Health Disparities and Access in American Children: Addressing Speech and Language Pathology though Education and Healthcare

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Health Disparities and Access in American Children: Addressing speech and language pathology though education and healthcare

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Abstract

There are many underserved populations in America who struggle for various reasons including systemic and structural barriers as well as familial and individual factors (Gonzalez et al., 2018). Our most vulnerable populations in America are likely to experience lower access to quality education and healthcare (Gonzalez et al., 2018). Barriers to healthcare access include: financial, physical, educational, and psychological (Diderichsen, 2010). In this paper, I focus on where health disparities are present in the U.S. and who makes up our most vulnerable populations facing these inequities to access. I focus on the American healthcare system and what programs are in place to help low socioeconomic children and families. Next, I examine American educational systems which, in tandem with healthcare opportunities, may help to reduce access disparities. This includes intervention programs and strategies which I explore in depth. These programs have been significant in helping low-income children. Specifically, they have been proven to increase vocabulary development, which is significant in reducing the opportunity gap. I conclude this paper by stressing the importance of equitable access to education and healthcare. These issues are complex and involve several factors to address the problem and implement change. The five dimensions of access model (Levesque et al., 2013) is helpful in providing solutions to healthcare and can potentially be applied to educational contexts. Thus, it is important to understand the many factors involved in addressing inequalities Americans face in education and healthcare.

Keywords: Access disparities, Economically disadvantaged populations, Education, Healthcare, and Intervention
Introduction

The CDC states: “Health disparities are preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations” (“cdc.gov”). This quote indicates that disadvantaged populations will face disproportionate challenges within the healthcare system. The more vulnerable a population is, the more likely it is for those Americans to have high healthcare needs and lower access to good healthcare. For the purpose of this paper, vulnerability or vulnerable populations is defined as disadvantaged placements in social hierarchies, defined by power and wealth, that place people at risk for poor health (King & Wheeler, 2016). More specifically, vulnerabilities can be seen through education, occupation, income, social class, race and ethnicity, and gender (Diderichsen, 2010). These are categorized as “social determinants of health” (See Figure 1; Diderichsen, 2010, p. 6). A subsection under social determinants of health includes the intermediary determinants of health, such as material circumstances, psychosocial circumstances, behavioral and/ or biological factors, and the health system (Diderichsen, 2010). I will go in depth on each of these intermediary determinants of health within the first part of my Honors Thesis. The Commission on Social Determinants of Health (CSDH) framework has developed many models to conceptualize social determinants of health (SDH) because the role of the health system in America relates to issues of access, vulnerability, and “mediating the differential consequences of illness in people’s lives” (Diderichsen, 2010, p. 6).
My Honors Thesis, in particular, will focus on disparities that exist within economically disadvantaged and vulnerable populations, such as low SES families, Latino families, refugee families, abused and neglected children, and children with a speech, language or hearing loss. The overarching question for this paper is: How are different types of vulnerabilities or risk factors differentially associated with health disparities? This will mainly be discussed in the first part of the literature review. In the second part of the literature review, I will discuss the American healthcare system, as well as educational interventions and policies addressing social determinants (i.e. 30 million word gap, World of Words, LENA, and Speech and Language therapy intervention). The section on the American healthcare system will focus on the Affordable Care Act, Medicaid, and CHIP. In the last part, I will discuss and propose suggestions for the inequitable access that persists in America and provide some insight as to
why we are still facing issues today, even if research offers programs and strategies to help our most vulnerable populations.
Part I: Literature Review

Section i: Where are Health Disparities Present in the United States?

Health Disparities in America

The Centers for Disease Control and Prevention (CDC) stated that Americans are more at risk living in rural areas than those living in urban areas (Gonzalez et. al., 2018). A barrier to limited access is living far away from healthcare services and not living near public transportation if that is the only way for a person to get to places. Low socioeconomic status (SES) is the main form of vulnerability for limited access to healthcare. Age, physical and mental illness, and low education are examples of vulnerabilities. When vulnerabilities are combined with barriers to receiving quality health, such as poverty, lack of health insurance, and underrepresented racial groups (or populations), that result is disparity in healthcare (Gonzalez et. al., 2018). In the U.S., the main focus when it comes to health and access disparities is children who are most at risk for health and educational struggles. Almost nine percent of children lack health insurance between the ages 0-18 and many children lack continuous coverage. A child’s health in the first seven years of their life will likely determine their health later in life (Haboush-Deloye, Hensley, Teramoto, Phebus, & Tanata-Ashby, 2014).

Vulnerable / At-risk populations

Low Socioeconomic Families

In the United States, six percent of Whites, seven percent of African Americans, 15 percent of Native Americans, and 21 percent of Latinos are uninsured (Subrahmanian, 2018).
Within these populations, a low Socioeconomic Status (SES) is one of the leading causes to limited access to health insurance (Avila & Bramlett, 2013). It can form vulnerability among family members, but children are the most vulnerable population. For example, vulnerability has been discussed in relation to chronic physical or mental illness, old age, low education, and youth (Gonzalez et. al., 2018). Without proper immunizations, nutrition, and exercise, children will struggle with proper development starting at a young age. The National Institute of Allergy and Infectious Diseases argues that health disparities represent a gap in the quality of health due to differences in SES, racial background, and education level (Gentry, 2016). For example, one in ten children are diagnosed with asthma. Asthma is overall more prevalent in Black and American Indian children (Gentry, 2016). Childhood diabetes is another example that can result from lower SES, educational process, and poorer health (Gentry, 2016). Children from low income families are at a higher risk of mortality and disability. They are typically ranked low in relation to good overall health. This is a significant problem because children are more vulnerable than adults are- since their bodies and brains are still developing (Gentry, 2016).

**Hispanic Families**

Approximately 19% of Hispanics do not have health insurance in the United States (Avila & Bramlett, 2013). First generation individuals are the least likely to be insured (Avila & Bramlett, 2013). Many Hispanic children live with single mothers who may not have a high income and high education. Thus, Hispanic children have very low outcomes in overall health (Avila & Bramlett, 2013). Depending on the type of job and employers that parents of Hispanic children have, they may not be given the opportunity to take sick days, resulting in children attending school even if they do not feel well (Avila & Bramlett, 2013). SES, as previously
mentioned, is a significant barrier, but so is culture and language when looking at different ethnicities and races. Often, Hispanic families do not go to the doctor because of the language barrier (Avila & Bramlett, 2013). For example, a language barrier may result in feelings of insecurity, not knowing someone’s rights of requesting a translator during medical appointments, struggling to understand medical terms that do not translate in a different language, or even being unable to understand the language spoken by their medical professionals.

As argued by De Jesus (2013), some Hispanic families will seek medical care in Mexico. It is important to note that the people in the study lived close to the border and were either U.S. citizens or permanent residents to the U.S. It is hard for many Hispanic immigrants to get access to quality care in America because of the many limitations they face, such as low income and not having health insurance. Studies have shown they prefer the care in Mexico because they feel more comfortable in regards to using the same language and being in their home country where they are familiar with the culture. The health care system United States creates accessibility barriers on the Hispanic population due to the language barrier and limited access to quality care for Hispanics who receive medical care in the U.S.

**Contribution of Race in Health Disparities**

Several factors that are associated with health disparities include race, culture, and ethnicity. The inequality over race and health is very important to analyze (Subrahmanian & Swamy, 2018). Research argues that there are three areas in which racial disparities in health have been assessed: “(1) a biological difference in susceptibility to disease (2) using race as a proxy for class and finally (3) that race and class exist independently and that both matter when it comes to health outcomes (Subrahmanian & Swamy, 2018, p. 26). This shows that
socioeconomic class and race contribute to health disparities. For example, being Black in America can put someone more at risk for heart disease (Subrahmanian & Swamy, 2018). Thus, race and SES can be both interconnected and independent (Subrahmanian & Swamy, 2018). Health disparities are not only seen through race, but also in refugee populations in the United States.

**Refugees**

Refugee children in the U.S. face both psychological distress and post-traumatic stress disorder. Emotionally, they may feel lonely, scared, or depressed. Negative factors that they may face include poverty, limited education, a language barrier, and lack of health insurance (Betancourt et. al., 2015). Refugee children find school challenging because of the language barrier. Parents also facing language barriers struggle to communicate with their child’s teacher.

Between 2011 and 2014, a study was conducted among Somali Bantu and Bhutanese refugees from the Greater Boston and Springfield, Massachusetts area (Betancourt et.al., 2015). The youth in the study were between the ages of 10 and 17 years old and were born outside of the United States. The youth in the study were interviewed to understand the presence of mental health and behavioral problems in the children. Behavioral problems in children consisted of fighting and not listening to their parents (Betancourt et.al., 2015). Results also showed that poverty and communication were huge problems among the children and families. Children and parents were not speaking the same language. About 83 percent of parents and children struggled to communicate with school teachers and about 24 percent of children struggled to complete their homework (Betancourt et.al., 2015). Thirty-three% of participants in the Somali Bantu refugee community stated that community support was very helpful (Betancourt et.al., 2015). In
terms of outside resources, about 20% of participants received services such as food stamps. Overall, Somali Bantu and Bhutanese refugee communities face many stressors. There are some support systems to try to lesson the struggles these communities face. Some examples include healthcare facilities, school personnel resources, and government assistance programs (Betancourt et.al., 2015).

**Intellectual or Developmental Disabilities and The Deaf Community**

Intellectual disabilities, as well as speech, language, and hearing impairments can impact children in school (Friedman & McNamara, 2018). Communication can occur in several different ways, such as verbal or non-verbal. A communication disorder will impact the way people communicate (Friedman & McNamara, 2018). Children with Intellectual and Developmental Disabilities (IDD) or Autism Spectrum Disorder (ASD) often use a device called Augmentative and Alternative Communication (AAC) to help improve their speech, language, and pragmatic skills. AAC can be used on devices, such as iPads. These software programs provide words and pictures that people can tap on to say what they want and the device will voice the word, phrase, or sentence (Friedman et. al., 2018). Hearing loss in children with an IDD can also impact their speech and language development because they do not have effective communication skills and are delayed in vocabulary, articulation, and syntax. Without hearing, one cannot understand or use verbal speech. Hearing losses in children can affect the development of receptive and expressive vocabulary, syntax, and articulation. The combination of having a communication disorder with an IDD, and the possible risk of having a hearing disorder, stresses the importance and need for speech, language, and hearing services in this vulnerable population (Friedman & McNamara, 2018).
Traditional interventions that can help to improve hearing and quality of life include hearing aids, cochlear implants, and bone-anchored hearing aids (Friedman & McNamara, 2018). Speech Language Pathologists are clinical professionals that help people with disabilities and impairments relative to the production of speech (Friedman & McNamara, 2018). Audiologists, on the other hand, focus on the prevention, identification, and treatment of hearing disorders (Friedman & Mcnamara, 2018). Children with speech, language, or hearing loss are part of a vulnerable population and face disparities in access which places that at a disadvantage because they need more help and have higher healthcare needs, especially when it requires needing an expensive device to aid in communication. They may feel uncomfortable going to the doctor because they face barriers in communication (Pick, 2013). Research has shown that members of the deaf community are more likely to face higher risks of poor health and inequitable access to healthcare (Pick, 2013). This is due to the presence of fewer preventable services at health facilities. Help-seeking behavior for the deaf community is at a minimum. Many doctors’ offices and clinics do not even have qualified interpreters for mental health or medical appointments (Pick, 2013). Thus, it is important that programs work to help this vulnerable population in providing equal care and more accessible healthcare services.

**Prevalence of speech language impairment in children.**

There has been very little information about the diagnosis of speech language impairments in children. Data on specific expressive language (i.e., facial expressions, gestures, syntax, semantics, and morphology) delay was collected on three year-old British children with a suspected language delay or a behavior problem. Among the children in this group, 3.1% of them had expressive language below their chronological age (Stevenson & Richman, 1976 as cited in
Studies have found children with speech language impairments are more likely to face issues with expressive language rather than receptive language (Tomblin et al., 1997). The Dunedin Multidisciplinary Child Development Study in 1980 found that 7.6% of three year olds face language impairment and a greater number of five year olds face language impairment, rising to 10.4% (Tomblin et al., 1997).

Data collected in 1986 found that the rate of expressive and/or receptive language impairments was 12.6% of five year olds in Ottawa (Tomblin et al., 1997). This data provides significant information on the prevalence of impairment and focuses more closely on the children and families affected. This data comes from the DSM-IV, which discusses both expressive language and a mixed form of expressive and receptive language. The prevalence between both forms of speech language impairment is between six and eight percent (Tomblin et al., 1997). The prevalence of speech language impairments is often found in children with different racial and cultural backgrounds. Parental education is also an important factor when looking at speech impairments in children (Tomblin et al., 1997). Overall, children with speech language impairments are part of a vulnerable population because they struggle with expressive and/or receptive language, which can make it difficult to achieve both reading and vocabulary development at a young age.

The Effects of Speech Disorders in Childhood Trauma and Abuse

Child maltreatment is overrepresented in indigenous populations (Snow, 2009). Low parental academic achievement can result in low health literacy, poor problem solving skills, or a poor sense of control over person’s lifestyle (Snow, 2009). Maternal depression and intimate partner violence, developmental delay, and disability are factors that can lead to child
maltreatment (Snow, 2009). In addition, parents may struggle with having a child with a developmental disability due to the behavioral, physical, cognitive, and communicative difficulties. Parents may feel a lot of financial and emotional pressures, which can result in several psychological implications for all family members (Snow, 2009).

**Speech Language Pathology and Prevention**

Speech Language Pathologists (SLP) can help children from at-risk populations who have impairments in speech, language and hearing. However, there is not a lot of prevention work for this vulnerable population resulting in inequitable opportunities (Snow, 2009). It is crucial that prevention science and clinical science come together “in order for SLP graduates to exert influence in public health policy and practice debate” (Snow, 2009, p. 101). Without focusing on the opportunity gap as young Speech Language Pathologists are being trained, marginalization will continue to exist (Snow, 2009). Thus, it is crucial for Speech Language Pathologists to understand prevention science in order to make contributions in both child protection and at the policy level (Snow, 2009). Children with speech, language, and hearing impairments are vulnerable because they struggle with literacy development at home and in the classroom (Snow, 2009). In order to prevent these challenges many children face, Speech Language Pathologists need to develop background knowledge in experiential learning to see how different types of vulnerable populations can result in health disparities in children (Snow, 2009).

**Adversities/Stressors**

As stated by the CDC, stressors can disrupt metabolic, neurologic or immunologic systems ("cdc.gov"). Stressors can occur because of poverty, limited access to quality education,
limited stability at home and limited access to safety (“cdc.gov”). One way poverty affects health is limited access: children are less likely to receive annual checkups (“cdc.gov”). For example, their parents may not be able to afford the fees, experience limited access to transportation, or experience a language barrier making communication a challenge (Landale et. al., 2013). An adverse childhood can result in poor physical health when children grow up (Landale et. al., 2013). Poverty affects the quality of a child’s education because parents may not be able to afford private school for their children, supplemental resources or materials, time to practice skills outside of the classroom, or tutoring (Landale et. al., 2013). Limited stability at home and limited access to safety are related to each other because of child maltreatment, due to abuse or neglect (Landale et. al., 2013).

The roles families have on their children can greatly impact the mental and physical health. For example, aggression or emotional detachment tend to cause mental and physical problems in children (Landale et. al., 2013). The EST-R program is designed to help child-parent relationships by implementing safety, security, and protection for children (Landale et. al., 2013). The emotional security children experience may be an attachment system or a defense system. As shown in Figure 2 below, security is achieved in a parent-child relationship through the attachment system (Landale et. al., 2013). The primary goal of the attachment system is to increase protection and sensitivity during sensitive times in development or times of distress and threat to caregivers (Landale et. al., 2013). If children trust their caregiver, they can go to their caregiver for comfort, support, and protection during challenging situations (Landale et. al.,
2013). Thus, the caregivers’ behaviors and actions can have a huge impact on their children and provide them with the necessary resources to handle certain situations (Landale et. al., 2013).

When children and parents are faced with relationship difficulties due to a lack of family stability, the social defense system comes into play. This system protects children and families from experiencing harm and aids children in organizing response patterns during any conflicts (Landale et. al., 2013). As a result, protective strategies must be put into place, such as “fear, freezing, fight and flight behaviors, camouflaging activities, social de-escalation strategies (e.g., comforting, pacifying parents), and heightened perceptual sensitivity to the threatening stimuli (e.g., angry facial expressions, yelling) accompanying interparental conflict” (Landale, et.al., 2013, p. 49). Overall, achieving security in the interparental relationships- unlike parent-child relationships- can be expressed through feelings of distress, avoidance, and negative representations in response to conflicts among family members (Landale et. al., 2013). Figure 2 below is a visual representation of a child-parent relationship in the attachment and defense system. This is important when looking at vulnerable populations, such as child maltreatment or child abuse, because they need strategies to help cope with the threat they may experience and protection from the harm and neglect they may experience in their home environment (Landale et. al., 2013).
Figure 2. A visual representation of the two ethological modules underlying children’s sense of emotional security in the interparental and parent–child relationships; from Landale, Nancy, McHale, & Booth, 2013., p. 49

Child Maltreatment

Outcomes of child maltreatment include: poor physical health, poor mental health, poor education or occupation, and involvement with criminal justice systems (Snow, 2009). The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) states that the age, frequency, and degree to which a child is traumatized can have profound impacts on the extent of their psychological damage (Van der Kolk, 2003). Children witnessing violence among parents or to siblings in the house can have increased levels of anxiety (Snow, 2009). It is first important to understand how to define child maltreatment. Many different cultures view physical punishment as a normal way of disciplining misbehaving children. However, the way one culture views punishment can seem as abuse in another culture (Smith Slep, Heyman, & Foran, 2015). Thus, it is important that practitioners and school teachers are educated in how to handle possible situations of abuse. For example, a teacher may advise a parent that their child is not allowed to
perform acts of physical or verbal abuse in school, even if this is allowed at home based on their cultural practices (Smith Slep et al., 2015). It is important to advocate for the rights and well-being of children, but it is also important to understand and respect the practices of different cultures.

**The DSM-5 on child maltreatment.**

The DSM-5 breaks down child maltreatment into different groups, such as child physical abuse, child psychological abuse, child sexual abuse, and child neglect (Smith Slep et al., 2015). The DSM-5 defines child physical abuse as an injury that was or was not intentional by a caregiver or any other individual that is deemed responsible of the child (Smith Slep et al., 2015). Even if there was no intention of hurting the child, the child was hurt from the physical act and, thus, abused. Child psychological abuse is defined by the DSM-5 as a nonverbal or symbolic act by a caregiver that may psychologically harm the child (Smith Slep et al., 2015). The DSM-5 defines child sexual abuse as any sexual act that may provide sexual gratification to the caregiver or adult responsible of the child (Smith Slep et al., 2015). Lastly, child neglect is the omission of a parent or caregiver that deprives the child of basic needs (Smith Slep et al., 2015).

**The neurobiology of child maltreatment.**

About three million children in the United States are reported as victims of abuse or neglect (Van der Kolk, 2005). There are several different factors that can cause maltreatment in children. For example, it is very important to control stress around children (Van der Kolk, 2003). Too much stress can affect the development of the central nervous system in children (Van der Kolk, 2003). When children are faced with a lot of stress and parents do not control the
child’s arousal, children are unable to organize experiences in an appropriate manner. About 80% of traumatized children have disorganized attachment patterns (Van der Kolk, 2003).

Another factor is neglect, which is a form of abuse due to being uncared for. Children who experience neglect are more likely to be aggressive and dysfunctional compared to physically abused children (Van der Kolk, 2003). Loss of self-regulation can result in poor impulse control. On the other hand, traumatized children are typically hypervigilant (Van der Kolk, 2003). They are more likely to feel less challenged, uninterested, and threatened. Some social problems that abused and neglected children face are difficulty reading social cues, feeling socially withdrawn, bullying other children, or being intellectually impaired. Traumatized children struggle to organize behaviors and may resort to keeping secrets or finding ways to deal with their abusive and neglectful situations (Van der Kolk, 2003).

World Health Organization: Human Rights, Equity, & Power

Health equity is very important because it addresses unfair treatment or differences based on economics, demographics, and geography (Diderichsen, 2010). A person’s health is very important for two main reasons beyond physiology: 1) health is directly correlated to a person’s well-being, and 2) good health allows a person to function successfully in life (Diderichsen, 2010). As stated in the Universal Declaration of Human Rights in 1948, everyone has a right to adequate living, food, clothing, and medical care (Diderichsen, 2010). Hygiene, physical health, and mental health are crucial for all human beings (Diderichsen, 2010).

The Commission on Social Determinants of Health (CSDH) created a framework on the importance of health and human well-being. There are three main elements to this framework.
The first one is socio-economic and political context. This includes governance, money, labor, housing, education, and medical care (Diderichsen, 2010). The second element is structural determinants and socioeconomic positions. The CSDH argues that structural determinants often reinforce stratification in society, such as opportunities for health based on power, prestige, economics, and access (Diderichsen, 2010). The last element is intermediary determinants. The categories involved are material circumstances, psychosocial circumstances, behavioral and biological factors, and the health system (Diderichsen, 2010). Material circumstances is an important category because inadequate housing can affect health due to limited access to hot and cold water or a heating system in the winter (Diderichsen, 2010). Psychosocial circumstances include stressors from high debt, hard lifestyles, and lack of social support to cope with difficult situations (Diderichsen, 2010). With stress and lack of support, illnesses become more prevalent (Diderichsen, 2010). Behavioral and biological factors relate to a person’s physical activity and nutrition. The combination of not eating right and stress can negatively impact a person’s well being (Diderichsen, 2010).

Lastly, there are several ways to cope with inequalities in our health system today. To reduce inequalities in health among our poorest population, it is important to focus on categories such as housing, nutrition, and working conditions (Diderichsen, 2010). Other ways to cope with inequalities include making sure children and adults receive the necessary vaccinations and improving health insurance sickness benefits (Diderichsen, 2010). All of these elements are crucial when looking at vulnerable populations because they represent how different parts within
a person’s life can affect their overall health. Low SES positions, inadequate housing, and worries people face in life can enhance stressors and make it harder for children and families to put their health at the forefront and help their child develop at an early age. As shown in Figure 3, social hierarchy is based off a person’s socioeconomic position. Class, power, and prestige are placed at the forefront leaving discrimination at the bottom of the social hierarchy (Diderichsen, 2010).

Figure 2. Structural determinants: the social determinants of health inequalities; from Diderichsen, 2010, p. 35

Overall, health and well-being becomes impacted when there is limited education, high levels of stress, poor overall health, limited medical care, low-income, gender differences, and discrimination. An example is low birth weight in babies (Diderichsen, 2010). High rates of low
birth weight are found in the United States and United Kingdom, which often results in both poverty and very low incomes for the child’s parents (Diderichsen, 2010). These factors will impact a child’s physical, emotional, and intellectual development.
Part 2: Intervention Programs and Strategies

In this section, a two-tiered approach to address disparities will be proposed as follows: 1) the American healthcare system and 2) the American educational system. Specifically, several healthcare and educational intervention programs will be examined and discussed. I will start by examining the American healthcare system and programs, such as the Affordable Care Act, Medicaid, and Children’s Health Insurance Program (CHIP) and then move to the American educational system and several key interventions focused on word learning and early literacy. It is important to first understand what healthcare programs are available to Americans and how they can benefit vulnerable populations, as effective healthcare can positively impact a child’s development through educational programs at home and in schools. In addition, a multi-factored approach that stresses both educational and healthcare interventions can benefit many families. There are several educational programs I will delve into that have been very beneficial and successful for many students. The combination of both literacy and technology have created successful programs such as the shared book reading program, the book distribution program, and LENA.
Section i: The American Healthcare System

American Healthcare Programs

The Affordable Care Act

It is key to first analyze how children are affected by healthcare programs before seeing how that can also affect their development in schools. When analyzing economically disadvantaged and vulnerable populations, it is important to understand the structural barriers within the American healthcare system and what coverage options are available to Americans who cannot afford the care they need. The Affordable Care Act (ACA) offers coverage to low-income Americans and provides services for mental and physical disabilities (Zernike et al., 2017). Even though many Americans suffering from health disparities receive coverage under the ACA, there is still the issue of affordability, limiting access to quality health insurance (Jost & Pollack, 2016). This is a challenge which cannot be fixed without reducing high premiums and out-of-pocket expenses (Davidson, 2013). Overall, healthcare in America is very complex as lawmakers cannot find ways to reduce the costs that can help people suffering from health disparities (Monteleone, 2017).

The ACA was developed by Barack Obama and other Democrats and signed by President Obama in March of 2010 (Olson, 2015). It was formed to give health insurance coverage to low-income Americans (Gruber, 2011). Buchmueller (2016) argues that “the ACA has made new health insurance options available to uninsured individuals in low-and middle-income households, a group in which Blacks and Hispanics are overrepresented.” Two goals of the ACA are to reduce costs and improve quality, and to increase access to good health (Fitzgerald et al., 2017). The costs of insurance includes premiums, out-of-pocket expenses, and copays. Health
care plans under the ACA must cover: emergency and ambulatory services, hospitalization, pregnancy and newborn care before and after birth, prescription drugs, and several different physical and mental health services. The ACA must also cover birth control and breastfeeding. Plans under the ACA do not have to cover vision and dental care or programs such as, diabetes, weight management, and back pain ("healthcare.gov"). Whether someone is sick or healthy, everyone needs insurance because most coverage plans offer preventative healthcare visits for free, such as screenings, immunizations, and annual visits ("healthcare.gov"). As stated by Rowland and Lyons in 2016, about 30% of Americans remain uninsured under the ACA because not every state has made the decision to expand Medicaid. Additionally, undocumented immigrants, under federal law, are ineligible for ACA coverage (Monteleone, 2017). This ineligibility for undocumented immigrants places Latino and refugee families at a disadvantage.

**Medicaid**

Medicaid was developed by President Lyndon B. Johnson on July 30th of 1965. When Medicaid was signed into law, it gave health insurance “to people getting cash assistance” ("cms.gov," 2017). Medicaid coverage has expanded by allowing “non-elderly adults with an income at or below 138% of the Federal Poverty Level” to receive coverage (Rowland & Lyons, 2016). Today, Medicaid covers pregnant women, low-income families, people with disabilities (all ages included), as well as “people who need long-term care” ("cms.gov," 2017). Through Medicaid, millions of Americans are insured, such as “children, pregnant women, parents, seniors and individuals with disabilities.” Depending on the state, the Medicaid program covers every low-income adult under a specific income level ("benefits.gov"). More specifically, Medicaid covers services, for disabled people, that are accessible in their own homes or in the
local community, such as physical and speech therapy. Zernike et.al. (2017) argued that this can help to reduce costs so disabled people do not have to receive care at institutions, which are more expensive (Monteleone, 2017). In addition, Medicaid not only has “improved the quality of life for older Americans (Blancato & Ponder, 2015), but also draws toward a younger crowd of Americans through diagnosed disabilities (Rowland & Lyons, 2016).

The Affordable Care Act and Medicaid currently play a significant role in our society by mandating all Americans receive health insurance, which is a human right. Access to quality health care is limited and current laws are limiting health care even more for Americans. In a recent New York Times article called “In Health Bill’s Defeat, Medicaid Comes to Age,” a large focus was on President Trump’s first attempt to “repeal and replace Obamacare.” Even Republicans are fearing what this new law could do to Americans who receive coverage through Medicaid. President Trump’s proposed law has the power to take away coverage Americans can receive under Medicaid. Many Republicans voiced concerns about the repeal bill because they had concerns about threatening the treatment of people addicted to opioids. Republicans did not want to deprive vulnerable populations such as the working poor, children, or people with disabilities because it could affect the funding provided to care for elderly people in nursing homes (Zernike et. al., 2017). A large number of Americans have benefited under the Affordable Care Act and certain changes can negatively affect how people with health disparities receive the coverage that they need to live (Monteleone, 2017). In addition, Medicaid has been very significant for low income children and children with disabilities. Thus, health insurance programs must expand and not decrease in order to help those at risk for poor health and to place them at the forefront of our healthcare policies.
CHIP

The Children’s Health Insurance Program (CHIP) is a program offered by states in one of three ways: 1) Medicaid expansion, 2) Separate Child Health Insurance Program, or 3) Combination of the two approaches (“medicaid.gov”). Many children and teenagers are not insured because it is too expensive for their parents, their parents are unemployed, or insurance is not offered to their parents at work. CHIP is a solution to problems like these for many families. Studies have shown that CHIP is a very reliable insurance program offering quick appointments for children needing vaccinations or check-ups (“What is CHIP?”). Health insurance companies provide CHIP and offer access to physicians and specialists near to the CHIP family. CHIP is very helpful for many low-income families because it is often free for families (“What is CHIP?”). If a family is above the limits to receive CHIP for free but still struggling to afford health insurance for their children, they will have to pay very low monthly premiums and copays for certain services (“What is CHIP?”). That being said, it is important to understand CHIP does not turn families down for “making too much money” because it is a program geared towards helping children “who are not eligible for Medical Assistance” for the first 19 years of their life (“What is CHIP?”). As mentioned previously, a multi-factored approach including education and healthcare is ideal for enhancing access for all families.

Affordability

Affordability is key in having adequate health insurance. By reducing the high costs of out-of-pocket expenses and premiums, people with disabilities will especially benefit from an increase in access. Access will allow patients to get the care they need no matter their financial status. This is crucial for our economically disadvantaged and vulnerable populations. For
example, increasing affordability in America can help children at risk be better able to, ultimately, receive the speech and language services they need. Therefore, the ACA is an important first step in reducing costs and allowing more access to quality health insurance for “lower and moderate income Americans” (Jost & Pollack, 2016). For example, Medicaid has helped Americans facing financial burdens by giving them the coverage they need (Jost & Pollack, 2016). However, Jost and Pollack (2016) do argue that premiums are still very high for many Americans to afford. The average American family makes an income of $61,372 as of 2017. The average income in a Hispanic household has increased about 3.7 percent between 2016 and 2017, but the average American income is still higher (“US Census Bureau”). Health insurance for individuals is also expensive. For example, “the standard silver plan deductibles for individuals without cost-sharing reductions average above $3,000” (Jost & Pollack, 2016). Therefore, better access to health insurance will not happen until costs are reduced due to disparities between income and costs of insurance. Jost and Pollack (2016) end their argument by stating that “the high and growing cost of healthcare services is, of course, at the root of our affordability problems…” (Monteleone, 2017).

**Challenges**

There are several different challenges linked to lowering the costs of health insurance in America. Finding the right way to decrease costs is very challenging (Gruber, 2011). Part of the reason health insurance in America is so expensive is due to the high salaries acquired by the medical sector (Gruber, 2011). Therefore, lower health insurance costs would also mean lower incomes for doctors. Changing the income of an interest group is never easy to do, so the government has not been able to decrease the costs of healthcare using this pathway (Gruber,
It is also a challenge for states to accumulate the money needed to expand Medicaid (Lee, 2016). Since expanding Medicaid is optional, not all states have expanded due to conflicting views and opinions. Lastly, working alongside others to come up with different proposals is extremely difficult. Perry argues that lobby groups will ask for their part of the budget to not be changed (Perry, 2010). Therefore, without any agreements, much cannot be done to control or lower the costs of healthcare (Monteleone, 2017).

Based on past research of different healthcare programs in America, it is obvious that the current policy should change because millions of Americans are still uninsured. The ACA and Medicaid have helped many people suffering from health disparities receive coverage, but the costs are still too high. For a self-insured family making around $50,000, almost half of their income goes toward paying insurance (Jost & Pollack, 2016). That being said, Trump’s proposed law will not help the healthcare problem in America because many Americans could lose their Medicaid coverage. This would increase health disparities in America, as Medicaid works towards helping people with disabilities and low-income Americans. Some states are currently debating whether or not Medicaid should be expanded as costs and state budgets create challenges. Overall, improving healthcare in America is not easy due to the complexities of various constituents and finding the best ways to improve costs. However, despite this, more action must be taken because vulnerable populations are receiving limited healthcare due to high costs and this can have serious effects on the development of children who make up a vulnerable population with little agency in ensuring their own health and well-being at a young age (Monteleone, 2017).
Insurance Pertaining to IDD and SLP Services

Intellectual and developmental disabilities (IDD) are disorders that appear at birth and can affect a child’s physical, emotional, and/or intellectual development (“Intellectual and Developmental Disabilities (IDDs): Condition Information”). As stated in Friedman & McNamara (2018), “people with IDD have long experienced inequities in health care services, and subsequently more health problems than people without IDD” (p.113). Health services relative to speech therapy are very expensive and many people cannot afford them. In 2015, about $23.1 million was spent on Speech, Language and Hearing (SLH) services. These findings came from the 2015 Medicaid Home and Community Based Services (HCBS). Out of the SLH money spent, 38.2% went to speech, language, and hearing, 55.3% went to speech and language, and lastly 6.6% went to only hearing. Most speech, language, and hearing services consisted of evaluation and therapy services, but only 28.9% went to therapy services and only 9.2% went to evaluation services. This data has huge impacts on vulnerable and at-risk populations because less than 50% of services are helping patients with speech, language and hearing impairments, which creates inequality in healthcare.

In regards to access to children and families for speech, language and hearing services, waivers are offered as part of Medicaid plans or other speech, language and hearing services provided by the state. Adults can receive assistance for SLH services through waivers of costs, whereas people under 21 can receive speech, language and hearing services through EPSDT (Early and Periodic Screening, Diagnostic, and Treatment). That being said, 38.2% of services offered waivers of costs for speech, language and hearing services that were not covered by Medicaid plans. As shown in Table 1, data were collected to show how many participants were
receiving services, the number of services each state provides, and the states’ projected spending for participants receiving services. Looking at the total projected state governmental spending, it is very clear how expensive speech, language, and hearing services are. It also shows a wide mix in the number of participants receiving these services based on their state.

Table 1


<table>
<thead>
<tr>
<th>State</th>
<th>N services</th>
<th>Total projected spending</th>
<th>Spending per capita</th>
<th>Rank</th>
<th>Total projected participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>3</td>
<td>$70,957</td>
<td>$0.01</td>
<td>16</td>
<td>42</td>
</tr>
<tr>
<td>California</td>
<td>1</td>
<td>$333,171</td>
<td>$0.01</td>
<td>19</td>
<td>185</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>1</td>
<td>$885,000</td>
<td>$1.32</td>
<td>3</td>
<td>300</td>
</tr>
<tr>
<td>Florida</td>
<td>2</td>
<td>$3,016,447</td>
<td>$0.15</td>
<td>10</td>
<td>733</td>
</tr>
<tr>
<td>Georgia</td>
<td>2</td>
<td>$81,519</td>
<td>$0.008</td>
<td>20</td>
<td>46</td>
</tr>
<tr>
<td>Illinois</td>
<td>1</td>
<td>$29,600</td>
<td>$0.002</td>
<td>22</td>
<td>200</td>
</tr>
<tr>
<td>Indiana</td>
<td>2</td>
<td>$76,021</td>
<td>$0.01</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Kansas</td>
<td>1</td>
<td>$567,677</td>
<td>$0.19</td>
<td>8</td>
<td>61</td>
</tr>
<tr>
<td>Kentucky</td>
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<td>$2,775,462</td>
<td>$0.63</td>
<td>4</td>
<td>434</td>
</tr>
<tr>
<td>Louisiana</td>
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<td>$3,240</td>
<td>$0.001</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>Maine</td>
<td>2</td>
<td>$30,740</td>
<td>$0.02</td>
<td>14</td>
<td>33</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>4</td>
<td>$376,959</td>
<td>$0.06</td>
<td>12</td>
<td>424</td>
</tr>
<tr>
<td>Mississippi</td>
<td>1</td>
<td>$9,275</td>
<td>$0.003</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td>Missouri</td>
<td>5</td>
<td>$192,785</td>
<td>$0.03</td>
<td>13</td>
<td>146</td>
</tr>
<tr>
<td>Montana</td>
<td>2</td>
<td>$1,454</td>
<td>$0.001</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>New Mexico</td>
<td>7</td>
<td>$6,394,709</td>
<td>$3.07</td>
<td>1</td>
<td>3,069</td>
</tr>
<tr>
<td>Oklahoma</td>
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<td>$671,061</td>
<td>$0.17</td>
<td>9</td>
<td>571</td>
</tr>
<tr>
<td>Oregon</td>
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<td>$396</td>
<td>$0.001</td>
<td>25</td>
<td>1</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>2</td>
<td>$145,873</td>
<td>$0.01</td>
<td>18</td>
<td>35</td>
</tr>
<tr>
<td>South Dakota</td>
<td>1</td>
<td>$1,633,666</td>
<td>$1.90</td>
<td>2</td>
<td>2,255</td>
</tr>
<tr>
<td>Tennessee</td>
<td>5</td>
<td>$2,634,885</td>
<td>$0.40</td>
<td>6</td>
<td>1,827</td>
</tr>
<tr>
<td>Texas</td>
<td>9</td>
<td>$2,004,441</td>
<td>$0.07</td>
<td>11</td>
<td>1,341</td>
</tr>
<tr>
<td>Washington</td>
<td>4</td>
<td>$129,228</td>
<td>$0.02</td>
<td>15</td>
<td>57</td>
</tr>
<tr>
<td>West Virginia</td>
<td>1</td>
<td>$723,598</td>
<td>$0.39</td>
<td>7</td>
<td>535</td>
</tr>
</tbody>
</table>

*Note.* The diagram above provides data on the amount of services in different states, the projected spending based on services, and the number of participants receiving services.
This section has focused on access and equitability issue for speech and language pathology though healthcare and will now focus on how educational systems and programs can address speech and language pathology.
Section ii: Educating Children at Home and in Schools

Shared Book Reading Program

In order for children to begin reading early in life, they must be exposed to new words and understand their meaning (Marulis & Neuman, 2010). Vocabulary knowledge is crucial for language and reading comprehension (Marulis & Neuman, 2010). Differences in vocabulary knowledge are often influenced by a child and their caregiver’s socioeconomic level (Marulis & Neuman, 2010). This is often due to the opportunity gap that low-income families face, which can result in less story time with their children than other families (Whitehurst et.al., 1994). For example, children from upper-income families have been exposed to 42 million words in the early years of vocabulary development, unlike the 13 million words children from lower-income families are exposed to, on average. Limited exposure to words in the home environment will have serious impacts on vulnerable children because it can be harder for them to build their vocabulary knowledge (Marulis & Neuman, 2010). When children reach elementary school with their vocabulary under the benchmark, they will struggle to perform well in reading comprehension (Marulis & Neuman, 2010). In order to help children increase their vocabulary skills and work on their reading comprehension, intervention programs and strategies must be implemented and targeted towards training children at home and at school. They need a support unit with the help of teachers, caregivers and community members to create practical goals and scaffolded steps to improve instruction (Marulis & Neuman, 2010).

Children need both physical and psychological closeness to books in order to increase literacy skills at a young age (Neuman & Knapczyk, 2018). Children in poor neighborhoods often live in “book deserts” because they have limited access to children’s books (Neuman &
Knapczyk, 2018). This limited access to reading due to “book desert” neighborhoods can impact a child’s vocabulary development (Rowe, 2018). Thus, not all neighborhoods have enough books for every child and books often need to be shared with hundreds of other children. This shows how much inequality exists in certain communities and how book deserts impact many children the most when they are not in school.

Research shows that children fall behind the most during the summer months when school is not in session (Neuman & Knapczyk, 2018). Loss of learning over the summer can be exacerbated based on socioeconomic status (Neuman & Knapczyk, 2018). Research from Benson and Borman (2010) argued neighborhood social context is very important for children’s reading achievement and for growth to occur during the summer months (Neuman & Knapczyk, 2018). In order to increase reading and vocabulary development in children, Neuman and Knapczyk designed a study to promote a book distribution program. The study was designed to create greater access to books and closer proximity with the help of JetBlue (Neuman & Knapczyk, 2018). This is one example of an intervention program that provides books to children and families living in low-income or “book desert” neighborhoods.

One way for low-income children to develop vocabulary is through a shared book reading program. Neuman and Kaefer (2018) designed an intervention program that consisted of a shared book reading in science and instruction from World of Words (WOW). The WOW curriculum is used in the morning during meeting time with the students in schools. The teacher introduces new words while reading a text and stops at times to provide definitions for the words (Neuman & Kaefer, 2018). More words are introduced so that students can build on concepts within a certain category. This intervention program lasts 20 weeks. WOW is a helpful program
that allows teachers to scaffold learning and concepts for students (Neuman & Kaefer, 2018). At first, teachers focus on building a foundation with their students. As time goes on, teachers have a better understanding of what their students know and do not know. Overall, by choosing a book with one specific topic and by using a program such as WOW that creates different taxonomic categories such as plants, children were able to organize and process information more easily and effectively (Neuman & Kaefer, 2018). Instruction through WOW creates an interplay using words and concepts in order to deepen a child’s understanding of word meaning (Neuman & Kaefer, 2018). Later in this section, I will discuss WOW in detail and how it can address disparities in speech and language.

**Book Distribution Program**

In this intervention program, three communities from Detroit and one community from Washington, D.C. were chosen to participate. Neuman & Knapczyk (2018) worked with JetBlue Airways. They wanted to “reach people where they are” in order to make physical books more accessible to children (Neuman & Knapczyk, 2018, p.7). JetBlue carefully wrapped books and placed them in a vending machine for easy and equitable access and to promote agency. Some low-income neighborhoods in Detroit included Rosedale-Brightmoor, Patton Park, and Osborn (Neuman & Knapczyk, 2018). These books were provided and selected by Random House and JetBlue met with community leaders to find the best locations to place these vending machines (Neuman & Knapczyk, 2018). There was no cost involved in order for the children to receive books from the vending machine. JetBlue spent time determining which locations to place these vending machines and assigned one person to each location to restock the vending machine with more books when needed (Neuman & Knapczyk, 2018). JetBlue got in contact with a Baptist
church, a few different communities, a library in Detroit, and a child care center. The main purpose of this study was to track how the different communities were using the established resources given to them (Neuman & Knapczyk, 2018). Ethnographic measures and parent questionnaires were involved in collecting data on this summer intervention program. Overall, more than 64,000 books were distributed to the different vending machines. Families reported that the vending machines were very useful; families were interviewed and stated they appreciated having more books accessible to their community (Neuman & Knapczyk, 2018). Many parents and grandparents encouraged their children to take books from the vending machines. This intervention program was successful in increasing child readiness to continue learning in school and showed signs of parental support in order to increase literacy skills in their children (Neuman & Knapczyk, 2018). An outcome like this one is crucial because it shows how certain programs can help children and families from a low SES can effectively eliminate the number of health disparities children face.
Section iii: Teaching Strategies for Students with Diverse Needs

Students with diverse learning needs often face educational, economical, and cultural barriers (Coyne, Kame‘enui, & Carnine, 2011). The challenges children face outside of school can have profound impacts on children inside school as they try to learn and develop (Coyne et al., 2011). The risk factors children faced years ago have still not diminished almost two decades later (Coyne et al., 2011). In fact, children with diverse learning needs are facing more serious risk factors today. Without working towards improving education, school failure can occur due to poverty, a lack of school readiness and support from caregivers, and childhood neglect (Coyne et al., 2011).

Students with diverse learning needs are part of a vulnerable population not only because they are at risk for learning difficulties and school functioning but also because poverty is often correlated to children with diverse learning needs (Coyne et al., 2011). Children who have experienced poverty tend to have lower test scores in reading and math (Coyne et al., 2011). Research has shown that educational risks related to poverty have been found in children with and without the official government definition of living in or below the poverty line (Coyne et al., 2011). Children with “well-educated” parents are better off because they will not be at risk of insufficient instruction (Coyne et al., 2011, p. 30-31). Meanwhile, parents who are “less educated” often do not know the important connection between home and school success (Coyne et al., 2011, p. 31). They may also lack the knowledge to provide their children with school-related support and experiences (Coyne et al., 2011).

Furthermore, disparities in education can have an impact on a child’s health as seen through the CSDH framework (Diderichsen, 2010). As explained earlier, divisions arise in
society based on a person’s SES and their level of prestige, power and access to resources (Diderichsen, 2010). Low SES can be based on factors such as, low education and low income (Diderichsen, 2010). This was shown through the CSDH framework. When referring back to Figure 2, we see how society places discrimination at the bottom of the chart. Instead, we need to focus more on how Americans are being discriminated against or disparities they face, rather than focusing on a person’s prestige and social class. Access to quality education and healthcare, through successful intervention programs, can help reduce both educational and health disparities in American children.

Fortunately, changes have been implemented over the years to improve learning in students with diverse needs. For example, educational leaders have created a set of curriculum standards for diverse learning by listing what the students should have learned by the time they complete public school education (Coyne et al., 2011). Still, more focus must be placed on creating effective strategies and intervention programs in order to educate and support students with diverse needs in school. This requires the use and implementation of curriculum standards through strategies and programs that will target the areas most difficult for students with diverse needs early on in their educational development (Coyne et al., 2011).

Diverse learners have four important characteristics: retaining information, learning strategies, vocabulary knowledge, and language coding (Coyne et al., 2011). First, retaining information requires receiving, organizing, and retaining information children are exposed to (Coyne et al., 2011). Second, learning strategies are crucial to include in school because it can allow teachers to help children struggling to solve math verbal problems (Coyne et al., 2011). Third, vocabulary development takes place in multiple curricular areas in order to achieve the
most success. Yearly vocabulary growth can make up about 3,000 new words (Coyne et al., 2011). Research has shown that diverse learners do less reading than average achievers. This could be a difference between being exposed to only 100,000 words, rather than one million words a year (Coyne et al., 2011). Fourth, diverse learners can struggle with language coding because of the way they store verbal information to be used later (Coyne et al., 2011). One helpful tip to improve language coding in children with diverse needs is to use phonological codes because they represent the sounds used in words and they help children store verbal information (Coyne et al., 2011). Research shows it is often easier for average achievers to store information using phonological codes because they are exposed to environments, even before the start of school, that make them more knowledgeable in the composition of words. For example, they understand that the combination of discrete sounds makes up words (Coyne et al., 2011).
Section iv: Literacy Programs for Children

The 30 Million Word Gap

Research has shown that children from upper-income families had 30 million more words spoken to them than children in lower-income families in the early years of vocabulary development (Hart & Risley, 2018). The number of vocabulary words learned in an upper-income families is twice as much that of children from lower-income families (Talbot, 2015). Vocabularies of children in the first grade varies from 2,000 to 10,000 words (Greenwood et al., 2017). The 30 Million Word Gap is an important topic when considering health disparities and at-risk populations in children because language can have an impact later on in life when considering education, healthcare, jobs and income. These vocabulary skills can have negative impacts due to low access in quality education at a young age. Golinkoff (2018) argues for the importance of using “child-directed speech” when parents speak with their children. Language is the foundation for learning in children and it begins with the child’s caregiver(s). The more caregivers speak to their children, the more vocabulary is being absorbed. Word learning occurs among children when there is joint attention between the caregiver and child (Sperry, 2018). Studies have shown that communication improves when caregivers follow “a child’s lead, repeating a child’s statement, using time delay and natural consequences, and encouraging more elaborate responding” (Greenwood, 2017, p. 5).

When taking a look at the “word or achievement gap,” it is important to focus on low-income families- as well as bilingual Spanish speaking children. There has been less interaction with written language among low SES households. Low levels of alphabet knowledge, reading, and letter sounding can cause difficulties for children in school. Children
are vulnerable to literacy difficulties in expressive and receptive language, such as reading and comprehension (Justice et al., 2003). On the other hand, bilingual children may be at risk of a language delay because they may not hear English spoken as much in their household due to the fact that they are also hearing another language spoken in the house.

The Word Gap is considered to be a health issue because of “missed opportunities,” such as an inability to read or unhealthy behaviors due to the environment a child develops in. The Word Gap represents a need for early language learning, school readiness, and better health. The main disparity is limited vocabulary learning in children from parents with a low SES (Greenwood, 2017, p. 18). That being said, I believe we should no longer use the terms “word or achievement gap,” but rather use the term “opportunity gap.” “Achievement gap” has more of a negative connotation and reflects the differential and disparate access faced by American children. By changing this wording, Americans can focus more on providing opportunity for various populations. Thus, the language we use can have a huge impact on word learning, as well as equitable access to education and healthcare.

**Literacy and Technology**

Many low-income neighborhoods in America have book deserts. The definition of a book desert describes how “a limited access to children's books negatively impacts children's vocabulary and reading comprehension” (Rowe, 2018, p. 1). This information was acquired after New York University’s Steinhardt School of Culture, Education, and Human Development conducted a study with the help of JetBlue in 2016. NYU found that the areas with the least amount of access to books for children were the in low-income neighborhoods of Los Angeles, Detroit, and Washington D.C. (Rowe, 2018). Dr. Susan Neuman, professor of childhood and
literacy education at NYU Steinhardt, and creator of World of Words (WOW), argues that early access to books in a child’s development can have a significant impact on a child’s vocabulary and comprehension skills later on in their life. However, America faces an inequality due to the lack of access to books in low-income neighborhoods compared to middle-class neighborhoods. Part of NYU’s study used book vending machines to analyze reading activities in children over the summer (Rowe, 2018). Results showed that children from high poverty areas were most interested in and more likely to select books from the vending machines. With the development of Dr. Neuman’s program with JetBlue (i.e., JetBlue’s Soar with Reading program) children can have access to appropriate books during summer months when reading declines (Rowe, 2018).

**World of Words (WOW)**

As mentioned previously, an example of one way to improve vocabulary and comprehension in children is through the World of Words (WOW) program. The WOW curriculum uses technology to help instigate literacy development in children. It was designed by Susan B. Neuman to support low-income prekindergarten children as they encounter both concepts and skills from subjects such as math, science, and social studies. The curriculum is aimed at focusing on individual, vulnerable children. Teachers using the WOW curriculum guide children through different exercises that are most appropriate to them to build vocabulary in different academic content areas. For example, the curriculum is designed to first introduce words to children in different contexts, such as picture cards, video clips, and information books (Neuman et al., 2015). It then focuses on one taxonomic category, such as plants. Children will learn the different sub-categories that are part of the taxonomic category of a plant for efficient word learning. For example, plants need water, sunlight, and air (Neuman et al., 2015). The
program also breaks down words into primary words, support words, and challenge words. For example, when talking about plants, sunflower and shrub are primary words. However, seed and topsoil are support words and a bouquet can be a challenge word.

Besides teaching children different words and how they relate to a certain taxonomic category, WOW also focuses on teaching children concepts that can be learned from the categories. For example, an important concept to learn about plants is that they have roots in order to get the nutrients they need to grow and survive (Neuman et al., 2015). The main purpose of Susan Neuman’s WOW curriculum is to scaffold children’s learning, provide background information and meanings of words, and to provide a deeper understanding of certain topics (Neuman et al., 2015). As part of the program, teachers should allow their students to ask questions in order to understand what they have learned and what they still need to learn (Neuman et al., 2015). WOW is a program that occurs over the course of a few years in order for children to build on their learning and truly master concepts at a young age. I believe that WOW can have a huge impact on the 30 million word gap by expanding a child’s vocabulary through the different taxonomic categories taught by teachers.

LENA

There is a lot of research emphasizing the importance and role of early language in the development and growth of a baby’s brain (Hart & Risley, 2018). A young child’s language environment can be related to but not caused by differences in SES (Hart & Risley, 2018). These factors can later impact the child’s cognitive and language ability. As technology continues to increase in our society, it can be used to understand how and where early talking can have positive effects on a child’s brain (Hart & Risley, 2018). For example, LENA (Language
Environment Analysis System) technology can be used to record hours of natural talk. This has allowed many people to learn how adult talk behaviors can impact and affect children. Research has shown that a mother’s educational level correlates to their child’s vocalizations and conversations (Hart & Risley, 2018). Having conversations with children can have the most impact on their language development. With the use of child-directed adult speech, adults can have more meaningful interactions with their child. Overall, talk varies depending on the time of day (Hart & Risley, 2018). It is important to be aware of those times and try to make the most out of the peak movements for speech in children. This observation can allow parents to understand what activities result in the most language stimulation and where improvements can be made.

Devices like LENA are very important when used to collect data from home environments and the home environment has an essential role in promoting a child’s achievement in subjects such as math and reading in elementary school. It has the greatest impact on children and family practices based on literacy. Research shows that middle-class and working-class parents incorporate activities involving shapes and counting, however working-class families do not promote more complex activities compared to middle-class families (Susperreguy, 2013). A study performed by Saxe and colleagues (1987) asked middle- and working-class mothers what kinds of activities they were involved in with their children at home. Results showed all groups of mothers were engaged in some form of activity more than once a week. Social class did not affect the child’s interest in activities. Data found by Plewis and colleagues (1990) argued mothers spent time helping their children on math for at least 15 minutes each week no matter their level of education (Susperreguy, 2013).
Differences to family background are more pertinent when looking at the complexities of activities. It has been reported that middle-class mothers “structure more complex goals for more difficult interactions than working class mothers” (Susperreguy, 2013). Data was also collected on children from different SES families. For example, middle-class white children, compared to other children, were more often engaged in conversations. Overall, parents with a higher income are more likely to initiate math when reading rather than low-income parents (Susperreguy, 2013). Overall, LENA enables researchers to examine naturalistic word learning in an equitable and inclusive way that allows all parent-child talk to be recorded, understood, and analyzed no matter a families’ SES, racial, ethnic, or cultural background. This technological device allows for a comprehensive understanding of all families’ use of language, which previously was more targeted to a specific time of day that could involve more or less language use depending on the population, context, or family culture. This is very important because everyone deserves equitable access to education, regardless of their financial status. In addition, LENA provides parents with targeted feedback.

Susperreguy conducted a study connected to math talk in children, using LENA. The study consisted of preschool students (27 boys and 13 girls) and the children’s mothers. The median age of the children was 4 years and 6 months old (Susperreguy & Davis-Kean, 2016). In order to acquire a diverse population in this study, different methods of recruitment were used. For example, mothers were given information to children in Head Start centers, flyers were provided to preschool centers, and advertisements were posted in preschool centers (Susperreguy & Davis-Kean, 2016). While this LENA study particularly focuses on how math can be incorporated through speech and through daily activities, parents were not instructed to use math
talk with their children. They were allowed to have any conversation with their child. However, it was required that the parents record three days of conversation by placing the LENA device on their child. Every child in the study was given a t-shirt to use with a recorder in the padded pocket of the shirt. The primary language used in this study was English (Susperreguy & Davis-Kean, 2016).

Results from the study showed that mothers used math talk with their child during meal times. Math talk was used about 38 times over the full four hour meal time period (Susperreguy & Davis-Kean, 2016). For example, a mother might ask her child how much toast they want for breakfast and this would instigate the child to respond requesting a certain number of slices (Susperreguy & Davis-Kean, 2016). Even though this study mainly focuses on math talk, it provides an important example of how to implement mother-child interactions in a home environment. This is an example of a study that provides both qualitative and quantitative data. It specifically provides information about when and where data was collected and what types of words were being used because the device is always on the child and recording all conversations throughout the day (Susperreguy & Davis-Kean, 2016). Overall, this study provided each mother and child a “fair shot” of using language in a home environment to potentially improve math skills at a young age. There was limited bias in the study, resulting in reliable data. Whether a family is part of a vulnerable population or not, everyone has the same amount of time with the LENA device and the ability to enhance conversations. One LENA device costs about $300, but researchers pay the cost and provide them free of charge to all families and usually provide a stipend for families who participate as well. Thus, this can help many disadvantaged populations
and vulnerable children who need devices like LENA to improve their vocabulary development at an early age.
Section v: Speech and Language Therapy Intervention

Children with Speech and Language Disorders

Speech and language intervention can occur in different environments, such as in clinics, in schools, and at home. Intervention can either be integrated or a combination (Law, Garrett, & Nye, 2010). For example, direct intervention with children can be done individually or in small groups. This is often determined based on the needs of the child, their age, and what resources are available (Law et al., 2010). On the other hand, indirect intervention includes a more naturalistic approach in which the adult facilitates the conversations in a child’s life. This helps to promote positive interactions between caregivers and children. Speech Language Pathologists are working to train professionals to be able to enhance communication in a child’s life (Law et al., 2010). Studies have been conducted on both children and adolescents with a speech and language disorder. The meta-analytic review study by Law et al. (2010) mainly focused on random intervention trials. The purpose of the intervention was to improve one area of speech or language. For example, this could be improving expressive or receptive phonology, vocabulary, or syntax (Law et al., 2010). To be more clear, this means improving production or understanding of speech sounds, words, or sentences and grammar (Law et al., 2010).

The three areas of intervention that were focused on in this study were: 1.) intervention where children are given no treatment or delayed treatment condition, 2.) intervention in which children are assigned to a control condition that is supposed to be similar to interactions found in therapy, but without providing linguistic input, and 3.) interactions that are different to the approaches used during speech therapy session (Law et al., 2010).
Results from the expressive phonology intervention stated that speech and language therapy was favored over no treatment. These results increased with the removal of parental administration (Law et al., 2010). Further studies comparing treatment found no difference between a trained parent and a clinician. Two studies stated that trained parents were favored in addition to clinicians (Law et al., 2010). Lastly, one study did not see a difference in outcome by taking part in group therapy rather than individual therapy sessions (Law et al., 2010). The results from these studies are an indication that some form of treatment by either a trained parent or clinician is beneficial to improve speech and language delays in children. With the help from a clinician, a parent can be trained to improve their child’s development and also continue to receive services from the clinician. I also believe in the need to train parents better because they are with their children more of the time compared to professionals. More specifically, professionals need to focus on instruction and making learning more efficient. These are necessary steps to help children in a vulnerable population.

In regards to receptive phonology intervention outcomes, one study argued this form of intervention helped to improve productive phonology in its patients (Law et al., 2010). Data collected showed reading-talking intervention and parental listening was not effective for receptive phonology (Law et al., 2010). These results are crucial for understanding the best ways to help children with speech, language and hearing impairments as they are at-risk of being under the benchmark for their grade level and behind in both language and vocabulary development. Clinicians and trained adults need these studies in order to improve literacy development in children.
Overall, speech and language therapy services are effective for children experiencing expressive and phonological vocabulary difficulties. However, children experiencing receptive language difficulties are less likely to find these types of interventions effective (Law et al., 2010). Children with expressive syntax difficulties are more likely to find therapy more effective when they do not have severe receptive language difficulties (Law et al., 2010). In order for the therapy to be most effective, therapy services should last for at least eight weeks.
Section vi: Intervention and Policies on the Social Determinants of Health

There are three important ways to reduce health inequalities in America (Diderichsen, 2010). First, the American healthcare system—including equitable access and opportunities—must be improved for low SES families. Second, we must close the health gap faced by the poor populations. Lastly, we must address the health gradient with our entire population (Diderichsen, 2010). Targeted health programs can be beneficial to eliminate the health inequalities experienced by disadvantaged populations through, for example, social welfare programmes solely focusing on disadvantaged neighborhoods (Diderichsen, 2010). These programs can be successful in health gains, but may not improve the health of poor groups when compared to the national averages (Diderichsen, 2010). Thus, policy analysis and decision-making must occur to make the best decisions for America’s economically disadvantaged populations. Diderichsen (2010) has argued several different areas that may help. In order to reduce poverty, it is important to focus on health and education. For example, in low SES families, reducing the number of parents smoking in low SES families or helping children and families when they are ill to have better healthcare access (Diderichsen, 2010).

As Americans we need to work towards eliminating the inequalities that come with power and prestige (Diderichsen, 2010). We need to reduce feelings of vulnerability in children and empower children so they can be confident in themselves and achieve their goals in life. We need to empower young girls in particular so they can tackle the same roles as men (Diderichsen, 2010). Dahlgren and Whitehead have come up with three policy approaches that can help to implement change (Diderichsen, 2010). They believe in the importance of securing jobs and adequate pay for our working poor. This can significantly help with supporting their families and
helping their children as they develop by feeling less stressed and knowing that their children can receive a good education. They also believe in the importance of implementing equal pay (Diderichsen, 2010), which can be very helpful for single mothers who need an adequate income to care for their children on their own. Overall, Americans can promote human rights and health equity by working with and empowering affected communities, assisting communities so that solutions can be made, and gaining feedback from affected communities (Diderichsen, 2010). These elements will be further addressed in Part 3 of my Honors Thesis. Part 3 will have a strong focus on addressing inequalities and focusing on ways to promote equitable access to education and healthcare. It will discuss who and what are involved in order to make changes in our schools and healthcare settings.
Part 3: Addressing the Problem

Some of the issues discussed in this Honors Thesis center around two main components to address speech and language pathology: equitable access to education and to healthcare. In this section, I will examine issues related to the implementation of equitable access to both education and healthcare and different elements of access. Equitable access to education, in particular for individuals with speech and language difficulties, will be looked at through multiple lenses of early literacy acquisition and opportunity that will be integrated to address disparities. Meanwhile, equitable access to healthcare will be looked at through a more systematic approach including an established model depicting dimensions of access (Levesque et al., 2013), as well as both the physical and financial access of healthcare. By looking at ways to make education and healthcare more equitable and accessible, policy makers, administrators, and practitioners can hopefully reduce the inequalities Americans face individually, amongst their family, and within their community. Even though this section will mainly focus on how to implement equitable education and healthcare in the United States, I will integrate resources focused on these same issues internationally. It is important to learn from other countries and gain insight and consider alternative approaches that can be integrated (or translated) into the American context to help address the issues of inequality and disparities in access.
Section i: Equitable Access to Education

An important step to address the problem is to create equitable access to education. Education International stresses the need and importance to make education a human right as it was originally intended (“Education International”). In order to achieve an education system that is equitable, we need to make sure that vulnerable children have access to the same high quality education as the least vulnerable populations (“Education International”). Having a quality education is crucial in our society today as it gives us the knowledge and creativity to problem solve (“Education International”). The first element to achieve equitable education begins with the costs to receiving quality education. There should be a commitment to free education. Education is a public good and a basic right, thus it should be publicly financed so that no one is excluded from receiving a quality education (“Education International”). This is currently only offered through the Individuals with Disabilities Education Act (IDEA). IDEA offers both a free and appropriate public education for individuals with an identifiable disability from birth to 21 years old (Snowman & McCown, 2015). They offer free special education services, no matter the severity of the disability, in a home, classroom, hospital, or even specialized institution (Snowman & McCown, 2015).

Education International

Education International (EI) advocates for quality education. EI works worldwide to represent 30 million teachers and educators as they work with their students beginning with early childhood education (“Education International”). This includes advocating for a “broad-based
curricula, adequate teaching and learning materials, and reasonable class sizes” (“Education International”). EI believes every student deserves to be taught by a qualified teacher, and to be taught in a safe school environment with adequate resources and facilities for all students (“Education International”). Education International believes in the importance of providing universal free quality education. This is their goal and they are strongly committed to providing every student with the same rights. In order to provide this new framework, it must be financed. Universal quality education is a public good, thus it is the role of the state to help make this possible (“Education International”).

**Goals for free equitable education.**

Education International has developed some goals that will hopefully come into play in the future. It has two main target goals. The first one is to achieve free quality childhood education (both primary and secondary education) by 2030. Quality education can be defined as ensuring each child receives a strong educational foundation during the most important years of their schooling. This will hopefully allow people to contribute positively to our society and be active members as they grow and develop (“Education International”). The second target goal from Education International is to have equitable access to post-secondary education by 2030. This will allow people to become specialized in a field and be part of the workforce (“Education International”).
How Can We Improve Literacy and Reading Development in Children?

**Classroom and home.**

Vocabulary development in children is crucial for comprehension, communication, reading, writing, and speech from ages three to six (Snell et al., 2015). Core strategies are needed as teachers and caregivers read with their child (Snell et al., 2015). Vocabulary development in children occurs when adults address new vocabulary words and when children and adults engage in conversations to expand vocabulary development (Snell et al., 2015). There are huge benefits when children expand their vocabulary development early on in life. As discussed in Part 2, hearing vocabulary words at an early age can help children perform better when they reach ages nine and ten (Snell et al., 2015). Research shows that vocabulary instruction is currently infrequent, very brief, or difficult for teachers to implement because they do not know what strategies are best to use for their students (Snell et al., 2015). A simple, but very important strategy to improve vocabulary development in children is book reading. It is crucial that the books chosen for children are well-written and high-quality that can expose children to advanced language (Snell et al., 2015). When reading books with children, it is also important to analyze the pictures in books. Pictures combined with a story can help children with the comprehension and meaning of the text, as well as making it easier for them to narrate and act out the story to an adult (Snell et al., 2015).

There are many important strategies to help build vocabulary through book reading (Snell et al., 2015). These are strategies that should be used at school with teachers and taught by
teachers to caregivers. For example, adults should define new words to children, but provide definitions that allow the child to make connections based on information they already know (Snell et al., 2015). After introducing new words to children, it is important for adults to ask questions and have discussions about the new words. This is known as dialogic reading and it can give children more opportunities to use and learn more about new words (Snell et al., 2015).

Another key strategy is to focus on repetition with children because they need multiple exposures to words in order to know and understand how to use new words. Rereading books is important so adults do not rush to introduce new words before the child is ready (Snell et al., 2015). Not only is rereading important, but also retelling stories. Retelling story activities can give adults a better understanding of what concepts and words their children understands. After integrating and teaching new words to children, teachers should implement these new words in other classroom activities so children receive multiple exposure. When teachers choose new words to implement in their classroom, they should use words that are unfamiliar to their class, used often in a book the class is reading, and central to the understanding of the story (Snell et al., 2015). Teachers should use visuals to diversify ways of learning and to keep children more focused in the classroom. Lastly, by breaking up students into small groups, teachers will have more time to work one-on-one with each student and help them with whatever concept the child is struggling with (Snell et al., 2015).
Play.

Strategies for vocabulary development can also occur through play. In order to promote vocabulary learning in preschoolers to increase their life opportunities and access to educational and healthcare systems, reading skills must be developed early on, and classrooms should enhance high quality literacy instruction (Toub et al., 2018). For example, research shows that children experienced greater gains in adult-supported conditions rather than the use of free play (Toub et al., 2018). The important message for parents and teachers to understand is that work must be presented to children in an efficient way in order for children to develop a better understanding of words (Toub et al., 2018). As stated in an article by Toub et al. (2018), there are six main principles that focus on the effectiveness of vocabulary knowledge. These principles include repetition, choosing interesting topics for children, working in interactive environments with children, including meaningful context, incorporating diverse words, and having power over grammatical knowledge (Toub et al., 2018). Some intervention strategies on vocabulary development include book reading, playing, expressive tests to explain the meaning of words, and receptive tests such as the Peabody Picture Vocabulary Test (Toub et al., 2018). With these strategies, children can make huge gains on their vocabulary development. Overall, playing with adults can support vocabulary growth by having more meaningful activities and increasing the number of vocabulary words children know (Toub et al., 2018).

Recommendations for moving forward.

As previously mentioned, there are important steps on how to take action for teachers, caregivers, and community members when it comes to addressing vocabulary development. Some strategies include providing definitions children can relate to when explaining unfamiliar
words, asking questions and having conversations with children about new words, and rereading books and using repetition in order to make sure children are comprehending the new words and can use them in other contexts (Toub et al., 2018). When implementing vocabulary development in children, be sure to incorporate activities that will encourage children to retell stories or find different ways to include new vocabulary words (Toub et al., 2018). Lastly, new words should be incorporated throughout the day. Teachers can even inform caregivers of the new words used so that caregivers can incorporate those new words in the house (Toub et al., 2018).

Strategies to help minimize the word gap (Hart & Risley, 2018) are important to eliminate the inequality children face and to reinforce new words daily (Colker, 2014). New and interesting words should be used in natural conversations, such as during mealtime and during play time with all children. Facial expressions and gestures are also important because they can help children better understand a word through the use of positive or negative facial expressions (Colker, 2014). Creating songs with children incorporating new words is also helpful because it provides different modes of learning. Other strategies include encouraging children to have conversations and ask questions, as well as reading to children daily (Colker, 2014).

Head Start Programs are a beneficial way for teachers and caregivers to take action early on in a child’s life. Head Start is designed to help low-income families by promoting school readiness and improving development in children between the ages of birth to five years old (“Head Start Programs”). Head Start Programs are located in schools, centers, child care centers, and some programs are located in the child’s home and work with the child’s caregiver. Each year about 80% of three and four year olds are served under Head Start. The three main ways Head Start Programs provide support to low-income families and their children is by focusing on
early learning, health, and family well-being (“Head Start Programs”). Instructions in early learning include building relationships with adults, playing, developing language and literacy skills, and including instruction that is both spontaneous and planned (“Head Start Programs”). Head Start promotes health by supporting children’s physical, motor, and perceptual development. These programs understand the overall importance of childhood health by providing screenings, as well as connecting caregivers to medical, mental, and oral health services. Health Start Programs also offer nutritious meals to children (“Head Start Programs”). Lastly, family well-being is an important component of Head Start Programs. Head Start offers caregivers support in creating and achieving goals that will strengthen a families’ relationships and focus on their children’s learning and development. Some goals that Head Start helps caregivers achieve include financial security and housing stability (“Head Start Programs”).

**Communication: Educators to families.**

Communication is key when focusing on the well-being and education of children. Teachers and educational programs, such as Head Start, should work closely with low-income parents, single mothers, and caregivers who struggle to dedicate as much time to reading and caring for their children. This can work towards reducing the opportunity gap and provide adults with helpful strategies so their children and students are enhancing their vocabulary and literacy development at an early age. The best way for educators to further the education of their students is to have a strong connection with their students’ caregivers and community. Educators should offer supportive assistance, set goals with family members to enhance reading and vocabulary development, and offer materials and activities that are not costly and will not interfere with the caregiver’s support (Toub et al., 2018).
Section ii: Equitable Access to Healthcare

Access

As indicated previously, lack of healthcare is one factor that may negatively impact childhood learning. Access to healthcare can be defined as opportunities to facilitate access to a specified set of healthcare services (Oliver & Mossialos, 2004). The term specified refers to creating healthcare services that are specific to the circumstances of a country or region (Oliver & Mossialos, 2004). Thus, access is dependant on different factors, such as being in a different country (Oliver & Mossialos, 2004). When focusing on equitable access to healthcare, policy makers must focus on the relevant factors for consideration, such as the quality of healthcare services, time and financial costs of securing those services, and the information required for those services (Oliver & Mossialos, 2004). These are several factors that need to be considered. This is by no means an exhaustive list but if these factors are taken into consideration, policy makers can judge the “current” access that is available and observe how these factors can be improved to ensure equity of access to healthcare over a larger population. Overall, equity of access to healthcare is determined by factors, such as predisposing, enabling, and need variables (Oliver & Mossialos, 2004). The traditional public health approach defines equitable access to healthcare based on demographic variables, such as age, gender, and need variables (Oliver & Mossialos, 2004).
Conceptualizing access to healthcare.

Having access to quality and equitable health insurance is an important aspect of reducing disparities in our healthcare system. Access can be defined as having connection to a service or provider in order to get the appropriate help based on a patient’s need (Levesque, Harris, & Russell, 2013). As can be seen in Figure 3, access to healthcare can be defined as having the opportunity to achieve healthcare services based on the perceived need of the patient (Levesque et al., 2013). Factors involved in access to healthcare include: availability, quality of health services and resources, and cost of healthcare (Levesque et al., 2013). Access gives people the possibility to identify, seek healthcare services, reach, and obtain healthcare needs and services (Levesque et al., 2013). A comprehensive way of looking at access to healthcare should include the features of individuals (i.e., predisposing and enabling factors), factors that state how access is realized, and the five dimensions of access (i.e., availability, accessibility, accommodation, affordability and acceptability) (Levesque et al., 2013).
The five dimensions of accessibility are: 1) approachability, 2) acceptability, 3) availability and accommodation, 4) affordability, and 5) appropriateness (Levesque et al., 2013). The first dimension, approachability, refers to the idea that services do exist and that they can impact an individual’s health (Levesque et al., 2013). The second dimension, acceptability, refers to cultural and social factors (Levesque et al., 2013). For example, people may or may not accept medical attention from a provider based on their sex, social group, or whether they believe in using Western or Eastern medicine (Levesque et al., 2013). Seeking healthcare involves making choices about whether or not someone will get the care that they need, as well as having the knowledge and individual rights about obtaining healthcare. The third dimension, availability and accommodation, has to do with the fact that health services are reached in a timely manner.
and involve going to a physical location (Levesque et al., 2013). Affordability, the fourth dimension, involves getting the correct resources and having the time for appropriate healthcare services (Levesque et al., 2013). Aspects of affordability include: having the opportunity to pay for healthcare services, a person’s income, and the ability to travel to health services (Levesque et al., 2013). Affordability to receiving necessary care can be restricted due to poverty and social isolation (Levesque et al., 2013). The last dimension of accessibility is appropriateness. Aspects relating to appropriateness of healthcare include: adequacy (i.e., the specific services that are provided) and quality (i.e., the way healthcare services are provided) (Levesque et al., 2013). These five dimensions of access to healthcare are important to understand because they explain the processes that are involved when people make decisions about health care services.
Figure 4. A conceptual framework of access to health care; from Levesque, Harris, & Russell, 2013, p. 5.

**Conceptual framework.**

The conceptual framework, Figure 5, stresses the importance of focusing on both contextual and individual determinants in order to improve access to healthcare (Anderson, Davidson, & Baumeister, 2014). Contextual determinants refer to the environment and community characteristics (Anderson et al., 2014). The major components of contextual characteristics listed in the model include: “(1) existing conditions that predispose people to use or not use services even though these conditions are not directly responsible for use, (2) enabling conditions that facilitate or impede use of services, and (3) need or conditions that lay people or
health care providers recognize as requiring medical treatment (Anderson et al., 2014, p. 36).”

Due to space constraints, I will focus my discussion on the essential characteristics.

**Contextual characteristics.**

At the contextual level, social characteristics focus on communities and whether they are supportive or detrimental to where people live and work and how that can affect their health and access to health services (Anderson et al., 2014). Meanwhile, financing characteristics refer to contextual measures, such as incentives to purchase services, medical care and other goods or services. This also includes per capita expenditures, such as health insurance coverage (Anderson et al., 2014). Environmental needs characteristics, on the other hand, include health-related measures, such as the quality of housing, water, and air (Anderson et al., 2014). Social factors in relation to health is often determined by a person’s status and their ability to cope with their health problems.

**Individual characteristics.**

When thinking about the financial aspects of health services, many individuals focus on their available income to pay for health services. This includes offering equitable access to healthcare services to patients, “determined by having insurance and cost-sharing requirements” (Anderson et al., 2014, p. 39). Need can be perceived or evaluated. A perceived need is explainable by the severity or discomfort of a symptom. For example, perceived needs include pain, social characteristics (like age, gender, ethnicity, or education) and health beliefs, attitudes, or knowledge (Anderson et al., 2014). Lastly, evaluated need represents a patient’s need for
medical care based on their physical status and medical exams (Anderson et al., 2014). These contextual and individual characteristics are important to look at when analyzing access to healthcare because there are many reasons that affect a person’s ability to receive healthcare.

Figure 5. A behavioral model of health services use including contextual and individual characteristics; from Anderson, Davidson, & Baumeister, 2014, p. 35.

Physical access.

Physical access is a crucial element to focus on when working towards equitable access to healthcare. Distance to healthcare services has not been looked into enough (Noor, Zurovac, Hay, Ochola, & Snow, 2003). Equitable health care refers to both access and utilization of health services throughout populations. Access to health services include different factors such as, location, cost, and behaviors (Noor et al., 2003). Noor and colleagues (2003) conducted a study
on the physical access to healthcare services in Kenya in four locations: the greater Kisii district, the Bondo district, the Kwale district in Coast province, and the Makueni district in Eastern province. The purpose of this study was to focus on the limitations of access to malaria treatment in different parts of Kenya (Noor et al., 2003). Based on the research conducted in the study, greater disparity in access to healthcare services between the urban and rural communities in Kwale than in Makueni was found (Noor et al., 2003). People living in rural populations had to travel greater distances (e.g., more than five kilometers) to health services than those living in rural populations (Noor et al., 2003). Overall, this study showed that less people were going to health services as the distance to these facilities was increasing (Noor et al., 2003). The United States also faces this barrier of physical access due to communities being categorized as rural, suburban, and urban areas.

Another factor that led to a reduced number of people going to healthcare services in rural populations was due to the fact that private healthcare services were more accessible in urban populations (Noor et al., 2003). About 60% of people were attending healthcare services within the five kilometer distance (Noor et al., 2003). Overall, this study shows how distance to healthcare services can play a huge part in the reason why many people do not get the care that they need. In order to obtain equitable access to healthcare, services must be more accessible for patients. Even though this example is focused on the healthcare system in a different culture / country, it illustrates disparities across populations of families and limitations when needing to obtain healthcare services.
Barriers to healthcare access.

In 2004, healthcare in America was ranked as the second most important government matter (Drainoni, Lee-Hood, Tobias, Bachman, Andrew, & Maisels, 2006). Due to high healthcare costs, there has been an increase in uninsured Americans (Drainoni et al., 2006). On top of that, about 20% of Americans have disabilities and face even more access problems (Drainoni et al., 2006). Due to these serious issues, it is crucial that policymakers within our healthcare system address and understand the needs of people with disabilities (Drainoni et al., 2006). Healthcare costs for people with disabilities are much higher because they require more complex and ongoing care (Drainoni et al., 2006). On top of the high costs they have to pay for their care, they also lack the ability to work most jobs, which results in low incomes and dependency on either federal and state-funded health insurance programs, like Medicare and Medicaid (Drainoni et al., 2006). Furthermore, they are in overall poorer health (Drainoni et al., 2006).

The Americans With Disabilities Act (ADA), signed in 1990, worked towards offering equal access to employment, services, and transportation for people with disabilities (Drainoni et al., 2006). Since the passing of the ADA, there have been some conflicting views about whether or not physical accessibility has improved over time. Some physical accessibility improvements that have been made are accommodations for people using Braille signage and text telephones (Drainoni et al., 2006). That being said, there are still many barriers to healthcare access for people with disabilities (Drainoni et al., 2006). Research has shown that many people with
disabilities face transportation problems when trying to access health services (Drainoni et al., 2006). Those living in geographic areas often have to travel at great distances for treatment (Drainoni et al., 2006). Research also shows that people with mobility limitations had trouble being transferred onto examination tables when needing tests, like X-rays (Drainoni et al., 2006). People with speech or hearing impairments have reported communication problems when trying to contact health services over the telephone (Drainoni et al., 2006). It was also very challenging for Deaf individuals to obtain American Sign Language interpreters for last minute medical visits (Drainoni et al., 2006). These barriers in the American healthcare system must be looked into, as our most vulnerable populations deserve more accessible and equitable access to healthcare as those who do not have a disability or are not part of a vulnerable population. Without looking into the way our most vulnerable populations are being treated, we will struggle to achieve equitable access to healthcare in America.

**Qualitative and quantitative evidence regarding access.**

The main healthcare program that was designed to address inequities in access is universal healthcare (UHC) which provides access to quality healthcare to everyone, no matter a person’s financial status (“What is universal coverage?”). The most important aspect of UHC is to ensure and provide access to health services for everyone (O’Connell, Bedford, Thiede, & McIntyre, 2015). Barriers must be identified and addressed to achieve equitable access (O’Connell et al., 2015). When looking at both quantitative and qualitative evidence pertaining to healthcare barriers, it is crucial to focus on the bidirectional relationship and interactions
between populations and healthcare services (O’Connell et al., 2015). For example, access barriers can be found between different countries and contexts within each individual country (O’Connell et al., 2015). Quantitative methods are used to identify disparities in services based on ethnicities, meanwhile qualitative studies provide an awareness about language barriers and stigmas faced by minority ethnic groups (O’Connell et al., 2015). A combination of both quantitative and qualitative approaches are important in order to comprehensively determine access barriers faced within a community and to understand the necessary actions needed to take place (O’Connell et al., 2015). These tools show how real non-financial access barriers are and can help to explain various reasons for low coverage (O’Connell et al., 2015). Many aspects previously mentioned include ethnicity, religious practices pertaining to healthcare services, physical access, or education and knowledge of health and illnesses (O’Connell et al., 2015).

**Financial access in Latino communities.**

Healthcare access is becoming a growing problem for our most vulnerable populations and minority groups in America, such as Latinos (Documét & Sharma, 2004). Data shows that the number of Latinos living in the United States is rising to almost 60 million people (U.S. Census Bureau, 2018). Latinos often face both language and cultural barriers to health care access (Documét & Sharma, 2004). Research has shown that some Latino patients had trouble communicating with English speaking doctors when they were sick (Documét & Sharma, 2004). No matter their English proficiency, interpreters were not regularly present at doctors appointments for Latino patients (Documét & Sharma, 2004). Besides language barriers,
research also shows that Latinos faced several cultural barriers within the American healthcare system. For example, Latinos value personal and warm relationships with their doctor (Documét & Sharma, 2004). One study showed that low-income, uninsured patients were most satisfied with their last doctors visit when their health service was free of charge and in the language of their choice (Documét & Sharma, 2004).

Overall, the main healthcare challenges that most Latinos face in America, predominantly due to structural and systemic barriers, include: low SES status, lack of English proficiency, unstable immigration status, and cultural barriers (Documét & Sharma, 2004). Even though this section on financial access has heavily focused on the Latino population, many other vulnerable populations face these exact same challenges associated with structural inequities. Many economically disadvantaged populations cannot afford healthcare services and, on top of that, may struggle to understand the doctor due to language barriers or limited knowledge in healthcare related terms. This issue could be addressed in many ways such as providing translators or more extensive training for medical professionals regarding multilingualism and cultural competence which begin to address the financial inequities. Health insurance is not only hard to afford for many Americans, but can also be hard to comprehend the rules and regulations of what services or medications are covered or not under the insurance plan. Though outside of the scope of this paper, another issue to consider related to access is limitations in the healthcare and educational systems themselves.
Reducing financial barriers for women.

Many Americans face a lack of access to quality care due to out-of-pocket expenses for medical services (Richard, Witter, & de Brouwere, 2010). Many women, in particular, face these issues with obstetric care (Richard et al., 2010). Many women often deliver at home because of expenses or under equipped medical centers in poor areas (Richard et al., 2010). Here are examples of structural barriers within the system and the extent to which healthcare services are inequitable. Cesarean deliveries are often expensive and do not occur very often among the poor because of the financial and structural barriers (Richard et al., 2010). Out-of-pocket expenses also rise when the mother or child experience complications during childbirth (Richard et al., 2010). The World Health Organization found that maternal healthcare ranged from one to five percent of the total annual household costs (Richard et al., 2010). Moreover, if the mother or child suffered any complications, maternal healthcare could rise between five and thirty-four percent (Richard et al., 2010).

Some countries have been trying to work towards helping poor pregnant women to ensure equitable access to healthcare (Richard et al., 2010). For example, Cambodia offers a health equity fund and voucher system (Richard et al., 2010). Through these services, local health workers made home visits (Richard et al., 2010). Even though this helped a lot, there were still some limitations because it was reported that only 61% of the home visits were made (Richard et al., 2010). It was reported that the costs for maternal services were much higher in urban areas (Richard et al., 2010). Based on several studies and research, equitable access is still
HEALTH DISPARITIES AND ACCESS

a problem between the rich and poor and between urban and rural areas (Richard et al., 2010). The American healthcare system could address inequities and systemic barriers by applying such an approach adjusting for cultural differences in the U.S.

Overall, several conclusions have been drawn to help reduce financial barriers to medical services. A few key takeaways for reducing financial barriers to obstetric care include: 1) Address financial barriers directly with healthcare programs, 2) Costs for services should be estimated realistically, and 3) Clear communication among patients and healthcare facilities is crucial (Richard et al., 2010).

**Financial access to hearing aids for children.**

In the United States, approximately three out of 1000 newborns have a hearing loss and twice the amount of school-aged children acquire a permanent hearing loss (Limb, McManus, Fox, White, & Forsman, 2010). It is crucial for hearing losses in children to be treated correctly and early on in a child’s development because children with hearing loss are more likely to have delays in language, social-emotional and cognitive development without access to early intervention, language and appropriate access to hearing technology (Limb et al., 2010).

Research has shown that about 64% of infants before six months in age were enrolled in early intervention due to a permanent hearing loss (Limb et al., 2010). Moreover, more than 50% of all infants and young children are enrolled in CHIP and Medicaid in America (Limb et al., 2010). There are several stressors that come with needing hearing aids for infants and young children. For starters, Medicaid fees for digital hearing aids that are reimbursed cover only 38% of the
costs that are paid by private insurance (Limb et al., 2010). Reimbursement rates are both low and slow, as many Audiologists report both delays in reimbursement and time-consuming paperwork that is required (Limb et al., 2010). Because so many children are covered under Medicaid or CHIP for hearing aids, they often do not get the hearing aid that is most appropriate for their condition (Limb et al., 2010).

Looking into private health insurance, a total of about 40% of infants and young children from diverse racial, ethnic, SES, and cultural backgrounds are self-insured in America (Limb et al., 2010). This data is not specific to racial, ethnic, or low SES families. Unfortunately, private insurance does not typically cover hearing aids for children which is $3,000 per hearing aid (Limb et al., 2010). Many insurance companies do not understand the importance of hearing aids for children and the consequences that come with language and cognitive development due to hearing loss (Limb et al., 2010). These financial barriers should not prevent infants and young children from receiving the care they need. Some solutions to help children and their families with the costs for hearing aids include Part C early-intervention programs—which provides early intervention services for infants and toddlers with disabilities—Medicaid, and CHIP (Limb et al., 2010). Each of these solutions have both pros and cons.

Pros of Part C early-intervention programs include: having access to appropriate hearing aids, having reduced costs for special education services, providing timely and efficient delivery of hearing aids, providing services even if families cannot make a payment immediately, and having the option to use Part C with private or public insurance (Limb et al., 2010). That being
said, there are cons to using Part C early-intervention programs because they require additional funding and are not always united with the medical service system (Limb et al., 2010). Pros to having Medicaid or CHIP include: benefiting under these programs if a child has a permanent hearing loss and having hearing aid coverage mandated under Medicaid services (Limb et al., 2010). Cons include: slow implementation by various states, various definitions and payment rates based on the state, and limited coverage of hearing aids through CHIP depending on the state (Limb et al., 2010).

Hearing aids are crucial for all areas of children’s development and their access to education and healthcare systems. The financial arrangements that are currently in place are not adequate for infants and children (Limb et al., 2010). More services need to provide equitable access to hearing aids for children. This may end up yielding cost savings because it is likely that some of that money will be taken away from providing special education services (Limb et al., 2010). Thus, changes must be made to the current programs so that access barriers can be reduced. One example of this could be to provide additional funding under Part C early-intervention programs (Limb et al., 2010).

**Should Universal Health Insurance Exist?**

In 1995, Taiwan implemented a universal health insurance company that is government funded. This program helped to cover comprehensive services (Lu & Hsiao, 2003). Many questions arose because of this program, one regarding whether this program resulted in “unaffordable” levels of health spending (Lu & Hsiao, 2003). Taiwan’s National Health
Insurance (NHI) was developed to provide equitable financial access and provide protection for large medical expenses (Lu & Hsiao, 2003). The services that come free with the NHI include annual check-ups, child care, and maternal care (Lu & Hsiao, 2003). Regular office visits are US $5 (Lu & Hsiao, 2003). Some positive outcomes to this insurance program include: 1) equal financial access to services, 2) freely choosing a provider and hospital, and 3) coverage that includes dental care, laboratory services, home nurse visits, and many more. Even though Taiwan’s NHI provides more equitable financial access, there are still barriers if services are not physically available and within reach of where people live (Lu & Hsiao, 2003). Research shows that 59% of residents from the mountainous regions of Taiwan had to travel for more than 30 minutes to get to their primary doctor (Lu & Hsiao, 2003). Overall, this example illustrates that something very well intentioned to improve equitability in terms of access may have unintended, negative, consequences. This may be dependent on certain factors, such as how the system is implemented and whether access is addressed from multiple levels.

There are pros and cons to implementing universal health insurance. Increases in health expenditures can occur due to: 1) increasing the number of people receiving health insurance and 2) offering free materials and free check-ups (Lu & Hsiao, 2003). However, a program like the NHI can help to reduce health expenditures with: 1) the implementation of cost-sharing provisions and 2) using a single-payer system that would make health spending work more effectively (Lu & Hsiao, 2003). Overall, the universal health insurance company has made strides to help low-income families and provide more equitable access to healthcare. Every
system has its pros and cons, but this is an example of what changes can be made so that more Americans will be able to receive healthcare for a lower cost.

Overall, issues with access to healthcare are so complex that there is not one solution to the problem, such as universal healthcare, that can solve the problem or provide access at all levels to everyone. In order to address the problem and for a solution to be put into place, the solution must be nuanced and multi-leveled. For example, the five dimension approach can be very helpful for understanding all of the elements that are involved in creating some solutions to our very complex healthcare system and creating a comprehensive and equitable system.
Conclusion

This literature and policy review has focused on the importance of, and the right to, equitable access to education and healthcare for low SES children in America. The main aim of this review was to address access and opportunities to services, as well as better health and educational outcomes through a two dimensional approach. One dimension was educational systems and the other was healthcare systems; together, they address multiple aspects of access and equitability. In part 1, I discussed at-risk groups in America including Latino children, refugees, and children with speech, language, and hearing impairments. It is important to understand where health disparities are present in the United States and how children and families are affected by them. Many low SES families have limited access to quality education and healthcare due to the financial and physical barriers. Part 2 begins by discussing the American healthcare system, the programs that are currently offered for low-income and economically disadvantaged children. Medicaid and CHIP are very important programs for children with limited access to quality health and for children with disabilities. Part 2, then, delves into the several intervention programs and strategies to help low SES families by discussing WOW, LENA, and shared book reading programs. Susan Neuman has played an influential role in creating programs for low-income children and families and making education more accessible for children living in book deserts. She is also the founder of the WOW curriculum, which has proven to be very beneficial for pre-kindergarten children by creating a curriculum that focuses on different taxonomic categories. Unfortunately, these programs are not enough to provide equitable access to education and healthcare. Part 3 has a strong focus on how to address this problem and how not one solution can solve this problem. In it, I discuss the many
barriers to equitable access to healthcare and how the five dimension model is a very important model to use for implementing solutions to the problem due to its multifaceted approach. It argues that Americans should focus on issues, such as approachability, acceptability, availability and accommodation, affordability, and appropriateness. These are very important factors to consider because barriers to healthcare are present when costs are too high for families to afford and when transportation is limited to arrive at health services. Overall, America has a lot of work to do in order to create effective solutions for all children to receive equitable access to healthcare and education which could include applying models such as the five dimension model to both the healthcare and educational systems comprehensively. In addition, policy makers and educators must work together to create safe, effective, and equitable access to education and healthcare.
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