throughout the state, but also giving a clearer idea of what kind of individuals to look for in addressing the "human side" of the policy changes that are taking place in trying to bring Medicaid Expansion to the state of Nebraska, stakeholders and invested parties can better understand the populations they are looking to serve.

Service Learning & Capstone Experience Reflection

Describe your experience with the placement site.

Admittedly, when I first began my Service Learning hours I expected to have my activities relate solely towards healthcare and health policy, so it was a bit of a shift when I began working on assignments outside of my "wheelhouse;" voter registration, immigration issues, workers' rights and safety. As I began working on these projects and gathered a greater understanding and appreciation for what Nebraska Appleseed did, it quickly became apparent how my work on my Capstone (as well as the Service Learning Projects I assisted with) were interconnected in some ways. Justice and Opportunity, the primary aspirations that Nebraska Appleseed strives to achieve for all Nebraskans, were all part of a running theme in all the projects I had the opportunity to work on during my time on site. As I had mentioned earlier in my paper, I believe that the issues of Medicaid Expansion are an embodiment of Public Health. Reflecting on my Service Learning experiences now, I believe that issues such as workers' safety, immigrant protections, fair and just voter registration procedures, and informing others

of ways to be a political advocate and informed researcher are all also embodiments of Public Health. My time with Nebraska Appleseed was an excellent continuation of learning the MPH domains and experiencing Public Health from a different lens that what my Health Administration courses have taught me so far.

While I was mainly under the direction of Molly McCleery during my time with Nebraska Appleseed, I was also available for use by other staff members as needed if they had additional projects in need of assistance. My duties and activities under Molly consisted mainly of literature reviews, healthcare topic dissemination, and briefing of the often-multiple healthcare storylines that were ongoing at the state and national levels of government. I spent a considerable amount of time compiling information and perspectives surrounding issues about state Medicaid Expansion Initiatives (such as Nevada and Minnesota), Legislation being considered at the National and State levels (Senator Bernie Sanders' Medicare for All Bill, ACA Repeal and Replace, ACA Repeal, ACHA alternative bills), and other issues relating to healthcare that I would compile, assess and disseminate for use by Nebraska Appleseed staff. My time spent reviewing and breaking down health policy issues was of assistance for weekly Health Care Defense Team Meetings where strategies were discussed on how to best approach more state level health care issues, but also helped keep a pulse on what seemed like very fast-moving pieces of legislation during the Fall.

Another significant portion of my Service Learning Experience was spent helping staff attorney Omaid Zabih, a staff attorney for Nebraska Appleseed working in the Immigrants and Communities Program. I was able to help Omaid in updating existing materials that his office had on the efficacy and safety of rest breaks for food production

(e.g., poultry and slaughterhouse) workers in preventing musculoskeletal injuries, structuring of work shifts for production workers to maximize productivity and minimize injury risk, and looking at existing laws and regulations that are in place regarding rest breaks in the workplace. I was also able to help Omaid with research regarding the issue of injury underreporting in the food production industry. With underreporting of issues such as muscular, nervous system, and repetitive motion injuries so prevalent in the food production industry there is evidence to suggest that the amount of injury reporting does not truly show the levels of injuries incurred industry-wide. Coupled with the issue of rest break enforcement for workers not being a top priority for many organizations and employers, this can quickly become a compounding problem that feeds in to the issue of fast employee turnover at these positions. While I originally did not give much thought to these issues being related to the topic of Medicaid Expansion, the more I became involved in the literature reviews and research I saw the relation became clearer. With the injuries these workers sustain, so do the costs associated with caring for them, and in many cases the compensation workers get for their labor (or for compensation for a sustained injury in the workplace) often do not cover what is needed to treat them fully. Similarly to my point of how the topic of Medicaid Expansion is an embodiment of the principles of Public Health earlier in my paper, seeing the ways in which the conditions of those involved in hard labor positions impact other aspects of their lives helped tie things together for me. During the process of these literature reviews and research for Omaid it was easy to see how the issue of worker's rights and entitlements is related to issues such as Medicaid Expansion, the right to be healthy and have access to healthcare, and the compounding struggles that one issue can have

on the other for so many individuals. Medicaid Expansion, as a larger concept to me, is an issue relating to human rights. Issues such as ensuring that a factory production worker can take sufficient rest breaks to prevent muscle fatigue and prevent injuries so they can continue their job is right in line with being a human rights issue as well. While I certainly learned quite a bit in terms of health policy and current events relating to healthcare at the state and federal level from my work under Molly, I think the materials I was able to help Omaid with were more resonating in how they personally impact individuals.

I was also fortunate to be able to help with some community based events that Nebraska Appleseed is involved with during my time onsite. Working with Jeff Sheldon, Communications Director, and Felipe Blanco, Community Organizer for the Economic Justice and Health Care Access Programs, I was able to be a part of a multisite event focused on framing political and “hot-button” issues using a message box and looking to find common ground to have successful debate towards issues. Meeting with a group of Omaha residents, Jeff and Felipe delivered information and techniques on how to frame issues so that both sides of an argument can find common ground and shared ideals when discussing their respective viewpoints. By using a Message Box, an individual can help uncover and match up ideals or shared values that another individual might hold, but with different political or cultural leanings. This activity of helping find common ground on an issue can help prevent message fatigue, weighing the other party down with facts or figures they may not accept, and can help them see where the other individual may be coming from with their intended message. My role for these events was to take notes, field audience questions, and supply additional information to

interested parties about the roles that Nebraska Appleseed plays in the community. In reflecting on my time with Nebraska Appleseed I believe that the information I took away from these events and how to use a Message Box is by far the most useful in my future role as a leader and communicator.

During my time on-site, I was also able to provide some assistance to Rachel Gehringer-Wiar, Field Director, for some of the organization's projects relating to voter issues and internal base building for volunteering and phone banking. I helped Rachel with data and communication method entry for volunteers wishing to help at Nebraska Appleseed, inputting information and mailing materials for registered voters that Nebraska Appleseed helped register. I also helped update internal procedural manuals relating to how different counties in Nebraska operate regarding dispersal of absentee ballots for elections, how individuals without permanent residence are factored in to vote counts, and did some brief article dissemination for Rachel on projects she was working on. Regardless of who I was assisting onsite at Nebraska Appleseed, I always felt a great sense of involvement of said project to my Capstone's focus towards the issue of Medicaid Expansion. While the topic of Medicaid Expansion itself may seem like a singular issue, the involvements I had with Nebraska Appleseed reinforce just the opposite notion. Medicaid Expansion for the state of Nebraska would help in assisting so many Nebraskans with so many facets of their daily lives, the least of which in helping alleviate worries and concerns they may have towards how they can access healthcare. Upon final reflection of my Service Learning site I don't think I could have asked for a better match to help me better understand the issue I was focusing on for

my Capstone and to help me further appreciate the good I can do with this and future projects.

What were the greatest challenges of the Service Learning/Capstone Experience?

Regarding any challenges or obstacles encountered during my Service Learning Experience; I was very fortunate in that there weren't really any challenges that I encountered during my Service Learning experiences. If I had to think of anything that may have been presented as a challenge it might have been having to deal with other individuals outside of Nebraska Appleseed that I would discuss my Capstone work with who don't have the same political leanings as myself. Having to formulate and defend the arguments I made for my project could sometimes be a bit arduous and repetitive, but I feel I was able to stand my ground and sufficiently answer questions to inquisitive individuals about the purpose and goals of my research. Most of my "issues" (if you can even consider them issues) came from events and discoveries during the Capstone portion of my experience. Due to a combination of extra commitments (work, leading an on-campus student group, planning for a November wedding) as well as deviations of where I would be obtaining my data from as laid out by my Proposal, the decision was made to focus the Fall 2017 semester on Service Learning requirements, with the Spring 2018 semester being used to complete my Capstone requirements and research. It was a bit disheartening not being able to graduate in the Fall as I had originally intended, but as I would come to realize it would be for the best. In reflecting on my experience, having my Capstone completed, I am much more satisfied with the final results I am presenting than if I had tried to rush all my commitments last semester.

What were the most important insights that you have from both your Service Learning and your Capstone Experience?

The most important insight I gathered from my Service Learning experience was the importance that perseverance has in achieving goals. The issue of Medicaid Expansion has been an ongoing effort at Nebraska Appleseed for the past 6 years and while there have certainly been bumps along the path, from my observations there has not been any loss of dedication and perseverance to the efforts of enacting this legislation in the state from the staff at Nebraska Appleseed. Staff recognized the sometimes-uphill battle they were facing, but I could tell that this was an issue that was important to them and their base. Nebraska Appleseed has shown that despite legislative challenges towards enacting Medicaid Expansion (political opposition, indifference from citizens or stakeholders, seemingly more important issues facing the state) they are committed to sticking by an effort they see as worthwhile and beneficial to the citizens of the state of Nebraska. Outside of the issues of Medicaid Expansion, staff also showed perseverance and dedication to the cause of protecting the rights and security of DREAMers throughout the past year when much of the political news about travel bans, immigration reform, and general uncertainty about the stability of the DREAMers Act. Staff were very perseverant in organizing resources and personnel to help DREAMers, and those who support them, tell their stories and provide them with resources they could use to contact elected officials regarding their worries. Overall, Nebraska Appleseed staff were nothing short of dedicated to whatever causes they were involved in, regardless of what their roles in the organization were. Buy-in was almost always guaranteed when issues and solutions were brought up in meetings or in

the facilities. I think that was an excellent example of coworkers and individuals working toward contribution of the greater good and seeing the power collective efforts can have towards accomplishing goals.

In addition to the high levels of perseverance I saw from Nebraska Appleseed staff, another important insight I gained from the Capstone Portion of my experiences is the importance of flexibility and willingness to change. In formulating my plan of attack for data gathering and analysis for my Capstone Project itself, it quickly became apparent that some of the ways outlined in my initial proposal would not be sufficient or feasible for my Capstone. Having to think of alternative ways to still “tell my story” for my Capstone led to many discussion and brainstorming sessions about how to best represent my data with available resources. The use of certain U.S. Census data and user-friendly datasets was not as easy to obtain as I had originally outlined in my proposal, so the need for flexibility in where I would obtain my data from and how I would represent it quickly became issues to address. The issue of needing to modify my datasets and sources used for my project however were relatively easy to address and remedy due to the experience and insights of my committee members, as well as assistance from several individuals on UNMC Campus. In the beginning of my SL/CE implementation I was very deadest that there was only going to be one right way to find and present my information, and now reflecting on that I wish I had been a bit more open to what changes I could have made from the beginning to avoid some of the obstacles in initially obtaining my data (e.g., better research on my own to see what alternative options were available for sources of data). While there are certainly many more insights and valuable lessons I learned throughout my Service Learning hours and

Capstone Experience, the idea of keeping an open mind and having a mindset of perseverance when conducting a large project are the things that most stand out to me as memorable. I think taking time and initiative to reflect on those pieces every now and then is something that will be very beneficial and useful to me in my professional career moving forward.

How have your views of public health practice been impacted by your SL/CE?

I think that my time spent during my Service Learning and Capstone Experience have helped reinforce the notion that there is not one concrete definition for what is and what is not an aspect of public health. Issues such as immigration, economic justice, worker safety, and healthcare reform are all different issues in their own rights, but all have an impact on the public health of a community. Getting to practice aspects of public health I had not previously been exposed to was something I certainly appreciated and came away with a greater understanding from. One of the biggest ways that my views towards public health practice was impacted by these experiences was as a reminder to not silo myself in my work, interests, or involvements. My most enjoyable experience during my Service Learning and Capstone Experience was the ability to wear so many hats and getting to see public health being applied in various settings (working in a primary care department for Nebraska Medicine, working with Nebraska Appleseed staff to apply advocacy efforts to public health causes, involving myself with UNMC Student Delegates to advocate positive health policy on behalf of future healthcare professionals).

The biggest way in which I think my views towards public health practice changed because of my involvements and Service Learning/Capstone Experience is

that I don't consider myself as "boxed in" in regard to my own skillsets or future potential as a healthcare professional. I may not be an expert in healthcare policy, or be a shining example of what an actively involved advocate looks like, but I can state that I certainly came away with greater confidence in both of those abilities now. I firmly believe that the additional skillset rounding I had during my time with Nebraska Appleseed, in conjunction with my experiences and takeaways from the classroom, will help me be extremely successful post-graduation into my professional career.

How did your public health education prepare you to address any ethical or other issues you encountered during your SL/CE?

I think the most impactful way that my education in public health courses prepared me for any encountered issues during my Service Learning and Capstone Experience was preparing me to approach everything with an open and inquisitive mind. Much of my work during my Service Learning required me to approach it with an open mind, considering the ethical, political, sociological, and personal impacts that the topics I was working on involved. In dealing with health policy and issues relating to healthcare it is important to not only have an understanding of the issues (e.g., how a certain health policy will impact healthcare service deliver) but understand the ripple effect it may have on other groups (e.g., how an implemented health policy may affect individuals relying on the effected medical service). I felt very well-rounded and prepared for the tasks and assignments I was assigned during my Service Learning through a combination of my coursework and professional experiences up until that point. Courses such as Biostatistics and Epidemiology helped me gain a more complete understanding of the impacts that a concept like Medicaid Expansion could have on the state of Nebraska for

different populations. Courses such as Health Care Ethics, Health Service Administration, Environmental Health, and Health Behavior were of benefit in looking to better understand the underlying causes and held beliefs that individuals and invested groups had towards the issue at hand. Additionally, my experiences working at a Federally Qualified Health Center and Academic Health Center both gave me an appreciation of the “human side” of healthcare. My experiences in and out of the classroom gave me unique appreciations for the work I was doing for my Service Learning and my Capstone in their own ways. In reflecting on my hours and activities over the past few semesters I most definitely can say I was well equipped through my education and experience to answer the research questions I laid out in my initial proposal.

In terms of addressing any ethical issues, I would say I was certainly prepared to face and address any that came about. However, I was thankful in that I really didn’t need to address any large ethical issues during my time with Nebraska Appleseed or during my Capstone Experience. Going back to the topic of my coursework at UNMC, I think that the well-rounded nature of the courses associated with the MPH degree put me in a great position to have an appreciation and understanding for differing opinions and viewpoints; and to question (but not attack) things that may not make perfect sense initially or align with my worldview. Since I was dealing with blinded Census data there was not much of an ethical concern in handling my Capstone data. The biggest ethical issue I suppose I may have encountered might have been in making sure I was abiding by the privacy and ethical guidelines of Nebraska Appleseed (which to my knowledge I did not break). There were some instances where I was tasked with entering and

handling contact information for individuals who had interacted with Nebraska Appleseed staff for things such as voter registration or email signup and contact. I made sure to take precautions in entering, using, and disposing of the information used when I was conducting those tasks however, copying only need-to-know individuals in emails, sending attachments to only those who need them, properly disposing of and recycling materials with personal information on it. All in all, I am fortunate that I did not have to deal with any high-level ethical issues during both my Service Learning time and Capstone Experience; however, I feel that had I been presented with an ethically ambiguous situation, I would have been properly equipped to handle it.

I cannot stress enough how much I enjoyed my time with Nebraska Appleseed and the people I worked with during my time on site. Not only was I able to continue pursuing my passion for involvement in healthcare policy and engagement, I was able to put myself in lines of work I wouldn't have otherwise sought out as fully. Working alongside Nebraska Appleseed staff on issues relating to immigration (both state level and federally), issues relating to taxes, state budgets, and education were all very eye-opening experiences as to the amount of work that goes towards being an effective advocate. I would like to offer my sincerest thanks to the staff, volunteers, and partners of Nebraska Appleseed, and I hope the findings of my Capstone Project are useful in progressing their efforts to bring affordable and accessible healthcare coverage to all Nebraskans.

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Appendices & Definitions

Appendices

Figure 2 – Medicaid Coverage Gap Population Age Histogram

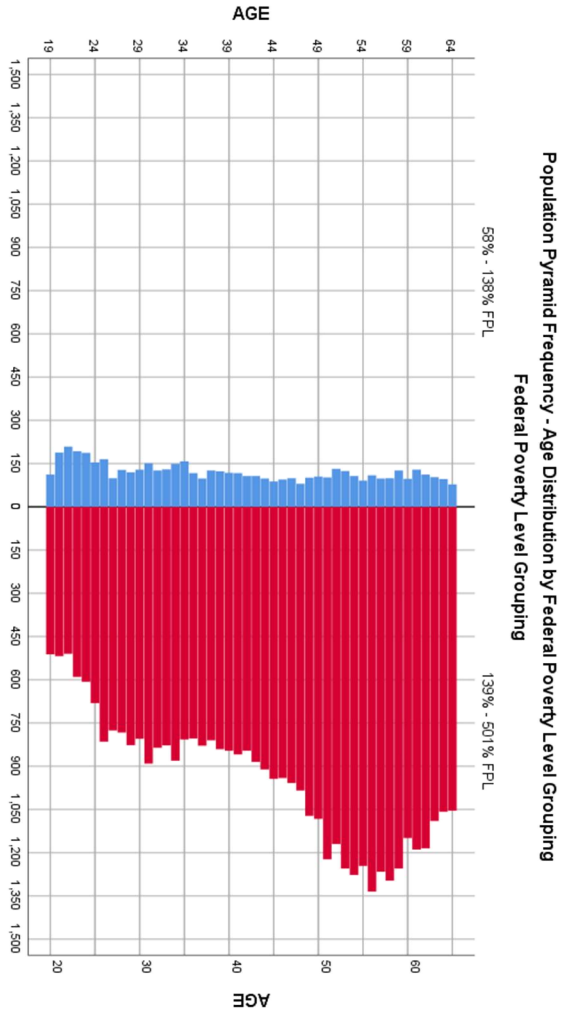
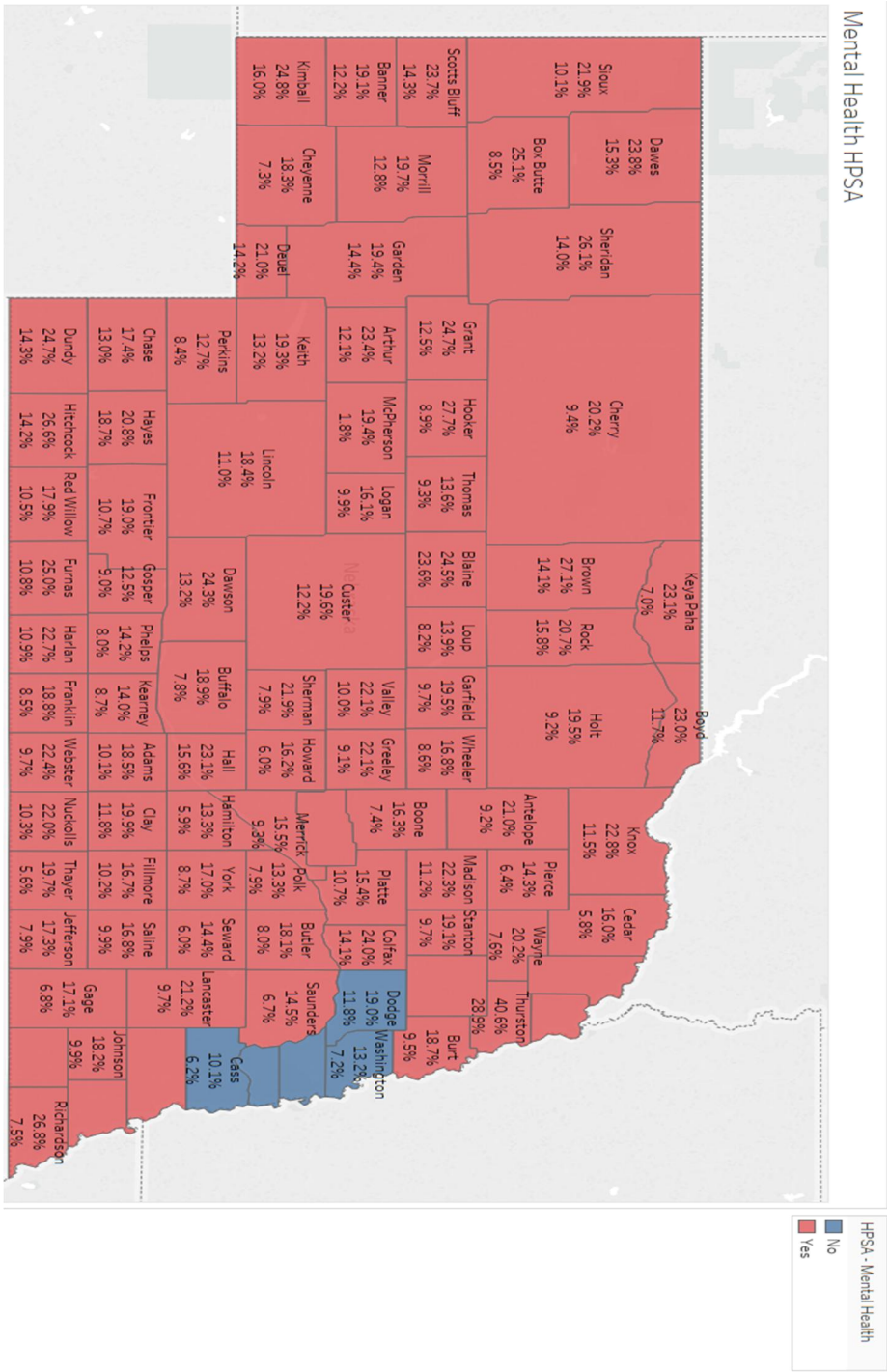


Table 4 – Complete Capstone Mapping and Distribution Data for Uninsured and Vulnerable Populations

County	Population	MUA/P	HPSA - Dental Health	HPSA - Mental Health	HPSA - Primary Care	# Population Uninsured	% Population Uninsured	# Population <138% FPL	% Population <138% FPL
Adams County	31,158	Yes	No	Yes	No	3,137	10.07%	5,757	18.48%
Antelope County	6,389	Yes	No	Yes	No	589	9.22%	1,344	21.04%
Arthur County	448	Yes	No	Yes	No	54	12.05%	105	23.44%
Banner County	820	Yes	No	Yes	Yes	100	12.20%	157	19.15%
Blaine County	551	Yes	No	Yes	Yes	130	23.59%	135	24.50%
Boone County	5,275	Yes	No	Yes	No	392	7.43%	859	16.28%
Box Butte County	11,146	No	No	Yes	No	943	8.46%	2,795	25.08%
Boyd County	2,012	Yes	No	Yes	No	235	11.68%	462	22.96%
Brown County	3,034	Yes	No	Yes	No	429	14.14%	822	27.09%
Buffalo County	47,356	Yes - Populations	No	Yes	No	3,672	7.75%	8,950	18.90%
Burt County	6,545	Yes - Populations	No	Yes	No	621	9.49%	1,224	18.70%
Butler County	8,085	Yes - Populations	No	Yes	No	643	7.95%	1,464	18.11%
Cass County	24,929	Yes - Populations	No	No	No	1,553	6.23%	2,513	10.08%
Cedar County	8,527	Yes	No	Yes	No	491	5.76%	1,364	16.00%
Chase County	3,830	Yes	No	Yes	No	499	13.03%	667	17.42%
Cherry County	5,711	No	No	Yes	Yes	537	9.40%	1,151	20.15%
Cheyenne County	9,978	No	No	Yes	No	733	7.35%	1,825	18.29%
Clay County	6,278	No	No	Yes	No	738	11.76%	1,248	19.88%
Colfax County	10,432	Yes - Populations	No	Yes	No	1,466	14.05%	2,504	24.00%
Cuming County	8,927	Yes - Populations	No	Yes	No	828	9.28%	1,562	17.50%
Custer County	10,679	Yes - Populations	No	Yes	No	1,303	12.20%	2,098	19.65%
Dakota County	20,582	Yes - Populations	No	Yes	No	3,305	16.06%	5,014	24.36%
Dawes County	9,061	No	No	Yes	No	1,386	15.30%	2,161	23.85%
Dawson County	23,795	No	No	Yes	No	3,144	13.21%	5,794	24.35%
Deuel County	1,925	Yes	No	Yes	Yes	274	14.23%	404	20.99%
Dixon County	5,781	Yes	No	Yes	No	678	11.73%	1,073	18.56%
Dodge County	36,136	Yes	No	No	No	4,253	11.77%	6,866	19.00%
Douglas County	531,473	Yes - Populations	No	No	No	60,018	11.29%	111,741	21.02%
Dundy County	1,977	Yes	Yes	Yes	No	283	14.31%	488	24.68%
Fillmore County	5,465	Yes	No	Yes	No	556	10.17%	913	16.71%
Franklin County	3,043	Yes - Populations	No	Yes	No	258	8.48%	573	18.83%
Frontier County	2,564	Yes	No	Yes	Yes	274	10.69%	488	19.03%
Furnas County	4,805	Yes	No	Yes	No	517	10.76%	1,199	24.95%
Gage County	21,533	No	No	Yes	No	1,463	6.79%	3,686	17.12%
Garden County	1,782	No	No	Yes	Yes	256	14.37%	346	19.42%
Garfield County	1,898	Yes	No	Yes	No	185	9.75%	370	19.49%
Gosper County	1,938	Yes	No	Yes	No	175	9.03%	243	12.54%
Grant County	769	Yes	No	Yes	Yes	96	12.48%	190	24.71%
Greeley County	2,443	Yes	No	Yes	No	223	9.13%	539	22.06%
Hall County	60,015	Yes	No	Yes	No	9,362	15.60%	13,857	23.09%
Hamilton County	8,957	No	No	Yes	No	524	5.85%	1,189	13.27%
Harlan County	3,405	Yes - Populations	No	Yes	No	372	10.93%	773	22.70%
Hayes County	1,084	Yes - Populations	No	Yes	Yes	203	18.73%	226	20.85%
Hitchcock County	2,845	Yes	No	Yes	Yes	405	14.24%	757	26.61%
Holt County	10,233	Yes	No	Yes	No	943	9.22%	1,996	19.51%

Hooker County	654	Yes	No	Yes	Yes	58	8.87%	181	27.68%
Howard County	6,327	Yes - Populations	No	Yes	No	378	5.97%	1,025	16.20%
Jefferson County	7,320	Yes - Populations	Yes	Yes	No	578	7.90%	1,270	17.35%
Johnson County	4,014	Yes - Populations	No	Yes	No	399	9.94%	732	18.24%
Kearney County	6,466	No	No	Yes	Yes	562	8.69%	905	14.00%
Keith County	8,084	No	No	Yes	No	1,068	13.21%	1,558	19.27%
Keya Paha County	711	Yes	No	Yes	Yes	50	7.03%	164	23.07%
Kimball County	3,662	No	No	Yes	No	585	15.97%	908	24.80%
Knox County	8,325	Yes	No	Yes	No	960	11.53%	1,899	22.81%
Lancaster County	293,703	Yes - Populations	No	Yes	No	28,478	9.70%	62,221	21.19%
Lincoln County	35,503	No	No	Yes	No	3,923	11.05%	6,520	18.36%
Logan County	850	Yes	No	Yes	Yes	84	9.88%	137	16.12%
Loup County	548	Yes	No	Yes	No	45	8.21%	76	13.87%
Madison County	34,466	Yes	No	Yes	No	3,856	11.19%	7,676	22.27%
McPherson County	433	Yes	No	Yes	Yes	8	1.85%	84	19.40%
Merrick County	7,661	Yes - Populations	No	Yes	No	712	9.29%	1,187	15.49%
Morrill County	4,722	No	Yes	Yes	Yes	606	12.83%	929	19.67%
Nance County	3,542	Yes - Populations	No	Yes	No	401	11.32%	701	19.79%
Nemaha County	7,050	Yes - Populations	No	Yes	No	573	8.13%	1,224	17.36%
Nuckolls County	4,309	Yes	No	Yes	No	444	10.30%	950	22.05%
Otoe County	15,553	No	No	Yes	No	1,455	9.36%	2,827	18.18%
Pawnee County	2,685	Yes	No	Yes	No	405	15.08%	700	26.07%
Perkins County	2,883	No	No	Yes	No	243	8.43%	365	12.66%
Phelps County	8,985	No	No	Yes	No	723	8.05%	1,277	14.21%
Pierce County	7,050	No	No	Yes	No	454	6.44%	1,008	14.30%
Platte County	32,343	Yes - Populations	No	Yes	No	3,450	10.67%	4,989	15.43%
Polk County	5,156	Yes	No	Yes	No	409	7.93%	686	13.30%
Red Willow County	10,685	No	No	Yes	No	1,119	10.47%	1,917	17.94%
Richardson County	8,046	Yes	No	Yes	No	603	7.49%	2,155	26.78%
Rock County	1,365	Yes	No	Yes	No	216	15.82%	283	20.73%
Saline County	14,051	Yes	No	Yes	No	1,398	9.95%	2,359	16.79%
Sarpy County	165,200	Yes - Populations	No	No	No	10,884	6.59%	16,599	10.05%
Saunders County	20,614	Yes - Populations	No	Yes	No	1,384	6.71%	2,987	14.49%
Scotts Bluff County	36,087	Yes	No	Yes	No	5,147	14.26%	8,547	23.68%
Seward County	16,732	No	No	Yes	No	1,008	6.02%	2,407	14.39%
Sheridan County	5,195	No	No	Yes	No	725	13.96%	1,358	26.14%
Sherman County	3,049	Yes	No	Yes	No	240	7.87%	667	21.88%
Sioux County	1,249	Yes	No	Yes	No	126	10.09%	273	21.86%
Stanton County	6,067	Yes	No	Yes	No	591	9.74%	1,159	19.10%
Thayer County	5,028	Yes - Populations	No	Yes	No	284	5.65%	992	19.73%
Thomas County	675	Yes	No	Yes	Yes	63	9.33%	92	13.63%
Thurston County	6,890	Yes	No	Yes	No	1,991	28.90%	2,797	40.60%
Valley County	4,210	Yes - Populations	No	Yes	No	422	10.02%	932	22.14%
Washington County	20,069	No	No	No	No	1,455	7.25%	2,657	13.24%
Wayne County	9,385	Yes - Populations	No	Yes	No	710	7.57%	1,893	20.17%
Webster County	3,610	No	No	Yes	No	350	9.70%	808	22.38%
Wheeler County	847	Yes	No	Yes	No	73	8.62%	142	16.77%
York County	13,256	No	No	Yes	No	1,159	8.74%	2,255	17.01%

Figure 5.a – HPSA Distribution: Mental Health



**Figures 5.a. through 5.d. show the distribution of HPSA designations throughout the state of Nebraska, as well as the distribution of Medically Underserved Areas and Populations. Within each county are two percentages; the top percentage being the percent living below 138% FPL within the county, and the bottom being the percent uninsured. **

Figure 5.b. – HPSA Distribution: Primary Care

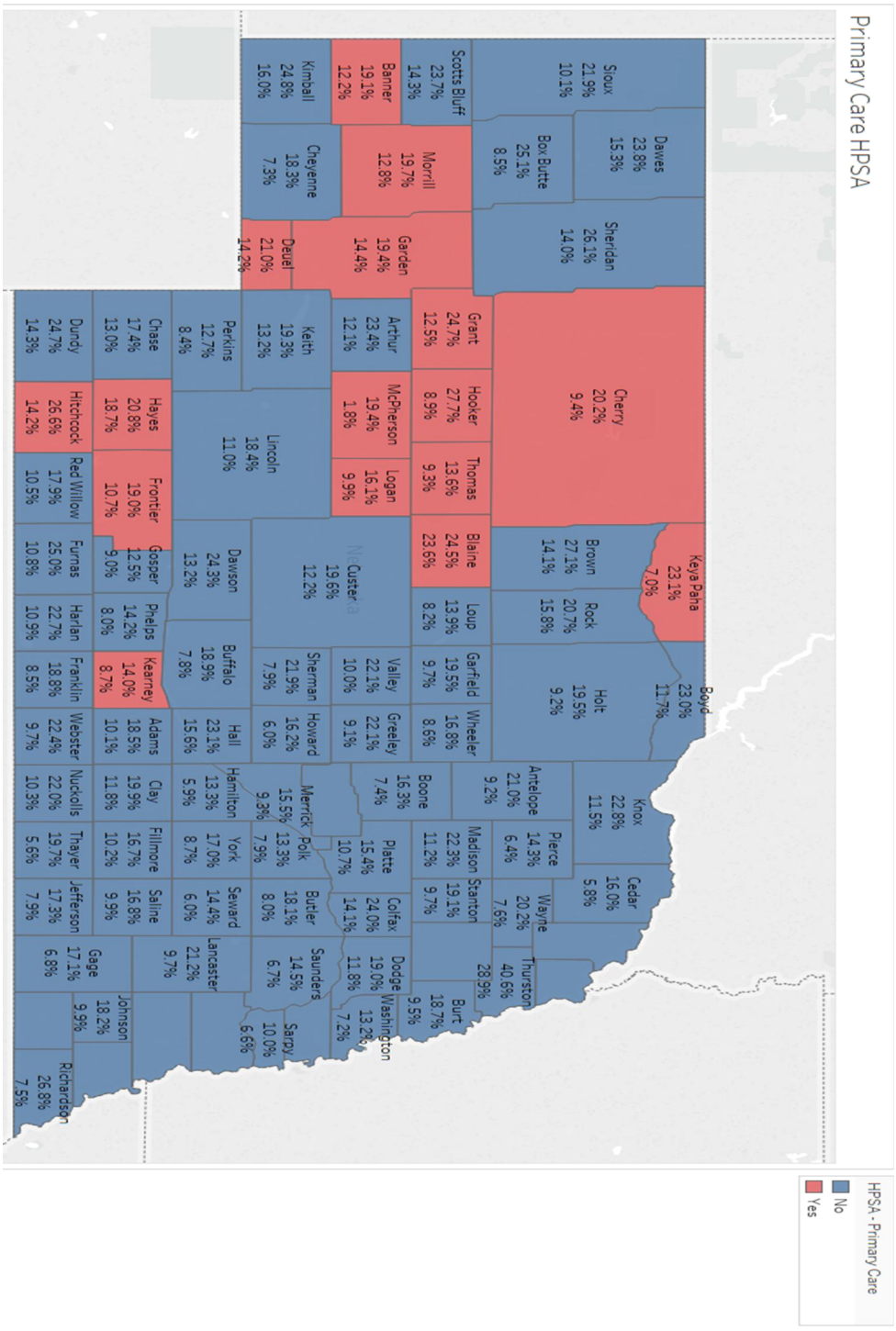


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Figure 5.c. – HPSA Distribution: Dental Health

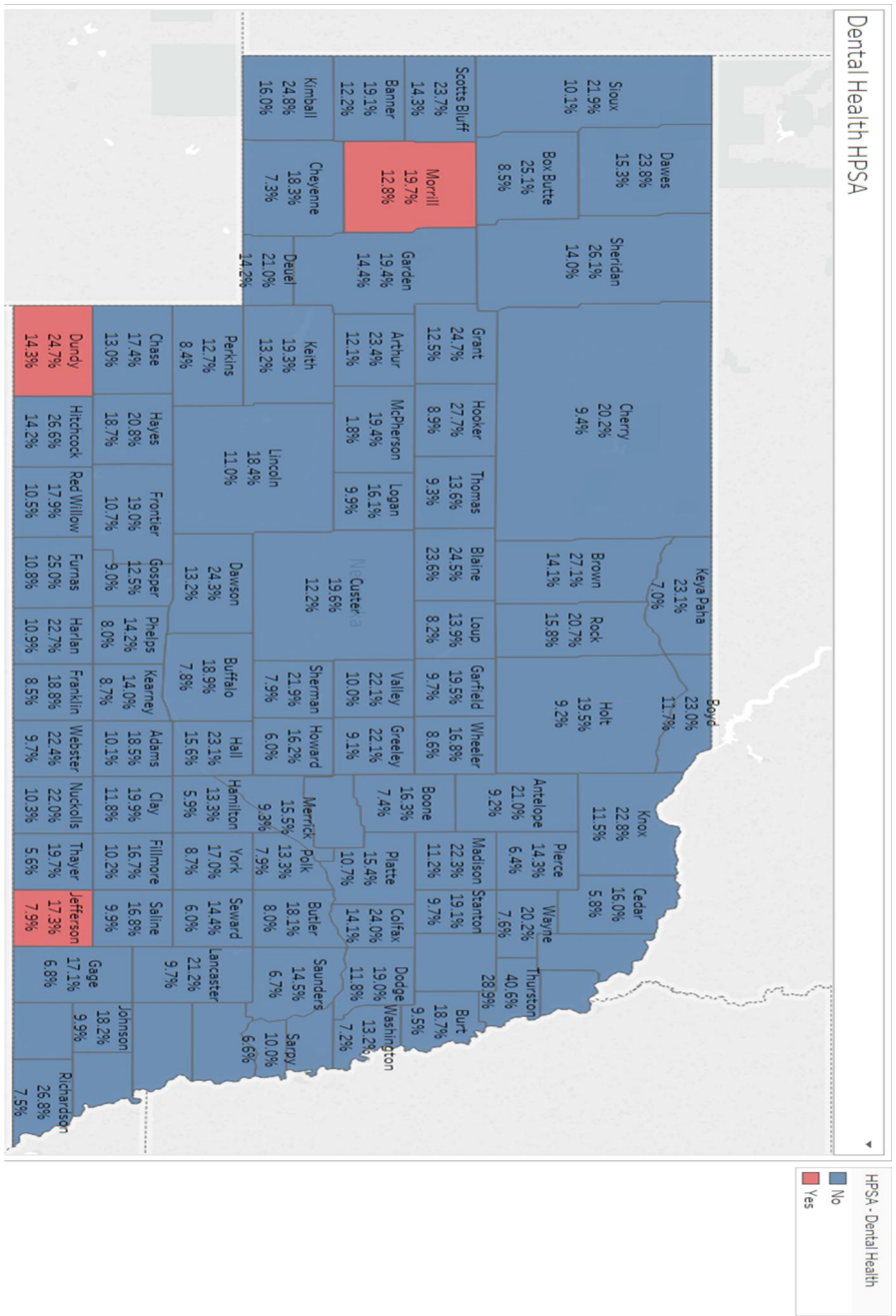

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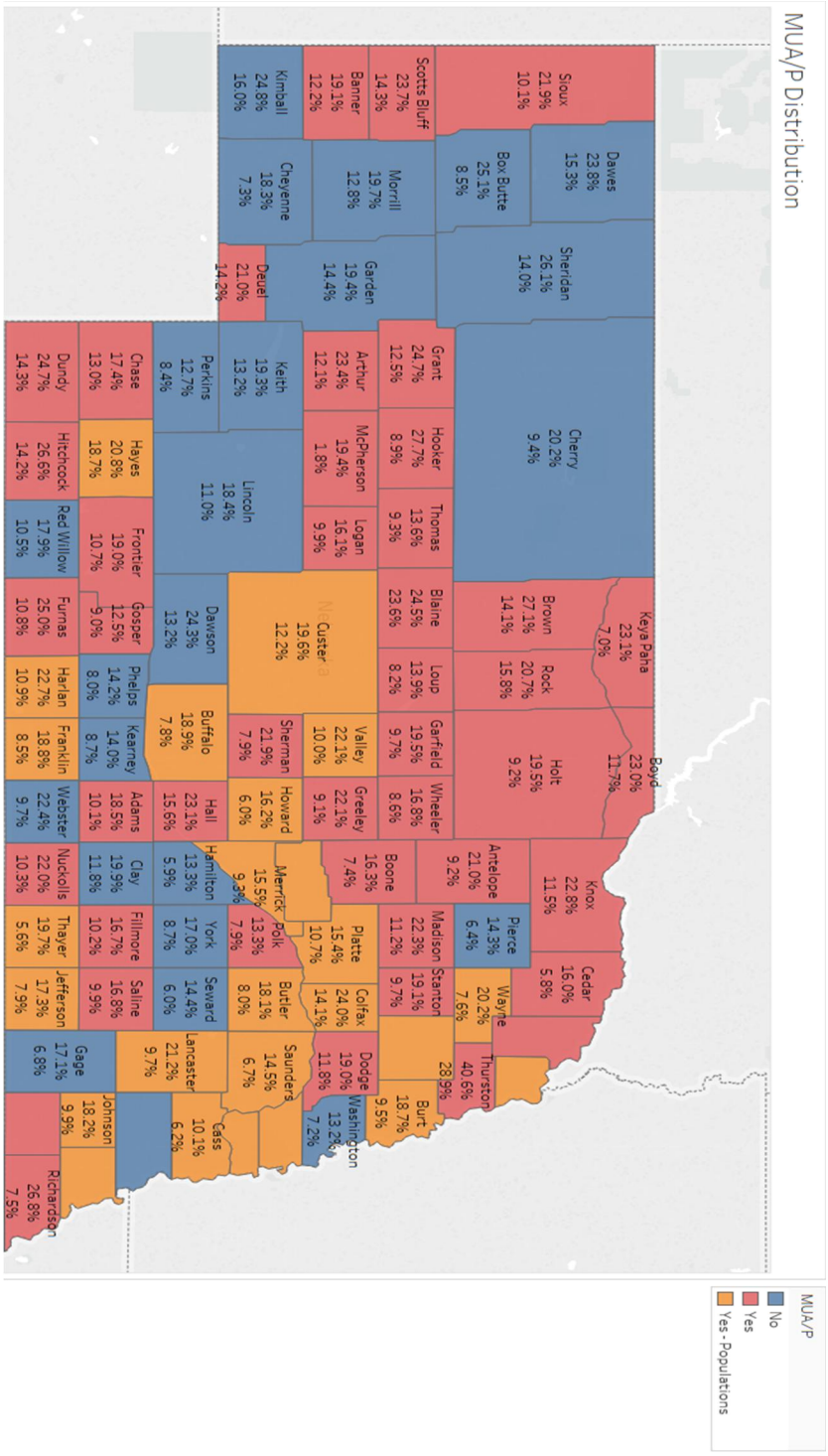
Figure 5.d. – Medically Underserved Area/Population Distribution



**Figures 5.a. through 5.d. show the distribution of HPSA designations throughout the state of Nebraska, as well as the distribution of Medically Underserved Areas and Populations. Within each county are two percentages; the top percentage being the percent living below 138% FPL within the county, and the bottom being the percent uninsured. **

Definitions and Commonly Used Phrases

American Community Survey (ACS) – An ongoing survey process administered through the United States Census which provides yearly insights and updates towards trends, changes, and updates about multiple aspects of the lives of United States citizens. Trends and changes in educational attainment, home ownership trends, occupation, housing status, language mastery, ancestry, and many other socioeconomic variables are gathered as part of the survey process. Survey results and changes in trends are utilized by many public and private industries, as well as local communities, to better improve their services and offerings for those they serve ("American Community Survey (ACS)," n.d.).

Centers for Medicare & Medicaid Services (CMS) – CMS is a division of the U.S. Department of Health and Human Services tasked with the administration and oversight of Medicare, Medicaid, the Health Insurance Marketplace, and services relating to the Children's Health Insurance Program (CHIP).

Federal Poverty Level – According to CMS, "(the Federal Poverty Level is) A measure of income issued every year by the Department of Health and Human Services (HHS). Federal poverty levels are used to determine your eligibility for certain programs and benefits, including savings on Marketplace health insurance, and Medicaid and CHIP coverage ("Federal Poverty Level," n.d.)."

Health Professional Shortage Area (HPSA) – According to HRSA, a designation attributed to shortages of health care providers in the fields of primary care, mental health, or dental health. Shortages may be based on geographic areas, certain population groups, or facilities who serve certain populations. Scoring for a designated

HPSA is scaled from 0-25 for primary care and mental health, and 0-26 for dental health, with higher scores indicating greater severity of need ("Health Professional Shortage Areas (HPSAs)," 2016).

Health Resources and Services Administration – Often shortened to the acronym HRSA, this agency is a part of the U.S. Department of Health and Human Services with the primary focus of improving health care accessibility to vulnerable, isolated, or economically disadvantaged populations throughout the United States. In addition to tracking and assessing healthcare needs through identification of medically underserved areas and areas of health professional shortages, HRSA also oversees organ and bone marrow donation, maintains databases relating to healthcare malpractice, abuse, fraud and waste. HRSA also works with training and distribution of healthcare providers to underserved areas to better serve the healthcare needs of those populations (“About HRSA,” 2017).

Medicaid – According to CMS and the United States Government’s Medicaid Website, “Medicaid provides health coverage to millions of Americans, including eligible low-income adults, children, pregnant women, elderly adults and people with disabilities. Medicaid is administered by states, according to federal requirements. The program is funded jointly by states and the federal government.” (“Medicaid,” n.d.).

Medicaid Coverage Gap – Those individuals in states that have opted out of Medicaid Expansion efforts who “hav[e] incomes above Medicaid eligibility limits but below the lower limit for [Affordable Care Act] Marketplace premium tax credits.” (Garfield & Damico, 2016)

Medicaid Expansion – The expansion of Medicaid eligibility to almost all low-income individuals within the United States with incomes meeting or below the 138% Federal Poverty Level.

Medically Underserved Area/Population (MUA/P) – Identified geographic areas or populations that lack access to primary care medical services. Medically Underserved Areas have shortages of primary health care medical services within a specified geographic area (e.g., county, census tract, group of counties). Medically Underserved Populations are sub-groups of people living within defined geographic areas who have a shortage of primary care medical services (e.g., low income, Medicaid eligible, migrants, Native Americans, homeless populations, low income). ("Medically Underserved Areas and Populations (MUA/Ps)," 2016).

Public Use Microdata Sample (PUMS) – Sets of records of individual people and/or housing units as collected by the U.S. Census Bureau deidentified to protect the identity of included individuals. PUMS data allows researchers to easily and affordably access information and data collected by the U.S. Census that is accurate and indicative of complete Census data collected both at 1-year and 5-year intervals through the American Community Survey. PUMS Data provides a geographically accurate, weight and inflation adjusted estimate of information recorded from the ACS, which can be used in a multitude of research settings ("Public Use Microdata Sample (PUMS) Documentation," n.d.).