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A State-Level Report of the Access to Care for
Child Immigrants in the United States in 2019



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I hereby recognize and pledge to fulfill my responsibilities as defined in the Honor Code and to maintain the integrity of both myself and the College as a whole.

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Abstract

Inadequate access and poor-quality healthcare have severe consequences for immigrants in the United States. By performing multiple regression models and analyzing a systematic survey taken from the National Survey of Children's Health, I was able to identify a variety of factors that affect the uninsured and unauthorized immigration rate in each state. The cost of living in each state, in addition to the median income/state, the political leaning of each state, the poverty rate/state, and the report of being able to speak English "well" or "very well" significantly affected the rate of uninsured, unauthorized immigrants per state. Additionally, while immigrants were likely to take their children into a wellness checkup (more than 80% answered yes), they were extremely unlikely to have taken their children into the emergency room. Immigrants also responded that caregivers were generally likely to treat their family and cultural customs with respect when at an appointment. Policy solutions are needed to improve health care for immigrants and their children. Research is required to explain immigrants' nonfinancial barriers, receipt of specific processes of care, cost of care, and healthcare experiences in the United States.

CHAPTER 1: INTRODUCTION

Access to, utilization of, and retention of healthcare in the United States is predicted by a complex set of factors, including age, employment status, and immigration status. Evidence suggests that recent anti-immigrant policy changes have made it difficult for immigrants to obtain healthcare, resulting in avoidance or poor quality of care (Esterline & Batalova, 2022). Moreover, there are likely pronounced negative consequences for US-based undocumented immigrants, most of whom originated in Latin America. Approximately 3% of the population migrates worldwide, with roughly 44.9 million migrants residing in the United States (Esterline & Batalova, 2022). Once in the country, immigrants face many barriers to integration regardless of legal status due to discriminatory efforts, nationalistic ideals, and more. However, one of the major challenges immigrants face is accessing quality healthcare.

Throughout literature, undocumented immigrants/migrants also called illegal, irregular, and noncitizen are seen as underutilizing the health care system. This not only puts their health at risk but may also put the general public's health at risk. Access to healthcare across the continuum, from initial contact with a provider to preventive services and emergency care, is essential for overall health. Previous research shows that immigrants are given less access to healthcare than native-born individuals, and many choose not to utilize access to healthcare if granted for fear of deportation (Larchanche, 2012, p. 860). Several factors are presumed to exacerbate undocumented immigrants' limited access to healthcare. Certain immigrant groups, such as refugees and those who recently arrived, report barriers to accessing care, such as language difficulties, cultural and societal influences, and gender expectations. These factors may affect how easily and how often immigrants seek care. Very little is known about how

immigrants fare once they are given access to healthcare. Therefore, much needs to be studied to identify organizational factors that may impact access to care.

Documented immigrants may become eligible for coverage through Medicaid or the Children's Health Insurance Program (CHIP). However, undocumented immigrants are prohibited from obtaining federally funded healthcare with the exemption of Emergency Medicaid, and then only to cover stabilization (Ruiz-Casares, Rousseau, Derluyn, Watters, & Crepeau, 2010, p. 333). As a result, almost half of the undocumented immigrants are uninsured and generally cannot afford the high cost of care. Additionally, whether insured or not, other obstacles stand in the way of the immigrants accessing care. These include but are not limited to the inability to cover cost-sharing, the complexity of the healthcare system, the lack of language interpreters, and the absence of transportation. Furthermore, other factors, such as the fear of being deported and general mistrust of the healthcare system, contribute to the ongoing systemic oppression of immigrants. These factors result in immigrant families and children being systematically denied affordable and accessible healthcare.

When migrants legally settle into new communities, they face challenges of being accepted by new host communities, disrupting communal integration, and harmonious living. They also face barriers based upon their cultural practices, religious beliefs, language, discrimination, and racism. Just like any citizen, these migrants will require access to healthcare. Due to the public health issues in migrant countries in addition to the host of new environments met in the United States, immigrants are more susceptible to worsened health statuses (Alarcon, 2022, p. 21). Chronic conditions like diabetes, high blood pressure, heart disease, and malnutrition are prevalent among migrants. In addition, their current situation puts them at higher risk of mental health illnesses, such as depression, anxiety, post-traumatic stress disorder

and substance abuse. The adjusted health status of migrants in addition to their lack of access puts native born citizens at a much higher chance of developing a communicable or noncommunicable disease. Therefore, understanding the access and quality of healthcare that immigrants receive will help bring about positive health outcomes for diverse populations.

The goal of this paper is to inform readers of the barriers to healthcare for immigrants and persuade individuals to enact change. This paper focuses on barriers that immigrants of diverse statuses living in the U.S.—particularly children in early adolescence — face accessing health services due to the changes in United States immigration policies. Additionally, this paper will discuss the implications of these barriers for the overall health of the individuals themselves. I hypothesize that as a child migrant in early adolescence, barriers to healthcare are far more complicated given that they cannot advocate for themselves, and they, therefore, receive lower quality healthcare. I report findings from a scoping review about immigration status as a social determinant of health and discuss ways that immigrant characteristics can impede access to health care across levels of the social ecology. This paper draws on statistics from the Migration Policy Institute (MPI), the U.S. Census Bureau, the 2019 Current Population Survey [CPS], and the U.S. Departments of Homeland Security (DHS) and State, in addition to a variety of other reliable sources. I then recommend various policy changes and strategies to grant immigrant children and their families better and more quality access to healthcare. Highlighting the various challenges to care allows readers to see the importance of access to healthcare in addition to the role common citizens need to play in order to see a change. Literature is scarce on how young immigrants access healthcare; therefore, in the next chapter, I review literature on the overall access to care for migrants and the different factors that affect it. I later narrow in on access for migrants ages 0-5 and how their quality is affected due to their citizenship status.

CHAPTER 2: LITERATURE REVIEW

Relatively few studies have examined the accessibility of healthcare for noncitizen children in the United States. However, in all measures of potential and realized access to healthcare, immigrants have lower access levels and a lower quality of care (Derose, Bahney, Lurie, & Escarce, 2009, p. 359). Immigrant access to health and human services is primarily shaped by eligibility provisions related to immigrant status. The existing landscape of immigrant eligibility is complex, shifting, and variable across and sometimes within states. This complexity creates the need for a study that addresses the accessibility to insurance and the quality of the healthcare received. While this paper provides an overview of critical issues in immigrants' access to health and human services, later phases of the composition will hone in on specific issues through interviews of immigrant parents and the measures taken to keep their children healthy taken through the National Survey of Children's Health. Documenting national practices of immigrant healthcare will also show how the fear of deportation affects healthcare quality.

Access to Insurance

In the United States, access to insurance is an essential indicator of socioeconomic opportunity. As of 2009, an average of 25% of undocumented migrants had access to some form of insurance, although the risk of obtaining poor or improper insurance was substantially high (Heyman, Núñez, & Talavera, 2009, p. 4). Nationally, 38% of undocumented children lacked health insurance in 2012; however, for those with U.S. citizen parents, only 12% of children lacked insurance (Gelatt, 2016, p. 541). Insurance is crucial for immigrant children so as to ensure that acute and chronic conditions are observed and treated and preventative services are readily available (Brown et al., 1999). Health insurance coverage for low-income children and

parents in immigrant families has become more precarious throughout the past few decades (Ku & Blaney, 2000). This threat looms over many immigrant families' shoulders, particularly when children are concerned; without access to medical care, an acute illness such as an ear infection could turn into a much more debilitating condition. When situations like these arise, a variety of social and economic burdens are placed on families who are already dealing with adjustment barriers in the U.S. (Brown et al., 1999).

Unfortunately, migrant children face the highest barriers to healthcare. The Personal Responsibility and Work Reconciliation Act (PRWORA) of 1996 granted states greater latitude in administering social welfare programs and implemented new requirements on welfare recipients, including a five-year lifetime limit on benefits (Ruiz-Casares et al., 2010, p. 332). This act made all undocumented children under the age of 18 and legal immigrants who had been in the United States for less than five years ineligible for the two most extensive federally funded programs for low-income children: Medicaid and the State Children's Health Insurance Program (SCHIP) (Ruiz-Casares et al. 2010, 333; Heyman et al. 2009, 10). In fact, almost one-half of the \$45 billion in PRWORA savings from 1997-2002 came from immigrant benefit cuts in a variety of means-tested benefits programs, including Supplemental Security Income (SSI), food stamps, Temporary Assistance to Needy Families (TANF), and Medicaid (Hagan, Rodriguez, Capps, & Kabiri, 2003), p. 446). It is important to note, however, that undocumented immigrants have never been eligible for Medicaid. Even when migrant children are eligible for quality insurance, they are typically unable to obtain it as the United States would prefer to wait for them to have access to Medicaid and SCHIP (Heyman et al., 2009, p. 5).

SCHIP, now referred to as the Children's Health Insurance Program (CHIP), was enacted to expand health insurance coverage for low-income, uninsured children (Dubay & Kenney,

2009, 2040). The policy differs by state due to various state outreach, enrollment, and eligibility practices (Twersky, 2022). States that are more Republican tend to have more immigrant children enrolled in Medicaid or CHIP compared to an all-Democratic state government. While seemingly contradictory, evidence suggests that low-income households are more likely to vote Republican and, therefore, reflect the overall economics of the state (Twersky, 2022). In addition, children in married immigrant families experience the most significant enrollment decline with state restrictive policies, followed by children with siblings. The status of the mother in the United States is also critical. “Having a non-citizen mother...significantly reduces the likelihood of a child’s enrollment in public insurance by 2.3 percentage points....4.8 percentage points for children in non-married families... [and] 10.6 percentage points for only children with non-citizen mothers” (Twersky, 2022). However, the dangers and challenges women face when crossing the border or attempting to become citizens cause difficulties when accessing public services; therefore, mothers and women generally have a more difficult time applying for insurance.

Eligibility for food stamps, welfare, and other supplemental security income is also hard to come by due to PRWORA. Therefore, undocumented children are only granted access to Medicaid for immunizations, treatment of communicable diseases, and emergent conditions (DuBard & Massing, 2007, p. 1086). In order to be given access to insurance packages such as Emergency Medicaid, immigrants must fit into a specific category: children, pregnant women, families with dependent children, and elderly or disabled individuals. Additionally, individuals must be able to meet state income and residency requirements (1085). *Emergency services* are defined as conditions such as labor and delivery or ““treatment after the sudden onset of a medical condition manifesting itself by acute symptoms of sufficient severity, including severe

pain, such that the absence of immediate medical attention could reasonably be expected to result in: (A) placing the patient's health in serious jeopardy; (B) serious impairment to bodily functions; or (C) serious dysfunction of any bodily organ or part'" (North Carolina Department of Health and Human Services 2006: DuBard and Massing 2007, 1086). The government has elected for any service outside of this definition not to be covered by Emergency Medicaid; however, 23 states have policies that will cover any additional fee. In addition, every five years, Emergency Medicaid spending per state increases by up to 30%, indicating that the migrant population is growing, and more immigrants require emergent care (1087). Furthermore, statistics show that 82% of Emergency Medicaid spending in 2004 was for childbirth and pregnancy complications. Eight states have adopted the Children's Health Insurance Program, which applies federal matching dollars to prenatal care coverage for undocumented women (1090).

When immigrants first enter the United States, it is extremely uncommon for them to have access to healthcare or insurance. However, as the time they stay in the country increases, their access to healthcare, primarily insurance, increases (Ku, 2006). Factors contributing to this upward mobility include better-quality jobs with time, higher incomes, easier access to employer-sponsored health insurance, etc. Employer-sponsored health insurance is typically how most Americans access healthcare, although this does not always apply to immigrants. In particular, 50% of immigrants from Latin America are offered health insurance compared to 87% of white non-Hispanic citizens (Ku, 2006). Of this 50% of immigrants, only 81% are likely to accept the insurance. Typically, accepting employer-sponsored health insurance means the cost is covered through reduced employer premiums. In addition, Latino immigrants usually work in

industries less likely to offer insurance, such as agriculture, construction, food processing, restaurant, hotel, and other service jobs.

Access to any form of public health insurance is extremely difficult to acquire for immigrants due to the tricky application process. Typically, Medicaid is the easiest form of insurance to apply for, given that many are low-status citizens, but not all immigrants qualify. While children can gain access to CHIP, most expectant mothers struggle more with Medicaid. Immigrants with Medicaid are covered for labor and delivery expenses, but prenatal care is harder to come by (Miller & Wherry, 2022, p. 1). Undocumented women face more obstacles during pregnancy and labor due to their lack of insurance. However, in states such as California, the Medi-Cal Medicaid Program extends eligibility to around $\frac{2}{3}$ undocumented women from Latin America.

Furthermore, CHIP has specific policies allowing states to use federal funding to cover women's pregnancy-related care regardless of immigration status (2). As of 2021, 17 states have adopted this CHIP option, and a few other states allow state-funded programs for prenatal care for undocumented women. CHIP and state-funded programs have accounted for improved prenatal care but little evidence of changes in infant health (3).

Individual states are also implementing policies to reduce friction within the healthcare system for immigrants. For example, New York adopted a policy that gave over 2,000 immigrants initial primary care appointments (Gruber, Sabety, Sood, & Bae, 2022, p. 1). This policy alone led to a 21% fall in emergency department use and, for high-risk patients, a 42% reduction in emergency department visits. Other states are also attempting to adopt similar policies that best meet the entire population's needs rather than just supplementing the natives. Massachusetts, for example, adopted Chapter 58, which provides access to affordable, quality,

and accountable healthcare (Joseph, 2016, p. 102). This policy extended coverage to ineligible immigrants without public opposition and amid federal restrictions.

Immigrants can purchase private health insurance through federal and state exchanges only if their incomes exceed 400% below that of the federal poverty level or directly from insurance carriers (Joseph, 2016, p. 102). While eligible for the exchange programs, work and student visa holders cannot receive Medicaid. Contrarily, refugees and asylees are eligible for all types of federal assistance for the first seven years in the country. Lacking access to Medicaid and public health services, low-income immigrant families are forced to develop alternative healthcare strategies, such as working more, relying more on kin and friends, seeking services elsewhere, and doing with less (102).

Although immigrants have a difficult time gaining the means to access insurance or healthcare overall, the United States has developed free clinics around the country to help the underprivileged. Federally Qualified Health Centers (FQHCs) are community health centers that receive federal grant funding to support care to the uninsured without regard for immigration status (Beck, Le, Henry-Okafor, & Shah, 2017, p. 36). Approximately 1,200 health centers operate nationwide, providing primary health care, dental, mental health, and pharmacy services on a sliding scale.

Fear of Deportation

The consequences of migrants' social stigmatization, their precarious living conditions, and the climate of fear and suspicion generated by increasingly restrictive immigration policies hinder many from being or feeling entitled to use whatever healthcare they may have in the US. The ability and willingness of this immigrant population to seek healthcare are often affected by cost, language, and knowledge of the healthcare system. Additionally, fear of discrimination and

deportation has resulted in many migrants being unwilling to utilize any healthcare (ASCH, LEAKE, & GELBERG, 1994, p. 376).

Fear of deportation is the number one cause of why symptomatic patients delay care (Asch et al., 1994, p. 376). However, by delaying treatment, individuals can spread illnesses to the population, risking a global health crisis. In addition, the migrants themselves can worsen their health, thereby only seeking medical care when conditions become debilitating. This adds financial strain to the healthcare system and the migrants. When immigrants enter a healthcare facility, many fear being recognized by the police, not knowing the system, and thus being labeled an immigrant, and not knowing what to say/ask for (Larchanche, 2012, p. 860).

The toxic stress associated with fear of deportation has been shown to harm an individual's long-term physical and mental health (Rhodes et al., 2015, p. 329). Children are especially vulnerable to this trauma, a barrier to normal physical and mental development and health. Furthermore, repeated exposure to prejudice, discrimination, and exploitation on account of immigration status, in addition to concerns about disclosure and deportation of oneself or a family member, is likely to leave a negative impact on the physical as well as mental health of the undocumented and their family members. Fear of deportation significantly impacts the uptake of non-medical services, such as food assistance, that are important to good health. In particular, immigrants believe that their lack of English proficiency, low health literacy, insufficient public transportation, and limited knowledge of available health services will increase the likelihood that deportation inspectors will realize their legal status (329). "Among immigrant Hispanics/Latinos, the fear of deportation, a lack of required forms of documentation, interaction with law enforcement personnel, and racial profiling are factors associated with reduced utilization of health services and worse health" (Rhodes et al., 2015, p. 329).

These fears contribute to incomplete care sequences and the use of unsafe nonstandard care methods and, therefore, can accelerate public health crises (Rhodes et al., 2015, p. 330). Furthermore, while immigrants may choose to drive to their jobs out of necessity illegally, many choose not to drive to a healthcare organization out of fear of being asked for proper identification, thus postponing proper treatment (Rhodes et al., 2015, p. 340). When situations like these occur, immigrants will turn to unsafe treatment methods, such as self-diagnosis or self-treatment. Many bring drugs from their hometown or use others' leftover prescriptions (340). If an individual takes a drug meant for someone else, he or she may experience an allergic reaction, an interaction with other medications, or other serious side effects. The person who shared the drug may also experience side effects from not taking the intended amount of medication or for the prescribed time frame.

Furthermore, immigrants allow their fear of deportation to affect their children's well-being. While fear of deportation likely plays a role in these parental decisions, cultural differences in thresholds of being sick may also potentially be a health status indicator (418). In a study by Avila and Bramlett, Hispanic children were not likely to miss more than ten days of school due to illness, even though they were more likely to be in poor health (Avilla & Bramlett, 2012, p. 418). Hispanic children in non-English households and immigrant Hispanic children were less likely to miss more than ten school days due to illness than Hispanic children in English-speaking households and nonimmigrant Hispanic children, respectively, despite significantly poorer overall health.

Quality of Healthcare

Migrants receive lower-quality healthcare than the native-born population (Rodríguez, Vargas Bustamante, & Ang, 2009), p. 508). The low socioeconomic status of immigrants plays a role in the quality of healthcare that migrants receive due to their low income, low education, occupational characteristics, and asset accumulation (Escarce & Kapur, 2006). Given that many immigrants cannot afford out-of-pocket costs for insurance or, for the most part, do not even have insurance, timely and appropriate healthcare is scarce. In addition, most immigrants need help to navigate the complex healthcare system properly, communicate with healthcare providers, and understand instructions from healthcare professionals (Escarce & Kapur, 2006). The jobs available to recent and undocumented immigrants who need to improve in English are unlikely to provide health insurance as an employment benefit. In fact, under recent legislation, recent immigrants and noncitizens may receive fewer benefits than earlier immigrants and citizens from public health insurance programs (Escarce & Kapur, 2006).

The behavior of providers also plays a role in how immigrants access healthcare. There is considerable evidence that many healthcare professionals hold unconscious negative racial attitudes and stereotypes (Dovidio et al., 1996, p. 278). There is also evidence that patients' race and ethnicity influence health care providers' clinical decisions. 30% of Hispanic immigrants believe that racism is a "major problem" in healthcare (279). This may be due to cultural distinctions, phenotypic differences, language barriers, etc. Largely, the marginalization of certain immigrant minorities is associated with exclusion from the health system (Leite et al., 2013). Groups better integrated economically and socially have higher levels of health insurance coverage.

When a migrant enters a healthcare facility and is identified as undocumented, most healthcare professionals do not report information on legal status to the Immigration and

Naturalization Service (Asch et al., 1994, p. 373). Many states have regulations requiring that physicians do not share information regarding the legal status of any patient. However, this does not extinguish the fear of being deported. In particular, when children are concerned, immigrants have a much more difficult time embracing the system, as family separation is plausible (Graefe, De Jong, Howe Hasanali, & Galvan, 2019, p. 408). Fear of deportation and distrust of the healthcare system by immigrant parents are arguably heightened in communities that are more hostile as opposed to the resident population's welcoming or neutral immigrant receptivity climate.

Children of immigrants living where the public views them as "invaders" are 12% less likely than their cohorts in other places to have sought medical care in the last year (416). The percentage of children immigrants who seek medical care is 50% lower when in a negative and hostile environment, causing many illnesses to worsen. However, when translation services were provided, children were much more likely to seek care and were more willing to follow medical instructions (418). Translation efforts bring into light the so-called "largest" issue between physicians and their immigrant patients: communication barriers.

Communication barriers are among the most difficult challenges between patients and physicians, particularly when they speak different languages. Physicians are generally reluctant to provide quality care when treating individuals who cannot understand them due to a general fear of being misunderstood (Ahmed et al., 2017, p. 122). Fortunately, in recent years, medical interpreters have become imperative in areas with high immigration rates. In theory, interpreters are effective when physicians and immigrant patients do not speak the same language (126). However, researchers and physicians have questioned interpreters' competency, reliability, and availability in healthcare environments. The Minnesota Medical Association discovered that only

88% of physicians used interpreter services in clinical work due to barriers such as unavailability of the service due to requests on short notice, the inconvenience of contacting the service, the competency or reliability of interpreters, and associated costs (127). Physicians are given different training than medical interpreters, impairing trust between doctor and patient. Nationally, 23% of immigrants claim not to understand their physicians, and 59% of physicians cannot understand their immigrant patients (127). This shortfall in understanding is extremely detrimental to an immigrant's access to quality care.

Clinical cultural competence refers to care that respects diversity in the patient population and cultural factors that can affect health and health care, such as language, communication styles, beliefs, attitudes, and behaviors (Hudelson, Junod Perron, & Perneger, 2010, p. 453). High-quality, patient-centered care is pivotal in multicultural populations, which is why clinical cultural competence is necessary for healthcare professionals to obtain. However, acquiring the skills alone is not enough to ensure that immigrants receive quality care. Overall, medical students, doctors with more immigrant patients, and professionals who had received cultural competence training had a greater interest in giving immigrants proper care (465). However, this is not to say that they all chose to follow the competency training techniques. In particular, physicians along the U.S.-Mexico border were more likely to expect their patients to assimilate and adapt, putting less pressure on the hospital and staff and more on the patients (468). This is believed to be due to the onerous amount of time and effort physicians partake in when treating many immigrants. Contrarily, women physicians are more likely to care for immigrant patients as they give greater importance to understanding the psychosocial components of medical care (467). Female physicians are also more likely to engage in patient communication and are more

comfortable addressing the cultural and linguistic differences between the patients and themselves.

Proper pediatric care is also a necessity for immigrant families. Parents from families with limited English proficiency are likely to report that physicians do not spend enough time with their children (Calvo & Hawkins, 2015, p. 2224). High percentages of families insinuate that healthcare providers are not sensitive to their traditions and cultures, persuading many to seek care elsewhere or choose against medical treatment (2230). In addition, parents' expectations, low health literacy, parent-provider ethnic concordance, and unequal institutional treatment patterns also lead to lower quality of care.

When physicians are not meeting the needs of their immigrant patients, it is not uncommon for the immigrants to travel back to their country of origin to seek treatment (Bergmark, Barr, & Garcia, 2008, p. 612). In recent years, immigrants have experienced "unsuccessful diagnosis or treatment" in the United States, particularly when dealing with mental illness, hepatitis, diabetes, epilepsy, and back and spinal problems (612). Due to the improper use of care, the immigrant population has traveled back and forth from the United States to Mexico to address their medical problems sufficiently without the communication barrier. In addition, many Mexican patients return to Mexico for care due to increased cultural support. Mexican men also experience anxiety or sleeplessness (*nervio*) due to unstable financial and economic conditions (613). *Nervio* increases when attempting to combat all the challenges in the U.S. healthcare system. Therefore, most of those suffering from *nervio* return home to Mexico frequently to seek proper treatment and have familial support.

Therefore, immigrants and physicians must be aware of the disclosure rights granted to them once in the United States. The first legal protection the government grants to all

individuals, regardless of immigration status, is whether or not the immigrant is in a sensitive location (National Immigration Law Center, 2017). The U.S. Immigration and Customs Enforcement (ICE) considers hospitals and other healthcare facilities "sensitive locations." Immigration enforcement is ordered to avoid these locations, thus allowing the patient and physician to obtain the proper treatment method. In addition, ICE also is required to follow physician and immigrant confidentiality (The Health Insurance Portability and Accountability Act ((HIPAA)) unless documents are left in "plain view" (National Immigration Law Center, 2017). If any document relating to the status of an immigrant is available for public inspection or easy to access, ICE has the right to act upon it regardless of location. However, if documents are hidden and kept private, immigrants remain safe within an institution. Various other policies are put into place to protect immigrant and physician rights, although the government is quick to find loopholes.

Cost of Immigrant's Healthcare

The suspected burden that undocumented immigrants may place on the U.S. healthcare system has been a flashpoint in healthcare and immigration reform debates. Those opposed to providing care for undocumented immigrants maintain that using taxpayer-funded services to support individuals who enter and remain in the United States illegally undermines the legal system (Beck et al., 2017, p. 40). However, some scholars and legislators argue that healthcare is a human right and that denying immigrants access to healthcare is immoral. Another argument contends that many illegal immigrants will benefit from preventive care and early treatment of chronic diseases before they advance to life-threatening and costly complications (42). Therefore, it is imperative to be aware of the cost of providing immigrants with healthcare to define what is best for the country properly and the people within.

Most emergency healthcare services are for childbirth (Beck et al., 2017, p. 45). A study of emergency Medicaid expenditures for undocumented and recent immigrants in North Carolina between 2001 and 2004 found that more than 82% of healthcare spending was related to childbirth and pregnancy complications. Of the remaining healthcare expenditures, one-third was spent on treating acute injuries and poisoning, possibly related to exposure to pesticides or other toxins in the workplace (45). A study by the Center for Immigration Studies found that the number of likely births for immigrants nationally accounts for roughly 7.5% (297,000) of the total births per year (Blankley, 2018). However, these births are paid for through taxpayer dollars (Medicaid), covering the cost of delivery and postpartum care under the “pregnancy care” provision administered by the states. The cost to taxpayers annually totals \$4 billion (Blankley, 2018). CIS reports that the number of illegal immigrants whose births were covered by Medicaid is about 11.2%.

Once a child is born in the United States, they are eligible for Medicaid, Social Security, SNAP, and other government programs. Furthermore, the public-use data shows that for mothers currently on Medicaid, 99% of their children under one are also on Medicaid. In 2010, the Guttmacher Institute estimated it cost \$12,777 for prenatal, delivery, postpartum, and infant care in the first 12 months (Blankley, 2018).

Immigrant health expenditures were found to add \$10 billion to the economy annually, and those without Social Security and Medicaid add \$8.5 billion (Mohanty et al., 2005, p. 1304). In 2005, U.S. hospitals were found to write off \$2 billion annually to treat undocumented immigrants, which included free care delivered at any site (1305). While immigrants do add to the country’s economic debt, undocumented immigrants contribute more to some governmental programs, such as Medicare. Medicare then pays for their healthcare, increasing the Medicare

Trust Fund (Ommerborn et al., 2022, p. 2). Similarly, private health insurance premiums paid by immigrants exceed the amount the insurance programs pay on the immigrants' behalf. For example, in 2017, immigrants paid 14.2% (\$288.1 billion) of the total premiums and taxes for healthcare. Undocumented immigrants accounted for 3.2% of this expenditure (4). Furthermore, immigrants generally contribute \$1,284 more per person than was paid on their behalf. Most of this surplus was accounted for by undocumented immigrants, whose contributions exceeded their expenditures by \$4,418 per person.

In addition, 21% of undocumented women and 38% of undocumented men cannot seek treatment due to financial burdens (Larchanche, 2012, p. 860). More pressing priorities account for their unwillingness to obtain healthcare, such as food and shelter. In reality, however, most undocumented migrants are more worried about being deported than financial burdens, although the cost is a factor. Only 15% of immigrants seek healthcare annually and only for emergent conditions (860).

In summary, more is needed to know about the health and health insurance trajectories of immigrant children. Generally, migrant health is under researched. The lack of migrant health knowledge is partially owing to the difficulty of including key stakeholders in the research process. Migrant patients who might be less familiar with research procedures and principles, who do not speak English or French, or who are afraid to participate are only a few examples of why literature is scarce. Additionally, migrants are typically underrepresented in studies due to bias, hard to reach individuals, or ethical concerns. Here, we begin to fill these shortfalls in the literature.

CHAPTER 3: METHODS AND RESULTS

This section discusses the methods and data analysis performed to run three separate regression analyses and analyze a survey conducted by the National Institute of Children's Health.

Data Source and Model Specification

I developed three multiple regression models with different explanatory variables for my empirical analyses. In the first model, I regressed the dependent variable, the rate of uninsured/unauthorized immigrants, on a number of immigrant characteristics and the economic and political conditions of the states where the immigrants reside. In the second model, I regressed the dependent variable on the log of the data collected for the empirical analysis of the project. This is to adjust for nonlinear conditions. In the third model, I regressed the dependent variable on data adjusted for multicollinearity. This modeling approach allowed for the estimation of overall, adjusted, and direct associations between characteristics and the measures of access to and use of health services. Additionally, I looked at four survey questions that indicate the use and access of care for immigrants in all 50 states. For parsimony and to avoid unstable estimates, only variables statistically associated ($P \leq .10$) with a particular outcome variable were explained in subsequent models.

I looked at the rate of uninsured/unauthorized immigrants per state in 2019. This paper defines uninsured immigrants as individuals who "do not have coverage through an individual or employer-sponsored plan, a federal healthcare program, or the Federal Employees Benefits

Program at the time services are rendered" (California Hospital Association). Unauthorized immigrants are defined in this paper as "all foreign-born non-citizens who are not legal residents" (Department of Homeland Security, 2022).

The U.S. Census Bureau sends out an annual nationwide survey known as the American Community Survey (ACS) to estimate the U.S. population regarding their demographics and social, economic, and educational characteristics. I analyzed the data by drawing on tract-level information from the U.S. Census Bureau, the American Immigration Institute, and the Migration Policy Institute. While the Bureau has good data on country of origin and health insurance measures, it needs to include health care access and use measures. Therefore, the Bureau was utilized to determine the poverty rate per state, regardless of citizenship, in addition to various other variables.

Dependent Variable

Rate of Uninsured/Unauthorized Immigrants Per State: The data set looked at for the dependent variable is based on a methodology that imputes unauthorized status using U.S. Census Bureau 2015-19 American Community Survey (ACS) and 2008 Survey of Income and Program Participation (SIPP) data, weighted to 2019 unauthorized immigrant population estimates provided by Jennifer Van Hook of The Pennsylvania State University (Migration Policy Institute). Each state was looked at individually at the total statistics of the unauthorized population. The uninsured immigrants of the unauthorized population were chosen as the dependent variable. These 2019 data result from Migration Policy Institute (MPI) analysis of U.S. Census Bureau data from the pooled 2015-19 American Community Survey (ACS) and the 2008 Survey of Income and Program Participation (SIPP), weighted to 2019 unauthorized

immigrant population estimates provided by Jennifer Van Hook of The Pennsylvania State University (Migration Policy Institute).

In all three regression models, the rate of uninsured/unauthorized immigrants per state was used as the dependent variable. The goal of the models was to determine which factors influence the rate of uninsured immigrants. While there are a large number of factors that influence the dependent variable, I focused on data that all fifty states had readily available. However, utilizing the rate of unauthorized/uninsured immigrants can be highly limiting in models, as no data source can accurately measure the number of immigrants that are in the United States illegally. Therefore, the results below are only estimates of the factors that influence those who are unauthorized and uninsured.

Independent Variables

I include 16 independent variables in blocks. First, I control for factors that are unrelated to parents' or children's immigration status but that may vary among different types of immigrant families and be correlated with my measures of healthcare access and health. In this initial model, I control for the poverty strata of the census tract for each state to account for sampling design. I also control for the educational attainment of a parent in the household (less than high school), a report of being able to speak English "well" or "very well," the age groups of immigrants under 5, whether the immigrant is married or not, and the genders of the undocumented population.

Revisions of this model expanded it to include more contextual determinants, such as characteristics of the social, economic, structural, and public policy environments particularly relevant for vulnerable populations. I factor in the distance from each state's capital to the

Mexican border, the political spectrum of each state (Republican or Democrat), the median income of each state, the cost of living index per state, the total annual Medicaid services per state population, the share of workers in the labor force who are immigrants, and the share of recent homeowners that are immigrants. The next set includes the percentage of active DACA recipients by total population, the total annual CHIP services by population, and the average cost of health insurance per state. Stata, a command-line-driven package, was used in conducting the data analyses.

Poverty Rate Per State

Each state's poverty level in 2019 was extracted from the U.S. Census Bureau through the use of an interactive map. Poverty rate is an important indicator of access to insurance as people with limited finances may have more difficulty obtaining health insurance or paying for expensive procedures and medications. In addition, neighborhood factors, such as limited access to healthy foods and higher instances of violence, can affect health by influencing health behaviors and stress.

Distance of State Capital From The Mexican Border

Distance of each state's capital to the Mexican border was extracted through the travel planning site "Trippy." The distance of each state capital to the U.S. Mexico border was accounted for. Individuals who live in border states/closer to the U.S.-Mexico border are more likely to be poor and uninsured (Pillai and Artiga, 2022). Additionally, individuals in border counties statistically are more likely to face increased challenges compared to those in non-border counties, with particularly low levels of educational attainment and income, higher shares of households with limited English proficiency and no computer access, higher uninsured rates,

and more limited access to providers. Accounting for proximity to the border is imperative to determine whether insurance access is affected by location.

Average Cost of Health Insurance Per Month By State

eHealthInsurance, a private online marketplace for health insurance, provided plans and estimates of the average monthly cost of health insurance in each state in 2019. The cost of health insurance per state is pivotal for determining which state may be the cheapest to live in for immigrants.

Median Income Per State

The Digest of Education Statistics, a data site containing a wide range of quantitative topics, provided the median income of each state in 2019. Considering immigrants statistically have a lower income than the state average, they face increased challenges when attempting to afford employer-sponsored coverage when it is available or through the individual market (Kaiser Family Foundation, 2022).

Active DACA Recipients in Each State

The amount of active DACA recipients in each state in 2019 was taken from the American Immigration Institute. DACA, or the Deferred Action for Childhood Arrivals, is an administrative relief program that protects eligible children who move to the United States (Getrich et al. 2019, 8). At the federal level, children who are undocumented as well as DACA recipients are ineligible for public health insurance, and even lawful permanent residents are unable to garner insurance until 5 years after residing in the United States (9).

Age Group of Immigrants Under Five

The Migration Policy Institute, an independent, non-partisan data collection site, provided data for the amount of uninsured, unauthorized immigrants in each state in 2019. By adjusting for immigrants under five, I was able to account for child immigrants, as focused on in my literature review.

Cost of Living Per State

By utilizing the Missouri Economic and Research Center, I was able to gather the data for the cost of living index in each state in 2019. The cost of living is imperative to account for when looking at access to insurance for immigrants, as immigrants tend to live in areas where the cost of living is lower.

Immigrant Report of Speaking English “Well” Or “Very Well”

Data taken from the American Immigration Institute showed the amount of immigrants who believed that they spoke English “well” or “very well” in 2019. Language barriers affect access to and utilization of care (Ding & Hargreaves 2008, 446). Additionally, language barriers can affect the health status of an immigrant (450).

Immigrants With Less Than A High School Diploma

Data from the American Immigration Institute also provided the amount of immigrants with less than a high school diploma for each state in 2019. The proximity of the United States to Mexico generally yields less educated workers. Education was included with the intent of inflecting meaningful distinctions in job opportunities; those with more job opportunities are more likely to have access to insurance (Siddiqi, Zuberi, & Nguyen, 2009, p. 1452).

Total Annual Medicaid Services By State Population

The total annual medicaid services per state in 2019 were taken from medicaid.gov. Undocumented immigrants are excluded from access to services such as Medicaid with the exception of Emergency Medicaid. States with high immigration rates reportedly experience a rapid rise in Emergency Medicaid expenditures (DuBard and Massing, 2007, 1086). The total Medicaid services were divided by the state population in 2019, taken from the U.S. Census Bureau.

Total Annual CHIP Services By State Population

The annual CHIP services by state population were also taken from medicaid.gov and divided by the state population in 2019 so as to estimate a rate. Being in an immigrant family in a state without restrictive laws indicates a higher likelihood of being enrolled in Medicaid or CHIP services (Twersky, 2022). Therefore, testing the annual CHIP services by state can show correlations between the state policies and access to healthcare.

Marriage Status

The marriage status of each immigrant in 2019 was determined by the Migration Policy Institute. According to literature reviews, the cost of Medicaid expenditures for married immigrants is approximately half that of immigrants who are not married (Pandney et al., 2019). Unmarried immigrants overall have reduced access to resources that may affect their utilization of healthcare.

Share of Workers in the Labor Force Who Are Immigrants

This data was extracted from the American Immigration Institute. Approximately 80% of immigrants in the labor force are employed in low income jobs with poor health insurance (Sommers, 2013, p. 593). When excluded from public services such as insurance, immigrants tend to locate states with more access/availability of jobs that will include health care. Thus, the share of workers in the labor force in 2019 who are immigrants is imperative to discuss.

Share of Recent Homeowners Who Are Immigrants

This data was extracted from the American Immigration Institute. “Citizenship facilitates home ownership...” (Miranda et al., 2017, p. 3). Therefore, when tracking the access to healthcare for noncitizens, such as immigrants, it is important to note those who own a home. When an immigrant does not have access to housing, they are likely in poor socioeconomic conditions, thus contributing to their lack of access.

Gender (% Female)

The gender distribution across all fifty states in 2019 was extracted from the Migration Policy Institute. Gender is an important factor in the access and utilization of healthcare for immigrants. In particular, women and children face higher rates of poverty, discrimination, and poor spousal relationships, thus contributing to the lower likelihood of obtaining health insurance (O’Mahoney & Donnelly, 2012, p. 714). Emotional and economic vulnerability leave women and children much less likely to receive access to care in addition to utilizing access.

Political Leaning of Each State

Dummy Variable

The dummy variable used in this analysis accounts for all fifty states in the U.S. The binary variable showcased a (1) when representing a Republican state and a (0) when representing a Democratic state. Literature indicates that states that lean Republican are more likely to have immigrants enrolled in CHIP or Medicaid services (Twersky, 2022). This is likely due to the number of low paying jobs in Republican states; the literature also indicated that low income households were more likely to vote Republican.

National Survey of Children's Health Dataset

Access to a typical healthcare provider is so strongly correlated with immigration status and is shaped so strongly at the household level (for households with information on two siblings) that no useful information can be gained by looking at these outcomes with individual-level multivariate regression models. Therefore, surveys on the health of child immigrants and the quality of care were analyzed through the National Survey of Children's Health. Quality in this model is largely viewed as relating to the interface and interaction between providers and patients (i.e., patient satisfaction). I expand on this to include more objective quality measures, such as whether certain care processes were received (also a type of access). Cost is not explicitly part of the model but is closely related to use. I included the cost in my literature review because of its important contribution to policy discussions regarding immigrants and health care.

The National Survey of Children's Health (NSCH) is a nationally representative telephone survey on children aged 0–17 years and their families (U.S. Census Bureau, 2020).

Telephone numbers are randomly sampled to find households with children and adolescents from all 50 states. In each household, one child is selected at random, and the parent/guardian with the most knowledge about the child's health and healthcare is interviewed.

In the 2019 survey conducted by the Maternal and Child Health Bureau of the Health Resources and Services Administration, 184,000 addresses were sent a questionnaire to identify children and their related health measures in a household (U.S. Census Bureau, 2020). 35,760 households were found to be eligible for topic questionnaires, and 29,433 completed the survey. The probability of selection for a child is based on the number of children in the household, the special health care needs status, and the child's age.

Health care access and use measures analyzed in this paper were based on the following questions asked of parents (each preceded by "during the past 12 months"): "Did this child see a doctor, nurse, or other health care professional for sick-child care, well-child check-ups, physical exams, hospitalizations or any other kind of medical care? How many times did this child visit a hospital emergency room? Does this child have a place they usually go to first when sick, or does a parent/caregiver need advice about their health? How often did this child's doctors or other health care providers show sensitivity to your family's values and customs?" These measures were coded as dichotomized outcomes (i.e., yes/no, sometimes/not at all). Health indicators included parent-reported insurance access and age disparities. These health indicators allowed me to provide a snapshot of children's physical health and socioeconomic status.

Children's immigrant status in the National Survey of Children's Health was determined based on their and their parents' citizenship (noncitizen) status. Information on parents was abstracted from the adult data set and linked to children's records via unique identification

numbers for fathers and mothers. Covariates assessed included child age group (0–5 years) and insurance status (currently uninsured).

Applying this framework to immigrants can reveal several ways that immigrants are predisposed to low levels of care and access. These differences have been exacerbated under PRWORA, which made most legal immigrants ineligible for publicly funded services such as Medicaid for the first five years of residence and made it more difficult for them to qualify even after the five years (Derose et al., 2009, p. 357). The low cultural competency of providers also affects immigrants' access to and quality of care. Perceptions of being discriminated against can reinforce feelings of stigmatization and lead to decreased use of health services in the future (358). Therefore, by looking at the socioeconomic factors of immigrants, state characteristics, general statistics, and quality of healthcare, my goal is to gain an overall understanding of immigrants' healthcare experiences and inform policy and research related to the care of immigrants.

Linear Regression

Table 1.1 shows the combined regression results of all 50 states in 2019. The political spectrum and the cost of living index per state were statistically significant at the 1 percent significance level, indicating that it is unlikely these variables affect the uninsured/unauthorized rate by chance. A dummy variable measured political leaning per state: 1 indicates Republican-leaning, and 0 indicates Democratic-leaning. As is shown, when a state leans Republican, the number of uninsured/unauthorized immigrants increases — this is contrary to research found in the literature review. Similarly, the cost of the living index also had a negative coefficient,

indicating that unauthorized immigrants who live in states with low living costs are more likely to have higher access to health insurance than those who live in states with a high cost of living.

A variable with a p-value of 0.05 or less is considered statistically significant and has a strong relationship with the dependent variable. One variable at the five percent level was statistically significant: median income per state. Considering the coefficient of median income per state is positive, as the median income per state increases, the rate of uninsured/unauthorized immigrants also increases. Lastly, two variables (poverty rate/state and the fluency of English spoken) were found to be statistically significant at the 10 percent level. Therefore, both of these variables are considered weakly significant and do not have much effect on the dependent variable.

Additionally, the R^2 is 0.7485, indicating that the coefficient of determination represents ~75% of the variance explained by the independent variables in the regression. In other words, the strength of the relationship between the linear model and the dependent variable is 75%. To attempt a higher R^2 , more regression analyses were conducted. The regression equation for table 1.1 is found below:

$$\begin{aligned} \text{Rate of Uninsured, Unauthorized Immigrants} = & 1.85\text{povrate} + 0.00417\text{distance} + \\ & 0.00346\text{healthin} + 10.5\text{pol} + 0.000768\text{medin} + 285\text{DACA} + 2.40\text{age} - 0.661\text{cost} - 1.16\text{english} \\ & - 0.0457\text{hs} + 0.00172\text{medicaid} + 0.000017\text{CHIP} + 0.658\text{married} - 0.355\text{labor} + 0.508\text{home} + \\ & 0.915\text{female} + 32.6\text{con} \end{aligned}$$

Table 1.1

Regression: Variables That Affect the Uninsured Rate of Unauthorized Immigrants Per State			
Variable	Coefficient	Standard Error	P> t
<i>Independent Variables</i>			
Poverty Rate/State	1.847635*	0.9448462	0.059
Distance to Border	0.0041724	0.0039664	0.3
Health Insurance Cost/Month	0.0034607	0.0109358	0.754
Political Leaning/State	10.48642***	3.860866	0.01
Median Income/State	0.0007677**	0.0003371	0.029
DACA Recipients/Total Pop.	284.7696	2451.839	0.908
Age Group < 5	2.397105	3.57277	0.507
Cost of Living Index/State	-0.660778***	0.1673503	0
English Fluency	-1.157462*	0.5728472	0.052
Less than HS Diploma	-0.0456949	0.4999131	0.928
Annual Medicaid Services/State	0.0017185	0.0036044	0.637
Annual CHIP Services/State	0.000017	0.000063	0.789
Married	0.6581661	0.7645655	0.396
Share in Labor Force	-0.3552568	1.400777	0.801

Share of Homeowners	0.5078209	1.424685	0.724
% Female	0.9154389	1.013635	0.373
Constant	32.6461	82.562	0.695
R ²	0.7485		
Adjusted R ²	0.6265		

Note:

*Coefficient is significant at the 10 percent level

**Coefficient is significant at the 5 percent level

***Coefficient is significant at the 1 percent level

Nonlinear Regression

In the first regression, I assumed the relationship between the dependent and independent variables was linear. However, when determining statistical significance, nonlinear regressions can be performed when the data shows a curvy trend; the linear regression represented above may not have produced accurate results compared to nonlinear regression. Therefore, a nonlinear regression model was performed.

Table 1.2 shows the combined nonlinear regression results of 50 states during 2019. One variable was found to be statistically significant at the 10% level (the log of the amount of DACA recipients per state), which means this variable is weakly significant. This variable was not found to be statistically significant in the linear regression. One variable was statistically significant at the 5% significance level: the annual Medicaid services/state log. Again, this variable was insignificant in the linear regression. On the contrary, similar to the linear

regression, the political leaning of each state and the log of the cost of living were statistically significant at the 1% level. The political leaning was measured using a dummy variable: a 1 represented a Republican state, and a 0 represented a Democratic state. When a state leans Republican, both the linear and nonlinear regression indicate that the rate of the uninsured, unauthorized immigrant population will increase. Furthermore, the R^2 slightly decreased compared to the linear regression; however, the adjusted R^2 slightly increased. The regression equation for table 1.2 is found below:

$$\begin{aligned} Y(\text{rate of uninsured, unauthorized immigrants}) = & 0.0570\text{povrate} + 0.157\text{distance} + \\ & 0.0561\text{healthin} + 0.132\text{pol} + 0.265\text{medin} + 0.131\text{DACA} + \text{age} - 1.55\text{cost} - 1.27\text{english} - \\ & 0.217\text{hs} + 0.338\text{medicaid} + 0.0203\text{CHIP} + 1.05\text{married} - 0.00191\text{labor} + 0.0565\text{home} + \\ & 0.979\text{female} + 1.04\text{con} \end{aligned}$$

Table 1.2

Regression: Nonlinear Analysis of the Variables that Affect the Rate of Uninsurance in Each State			
Variables	Coefficient	Standard Error	P> t
<i>Independent Variables</i>			
Log Poverty Rate/State	0.0569891	0.207302	0.785
Log Distance to Border	0.1565115	0.207157	0.455
Log Health Insurance Cost/Month	0.0560808	0.1180954	0.638
Log Median Income/State	0.2645876	0.6188576	0.672
Log DACA Recipients/Total Pop.	0.1310226*	0.0707062	0.073
Log Cost of Living Index/State	-1.548319***	0.5089597	0.005
Log English Fluency	-1.26673	1.112995	0.263
Log Less than HS Diploma	-0.2165378	0.2556779	0.403
Log Annual Medicaid Services/State	0.3378944**	0.1428671	0.024
Log Annual CHIP Services/State	0.0203122	0.0614162	0.743
Log Married	1.05346	1.041104	0.319
Log Share in Labor Force	-0.0019062	0.3219222	0.995
Log Share of Homeowners	0.056514	0.2214738	0.8
Log % Female	0.9790598	1.285428	0.452
Political Leaning/State	0.1320123***	0.0389861	0.002

_cons	1.043266	4.10834	0.801
R ²	0.7444		
Adjusted R ²	0.6317		

Note:

*Coefficient is significant at the 10 percent level

**Coefficient is significant at the 5 percent level

***Coefficient is significant at the 1 percent level

Multicollinearity Test

Multicollinearity is the linear relationship between two variables (Alin, 2010, p. 370).

While correlation can be included in multicollinearity, the two remain separate: correlation occurs between only two variables, whereas multicollinearity can exist between any number of variables. While a high correlation does indicate multicollinearity, the reverse is not true (370). Both, however, can create problems within a model. If multicollinearity exists in a model, the signs of the coefficients may be wrong, and the standard error may be much too high. These issues can cause the coefficients within the regression equation to be unreliable, decreasing their predictive power.

Therefore, after performing a multicollinearity test in Stata, it was determined that the variables “immigrant report of speaking English ‘well’ or ‘very well’” and “immigrants with less than a high school diploma” were found to be correlated (-0.8156) (Table 1.3). Additionally, the variables “share of immigrant workers in the labor force” and “share of recent homeowners that are immigrants” were correlated (0.988). After accounting for the correlations, it was determined that one in each of the pairs of variables should be removed and another regression

performed. Therefore, the “share of recent homeowners that are immigrants” and “immigrants with less than a high school diploma” were removed from the data set, and a new regression was conducted.

Table 1.3

	Immigrant Report of Speaking English “Well” or “Very Well”	Share of Immigrant Workers in the Labor Force
Immigrants with Less than a High School Diploma	-0.8156*	-
Share of Recent Homeowners that are Immigrants	-0.4012	0.988*

Note:

Indicates Multicollinearity*

Multicollinearity Regression

For my empirical analysis, I will use the regression adjusted for multicollinearity as the basis of my overall research. Considering that multicollinearity can reduce the power of the model to identify statistically significant independent variables, it was essential to rule out the initial regression model (Table 1). Not only was the R^2 higher in Table 1.4, but the p-values were more significant at the 5% level. Additionally, the log regression model contained a lower R^2 and highlighted variables that were not statistically significant in the other two models. Table 1.4 shows combined regression results for all 50 states during 2019. All of the variables below are the same used in both regressions listed previously. However, due to high correlation values, the

“share of recent homeowners that are immigrants” and “immigrants with less than a high school diploma” was removed from the data set.

Similarly to Table 1.1, the poverty rate per state, the median income per state, the cost of living index per state, the immigrant report of speaking English “well” or “very well,” and the political spectrum per state were found to be statistically significant. However, some variables changed from weakly significant to enormously significant. The poverty rate/state, while weakly significant at the 10% level in regression 1.1, shows significant at the 5% significance level in the regression model adjusted for correlation. Median income stayed strongly correlated at the 5% level for both regressions. However, the immigrant report of speaking English “well” or “very well” changed from significant at the 10% level in table 1.1 to the 1% level in table 1.4. The cost of living index per state and the political spectrum remained statistically significant at the 1% level in the first and the regression shown below. The coefficient values and signs did not change significantly between table 1.1 and table 1.4.

The adjusted R^2 went from 0.6265 in the first regression to 0.6465 in table 1.4. Additionally, the R^2 went from 0.7485 in the first regression to 0.7475 in the regression adjusted for multicollinearity. While a higher R^2 indicates that the model is a better fit, a higher adjusted R^2 can provide a more accurate view of the correlation by considering how many independent variables are added to a particular model. Furthermore, the number of significant variables with the proper signs proved to be strongly correlated in the regression adjusted for multicollinearity. Therefore, the regression adjusted for multicollinearity proves to be the better fit when analyzing the data provided.

Given the data provided below, we can conclude that as the poverty rate increases by 1.91%, holding all else constant, the rate of uninsured/unauthorized immigrants will increase by 1%. Similarly, as the median income per state increases, the rate of uninsured/unauthorized immigrants will rise as well. However, the uninsured will increase as the cost of living index per state and the immigrant report of speaking English “well” or “very well” decreases. When a state leans Republican, the rate of uninsured/unauthorized immigrants will increase, as the dummy variable indicates. The regression equation for table 1.4 is found below:

$$\begin{aligned} Y(\text{rate of uninsured, unauthorized immigrants}) = & 1.91\text{povrate} + 0.00434\text{distance} + \\ & 0.00339\text{healthin} + 10.1\text{pol} + 0.000777\text{medin} + 140\text{DACA} + 2.49\text{age} - 0.657\text{cost} - 1.10\text{english} \\ & + 0.00155\text{medicaid} + 0.0000134\text{CHIP} + 0.774\text{married} - 0.129\text{labor} + 0.853\text{female} + 21.7\text{con} \end{aligned}$$

Table 1.4

Regression: Variables That Affect the Uninsured Rate of Unauthorized Immigrants Per State After Adjusting for Multicollinearity			
Variable	Coefficient	Standard Error	P> t
<i>Independent Variables</i>			
Poverty Rate/State	1.91446**	0.7961413	0.022
Distance to Border	0.0043395	0.0037103	0.25
Health Insurance Cost/Month	0.00339	0.0105967	0.751
Median Income/State	0.0007767**	0.0003141	0.018
DACA Recipients/Total Pop.	140.4393	1995.748	0.944
Age Group < 5	2.491303	3.299656	0.455
Cost of Living Index/State	-0.6572558***	0.1606629	0
English Fluency	-1.098714***	0.341222	0.003
Annual Medicaid Services/State	0.0015507	0.003477	0.658
Annual CHIP Services/State	0.0000134	0.0000599	0.824
Married	0.7737773	0.6604122	0.249
Share in Labor Force	0.1287452	0.3543806	0.719
% Female	0.8531883	0.964412	0.382
Political Leaning/State	10.12***	3.601079	0.008

_cons	21.66226	49.91858	0.667
R ²	0.7475		
Adjusted R ²	0.6465		

Note:

*Coefficient is significant at the 10 percent level

**Coefficient is significant at the 5 percent level

***Coefficient is significant at the 1 percent level

National Survey of Children's Health Results

My regression results indicate that the state's financial and political policies and displays are vital in determining an immigrant's access to healthcare. However, while access is important, the quality of care is essential so as to promote and maintain health, prevent and manage disease, reduce unnecessary disability and premature death, and achieve health equity for every individual within America. The National Survey of Children's Health aims to highlight the quality of care for immigrant children and how poor access affects a child's overall health.

The National Survey of Children's Health (NSCH) is a survey with the intent of providing national and state-specific prevalence estimates for a variety of children's health and wellbeing indicators. The survey includes extensive questions about the family, including parental health, stress, coping behaviors, family activities, and parental concerns about their children (Singh et al., 2013). The 2019 NSCH was a cross-sectional telephone survey conducted on 29,433 interviews throughout the United States. Data were analyzed by state and subgrouped by those uninsured and under 6. Interviews are conducted in English, Spanish, and four Asian

languages. The respondent is the parent or guardian who knew most about the child's health status and health care (Singh et al., 2013).

Table 1.2 shows insurance differentials in behavioral and health outcomes among children and their parents. In 2019, uninsured immigrants ages 0-5 were highly likely to have seen a doctor, nurse, or other healthcare professional for sick-child care, well-child checkups, physical exams, hospitalizations, or other medical care. These statistics were measured in bivariate terms (yes/no). Immigrants in New Hampshire were the most likely out of the United States to have visited a healthcare professional (93.1%) compared to immigrants in New Mexico (83.6%). Contrariwise, while immigrants were likely to seek checkup appointments, they were unlikely to visit a hospital emergency room for 12 months. These statistics were measured in trivariate terms: none/1-2 times/more than two times. 88.6% of immigrants in Maryland answered "no" when asked if their child had visited an emergency room in the past 12 months, and 69.5% of immigrants in Mississippi answered "no," meaning that most of the immigrants who visited the emergency room in 2019 were in Mississippi. Additionally, 8.4% of immigrants in Maryland answered "1-2 times," and 20.2% of immigrants in Louisiana answered "1-2 times." 9.6% of immigrants in Mississippi answered "more than two times," and 2.4% in New Hampshire answered "more than two times."

When asked if a child had a regular place that they usually go to when they are sick or a parent/caregiver needs advice about their health, 76.9% of immigrants in Connecticut answered "no," indicating that CT is the state where the least amount of immigrants has a regular source of care. 72.4% of immigrants in Vermont answered "yes," indicating that VT may have better access to care. Lastly, a behavioral variable for the healthcare providers was checked. Parents were asked how often the child's doctors or other healthcare providers showed sensitivity to the

family's values and customs. These answers were measured in trivariate terms: always, usually, sometimes/never. Immigrants in Rhode Island answered "always" 81.2% of the time, whereas immigrants in Nevada answered "sometimes/never" 9.1%. Immigrants in Nevada also answered "usually" 25.7% of the time, whereas Rhode Island answered "usually" 14.7% of the time.

Analyzing the regression performed with Stata and the National Child Health Survey survey was imperative to understand the measure of care access and utilization. Understanding just one of the two major policy concerns provides no benefit other than more data. However, when the two are seen together, policymakers can better construe how to give quality access and care to immigrants, particularly children. Past research suggests that less access to health care (analyzed in the regression) and lower utilization of services (analyzed in the survey) are related to language barriers, cultural barriers, and demographic disparities, which may explain lower estimates of receiving health services despite parental reports of poorer health among immigrant children.

CHAPTER 4: DISCUSSION AND LIMITATIONS

As shown in the regressions listed above, only five variables remained statistically significant throughout all three models: poverty rate per state, median income per state, political spectrum of each state, cost of living index per state, and the English fluency per state.

According to (Perreira & Pedroza, 2019, p. 152), immigrants have historically participated in public assistance programs at lower rates than native-born individuals. Additionally, immigrants who were eligible for public assistance benefits were unlikely to take them for themselves or their children because they were confused about their eligibility, intimidated by the application process, or feared being labeled a public charge (i.e., an individual who is likely to become reliant on public assistance and deemed ineligible to become an LPR or citizen of the United States) (152). Medicaid and CHIP, two public programs most commonly utilized by the uninsured/unauthorized immigrant population, are two of the only measures of access that immigrants tentatively utilize. However, as mentioned previously, the two variables that measured the annual Medicaid and CHIP services were not statistically significant, indicating that the usage of these public services did not sway the amount of uninsured/unauthorized immigrants.

Nevertheless, research evidence indicates that these declines in public assistance coverage negatively affected poverty in households headed by immigrants (152). The poverty rate per state was statistically significant in all three regressions (Table 1.1, 1.2, and 1.4). Immigrants tend to work in low-wage jobs without health insurance, reducing health insurance coverage for the most vulnerable immigrant population – children. 34% of native-born children live below 200% of the poverty line; however, 50% of children born to immigrant parents live in poverty (Percy, 2006, p. 265). Additionally, even when financially eligible for public services,

low-income immigrant children and families receive less than half of the benefits that the services normally provide. Given the evidence listed above and in the literature review, it was expected that as the poverty rate per state increased, the rate of uninsured/unauthorized immigrants would also increase. Although there are many challenges for low-income families to access adequate health care in the United States, the key barriers identified are a lack of education, complications with health insurance, and a distrust of healthcare providers. Therefore, a higher poverty rate affects more than just the inability to pay for coverage; rather, poverty influences a myriad of other factors.

Like the poverty rate, the median income per state was also statistically significant in the regression models. The variable median income per state had a positive coefficient, indicating that as the median income/state increased, the rate of uninsured, unauthorized immigrants would also increase. Low-income immigrants are more likely to lack health insurance than similarly poor native-born citizens (Ku and Jewers, 2013, p. 1). This variable was adjusted for the total population per state.

In addition to the poverty rate and median income, the dummy variable was also statistically significant. When the dummy variable showed a 1, the state leaned Republican. When the dummy variable showed a 0, the state leaned Democratically. All three models above indicate that when a state leans Republican, the rate of uninsured, unauthorized immigrants increases significantly. Several factors lead to the overall implementation of restrictive immigration policies, including political, racial, terroristic, and economic factors; however, political and economic factors seem to lead different states to respond to economic crises and financial instability with stricter immigration laws (Martinez et al., 2015, p. 955). Frequently, these laws prohibit access to healthcare. Most anti-illegal immigration states lean Republican,

and proposing immigrants as scapegoats for economic and financial instability leads to various prohibitory laws that negatively impact an immigrant's access to healthcare. In red states, institutions such as law enforcement agencies and healthcare establishments are more likely to discriminate against undocumented immigrants, causing a lack of access or fear of utilization (958). Contrarily, in Democratic states, residents are much more likely to receive access to healthcare, and the rate of uninsured/unauthorized immigrants decreases.

On the contrary, the cost of living per state had an inverse relationship with the rate of uninsured/unauthorized immigrants. As the cost of living per state decreased, the dependent variable increased. Table 1.1 and Table 1.4 show that the cost of living per state was statistically high at 0.00, indicating a very strong relationship between the variables. When immigrating to the United States, location plays a pivotal role in job opportunities, education, and resources available. While it is comforting to live in an area that has an influx of immigrants, such as California or Texas, public benefits and the cost of living are higher in more populated areas due to the demand for resources (Budiman, 2020). However, living in a rural area may mean losing access to transportation, cultural services, etc.

Furthermore, a major metropolitan area may have a broader range of options for healthcare, but small towns and cities with major research universities and hospitals can be an affordable alternative. The regression indicates that uninsured/unauthorized immigrants are more likely to seek out areas with lower living costs. This may be due to cheaper housing, less fear of deportation due to distance from major areas, etc.

The ability to speak English efficiently also inversely influences the rate of uninsured, unauthorized immigrants. As the immigrant report of being able to speak English "well" or "

very well” decreases, the rate of uninsured/unauthorized immigrants increases. In simple terms, the lack of English fluency positively correlates with reduced healthcare access and lower health literacy (Fiscella, Franks, Doescher, & Saver, 2002, p. 57). Adjustment of language fluency nearly eliminates disparities in healthcare (57). Other factors contributing to low health literacy in the U.S. include lacking health insurance, lower income, less education, and being born outside of the U.S., all of which are associated with low English proficiency (Gulati & Hur, 2022, p. 95). A low level of English proficiency is also associated with poor quality of care. Immigrants with low English proficiency are less likely to have health insurance, visit a physician, or attain high-quality care than English-proficient speakers (97).

The total annual Medicaid services and the amount of DACA recipients in each state were not significant independent factors for most of the outcomes of this study, except for the nonlinear regression model. Other covariates, such as homeowners, marriage status, and gender, were generally insignificant across family types and outcomes.

When determining the overall quality of care, it is important to note the frequency of need for healthcare services, the severity of the issue, whether there is a regular source of care, and the cultural competency in the sick room. For uninsured immigrants under five, the quality of care needs a clear method of which state is best. Various states showcased that most immigrants seek access to care (over 80% in each state) (Table 1.5). However, very few patients visit an emergency room more than once in the states; as stated in the literature review, unauthorized immigrants only have access to CHIP and Emergency Medicaid. Medicaid can only be utilized for immunizations, treatment of communicable diseases, and emergent conditions (DuBard & Massing, 2007, p. 1086). If in the emergency room, Medicaid can only be used given three conditions: “(A) placing the patient’s health in serious jeopardy; (B) serious

impairment to bodily functions; or (C) serious dysfunction of any bodily organ or part” (North Carolina Department of Health and Human Services, 2006; DuBard and Massing, 2007, p. 1086). Over 70% of children seek these services at least once yearly, although the location does not seem to have a significant impact. It is also important to note that there is a tendency for undocumented immigrants to report only fair or good health status compared with their US-born counterparts, who were more likely to report their health as good, very good, or excellent (Ortega et al., 2007).

While children who seek medical care (be that emergent or not) are much less likely to have regular access to care. Immigrants in Vermont were documented to have the highest likelihood out of the fifty states of having a usual source of medical care/advice (72.4% reported yes). Contrarily, immigrants in Connecticut were the least likely (76.9% reported no). Preventive health visits, closely aligned with having health insurance, also exhibited wide disparities within the immigrant families by state. Foreign-born children were least likely to have preventive health visits in most states, such as New Hampshire, which had the lowest healthcare usage.

The study also provides perspectives regarding the reasons for the poor quality of care among immigrant children and how these perspectives vary by insurance status. If an immigrant child and parent were to seek a regular source of care, over 65% of them reported having doctors or other healthcare providers show sensitivity to the family’s values and customs (table 1.5). Fortunately, less than 10% of all healthcare professionals in each state were likely to have been disrespectful to an immigrant’s values and customs. However, research suggests that immigrants do not only fear deportation when dealing with a healthcare professional but also fear discrimination and harassment all over the country (Martinez et al., 2015, p. 964)

Study Limitations

One study limitation is that I focused on a single measure of perceived quality of care, which may not reflect other dimensions of quality of care. Similar rankings of healthcare quality may be responsible for averaging the perception of healthcare services that are not directly comparable. A distinction by service type in the healthcare quality ranking might have been helpful to address this issue.

Although studies have reported on the use of health care services by immigrants, more is needed regarding variations by documentation status. This is partly due to the challenges of identifying and sampling the undocumented population. The few studies examining the undocumented population have used small samples and limited healthcare measures. Future research may be apt to pull resources to include as many immigrants as possible.

In addition, the NSCH is conducted in English or Spanish and not in any other languages (Yu et al., 2008). Those immigrant respondents whose primary language is not English or Spanish may tend to be more educated and fluent in English compared with their peers, thus resulting in a likely underestimate of risk for the actual immigrant populations. Immigrants may also choose not to participate in the study due to fear of being deported or found.

CHAPTER 5: CONCLUSION AND POLICY IMPLICATIONS

There is a substantial body of knowledge around the challenges to child health utilization among immigrant communities. However the knowledge tends to be fragmented, focused on specific immigrant groups, and emerging from largely cross sectional studies. By pulling together and thematically organizing this wealth of existing knowledge this paper has created a solid foundation on which future research, practice and policy enhancements can build.

Results from the regressions in the previous chapter suggest that the following variables significantly affect the number of uninsured/unauthorized immigrants per state: The cost of living index per state, the political leaning of each state, the poverty rate per state, the median income per state, and the number of immigrants who believe they can speak English “well” or “very well.” Undocumented individuals demonstrate less use of healthcare in the United States than native-born individuals, and they have more negative experiences with the healthcare that they receive. These findings demonstrate that immigrant insurance status is an important determinant of healthcare access and patterns of service across the United States.

Policy Implications

Uninsured, unauthorized immigrants have reduced access to healthcare, and poor quality care puts them at risk for deteriorating health over time. As the immigrant population increases, this deterioration can have long-term implications for the overall health of the United States. For example, uninsured individuals with no access to healthcare can, in fact, bring a negative spillover effect to the insured individuals in the U.S. Some of the effects include a higher financial burden of uncompensated and charity care at the local level in addition to reducing the overall quality of care provided in each community (Derose et al., 2009, p. 372). In short,

providing better access to healthcare and more quality care for immigrants can benefit not only the unauthorized population but the United States. Additionally, projecting migration trends can provide implications for access to health insurance for the unauthorized population.

United States migration projections are important both for policy purposes and for improved academic understanding of economic development. Predictions in the field of migration appear particularly difficult given the complexity and diversity of the migration processes, the limited availability and quality of data, and the limited understanding of the migration drivers. However, researchers at the Vienna Institute of Demography predict that international migration trends will remain relatively constant, although migration to the United States will slightly increase (Migration Data Portal). In 2060, over 500,000 immigrants are projected to come from Asian countries and 400,000 are projected to come from Mexico (US Census Bureau, 2018). Other countries will also participate in the migration rates to the United States, although the two listed above will have the highest rates. Due to the higher rates of migration predicted in the near future, it is imperative for policymakers to prioritize better access to healthcare. Not only will better access to healthcare keep the migrants themselves healthy, but also the population at large. Therefore, policy implications must be provided.

Eligibility extension for programs such as CHIP or Medicaid can address low levels of health insurance coverage. This can be done through employer-sponsored initiatives or government policies, allowing more immigrants to access care. Additionally, states can use their funds to cover large amounts of immigrants ineligible for such programs, granting access to more individuals. States can also prioritize the education of healthcare programs by addressing the availability of Emergency Medicaid and increasing outreach efforts to improve knowledge and access.

Furthermore, the government and individual states can ensure that providers give appropriate assistance to immigrants by mandating cultural competency classes, thus improving access to language services. Considering that English proficiency significantly impacts the rate of uninsured, unauthorized immigrants in each state, addressing low English proficiency and providing more assistance outlets is paramount in providing more accessible healthcare. Overall, more research and resources are needed to construct a successful immigrant healthcare system. Despite controversy, healthcare for immigrants consigns future generations to better health, both immigrant and native populations alike.

The U.S. healthcare system has much potential for improvement. Disparities related to race, ethnicity, and socioeconomic status pervade the U.S. healthcare system. In addition to the large numbers of immigrants who lack adequate health insurance, the cost, quality, and utilization of healthcare services vary widely. With this in mind, the U.S. has much to learn in terms of healthcare and health insurance policies for immigrants.

Patients across the globe rank the U.S. fairly low in terms of quality and cost of healthcare (Ginsburg et al., 2008). Not only do other countries provide patients with a higher number of healthcare professionals, but they also are more likely to rank their physicians helpful and caring compared to the United States. The United States has one of the poorest ratings on safe care, efficiency, equity, and healthy lives (Ginsburg et al., 2008). For example, the United States has poor control over the workforce supply. In the United Kingdom and Canada, countries with single-payer systems, the government has leverage to manipulate the healthcare workforce supply, including controlling both training capacity and employment opportunities. The U.S. generally has limited funding for opportunities like this, and, therefore, relies on Medicare reimbursement (Ginsburg et al., 2008).

The United States also needs to focus on the best method of paying for healthcare. Well-functioning health systems all guarantee that both citizens and noncitizens will have access to affordable health coverage for a defined set of benefits (universal coverage) (Ginsburg et al., 2008). Countries have used different strategies to achieve universal coverage. For example, Canada, the UK, and Japan all rely on the government for healthcare spending. Australia, France, and Germany rely on a mix of public and private spending. However, both methods work efficiently and successfully, and healthcare systems abroad are much more highly rated (Ginsburg et al., 2008).

Furthermore, the best healthcare systems ensure access to healthcare without financial barriers. Cost sharing with co-payment schedules based on income, so that low-income individuals pay no or nominal amounts can help restrain costs while assuring that poorer individuals can access services (Ginsburg et al., 2008). Countries such as Belgium, France, Japan, New Zealand, and Switzerland utilize cost sharing and prove to be more efficient than the United States in this category. Lastly, societal investment in health profession education as well as investment in primary and preventative care for immigrants can further enhance equitable access. Specifically, Denmark prioritizes healthcare education and has one of the most successful healthcare systems in the world (Ginsburg et al., 2008).

The link between immigration status and child well-being is understudied in large part because few surveys ask about both immigration status and child well-being. Therefore, understanding both the quality of child immigrant healthcare in addition to the factors that influence access to insurance are pivotal in protecting the health of immigrants and their children. Access to healthcare is arguably one of the factors behind growing inequality most open to policy intervention. Understanding the relationship between legal status, access to

healthcare, and health can help suggest policy interventions to reduce future inequality among immigrants.

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Table 1.5

	During the past 12 months, did this child see a doctor, nurse, or other health care professional for sick-child care, well-child check-ups, physical exams, hospitalizations or any other kind of medical care? (Currently Uninsured, 0-5, %)	During the past 12 months, how many times did this child visit a hospital emergency room? (Currently Uninsured, 0-5, %)	Does this child have a place that they usually go to first when they are sick, or a parent/caregiver needs advice about their health? (Currently Uninsured, %)	During the past 12 months, how often did this child's doctors or other health care providers show sensitivity to your family's values and customs? (Currently Uninsured, %)
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	Yes	No	Non e	1-2 time s	More than 2 time s	Yes	No	Always	Usually	Sometimes/Never
Alabama	88.5	11.5	81.3	13.5	5.2	35.2	64.8	75.5	18	6.5
Alaska	87.3	12.7	80.1	15.0	4.8	62.6	37.4	72.5	21.7	5.8
Arizona	84.7	15.3	81.4	15.2	3.4	49.8	50.2	69.6	23.4	7
Arkansas	85.3	14.7	74.4	18.4	7.2	38.5	61.5	74.5	19.2	6.3
California	85.4	14.6	87.7	9.1	3.2	31.6	68.4	72	21	7
Colorado	92.8	7.2	81.5	14.1	4.3	57.2	42.8	74.7	20.7	4.7
Connecticut	90.2	9.8	81.5	14.7	3.9	23.1	76.9*	75	20.6	4.4
Delaware	85.6	14.4	81.2	16.1	2.7	45.6	54.4	79.6	15.9	4.5
Florida	86.5	13.5	73.9	18.4	7.7	36.9	63.1	71.2	21.2	7.5
Georgia	88.9	11.1	81.7	13.9	4.4	47.9	52.1	76.7	18.2	5.1
Hawaii	87.9	12.1	84.1	13.2	2.7	45.0	55.0	78	18.5	3.5
Idaho	89.7	10.3	80.5	13.1	6.5	64.8	35.2	75.4	18.2	6.5
Illinois	92.1	7.9	83.5	12.2	4.2	69.9	30.1	73.3	21.3	5.4
Indiana	85.4	14.6	84.1	11.5	4.3	67.6	32.4	76.1	18.5	5.4

Iowa	91.9	8.1	83.1	14.3	2.6	46.3	53.7	75.9	19	5.1
Kansas	89.6	10.4	81.2	14.7	4.1	66.0	34.0	78.4	16.9	4.7
Kentucky	86.6	13.4	76.1	18.3	5.6	51.6	48.4	78.7	16.9	4.3
Louisiana	88.7	11.3	72.0	20.2 *	7.8	43.5	56.5	79.5	15.7	4.8
Maine	91.4	8.6	81.5	14.9	3.7	60.1	39.9	79.2	17	3.8
Maryland	89.7	10.3	88.6 *	8.4*	3.0	37.5	62.5	77	19.3	3.6
Massachusetts	89.6	10.4	79.0	15.7	5.2	--	--	79.2	17.2	3.5
Michigan	87.4	12.6	78.2	19.0	2.8	52.9	47.1	78.6	17.4	3.9
Minnesota	87.3	12.7	77.0	19.2	3.7	51.6	48.4	78.8	17.9	3.4
Mississippi	86.3	13.7	69.5 *	21.0	9.6*	47.0	53.0	76.3	17.8	5.9
Missouri	88.4	11.6	84.5	12.1	3.5	52.8	47.2	78.7	18.2	3.1*
Montana	89.3	10.7	83.3	12.0	4.7	64.7	35.3	75.1	19.9	5
Nebraska	90.7	9.3	84.0	11.5	4.5	65.5	34.5	78.7	18	3.3
Nevada	85.2	14.8	84.0	12.2	3.8	29.3*	70.7	65.2*	25.7*	9.1*
New Hampshire	93.1*	6.9	82.5	15.2	2.4*	59.7	40.3	77	18.6	4.4

New Jersey	90.9	9.1	83.3	14.1	2.6	36.7	63.3	72.8	21.4	5.8
New Mexico	83.6*	16.4	79.2	14.2	6.5	38.1	61.9	71.9	20.9	7.2
New York	89.5	10.5	84.7	11.6	3.7	47.5	52.5	78.7	17.5	3.8
North Carolina	89.7	10.3	82.2	13.8	4.0	55.6	44.4	76	19	5
North Dakota	87.7	12.3	80.7	13.2	6.0	49.4	50.6	76.3	18.5	5.3
Ohio	87.2	12.8	77.1	18.6	4.3	47.9	52.1	78	18.3	3.7
Oklahoma	87.3	12.7	79.8	13.5	6.7	53.6	46.4	76.4	16.9	6.8
Oregon	88.9	11.1	84.7	12.1	3.2	55.5	44.5	73	21.5	5.5
Pennsylvania	85.8	14.2	77.7	18.9	3.4	69.2	30.8	74.7	20.1	5.1
Rhode Island	90.5	9.5	82.5	14.6	2.9	52.2	47.8	81.2*	14.7*	4
South Carolina	89.1	10.9	81.4	13.2	5.4	51.7	48.3	75.2	19.3	5.5
South Dakota	87.9	12.1	86.5	11.0	2.4	57.8	42.2	78.4	18.2	3.3
Tennessee	90.5	9.5	80.0	16.4	3.6	53.3	46.7	78	17.9	4.1
Texas	90.0	10.0	80.1	15.6	4.2	43.8	56.2	73.4	18.5	8

Utah	91.1	8.9	87.5	10.2	2.2	67.2	32.8	78.1	17.5	4.4
Vermont	91.6	8.4	84.9	11.7	3.4	72.4*	27.6*	79.4	15.2	5.5
Virginia	90.3	9.7	82.1	13.8	4.0	47.0	53.0	74.3	20.6	5.1
Washington	92.7	7.3	78.1	16.6	5.3	45.7	54.3	76.3	18.6	5.1
West Virginia	87.5	12.5	81.5	10.9	7.6	44.6	55.4	76.5	17.5	6
Wisconsin	88.4	11.6	78.9	16.1	5.0	45.9	54.1	79.7	16.6	3.7
Wyoming	86.3	13.7	82.6	12.9	4.5	57.3	42.7	72.6	23.3	4.1

Note:

*Indicates a maximum or minimum column value

– Indicates the value was not gathered in the survey

Source: A revised version of the survey was conducted as a mail and web-based survey by the Census Bureau in 2019.

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