ADDRESSING HEALTHCARE ACCESS NEEDS FOR CHILDREN ENROLLED IN MEDI-CAL

A Thesis

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by

Sergio Aguilar

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Sergio Aguilar

Approved by:

_____, Committee Chair
Su Jin Jez, Ph.D.

_____, Second Reader
Mary Kirlin, D.P.A.

_____
Date

Student: Sergio Aguilar

I certify that this student has met the requirements for format contained in the University format manual, and that this thesis is suitable for shelving in the Library and credit is to be awarded for the thesis.

_____, Department Chair _____
Robert W. Wassmer, Ph.D. Date

Department of Public Policy and Administration

Abstract

of

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Access to healthcare is critical for children's development. In the United States, children with access to healthcare are more likely to have better health outcomes, live healthier lives, and do better in school. Although many children now have access to healthcare insurance, this has not always lead to these children having access to healthcare. Although state and federal healthcare reforms are addressing issues of providing children access to health insurance, many children will continue facing severe issues with acquiring access to healthcare, especially those enrolled in Medi-Cal.

In this thesis, I analyze possible solutions for addressing healthcare access needs for California's children enrolled in Medi-Cal. I first review articles and published studies to develop a list of possible factors that are correlated with children being more likely to lack access to healthcare that include specific: Healthcare insurance factors; child demographic factors; and family/parental factors. Further, I review articles and published studies to develop a list of possible alternatives to addressing children's healthcare access needs including specific: Healthcare infrastructure alternatives, healthcare delivery model transformation alternatives, and finance alternatives.

To analyze my research question: "what policies should California implement to address the healthcare access needs of the state's child population in the Medi-Cal system?", I employ a criteria alternatives matrix (CAM) analysis model to examine which of the potential alternatives can address the factors that are correlated with children being more likely to lack access to healthcare. I further use the knowledge from the review of articles, published studies, and independent analysis to develop specific recommendations on policies the state can develop to implement the alternatives.

Based on my analysis I found that there are various actions policymakers can take to ensure children enrolled in Medi-Cal throughout the state receive adequate access to healthcare. Two alternatives: expanding the use of community-based collaboratives, and expanding the use of school-based health centers are highly recommended as they would address the most barriers to children's healthcare access. The other eight alternatives each address different barriers to children's healthcare access that could benefit children in specific regions and/or populations if implemented. Ultimately policymakers should look at all options outlined and implement what is most appropriate at the state and local levels, considering that inaction is not an acceptable option as the health of our children depends on it.

_____, Committee Chair
Su Jin Jez, Ph.D.

_____
Date

DEDICATION

I would first like to thank my mother and stepfather Maria Gonzalez and Arnulfo Gonzalez for their unconditional love, support, and encouragement throughout my time in graduate school and during the completion of my thesis. I would also like to thank my siblings Alejandro Aguilar, David Angel, Anais Angel, and Eric Angel for always supporting me, bringing me joy and for being part of my motivation to complete this thesis and earning a master degree. Without my family's support, the completion of this thesis and degree would not have been possible.

I would also like to thank the entire Public Policy and Administration community at Sacramento State University including fellow graduate students and professors. My fellow graduate students made the program a wonderful experience and all my professors prepared me for the development of my thesis and provided me invaluable knowledge and tools to be prepared to work in the real world. I would like to give a special thanks to professors Su Jin Jez and Mary Kirlin for being my thesis advisors and helping guide me through the development of my thesis.

Lastly, I would like to dedicate this thesis to all the children in California who lack access to healthcare. I complete this thesis with the hope that California policymakers evaluate and implement recommendations set forward in this thesis in order to ensure all our children have adequate access to healthcare.

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INTRODUCTION

Access to healthcare is critical for children's development. In the United States, children with access to healthcare are more likely to have better health outcomes and live healthier lives. Children who lack healthcare have lower immunization rates and are 70 percent less likely to obtain care for common conditions. When hospitalized, these children are at greater risk of dying compared to children with healthcare (Bernstein et al. 2010). A child's cognitive, physical, behavioral and emotional development can also be negatively affected if health problems are not identified and treated properly (Hughes 2013). A study of California's Healthy Start Initiative demonstrated that children with healthcare insurance had higher rates of school attendance and a 69 percent demonstrated improved school performance (Campaign for Children's Healthcare 2006). It has also been shown that children with access to healthcare do better in school (Campaign for Children's Healthcare 2006). Although many children now have access to healthcare insurance, this has not always lead to these children having access to healthcare. For these reasons, there have been many attempts at both state and federal levels to address issues surrounding children's access to healthcare, especially children from low-income families, who are most likely to lack access to healthcare. The passage of the federal Affordable Care Act (ACA), and enactment of various state healthcare reforms, increased awareness of children's lack of healthcare access, which led to increased actions to improve children's access to healthcare. Although state and federal policies have

attempted to address children's healthcare access issues, children still face barriers to accessing healthcare and more action is needed to address these barriers.

In this thesis, I analyze possible solutions for addressing healthcare access needs for California's children enrolled in Medi-Cal. First, I explore research on the current state of children's healthcare access in California. Additionally, through a review of published studies, I identify the factors that correlate with children being more likely to lack access to healthcare with a focus on children enrolled in government programs. Furthermore, through a review of articles and published studies, I explore the potential alternatives to addressing children's healthcare access needs with a focus on children enrolled in Medi-Cal. Finally, I use a criteria alternatives matrix to compare solutions to addressing healthcare access needs of children enrolled in Medi-Cal. Based on my findings, I develop a set of recommendations for California policy makers to consider when developing policies to provide access to healthcare for Medi-Cal enrolled children.

Children's Healthcare Access in California

California is among this country's nine states with the highest percent of medically uninsured children, with approximately 11 percent of its children being medically uninsured. Nevada is the state with the highest percent of medically uninsured children at 19 percent, while Hawaii has the lowest at three percent (State Health Facts: Health Insurance Coverage of Children 2013). Currently, 1.1 million of the 9.2 million children in California lack healthcare insurance (California Healthcare Foundation 2012). The implementation of state and federal healthcare reforms will insure about 1 million currently uninsured children in California by 2014, leaving approximately 100,000

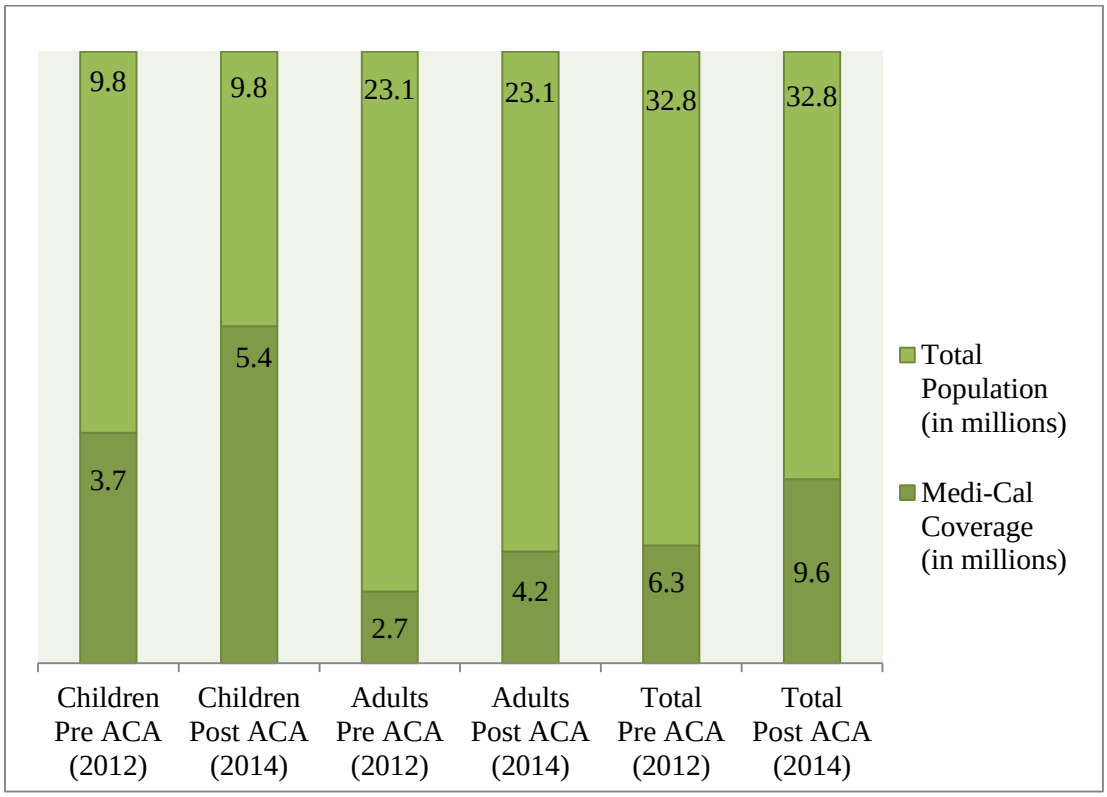
children uninsured, primarily due to immigration status. Approximately 867,000 of the currently uninsured children will gain health insurance through Medi-Cal (California Healthcare Foundation 2012). Additionally, in 2013 California is eliminating the Healthy Families health insurance program and transitioning the 860,000 children currently enrolled in Healthy Families into Medi-Cal (Yamamura 2012). These changes will bring the total number of children enrolled in Medi-Cal from the current 3.7 million to 5.4 million, or approximately 51 percent of the state's children by 2014.

Although state and federal healthcare reforms are addressing issues of providing children access to health insurance, many children will face severe issues with acquiring access to care, especially those enrolled in Medi-Cal. Access to health insurance means that an individual is covered under a health insurance plan, either private and/or public. Access to healthcare means that an individual is able to obtain adequate and appropriate healthcare services from a healthcare provider within a reasonable time period, and at a reasonable distance from their residence. Researchers have found that having access to health insurance does not always translate into having access to healthcare, and many children across California, particularly those enrolled in Medi-Cal, currently face this problem; they have access to health insurance but not access to healthcare. There are many factors that can impact a child's access to healthcare including: access to health insurance, type of health insurance, age, race, family coverage and access, family income, parents' education level, parents' knowledge of and experience with healthcare systems, time constraints, transportation, and geographic region of residence. A survey of California Medi-Cal recipients conducted in 2012 found that 15 percent of children

currently enrolled in Medi-Cal were having problems accessing primary care, 25 percent of enrolled children have problems accessing specialty care, and 21 percent had difficulty accessing dental care (Medi-Cal at a Crossroads 2012).

Additionally, federal and state healthcare reforms will also lead to an increase in adult enrollment in Medi-Cal, further exacerbating children's problems with access to care. The increased adult Medi-Cal enrollment, coupled with increased Medi-Cal enrollment of children, will further strain access to care in the already strained Medi-Cal system. The increased number of enrollees will exacerbate a system that lacks the infrastructure and capacity to provide care to all in need. Currently 2.7 million California adults are enrolled in Medi-Cal. With the implementation of the Medi-Cal expansion, which increases Medi-Cal eligibility levels, adult Medi-Cal enrollment is projected to increase by 1.5 million, bringing the total number of Medi-Cal enrolled adults to 4.2 million (O'Neil 2013). California adults currently enrolled in Medi-Cal already suffer severe problems accessing healthcare as indicated in a survey of Medi-Cal recipients, which found that 26 percent of adults have problems accessing primary care, and 42 percent of adults have problems accessing specialty care (Medi-Cal at a Crossroads 2012).

Figure 1.1 - *Medi-Cal Coverage Pre ACA (2012) vs. Post ACA (2014)*



With increased Medi-Cal eligibility, and enrollment of both children and adults, California will face severe issues with providing access to healthcare to all children enrolled in Medi-Cal. Various factors have been identified as becoming barriers to children receiving access to healthcare. The following chapter includes a review of the literature identifying factors that are correlated with children being more likely to lack access to healthcare with a focus on children enrolled in government health insurance programs.

Chapter 2

LITERATURE REVIEW ON FACTORS THAT AFFECT CHILDREN'S ACCESS TO HEALTHCARE

Researchers have identified many factors that are correlated with children being more likely to lack access to healthcare. These factors include: Healthcare insurance factors (lack of healthcare insurance and enrollment in public healthcare insurance programs); child demographic factors (having special healthcare needs, being an older-aged child, being of a minority race, and residing in a geographic region with healthcare provider shortages); and family/parental factors (being part of a low-income household, lack of family healthcare insurance coverage and access, parents with low-level education, lack of parental knowledge of and negative experience with the healthcare system and resources, parents with time constraints, and families with limited transportation). This section provides an overview of published studies analyzing the relationship between these different factors and a child's access to healthcare. Additionally, this section includes an analysis of how these factors can potentially affect children's healthcare access in California.

Healthcare Insurance Factors

Children Without Healthcare Insurance are More Likely to Lack Access to Healthcare

Many studies have identified health insurance coverage as one of the leading factors influencing a child's access to healthcare (Ahmed et al. 2001; Margolis et al. 2004; Ames 2007; Angulo et al. 2006; Kenney 2007; Crocker et al. 2010). Cohen et al. (1998) analyzed data from the Medical Expenditures Panel Survey and found a

correlation between uninsured children being three times more likely than insured children to lack access to care. Halfon et al. (2002) analyzed data from the National Health Interview Survey and found that when controlling for age, sex, living arrangements, geographic region, population density of residence, and perceived health status, uninsured children under three years old were 12 times more likely to lack access to care when compared with insured children. Similarly, Crocker et al. (2010) analyzed data from the 2005 Children Access to Health Care Study and found that while controlling for age, race/ethnicity, household income, parental employment, parental insurance type, source of care, health status, geographic residence, and family composition, uninsured children were more than twice as likely to lack access to care compared to children with public health insurance.

Various studies have analyzed the impact of the State Children's Health Insurance Program (SCHIP) on children's access to healthcare. SCHIP is a government health insurance program implemented in 1997 that aimed to increase healthcare coverage for children of low-income families. Kenney (2007) surveyed 16,700 families of SCHIP enrollees across ten states and examined the effect enrollment in SCHIP had on access to care for children who otherwise would have been uninsured. While controlling for children's demographics, health status, household size and income, educational attainment and work status of parents, parents' attitude toward medical care, and county of residence, Kenney found that overall, enrollment in SCHIP increased children's access to healthcare. Kenney also examined the effect previous health insurance enrollment had on newly enrolled children's access to care and concluded that prior enrollment in health

insurance was a leading factor as it provided parents with more confidence to access the healthcare system. Similarly, Dick et al. (2004) conducted a study of the New York SCHIP implementation and concluded that while controlling for demographic characteristics, health characteristics, health insurance status and health insurance type, the proportion of children with increased access to care improved from 86 percent to 97 percent due to access to health insurance through SCHIP.

Although access to health insurance has been identified as a major barrier to healthcare access, it will no longer have a detrimental impact on California's children. Due to the implementation of federal and state healthcare reforms, approximately 98 percent of children in California will be eligible for health insurance by 2014 leaving approximately 100,000 ineligible children, mainly due to immigration status (California Healthcare Foundation 2012). Although 98 percent of children in California will be eligible for health insurance through different programs, there is still a need for community outreach to ensure they enroll in these health insurance programs since many families, though eligible, do not always apply.

Children with Public Healthcare Insurance are More Likely to Lack Access to Healthcare

Several studies have analyzed the effect different types of health insurance plans have on children's access to care and found correlations between children with public healthcare insurance plans being more likely to lack access to healthcare compared to children with private healthcare insurance plans (Ames 2007; Kenney, 2007; Crocker et al. 2010). Kenney (2007) surveyed SCHIP enrollees and found that while controlling for

children's demographics, health status, household size and income, educational attainment, work status of parents, parents' attitudes toward medical care, and county of residence, children with private coverage were more likely than those with SCHIP to receive primary care services. Similarly, Crocker et al. (2010) analyzed data from the 2005 Children Access to Health Care Study and found that while adjusting for age, race/ethnicity, household income, parental employment, parental insurance type, source of care, health status, geographic residence, and family composition, children with public health insurance coverage were three times more likely to have unmet healthcare needs.

There have been various qualitative studies analyzing the effect that type of health insurance may have on children's access to care. Ames (2007) analyzed barriers to healthcare access via interviews with healthcare practitioners, which indicated that public healthcare insurance plans are more likely to restrict access to care partly due to public health insurance plans providing lower reimbursement rates to providers for care rendered. Thus, it discourages many providers from accepting patients with public insurance. A low number of providers accepting patients with public health insurance eventually leads to less care for those individuals on public health insurance plans as there are not enough providers to care for all of the population with public healthcare insurance. Similarly, Choe et al. (2004) surveyed healthcare providers and found a correlation indicating that low monetary reimbursement and high paperwork/administrative burden for providers treating patients with public insurance is a disincentive for providers to accept patients with public health insurance. Therefore,

healthcare access for patients with public insurance decreases as many providers do not accept patients with such insurance.

Barriers to healthcare access for children due to health insurance type will remain a major issue in California. By 2014, approximately 51 percent of all children in California will be eligible for enrollment in Medi-Cal, a public health insurance program (California Health Care Foundation 2012; Yamamura 2012). The increase in children enrolled in Medi-Cal will further strain the already strained public health insurance system as there will be more children in need of healthcare services and an inadequate number of healthcare providers to offer those services. Furthermore, California is implementing cuts to the reimbursements providers receive for treating children under Medi-Cal, which will further reduce the already low reimbursement rates (California Healthline 2013). These additional cuts to reimbursement rates will likely result in even fewer providers accepting Medi-Cal insured children. This will only exacerbate the healthcare access problems for children with Medi-Cal.

Child Demographic Factors

Children with Special Healthcare Needs are More Likely to Lack Access to Healthcare

A child's health condition has also been identified as a barrier to healthcare access. Specifically, research has shown that children with specialty healthcare needs receive less access to care than children with primary care needs (Kane et al. 2005; Gopal et al. 2009). Kane et al. (2005) conducted a survey of children with special care needs in Mississippi and found that while controlling for age, sex, race, residence, mothers' education level, income, insurance coverage, and health status, 6.5 percent of children

with special health care needs did not receive routine care, and 9.3 percent did not receive specialty care. Kane et al. (2005) mentioned that some of the prominent reasons for this were increased costs for specialty care, and providers not having the proper skills to treat children with special healthcare needs. Igdaloff et al., (2005) examined data from the National Survey of Children with Special Health Care Needs to identify healthcare access for children with special health care needs in California and found that while controlling for healthcare enabling factors, insurance coverage, and family enabling factors, 23 percent of parents reported unmet health care needs. One of the major reasons identified in the study was the unavailability of specialists to treat special care needs children.

Health condition will continue to be a barrier for children's healthcare access in California. California is a diverse state with different healthcare needs in different regions. Approximately one in every seven children in California has a special healthcare need and 52 percent of those children are of diverse populations (Child and Adolescent Health Measurement Initiative 2010). California has shortages of many healthcare providers including specialty care providers (Center for Workforce Studies 2012). Healthcare provider shortages are more prevalent in California's rural areas where there may be children with special care needs (Center for Workforce Studies 2012). As of 2010, California ranked 49th in access to community-based healthcare services for children with special healthcare needs (Child and Adolescent Health Measurement Initiative 2010). As more children enroll into Medi-Cal, the already strained system will worsen and children with special healthcare needs are likely to face greater problems accessing healthcare.

Older-Age Children are More Likely to Lack Access to Healthcare

Researchers have found that a child's age is also a factor in obtaining access to healthcare. It is particularly difficult for older-age children. Cohen et al. (1998) analyzed results from the Medical Expenditure Panel Survey and found that, compared to children over age six, children under six years of age are 5.5 percent more likely to access healthcare. The study also found that when compared to children 12 and under, teenagers are 14.5 percent more likely to lack access to healthcare. Similarly, Burns and Leininger (2012) found that teenagers are 5.6 percent less likely to have adequate healthcare compared to younger children. Various factors have been identified as to why a child's age affects healthcare access including: differing structural and compositional characteristics of households with older children, parents' perception of child's healthcare needs, healthcare navigation skills, and parents' employment, time and economic characteristics (Burns and Leininger 2012).

In California, more than 50 percent of the child population is over age 12 with a steady decline in new births (Kidsdata.org demographics; Department of Finance State Birth Projections 2012). This shows that a large segment of California's child population will be of an age where there tends to be less access to healthcare. California must continue looking at methods to address the barriers that may cause older children to have less healthcare access.

Children of Minority Races are More Likely to Lack Access to Healthcare

Race has also been identified as a factor influencing a child's access to healthcare. Many studies have indicated that children of minority races face more problems obtaining

access to healthcare (Margolis et al. 2004; Ames 2007). Halfon et al. (2002) conducted a cross-sectional analysis study using data from the National Survey of Children's Health and concluded that when controlling for age, sex, living arrangements, region, population density of residence, and perceived health status, children under age three, from a minority group, were three times more likely to have problems with access to healthcare.

Cohen et al., (1998) analyzed results from the Medical Expenditure Panel Survey and found that 17.2 percent of Hispanic children were more likely to lack access to care followed by African American children who reported 12.6 percent lack of access to healthcare. Berman et al. (2001) also found that Latinos face greater issues accessing care compared to other racial groups. Dijulio et al. (2009) found a correlation indicating that among children with Medicaid and private insurance, Latino and African American children were twice as likely to lack access to care compared to Caucasian children. In a deeper analysis, Damiano (2012) found that less accultured Latinos had the highest proportion of lack of access compared to other minority groups. One reason race matters is due to the many language and cultural differences between the races. Many healthcare providers are not culturally and linguistically trained to provide care to minority populations, and therefore minority populations have less access to healthcare. Additionally, due to cultural differences, minority populations may not feel comfortable in certain healthcare settings and forgo care in those settings (Cooper et al. 2002; Pumariego et al. 2005).

Race is very likely to play a role in children's access to healthcare in California. Minorities make up over 65 percent of California's population of children, with Latino

children representing 51 percent of the child population and more than half of all newborns in California are of minority race (kidsdata.org- Demographics 2012; Trounson 2012). One crucial factor in California is the misalignment between the racial and ethnic make-up of the child population compared to that of the healthcare workforce. For example, while 51 percent of California's child population is Latino, only 6 percent of California's physicians are Latino (California Health Care Almanac 2010). In addition to not having enough healthcare providers of diverse populations in California, there are many issues with the current healthcare workforce not being culturally and linguistically competent to provide healthcare to the state's population. For these reasons, a majority of California's minority children may still face healthcare access issues, especially children of Latino race.

Children Residing in Locations with Healthcare Provider Shortages are More Likely to Lack Access to Healthcare

Many studies also indicate that location of residence is correlated with determining access to healthcare. Specifically, children who reside in locations with healthcare provider shortages are more likely to lack access to healthcare (Cohen, 1998; Margolis et al. 2004; Angulo 2006; Gopal et al. 2009; Halfon and Larson 2009; Carlson 2011). Many communities do not have an adequate supply of healthcare providers, particularly specialty healthcare providers. The population in those communities that are in need of care must either wait a long time to be able to see a healthcare practitioner or travel long distances to access healthcare, especially specialty healthcare (Cabassa et al. 2010).

California is the most geographically diverse state in the nation and will likely continue to face barriers to healthcare in regions that have greater shortages of healthcare facilities and providers. California faces severe healthcare workforce shortages throughout the state. Currently, 42 of California's 58 counties have less than the federally recommended supply of primary care physicians (Mishak 2013). As more children enter the Medi-Cal system, the regions of the state that are most underserved are likely to face even greater issues providing access to care for their child population; as more individuals seek care, there will not be enough healthcare providers to offer that care. One factor that may worsen the healthcare workforce shortages are California's low provider reimbursement rates. California is lowering reimbursement rates for Medi-Cal providers, which many say will force many providers to stop accepting Medi-Cal enrollees as it is not cost-effective, thus exacerbating the current healthcare access issues many children face (Pettersson 2012). This will likely have a greater impact on the geographic regions throughout California that already lack an adequate supply of providers. Many of the current providers accepting Medi-Cal may stop accepting Medi-Cal patients, further reducing the number of available providers offering care to Medi-Cal enrolled children.

Family/Parental Factors

Children of Low-Income Families are More Likely to Lack Access to Healthcare

Family income has also been identified as a barrier to children receiving access to healthcare with a correlation indicating that children of low-income families are less likely to have access to healthcare (Halfon and Larson 2009; Damiano et al. 2012).

Halfon and Larson (2009) conducted a cross-sectional analysis using data from the National Survey of Children's Health. They concluded that while controlling for maternal race/ethnicity, age, gender, family structure, number of children in household, health status, and health insurance status, children from low-income families were three times more likely to have problems accessing healthcare compared to children from higher income families. Regardless of insurance status, children of low-income families are less likely to have continuity of care with a clinician and more likely to have problems with access to care (Margolis et al. 2004). Similarly, many studies have identified co-payments as barriers to healthcare access, particularly for low-income families. Many low-income families do not go to a healthcare provider if they are unable to afford co-payments for healthcare visits. A survey of families conducted by Ahmed (2001) found that due to a lack of resources, many families with multiple children have more difficulty obtaining the childcare needed in order to take their children to see a healthcare provider.

Family income will likely continue to become a barrier to children's healthcare access in California. Approximately 51 percent of California's child population will be enrolled in Medi-Cal by 2014 and children enrolled in Medi-Cal are more likely to be part of a low-income family (California Health Care Foundation 2012; Yamamura 2012). Since children in low-income families have lower probabilities of receiving access to healthcare, California children will likely continue to face this problem in future years. Although many preventive care services will now be offered with no co-payments due to the implementation of the ACA, some preventive care and many specialty care services

will still require co-payments, which will affect healthcare access for low-income populations (HealthCare.Gov: Preventive Care 2012).

Children with Families That Lack Healthcare Insurance Coverage and Access are More Likely to Lack Access to Healthcare

The level of healthcare coverage and access received by a child's family is also a factor in the level of a child's access to healthcare. Several studies found that insured children whose family members lacked insurance had a higher probability of facing problems with access to healthcare compared to children whose families are insured (Guendelman and Pearl 2004; Angier et al. 2011). Guendelman and Pearl (2004) examined the effect family health coverage had on children's access to healthcare using data from the National Health Interview Survey. They found that while controlling for sex, age, ethnicity, health status, disability, family structure, family size, and education, when comparing children whose families had coverage and children whose families did not have health coverage, the children whose families had no health coverage were twice as likely to report unmet healthcare needs. Guendelman and Pearl (2004) concluded that expanding coverage to the entire family increases children's access to care. Angulo et al. (2006) developed a cross-sectional study of 5,521 health insurance eligible children using the California Health Insurance Survey and found a correlation indicating that, compared to children whose families had healthcare coverage, children whose families lack health coverage had over six times the odds of lacking access to care. Similarly, Angier et al. (2011) analyzed cross-sectional data from the 2002-2007 Medical Expenditure Panel Survey and found a correlation indicating that children of parents with no usual source of

care were twice as likely to report unmet medical needs compared to children whose parents had a usual source of care.

Family healthcare coverage will likely continue to be a barrier to children's access to healthcare. All Californians will soon be required to obtain healthcare insurance with the implementation of federal and state healthcare reforms. There will be various options available including public insurance through the Medi-Cal expansion, employer-based health insurance, and subsidized health plans through California Covered, the state health benefits exchange. However, there will likely be many families that do not gain healthcare coverage and access due to costs, lack of awareness about new programs, and challenges with enrollment (Dietz et al. 2012). Additionally, as many more family members seek public insurance coverage, they may experience inadequate healthcare access due to the system's current constraints. Even though the family members will gain health coverage, they may still face problems with healthcare access and this in turn will likely continue to affect their children's access to healthcare.

Children of Parents with Lower Education Levels are More Likely to Lack Access to Healthcare

Parent education level has also been identified as a factor correlated with a child's access to healthcare (Cohen et al. 1998; Berman et al. 2001; Igdaloff et al. 2005; Ames 2007; Cabassa et al. 2010). Ames (2007) conducted focus groups with healthcare practitioners who identified parents' lack of education and language skills as a major barrier to children's access to healthcare. The healthcare practitioners indicated that parents may be unaware of resources available in the community and lack the appropriate

skills to adequately communicate with the healthcare practitioners and administrators to access available resources.

Cohen et al. (1998) analyzed results from the Medical Expenditure Panel Survey and found that children whose parents had less than a high school education were 16 percent more likely to lack access to care. Angulo (2006) conducted a cross-sectional study of children eligible for public health insurance and similarly found that the lack of parents' education leads to patient and provider communication issues that affect a child's access to healthcare. Kenney (2007) analyzed a survey of SCHIP enrollees and also found that parents' lack of education can lead to decreased access to healthcare for children, particularly those who have parents that have not completed high school.

California is one of the most diverse states in the nation with residents of varying demographics and levels of education. There are regions that have more residents with lower levels of education than others. In California, children enrolled in Medi-Cal are more likely to have parents with lower levels of education compared to parents of children with private insurance (Broaddus and Ku 2008). Therefore, parents' education level will continue being a barrier to children's access to healthcare, especially for children enrolled in Medi-Cal.

Children of Families that Lack Knowledge of and have Negative Experience with the Healthcare System are More Likely to Lack Access to Healthcare

Researchers have also identified a correlation between children's access to healthcare and the lack of family knowledge of, and negative experience with, the healthcare system and/or available healthcare resources (Dick et al. 2004; Igdaloff et al.

2005). Ahmed et al. (2001) surveyed urban poor populations in Ohio to identify barriers to healthcare and found a correlation indicating that families with past negative experiences with the healthcare system were less likely to have access to care. Ahmed also found that over 80 percent of respondents said they were unaware of programs available to receive healthcare and they were less likely to have access to healthcare compared to respondents that knew about available programs. Similarly, a study on the implementation of SCHIP in New York concluded that while controlling for demographic characteristics, health characteristics, health insurance status and health insurance type, 25 percent of the children still lacked access to healthcare after enrollment due to families not knowing where to go to access healthcare (Dick et al. 2004).

The lack of parents' knowledge on how to access the healthcare systems and resources available is likely to remain a barrier for children's access to healthcare. California has a very fragmented healthcare system, as different regions have different types of health plans, health facilities, and healthcare partnership structures. This makes it difficult for parents to find a centralized location where they can learn about the different types of providers, facilities, and resources available. Additionally, California is one of the most racially diverse states in the nation with minority races being a majority of the population. Often there are language and cultural barriers that minority races face and are unable to overcome, making it even more difficult for them to obtain information on the healthcare system's structure and the available resources.

Children of Parents with Time Constraints are More Likely to Lack Access to Healthcare

Parents' time constraints have also been identified as a barrier correlated to negatively impacting a child's access to healthcare. Ames (2007) conducted focus groups with healthcare practitioners who identified parents' time constraints as a major factor in children accessing healthcare, as many parents are unable to take time off from work to take children to a healthcare visit. This is a particular problem for working poor families as they have fewer resources to allow them to take time off from work for children's healthcare visits (Ames 2007; Cabassa et al. 2010). Ahmed et al. (2001) surveyed urban poor populations in Ohio and found that 31 percent of respondents identified taking time off work as a major barrier to obtaining healthcare.

Parents' time constraints are a continual barrier for children's access to healthcare in California, especially for children enrolled in Medi-Cal. Children enrolled in Medi-Cal are more likely to be part of a working poor family compared to children enrolled in private health insurance (Broaddus and Ku 2008). Working poor families have fewer resources and many times they work extra hours, making it difficult to take time off from work to take the children for a healthcare visit.

Children of Families with Limited Transportation are More Likely to Lack Access to Healthcare

Transportation has also been identified as a major barrier to children's access to healthcare (Cabassac et al. 2010; Halfon and Larson 2009). Ames (2007) conducted focus groups with healthcare practitioners who identified transportation as one of the major barriers to children having access to care. Many families do not have adequate

transportation to take children to healthcare appointments, especially in regions where there is no efficient or affordable form of public transportation. Ahmed (2001) surveyed urban poor populations in Ohio to identify barriers to healthcare access and found that 31 percent of respondents identified transportation issues as a barrier to accessing healthcare.

Transportation in California will likely continue to be a major barrier to children's access to healthcare, especially for those populations enrolled in Medi-Cal. Children enrolled in Medi-Cal are more likely to be part of low-income families, which are less likely to have transportation or live in a region that lacks good public transportation. Additionally, as there is a shortage of both primary care and specialty care providers accepting Medi-Cal enrolled children, the providers that do accept Medi-Cal children may live further away from the families. The families that do not have the resources to pay for gas and other traveling expenses to take their child to visit the healthcare provider will likely forgo care.

In conclusion, as evidenced by the literature, many factors impact children's access to healthcare. Among the factors identified, those that are likely to continue impacting the Medi-Cal enrolled children include: enrollment in public healthcare insurance programs; having special healthcare needs; being an older-aged child; being of a minority race; residing in a geographic region with healthcare provider shortages; being part of a low-income household; lack of family healthcare insurance coverage and access; having parents with low education levels; lack of parental knowledge of and negative experience with the healthcare system and resources; parents with time constraints and limited transportation.

Chapter 3

LITERATURE REVIEW ON ALTERNATIVES TO ADDRESSING CHILDREN'S HEALTHCARE ACCESS NEEDS

Many articles have identified possible alternatives to addressing children's healthcare access needs including expanding use of: community health centers, school-based health centers, retail clinics, mobile clinics, churches and other community settings, medical homes, technology-based tools, nurse-led practices, expanding community-based collaboratives, and increasing healthcare provider reimbursement. This chapter provides an overview of the literature that identifies ways each of these possible alternatives can address the factors correlated with children being more likely to lack access to healthcare. Additionally, this chapter provides available information on these alternatives in California.

Healthcare Infrastructure

Expanding Use of Community Health Centers

One potential alternative to increasing children's healthcare access is expanding the use of community health centers (also known as federally qualified health centers), which are health facilities that are, in many cases, managed by nurses and not physicians, and primarily provide healthcare to underserved, low-income, and uninsured populations. A review of the literature suggests that community health centers can address many of the identified barriers to children's lack of healthcare access given their focus on serving underserved populations (Hughes et al. 2001; Adashi, Fine, and Geiger. 2010; National Association of Community Health Centers 2008).

Community health centers have historically served low-income, racial and ethnic minorities, and underserved populations (Hughes et al. 2001; Strelnick 2004). Hughes and Newacheck (1996) analyzed data from the 1987 National Medical Expenditure Survey and found a correlation indicating that children with poor families, minority children and uninsured children were seven times more likely than their counterparts to identify community health centers as their source of care. Politzer el al. (2003) similarly analyzed data from 1998. They indicated that health centers across the country served an estimated 9 million people, of which 40 percent were uninsured, 65 percent were of minority groups, 33 percent were Medicaid enrollees, 66 percent were living below the federal poverty level, and 20 percent had income levels between 100 and 200 percent of the federal poverty level.

As of 2009, 6.9 percent of California's population was served by community health centers, of which 35 percent are Medicaid enrollees and seven of ten patients live in poverty (Adashi, Fine, and Geiger, 2010). Reports indicate that in 2011 community health centers treated approximately 20.2 million people, one-third of which were children and two-thirds were racial and ethnic minority populations (Increasing Access to Affordable, Cost Effective, High Quality Care 2012). Although the literature indicates that community health centers reach many low-income underserved populations, a report by the Government Accountability Office in 2009 indicated that 43 percent of medically underserved areas did not have community health centers (Adashi, Fine, and Geiger 2010).

Community health centers have also traditionally treated patients with low English proficiency. A report by the California Primary Care Association indicated that 42 percent of patients served in community health centers throughout California had English as their second language (California Primary Care Association 2012). Similarly, a recent survey of Medi-Cal recipients in CA indicated that both Spanish speaking and English speaking Latinos are more likely to receive their usual care at community clinics and community health centers (Medi-Cal at a Crossroads 2012).

Many published studies also indicated that community health centers often lack comprehensive services, especially in specialty healthcare, and therefore need to refer patients to other facilities and/or providers. Fairbrother, Gusmano, and Park (2002) analyzed care provided by community health centers through a survey of community health center executive and medical directors across ten states and found that only 25 percent of community health centers surveyed provided more than one specialty of care with only 35 percent claiming they had a psychiatrist available. The survey also found that over 50 percent of the patients "frequently" and "very frequently" required diagnostic procedures, specialty services, and behavioral health services that were not provided on site. A similar survey of community health center directors was subsequently conducted and also found that 25 percent of patients visiting community health centers needed medical referrals for services not provided by the centers, with greater problems for patients needing access to specialty mental health and substance abuse services (Cook et al. 2007).

Politzer et al. (2003) completed a survey that analyzed the quality of community health centers compared to private health maintenance organizations. They found that while patients in community health centers reported higher levels of ongoing care, coordination of service, comprehensiveness, and community orientation, the health maintenance organizations reported higher numbers in other aspects such as accessibility and utilization. A recent study comparing quality of patient care in community health centers and private practices found that community health centers provided equal, or in certain cases reported better quality of patient care compared to private practices (Martinez 2012).

The federal government has recently done much to expand community health centers. Through the American Recovery and Reinvestment Act, the federal government provided $2 billion dollars for community health centers. The Affordable Care Act also referenced the essential role community health centers play in expanding access to care. The act provides $11 billion dollars to strengthen and expand community health centers through construction and renovation projects at existing clinics, development of new facilities, and expansion of care provided at existing health centers (The Obama Administration and Community Health Centers 2012). Although the ACA is providing funds to strengthen and expand community health centers, it includes a provision that will affect community health center funding. Through the Disproportionate Share Hospital (DSH) program, many community health centers that provide care to uninsured, underinsured, and Medi-Cal beneficiaries receive extra funding to make up for hospital shortfalls due to providing care to these populations. The ACA includes a provision that

would reduce DSH program funding starting in 2014. This reduction in DSH funding will affect many community health centers throughout California that rely on this funding to operate.

In California there are 1,039 federally funded community health center delivery sites. The populations served by community health centers throughout California are those that would otherwise be most likely to lack access to healthcare including: individuals at or below 100 percent of poverty level (79 percent of the population served by California community health centers); individuals at or below 200 percent of the poverty level (96 percent); uninsured (41 percent); Medicaid enrolled (42 percent); minority race including Hispanic/Latino, African American, Asian/Pacific Islander, Native American/Alaska Native (80 percent); individuals from rural areas (32 percent) (National Association of Community Health Centers: California Health Center Fact Sheet 2011).

Expanding Use of School-Based Health Centers

The expansion of school-based health centers (SBHC), which are healthcare facilities located on K-12 campuses, has been identified by many researchers as a potential alternative to addressing children's healthcare access needs. Specifically, SBHC's have been identified as an alternative that addresses many barriers disadvantaged children face when accessing healthcare (Bee et al. 1980; Dryfoos, 1996; Kisker and Brown, 1996; Cortese et al. 1997; Brindis et al., 2003; and Graham Lear 2007). Ahlstrand et al. (1999) analyzed children's access to care by surveying parents to compare healthcare access for children with and without an SBHC. The survey results

indicated that regardless of insurance coverage, children with an SBHC had less difficulty accessing healthcare, and a greater probability of having at least one healthcare visit since the start of the school year compared to children without an SBHC.

Researchers have analyzed the effect SBHCs have on healthcare access to children of certain demographics. Guo et al. (2008) analyzed SBHC enrollment and medical encounter data from 2000 to 2003 and found correlation indicating that while enrollment in SBHC was greater in urban districts, utilization rates were higher in rural districts. The study also found that disadvantaged children who habitually have less healthcare access, such as African American students, students with public or no health insurance, and students with special healthcare needs such as asthma or attention deficit disorder, had both higher enrollment and utilization rates. SBHCs were also identified as alternatives to improving availability of healthcare access for teens who are less likely to have access to care compared to younger children, as the literature indicated. (Burns and Leininger 2012).

One explanation for these findings is that children from disadvantaged groups are usually part of low-income families whose parents have inflexible schedules and are many times unable to take time off from work and/or live a far distance from healthcare providers, and therefore are unable to take their children for a healthcare visit. SBHCs mitigate these barriers as they are able to provide healthcare access to children in a setting the children are already in at least nine out of twelve months of the year. Another explanation is that the teachers who have access to children and the parents can aid in referring and providing information on the availability of healthcare resources, especially

to students they know are from disadvantaged groups. Thus they can address many of the information and communication barriers these groups often face.

SBHCs were also found to improve the learning environment in schools as many critical services students need, including health services and educational instruction, are centrally located within the confines of the schools. Strolin-Goltzman (2009) conducted a focus group of students, parents, and teachers to analyze four factors that affect learning environments and found a correlation indicating that children enrolled in SBHCs fared better in three of the four learning environment elements including academic expectation, communication, and school engagement compared to children that are not enrolled in a SBHC.

In California there are a total of 200 SBHCs across 27 counties of which 42 percent are in high schools, 32 percent are in elementary schools, 12 percent are in middle schools, and 14 percent are linked to other schools or mobile medical vans (California School Health Centers 2012). Many SBHCs in California serve vulnerable children as approximately 70 percent of students in California SBHCs receive free or reduced meals. Thirty-one counties across California, most of which are rural, do not have SBHCs. Since 2011, California has received more than $30 million to expand SBHCs, and there are currently 40 SBHCs in development (California School Health Centers, Marcel 2012).

Expanding use of Retail Clinics

Retail clinics, also known as convenient care clinics, are an emerging trend that many researchers have identified as a potential alternative in addressing children's

healthcare access needs (Counts et al. 2007; Laws and Scott 2008). Retail clinics are health facilities located in retail settings such as pharmacies, grocery stores, and merchandise stores that are often primarily staffed by nurses not physicians.

Cohen and Tu (2008) analyzed the demographics of retail clinic users and found that minority families with no usual source of medical care, and families with children, were more likely to use retail clinics than their counterparts. Adams et al. (2008) analyzed the demographic characteristics of patients who visit retail clinics and found a correlation indicating that adults age 18-44 were twice as likely to use retail clinics as children under age 18. Pollack and Armstrong (2009) analyzed the geographic accessibility of retail clinics and found that retail clinics were more likely to be located in advantaged neighborhoods and not in areas where there is the greatest need. Meehrotra and Rudavsky (2010) similarly found that the majority of clinics are found in areas that are not considered underserved. Additionally, when analyzing the demographics of the population living close to retail clinics the authors found that families who are insured have higher levels of education, and higher median household incomes.

Takach and Witgert (2009) indicated that healthcare access barriers due to time constraints can be addressed by retail clinics as most are open in the evenings and weekends, and they do not always require appointments. These availability characteristics make it easier for parents to take children to see a provider as it allows the parents time flexibility so they do not always have to take time off from work. Additionally, families go to retail stores to buy groceries and other necessary items fairly often, which facilitates time and transportation issues.

Lave and Mehrotra (2012) found that there has been a rapid growth of retail clinics from 300 in 2007 to almost 1,200 in 2010, which some suggest has led to the 102 percent average annual increase in visits to retail clinics from 2007-2009. As of 2009, there were 84 retail clinics in California (National Conference of State Legislators: Retail Health Clinics 2011). Although there has been an expansion of retail clinics, researchers suggest that there are still many challenges to expanding retail clinics including fragmentation of patient care, reimbursement policies, scope of practice issues, and corporate practice medicine laws (Takach and Witger 2009).

Expanding Use of Mobile Clinics

The expansion of mobile clinics has also been identified by many researchers as a potential alternative to increasing children's access to healthcare. Mobile clinics are health facilities that travel to different locations to provide needed care, mostly in underserved areas. Various researchers have indicated the mobile clinics may be a way to address transportation issues that are often a major barrier to children's access to healthcare, especially in rural areas (Ames 2007; Arcury et al. 2005; Levine et al. 1996).

Amaro et al. (2006) analyzed outcomes of the Children's Hospital of Orange County Breathmobile program, which is an innovative mobile healthcare delivery system with pediatric asthma specialists, and found that mobile asthma clinics could serve as an effective model to reach minority populations at school sites. Program findings indicate a correlation with helping improve minority children's asthma outcomes as more children were taking their asthma medication, emergency room visits decreased and there was a reduction in school absenteeism (Amaro et al. 2006). In Detroit, several organizations

have partnered to launch mobile clinics that provide comprehensive healthcare services to low-income and underserved populations throughout different schools and community settings (New Mobile Medical Clinic for Medically Underserved Children 2010). In California there are at least 112 mobile clinics located in different regions throughout the state providing different types of services including: dental, prevention/screening, primary care, specialty care, mammography, mental health, maternal and infant health, disaster relief and homelessness (Mobile Health Map 2013).

Expanding Use of Churches and Other Community Settings

Although there aren't many published studies on the impact of using churches and other community settings to provide healthcare access, at least four studies indicate that using churches and other community settings to provide healthcare could be a potential alternative to addressing healthcare access needs in underserved and racially/ethnically diverse regions (Atwood, Peterson, and Yates 2002; Castro et al. 1995; Hatch et al. 1986; Jewel and Russell. 1992).

There have been many examples of healthcare organizations partnering with churches to expand healthcare access to the most vulnerable and underserved populations. The National Center for Cultural Competence (2001) identified the use of faith-based organizations as a method to reach racial and ethnic minority populations who may lack access to healthcare as it falls within the religious values and they can provide better access to those populations. Churches are found in most communities and have been found to be highly receptive to the idea of partnering with organizations to provide healthcare services. Most examples of church-based partnerships have been to reach the

African American community (Atwood, Peterson, and Yates 2002). Pumariega, Rogers, and Rothe (2005) analyzed access to mental health specialty services and concluded that mental health specialty services in community settings provide better access for minority and culturally diverse populations as they feel more comfortable and are more likely to access the services. Using churches to provide healthcare access to racially and ethnically diverse populations may incentivize those populations to receive the services as some feel alienated from traditional healthcare sites and may feel more comfortable receiving care in a familiar community setting such as a church or library.

Healthcare Delivery Model Transformation

Expanding Use of Medical Homes

Many researchers indicate that expanding the use of medical homes will improve children's healthcare access (Ames 2007; Angier 2011; Coulam 1999; Jones 2012). A medical home is a healthcare delivery model that incorporates a collaborative team-based healthcare delivery that aims to provide comprehensive and continuous healthcare services. Medical homes also help in coordinating care with specialists when necessary. Ghandour et al. (2011) examined data from the 2007 National Survey of Children's Health to analyze the medical home model's impacts on children's healthcare access and found a correlation indicating that children without a medical home were four times as likely to have unmet healthcare needs when compared to children with a medical home. Gopal et al. (2009) similarly analyzed data from the 2005-2006 National Survey of Children with Special Health care needs, which analyzed medical home access for children with special healthcare needs. They found that while children with medical

homes attain higher levels of access to healthcare and fewer missed school days, there are still significant differences to medical home access when comparing race/ethnicity, income, health insurance status, and severity of child's health condition.

Ghandour (2009) analyzed the effect medical homes had on children's healthcare access focusing on health, demographic, and socioeconomic characteristics and found that children with special healthcare needs are less likely to attain access to a medical home compared to children without special healthcare needs. Additionally, when only looking at children with special healthcare needs, children ages 12 to 17, children that were Hispanic or African American, children of non-English speaking households, children who lived within the poverty threshold, and children with more severe health conditions were less likely to have a medical home than their counterparts. Another study similarly found that younger children, non-Hispanic whites, children in good health conditions, children in families with incomes at 400 percent of federal poverty threshold, were more likely to have medical homes compared to children from low-income families, minority children, and children with special health care needs (Ghandour et al. 2011).

Huan et al. (2004) analyzed medical home access for children with special healthcare needs and while they similarly found a correlation indicating that children with special healthcare needs have less access to medical homes, the impact of having a medical home is greater for children with special healthcare needs. Findings from this report indicated that 23 percent of children with special healthcare needs without a medical home reported having unmet healthcare needs compared to 9.9 percent of children with special healthcare needs with medical homes reported having unmet health

care needs. Additionally, while 7.9 percent of families with children with special healthcare needs without a medical home reported having unmet needs for family support services, only 2.2 percent of families with children with special healthcare needs with a medical home reported unmet needs for family support services (Huan et al. 2004).

A review of the literature on medical homes suggests that while medical homes tend to increase healthcare access for the children that are part of the medical home models, many traditionally underserved children, including racial and ethnic minorities, children of low-income families, and children with special healthcare needs are more likely to lack access to a medical home.

In California, Medi-Cal has been in a process of transitioning all enrollees into managed care plans. Managed care plans have many similarities to medical home model plans as they offer enrollees similar services including: help coordinating care, ongoing referrals to specialists, telephone advice nurses, customer service centers, and support groups (Medical Managed Care Fact Sheet 2013). Medi-Cal beneficiaries in 30 of the 58 counties across California are enrolled in one of three Medi-Cal managed care models. One county is in the process of transitioning to managed care and the remaining 27 counties still serve enrollees through fee-for-service plans that do not provide the additional benefits of managed care plans and do not have the characteristics of medical home modeled plans (Medi-Cal Managed Care Counties Fact Sheet 2011). The 27 counties that do not offer managed care plans are mostly rural counties that contribute to the healthcare access issues Medi-Cal enrollees face in California's rural areas.

Expanding Community-Based Collaboratives

Researchers have identified the use of community-based collaboratives as an alternative to address children's healthcare access needs. Many communities are implementing community-based collaboratives that bring together community health centers, county health departments, rural clinics, SBHC's, private practices, and other entities. Cooper, Hill and Powe (2002) analyzed interventions to eliminate racial and ethnic disparities in healthcare and concluded that engaging in partnerships with community leaders and stakeholders is critical to expanding access to care for racial and ethnic minorities.

Several states have been integrating community health centers into medical home collaboratives (Takach 2009). These types of community-based collaboratives would provide children the benefits of using both models of care. Additionally, community health centers benefit from the collaborative as they could receive enhanced reimbursements for joining medical home collaboratives. Through these collaboratives, community health centers are also able to receive extra infrastructure support through federal funds that aim to enhance patient access to care with electronic health records, patient registry, care coordinators, and practice coaches (Takach 2009).

One community-based collaborative model included a partnership that used public health professionals to provide care coordination and support to complement visits to the provider. A study reviewing the success of this model found that Medicaid-enrolled children taking part in the model saw a 39 percent increase in provider visits in the fourth year of the program (Takach 2009).

As there is a lack of specialty providers, especially in mental health, some collaboratives have included technology such as the Targeted Child Psychiatric Service (TCPS) as a tool to increase access. TCPS offers participating providers telephone consultation during working hours for non-emergency psychiatric evaluation and short term psychosocial and pharmacological treatment for children (Antonelli et al. 2006).

Expanding use of Technology-Based Tools

Many communities are increasing the use of technology-based tools such as telehealth and open-scheduling systems into their healthcare infrastructure with aims to increase access to healthcare, among others (Bovbjerg and Ormond 2011). Many healthcare centers and clinics are implementing telehealth as a way to increase access to underserved populations. Telehealth is the delivery of healthcare services through a variety of telecommunication technologies including videoconferencing, the internet, store-and-forward imaging, streaming media, phone, and other electronic forms of communication. Telehealth has been used to reach populations in rural and geographically underserved areas that do not have a sufficient supply of healthcare providers. As there are shortages of specialty care providers, especially in rural areas, many communities are implementing telehealth to expand care to individuals with specialty care needs (Adams et al. 2000; Bashshur 2002; Brooks et al. 2011). Farmer and Muhlenbruck (2001) indicated that telehealth is a great tool to increase healthcare access for children with special healthcare needs, especially in rural areas.

Although there are few published studies on the effect of teleheatlh on access to care for low-income and minority populations, many experts believe that the expansion

of telehealth and other technology-based tools can help expand access to low-income and minority populations (Beaudoin and Hardy 2009; Hunt 2011; Lim Ko 2012; Equity in the Digital Age 2013). Telehealth has the potential to address language barriers many minority populations face when accessing healthcare. Telehealth is also identified as a tool that can address transportation constraints since individuals do not have to travel far distances to see providers if there are telehealth facilities nearby. There have also been communities in urban and rural areas that integrated telehealth into school-based health centers improving children's access to healthcare in those communities (Ireson and Young 2003).

Some researchers believe that improving primary care scheduling systems is also an alternative to increasing children's access to care. Margolis et al. (2004) indicated that children who face long waiting times for appointments and have lengthy appointment visits face greater barriers to accessing care; transforming scheduling systems is part of the solution to addressing this barrier. There are several elements to transforming scheduling systems, including implementing patient reminder systems that send mail or automated appointment reminders to families, and open-access scheduling which allows patients to receive same day scheduling and eliminate waiting times for patients that are in need of same-day services. Open-access scheduling has been implemented in several communities and found to decrease wait times. The Veterans Administration implemented open-access scheduling and found a 41 day decrease in waiting time (Margolis et al 2004). Other reports have also found open-access scheduling to reduce appointment delays and waiting times in offices, and improve the continuity of care.

Lumberton Children's Clinic in North Carolina implemented open-access scheduling and found a correlation indicating an increase in continuity of care from 45 percent to 85 percent, a reduction in waiting times for preventive care from 3 weeks to same-day, along with a decrease in no shows from 19 percent to 12 percent (Margolis et al 2004).

Expanding use of Nurse-led Medical Practices

Many researchers believe that transforming the current healthcare infrastructure to increase the efficiency of care will increase the amount of care that is able to be delivered and thus increase access to care. One emerging healthcare transformation strategy includes an increase in nurse-led practices, which are medical practices that are managed by an advanced practice nurse such as nurse practitioners, clinical nurse specialists, certified nurse anesthetists, and certified nurse midwives. Historically, physician-led medical practices have been the norm, but many states are looking to address healthcare access issues due to physician shortages through an increase in nurse-led practices (Coddington and Sands 2008).

Many experts believe that increasing nurse-led practices can help address primary healthcare access issues for regions with physician shortages (Hansen, McClellan, and Ware 2010; Rosenberg 2012). Although there have not been many studies on nurse-led practices and access to minority populations, many experts believe that the expansion of nurse-led practices will lead to expanded primary care for poor, underserved, and minority populations (Nursing's Prescription for a Reformed Healthcare System 2009; Kipling 2012). There have been many examples of nurse-led practices partnering with clinics and health centers to provide primary care for children that are predominantly in

underserved and minority communities (National Advisory Council on Nurse Education and Practice 2012). Additionally, nurses are more racially and ethnically diverse than physicians, so they may be able to better address that population's healthcare access needs.

The ACA acknowledged the role of nurse-managed clinics in expanding access to primary care and includes provisions authorizing $50 million for nurse-managed clinics. There are many laws in different states, including regulations on nurses' abilities to practice without supervision, and reimbursement rates that hinder the expansion of nurse-managed clinics (National Advisory Council on Nurse Education and Practice 2012). California has several regulations that hinder expansion of nurse-managed clinics, thus there are few in California.

There are many alternatives that have been identified as possible solutions to addressing children's healthcare access needs including expanding use of: community health centers, medical homes, churches and other community settings, school-based health centers, retail clinics, mobile clinics, expanding community-based collaboratives, increasing healthcare provider reimbursement, and expanding use of both technology-based improvements and nurse-led practices.

Finance

Increasing Healthcare Provider Reimbursement

Increasing healthcare provider reimbursement levels for those that accept Medi-Cal enrollees is identified as a potential alternative to increasing children's access to healthcare. White (2011) analyzed the data from the 1997-2009 National Health

Interview Survey and found a correlation indicating that increasing Medicaid reimbursement fees improves children's access to healthcare especially among children of lower socio-economic status. Conversely, Cunningham and Nichols (2005) found a correlation indicating that while higher reimbursement levels increase the probability of physicians accepting Medicaid patients, it does not always lead to an increase in physicians accepting Medicaid patients in all areas as there are many other factors that influence physicians' decisions.

Under the ACA, for FY 2013 and 2014, reimbursement fees for primary care clinicians caring for Medicaid patients are set to increase to the levels of reimbursement Medicare providers receive, which are substantially higher. This policy is designed to help increase the number of providers that accept Medicaid patients, although many researchers believe the reimbursement increase must be permanent and not set for only two years, especially in states such as California, which has one of the lowest Medicaid reimbursement rates in the country (Kaiser Commission on Medicaid and the Uninsured 2012).

The next chapter will outline the methodology I use to analyze these alternatives by examining which of the potential alternatives to addressing children's healthcare access needs can address the factors correlated with children being more likely to lack access to healthcare.

Chapter 4

METHODOLOGY

To analyze my research question: "what policies should California implement to address the healthcare access needs of the state's child population in the Medi-Cal system?", I first reviewed articles and published studies to develop a list of possible solutions, their attributes, benefits, and weaknesses. Next, I employed a model that includes a criteria alternatives matrix (CAM) analysis to examine which of the potential alternatives can address the factors that are correlated with children being more likely to lack access to healthcare as referenced through the literature. I subsequently used the knowledge from the review of articles and published studies to develop specific recommendations on policies the state can develop to implement the recommended alternatives identified through the CAM analysis. This chapter includes a description of the methodology I employed to develop my recommendations.

The CAM is a decision-making framework used to compare alternatives based on how they meet specific weighted criteria. Although the CAM analysis does not always lead to the selection of only one of the alternatives, the alternatives that meet the most criteria are considered the most appropriate options. In this thesis, the CAM analysis is used to understand which of the potential alternatives to addressing children's healthcare access needs can address the factors that are correlated with children being more likely to lack access to healthcare. The potential alternatives I analyze to address these needs are: expanding use of: community health centers, medical homes, churches and other community settings, school-based health centers, retail clinics, mobile clinics,

expanding community-based collaboratives, increasing healthcare provider reimbursement, and expanding use of both technology-based tools and nurse-led practices.

I used the factors that are correlated with children being more likely to lack access to healthcare identified in the literature review in Chapter 2 to develop the eleven criteria which include the ability to expand care to: children with public healthcare insurance; children with special healthcare needs; older-aged children; children of minority race; children of low-income households; child's family. Also included are: increase parents' knowledge of healthcare resources; enhance parents' experience with the healthcare system; address working families' time constraints; address transportation constraints; and address access issues due to physician shortages.

In conducting the CAM analysis, I analyzed the weights for each criterion. Since all the factors on which the criteria are based were identified as important to children's healthcare access, and the literature does not clearly identify which factors are more important than others, I decided to provide an equal weight to each criterion. Additionally, children vary in demographics and family characteristics, and while certain factors affect some children, they will not affect others. By providing equal weight to the criteria I am able to account for the healthcare access needs of all children by analyzing all criteria that are equally weighted and acknowledge equal importance to all factors that affect children's healthcare access. As all criteria are weighted equally, the alternatives received a score of 1 for each of the criteria they meet and will receive a score of 0 for the criteria they do not meet in the CAM analysis.

To identify the policies the state can develop to implement the alternatives I selected through the CAM analysis, I reviewed articles and published studies that identified barriers to implementation of the alternatives and recommendations to overcome those barriers. The following chapter includes the results from the CAM, including an analysis of how the alternatives meet the criteria to expand access to healthcare for children.

Chapter 5

CRITERIA ALTERNATIVES MATRIX

In this chapter I use the criteria alternatives matrix (CAM) analysis to examine which of the ten potential alternatives to addressing children's healthcare access needs outlined in Chapter 3 can address the eleven identified criteria to expand access to healthcare for children outlined in Chapter 2. The alternatives are presented in the same order and categories as introduced in Chapter 3. For each alternative I outline the criterion and the alterative met and not met based on the literature review in Chapter 3. A table summarizing the CAM findings is located at the end of the chapter.

Healthcare Infrastructure

Expanding Use of Community Health Centers

One of the potential alternatives to addressing children's healthcare access needs is expanding the use of community health centers, which meets four of the eleven criteria including the ability to expand care to children with public healthcare insurance, of minority race, of low-income households, and their families.

Community health centers have historically served children and adults with public healthcare insurance, of minority race, and of low income. As of 2011, 48 percent of the populations served by California's community health centers were enrolled in public healthcare insurance, 80 percent of the populations served are of a minority race, and 79 percent of the populations served are individuals at or below the federal poverty level. These statistics demonstrate that expanding community health centers can also expand care to children with public healthcare insurance, children of minority race, and children

of low-income households, populations currently served by community health centers . Community health centers are available to all individuals regardless of age, insurance status, or ability to pay. As such, this demonstrates that expanding community health centers can also expand care to a child's family. There are seven criteria to expanding access to healthcare for children that community health centers may not meet. Several published studies indicated that community health centers often lack specialty healthcare, which limits their ability to expand care for children with special healthcare needs. There was no literature on community health centers being able to address any of the remaining criteria, resulting in the conclusion that it did not meet those criteria.

Table 5.1- *Expanding Use of Community Health Centers CAM*

Criteria	Expanding use of community health centers
Ability to expand care to children with public healthcare insurance	1
Ability to expand care for children with special healthcare needs	0
Ability to expand care to older-aged children	0
Ability to expand care to children of minority race	1
Ability to expand care to children of low-income households	1
Ability to expand care to child's family	1
Ability to increase parents' knowledge of healthcare resources	0
Ability to enhance parents' experience with the healthcare system	0
Ability to address working families' time constraints	0
Ability to address transportation constraints	0
Ability to address access issues due to physician shortages	0
Total	4

Expanding Use of School-Based Health Centers

One of the potential alternatives to addressing children's healthcare access needs is expanding the use of school-based health centers (SBHC), which meets eight of the eleven criteria including ability to: expand care to children with public healthcare insurance, older aged children, of minority race, and of low-income households; increase parents' knowledge of healthcare resources; enhance parents' experience with the healthcare system; and address working family time constraints and address transportation issues.

SBHCs are located in K-12 schools, which are locations where children of all demographics attend at least nine out of the twelve months a year. As schools provide continual access to most children, SBHCs were identified as an alternative that can address many of the factors related to children being more likely to lack access to healthcare, and an alternative that can expand healthcare access to children with public healthcare insurance, children of a minority race, older-aged children, and children from low-income households. Additionally, the literature shows that SBHCs have historically been able to expand access to healthcare for children of these demographics, which demonstrates that expanding the use of SBHC has the potential to expand care to all children that fall under these traditionally underserved demographics.

SBHCs can also address many of the issues that affect the children's families. Teachers in SBHC campuses have access to the children's parents, thus they are able to inform the parents of available healthcare resources by sending documents home with the child. Additionally, parents may feel more comfortable and have a better experience with

the healthcare system when children receive care at SBHCs since parents usually have more trust in schools. As SBHCs provide children with care at school and during school hours, this helps address many of the access issues children face with parents not having the time to take their child to see a doctor and/or not having transportation. Parents do not always need to take the time off from work because the care is provided during school hours while the parents are at work. Transportation issues are also addressed as there are many ways children get to school including the school bus, ride sharing, and public transportation. This demonstrates that by expanding the use of SBHCs there is a potential to increase parents' knowledge of healthcare resources, enhance parents' experience with the healthcare system, and address working families' time and transportation constraints.

There was no literature on SBHCs being able to address the remaining three criteria for expanding healthcare access for children, which resulted in concluding that it did not meet those criteria.

Table 5.2- *Expanding Use of School-Based Health Centers CAM*

Criteria	Expanding use of school-based health centers
Ability to expand care to children with public healthcare insurance	1
Ability to expand care for children with special healthcare needs	0
Ability to expand care to older-aged children	1
Ability to expand care to children of minority race	1
Ability to expand care to children of low-income households	1
Ability to expand care to child's family	0
Ability to increase parents' knowledge of healthcare resources	1
Ability to enhance parents' experience with the healthcare system	1
Ability to address working families' time constraints	1
Ability to address transportation constraints	1
Ability to address access issues due to physician shortages	0
Total	8

Expanding Use of Retail Clinics

One of the potential alternatives to addressing children's healthcare access needs is expanding the use of retail clinics, which meet four of the eleven criteria to expand healthcare access for children including the ability to expand care to children of minority race, and the child's family, and address working families' time constraints, and address transportation issues.

As evidenced by the literature, individuals of a minority race and adults age 18-44 are more likely to use retail clinics than their counterparts, demonstrating that the expanded use of retail clinics can lead to expanded care for children of minority race and in many cases the child's family members. As retail clinics are located in retail settings

many families already visit, such as pharmacies, grocery stores, and merchandise stores, expanding the use of retail clinics can address transportation issues. Additionally, many retail clinics are open in the evenings and on weekends, which can help address healthcare access issues due to parents' time constraints as the hours are flexible and parents can take their children to the clinic when they are off from work.

There was no literature on retail clinics being able to address the remaining seven criteria to expanding healthcare access for children, which resulted in concluding that it did not meet those criteria.

Table 5.3- *Expanding Use of Retail Clinics CAM*

Criteria	Expanding use of retail clinics
Ability to expand care to children with public healthcare insurance	0
Ability to expand care for children with special healthcare needs	0
Ability to expand care to older-aged children	0
Ability to expand care to children of minority race	1
Ability to expand care to children of low-income households	0
Ability to expand care to child's family	1
Ability to increase parents' knowledge of healthcare resources	0
Ability to enhance parents' experience with the healthcare system	0
Ability to address working families' time constraints	1
Ability to address transportation constraints	1
Ability to address access issues due to physician shortages	0
Total	4

Expanding the Use of Mobile Clinics

Another potential alternative is expanding the use of mobile clinics, which meets seven of the eleven criteria including: the ability to expand care to children with special healthcare needs, older-aged children, those of minority race or low-income households, the child's family, and the ability to address working families' time constraints and transportation issues.

Mobile clinics are often used to provide care to underserved populations including those that are low-income and of a minority race. Mobile clinics have also been successful in reaching individuals with special health care needs such as asthma, and mental/behavioral health. They are able to provide care to individuals of all ages, many times regardless of healthcare insurance or ability to pay, making it easier for families to obtain care. This demonstrates that expanding the use of mobile clinics can help address many of the issues that are correlated with children's lack of healthcare access including expanding access to healthcare for: children with special healthcare needs, older-aged children, children of minority race, children's families, and children of low-income households. Additionally, as mobile clinics go to different location and often provide care for extended hours, it can address parents' time and transportation issues, making it easier on working families.

There was no literature on mobile clinics being able to address the remaining four criteria to expanding healthcare access for children, which resulted in concluding that it did not meet those criteria.

Table 5.4- *Expanding Use of Mobile Clinics CAM*

Criteria	Expanding use of mobile clinics
Ability to expand care to children with public healthcare insurance	0
Ability to expand care for children with special healthcare needs	1
Ability to expand care to older-aged children	1
Ability to expand care to children of minority race	1
Ability to expand care to children of low-income households	1
Ability to expand care to child's family	1
Ability to increase parents' knowledge of healthcare resources	0
Ability to enhance parents' experience with the healthcare system	0
Ability to address working families' time constraints	1
Ability to address transportation constraints	1
Ability to address access issues due to physician shortages	0
Total	7

Expanding Use of Churches and Other Community Settings

One potential alternative to addressing children's healthcare access needs is expanding the use of churches and other community settings, which meets six of the eleven criteria to expand healthcare access for children including the ability to: expand care to children of minority race, low-income households, and the child's family; enhance parents' experience with the healthcare system, and address working families' time constraints and transportation issues.

Although there has not been much literature on the impact of healthcare access using churches and other community settings, examples of communities that have used these locations to provide care demonstrated that it is a good way to reach and expand

care to children of minority race and low-income households. Additionally, the use of churches and other community settings could also facilitate the expansion of care to family members, as many times these services are provided regardless of insurance status or ability to pay.

The literature references show that individuals who receive care in community settings have a good experience as they are in an environment where they feel comfortable. This demonstrates that by expanding the use of churches and other community settings we are able to enhance parents' experiences with the healthcare system. Additionally, by using churches and other community settings to provide care, parents' time and transportation constraints can also be addressed; these settings often provide care in the afternoon and weekends, and are frequently closer to many individuals as they are located within the community.

There was no literature on using churches and other community settings being able to address the remaining five criteria to expanding healthcare access for children, which resulted in concluding that it did not meet those criteria.

Table 5.5- *Expanding Use of Churches and Other Community Settings CAM*

Criteria	Expanding use of churches and other community settings
Ability to expand care to children with public healthcare insurance	0
Ability to expand care for children with special healthcare needs	0
Ability to expand care to older-aged children	0
Ability to expand care to children of minority race	1
Ability to expand care to children of low-income households	1
Ability to expand care to child's family	1
Ability to increase parents' knowledge of healthcare resources	0
Ability to enhance parents' experience with the healthcare system	1
Ability to address working families' time constraints	1
Ability to address transportation constraints	1
Ability to address access issues due to physician shortages	0
Total	6

Healthcare Delivery Model Transformation

Expanding Use of Medical Homes

Among the potential alternatives to addressing children's healthcare access needs is expanding the use of medical homes, which meets seven of the eleven criteria to expand healthcare access for children including the ability to: expand care to children with public healthcare insurance, special healthcare needs, older aged children, of minority race, and of low-income households, increase parents' knowledge of healthcare resources, and the ability to enhance parents' experience with the healthcare system.

While the literature suggests that many traditionally underserved populations, including individuals with public healthcare insurance, children with special healthcare

needs, older-aged children, children of minority race, and children of low income households are likely to lack access to a medical home, the literature also suggests that when these populations have a medical home they are more likely to receive access to healthcare. This demonstrates that expanding the use of medical homes will likely lead to expanded healthcare access to children with public healthcare insurance, children with special healthcare needs, older-aged children, children of minority race, and children of low income households.

Medical homes provide enhanced customer service and coordination of care, so individuals that are part of medical homes are able to better understand resources available and have a better experience with the healthcare system, since they are not left to figure things out on their own. This demonstrates that by expanding the use of medical homes, parents could gain a better understanding of resources available, and have a better healthcare experience.

There was no literature on medical homes being able to address the remaining four criteria to expanding healthcare access for children, which resulted in concluding that it did not meet those criteria.

Table 5.6- *Expanding Use of Medical Homes CAM*

Criteria	Expanding use of medical homes
Ability to expand care to children with public healthcare insurance	1
Ability to expand care for children with special healthcare needs	1
Ability to expand care to older-aged children	1
Ability to expand care to children of minority race	1
Ability to expand care to children of low-income households	1
Ability to expand care to child's family	0
Ability to increase parents' knowledge of healthcare resources	1
Ability to enhance parents' experience with the healthcare system	1
Ability to address working families' time constraints	0
Ability to address transportation constraints	0
Ability to address access issues due to physician shortages	0
Total	7

Expanding Use of Community-Based Collaboratives

Expanding the use of community-based collaboratives is another potential alternative to addressing children's healthcare access needs. This meets ten of the eleven criteria for expanding healthcare access for children including the ability to: expand care to children with public healthcare insurance, special healthcare needs, older aged children, those of minority race low-income households, and the children's families, increase parents' knowledge of healthcare resources, enhance parents' experience with the healthcare system, and address working family time constraints and transportation issues.

As referenced by the literature, many communities are implementing community-based collaboratives that bring together different entities including: community health

centers, county health departments, rural clinics, SBHCs, private practices, mobile clinics, medical homes, and others. As such, the expansion of community-based collaboratives would allow that community to leverage all the benefits from each individual entity included in the collaborative. There would be multiple entities working together that could collectively address the factors that affect children's access to healthcare. Depending on the entities included in the collaboratives, the expansion of community-based collaboratives provides the potential to increase access to care for: children with public healthcare insurance, children with special healthcare needs, older-aged children, children of minority race, children of low-income households, and the children's families. As there are more entities collaborating to provide care, it enhances parent experience with the healthcare system and allows for greater information sharing, which helps the parents understand the different healthcare resources available. Collaboratives that include SBHC and mobile clinics can also help address working families' constraints with time and transportation.

There was no literature on community-based collaboratives being able to address the one remaining criteria to expanding healthcare access for children, which resulted in concluding that it did not meet those criteria.

Table 5.7- *Expanding Community Based Collaboratives CAM*

Criteria	Expanding community based collaboratives
Ability to expand care to children with public healthcare insurance	1
Ability to expand care for children with special healthcare needs	1
Ability to expand care to older-aged children	1
Ability to expand care to children of minority race	1
Ability to expand care to children of low-income households	1
Ability to expand care to child's family	1
Ability to increase parents' knowledge of healthcare resources	1
Ability to enhance parents' experience with the healthcare system	1
Ability to address working families' time constraints	1
Ability to address transportation constraints	1
Ability to address access issues due to physician shortages	0
Total	10

Expanding Use of Technology-Based Tools

One of the potential alternatives to addressing children's healthcare access needs is the expansion of technology-based tools, which meets seven of the eleven criteria to expand healthcare access for children including the ability to: expand care to children with special healthcare needs, of minority race or low-income households, enhance parents' experience with the healthcare system, address working family time constraints and transportation issues, and address access issues due to physician shortages.

Many communities are addressing healthcare provider shortages, especially specialty healthcare providers, by using telehealth to connect patients with specialists that are in different parts of the state or country, demonstrating that expanding telehealth

technologies can help expand access to care for children with special healthcare needs. Many experts have also indicated that telehealth technologies can help expand access to many low-income and minority populations that live in medically underserved areas. Additionally, telehealth can address transportation issues, as many families will no longer have to travel long distances to see a provider.

There are also other technology-based improvements that can expand access to healthcare such as open access scheduling, which has been found to improve access by facilitating appointment systems and allowing for same-day scheduling. Open-access scheduling can help address families' time constraints as it allows families more flexibility with getting an appointment to take their children to receive care. Open-access scheduling was also found to improve continuity of care and customer satisfaction, which demonstrates that this could enhance the parents' healthcare experience .

There was no literature on technology-based tools being able to address the remaining four criteria to expanding healthcare access for children, which resulted in concluding that it did not meet those criteria.

Table 5.8- *Expanding Use of Technology-based Tools CAM*

Criteria	Expand use of technology-based tools
Ability to expand care to children with public healthcare insurance	0
Ability to expand care for children with special healthcare needs	1
Ability to expand care to older-aged children	0
Ability to expand care to children of minority race	1
Ability to expand care to children of low-income households	1
Ability to expand care to child's family	0
Ability to increase parents' knowledge of healthcare resources	0
Ability to enhance parents' experience with the healthcare system	1
Ability to address working families' time constraints	1
Ability to address transportation constraints	1
Ability to address access issues due to physician shortages	1
Total	7

Expanding Use of Nurse-Led Practices

Another potential alternative to addressing children's healthcare access needs is the expansion of nurse-led practices, which meets four of the criteria to expand healthcare access for children including the ability to expand care to children of minority race, low-income households, the children's families, and address access issues due to physician shortages .

Although there have not been many studies on nurse-led practices and access to minority populations, many experts believe that the expansion of nurse-led practices will lead to expanded primary care for low-income and minority populations. There have been examples of nurse-led practices partnering with clinics and health centers to provide

primary care for children that are predominantly in underserved and minority communities. Additionally, nurse-led practices have the potential to address access issues due to the physician shortage throughout the state. There is an increasing undersupply of physicians, which hinders the expansion of new healthcare facilities. The expansion of nurse-led practices allows for greater access to healthcare for all populations including children and their families.

There was no literature on nurse-led practices being able to address the remaining seven criteria to expanding healthcare access for children, which resulted in concluding that it did not meet those criteria.

Table 5.9- *Expanding Use of Nurse-Led Practices CAM*

Criteria	Expand use of Nurse-Led Practices
Ability to expand care to children with public healthcare insurance	0
Ability to expand care for children with special healthcare needs	0
Ability to expand care to older-aged children	0
Ability to expand care to children of minority race	1
Ability to expand care to children of low-income households	1
Ability to expand care to child's family	1
Ability to increase parents' knowledge of healthcare resources	0
Ability to enhance parents' experience with the healthcare system	0
Ability to address working families' time constraints	0
Ability to address transportation constraints	0
Ability to address access issues due to physician shortages	1
Total	4

Finance

Increasing Healthcare Provider Reimbursement

One potential alternative to addressing children's healthcare access needs is increasing healthcare provider reimbursement, which meets three of the eleven criteria to expand healthcare access for children including the ability to: expand care to children with public healthcare insurance, children with special healthcare needs, and address access issues due to physician shortages.

There are shortages of healthcare providers throughout the state, especially those that accept patients enrolled in Medi-Cal. Many researchers attribute this to California's low Medi-Cal reimbursement rates, which is among the lowest in the country. Many children enrolled in Medi-Cal lack access to healthcare due to a dearth of primary care and specialty care providers that accept Medi-Cal enrollees. The literature demonstrates that the probability of physicians accepting Medi-Cal patients increased with augmented provider reimbursement rates (White 2011). This demonstrates that by increasing reimbursement rates there is a potential to expand care to children with public healthcare insurance, and children with special healthcare needs, as there will be an increase in the supply of healthcare providers to care for children enrolled in Medi-Cal.

There was no literature on healthcare provider reimbursement being able to address the remaining eight criteria to expanding healthcare access for children, which resulted in concluding that it did not meet those criteria.

Table 5.10- *Increasing Healthcare Provider Reimbursement CAM*

Criteria	Increasing healthcare provider reimbursement
Ability to expand care to children with public healthcare insurance	1
Ability to expand care for children with special healthcare needs	1
Ability to expand care to older-aged children	0
Ability to expand care to children of minority race	0
Ability to expand care to children of low-income households	0
Ability to expand care to child's family	0
Ability to increase parents' knowledge of healthcare resources	0
Ability to enhance parents' experience with the healthcare system	0
Ability to address working families' time constraints	0
Ability to address transportation constraints	0
Ability to address access issues due to physician shortages	1
Total	3

Summary of CAM Analysis

The table below provides a summary of the number of criteria met by each of the potential alternatives to increasing healthcare access for children. The findings demonstrate that while each of the potential alternatives meets various criteria, some alternatives meet most criteria and thus should be further evaluated for implementation.

Table 5.11- *CAM Summary of All Potential Alternatives*

Alternative / Criteria	Expanding use of community health centers	Expanding use of school-based health centers	Expanding use of retail clinics	Expanding use of mobile clinics	Expanding use of churches and other community settings	Expanding use of medical homes	Expanding community based collaboratives	Expanding use of technology-based tools	Expanding use of Nurse-Led Practices	Increasing healthcare provider reimbursement
Ability to expand care to children with public healthcare insurance	1	1	0	0	0	1	1	0	0	1
Ability to expand care for children with special healthcare needs	0	0	0	1	0	1	1	1	0	1
Ability to expand care to older-aged children	0	1	0	1	0	1	1	0	0	0
Ability to expand care to children of minority race	1	1	1	1	1	1	1	1	1	0
Ability to expand care to children of low-income households	1	1	0	1	1	1	1	1	1	0
Ability to expand care to child's family	1	0	1	1	1	0	1	0	1	0
Ability to increase parents' knowledge of healthcare resources	0	1	0	0	0	1	1	0	0	0
Ability to enhance parents' experience with the healthcare system	0	1	0	0	1	1	1	1	0	0
Ability to address working families' time constraints	0	1	1	1	1	0	1	1	0	0
Ability to address transportation constraints	0	1	1	1	1	0	1	1	0	0
Ability to address access issues due to physician shortages	0	0	0	0	0	0	0	1	1	1
Total	4	8	4	7	6	7	10	7	4	3

The following chapter includes my recommendations to answer the research question: “what policies should California implement to address the healthcare access needs of the state’s child population in the Medi-Cal system?” The recommendations are based on the outcomes of this chapter’s CAM analysis and a review of articles and published studies that identify barriers and recommendations to implementing the alternatives.

Chapter 6

RECOMMENDATIONS AND CONCLUSION

Based on the results from the criteria alternatives matrix (CAM) analysis in Chapter 5, I found that there are various alternatives that meet several criteria identified to address children's healthcare access needs. This chapter breaks out the alternatives by two selected alternatives that met at least eight criteria, and eight other identified alternatives that, though they do not meet at least eight criteria, could be implemented to address the healthcare access needs of certain regions or populations. Specifically, this chapter looks into these alternatives and outlines recommendations for policymakers on how to sustain and expand the alternatives. These recommendations are based on research on the alternatives and my analysis of the issues and interpretation of what could be done to address the issues.

Barriers and Recommendations for the Implementation of Selected Alternatives

The two alternatives that each met at least eight out of the eleven criteria in the CAM analysis were expanding the use of community-based collaboratives and expanding the use of school-based health centers. This section looks into these two alternatives and outlines barriers and recommendations to sustain and expand the alternatives.

Expanding Community-Based Collaboratives

The first recommended alternatives to addressing children's healthcare access needs is expanding the use of community-based collaboratives, which meets ten of the eleven criteria to expand healthcare access for children. To ensure California is able to sustain and expand the use of community-based collaboratives to provide healthcare

access for Medi-Cal enrolled children, various barriers need to be addressed. One major barrier is the lack of adequate reimbursement models for groups that are part of community-based collaboratives. As healthcare is moving towards a managed care system, some partners in community-based collaboratives may not be eligible to be reimbursed for their services. Additionally, sometimes regulations on healthcare partnerships can hinder the development of collaboratives (National Policy Consensus Center 2004). Other major barriers are specific to the lack of infrastructure to support community-based collaboratives. Many organizations and delivery sites are understaffed and do not have staff time and resources to dedicate to engaging in the community-based collaborative, which can be the cause for a group decision not to collaborate with other partners (National Policy Consensus Center 2004).

To address many of the aforementioned barriers and ensure California is able to sustain and expand community-based collaboratives, state policymakers should consider the following recommendations:

- Identify funding models that ensures partners in the community-based collaboratives are able to integrate into the Medi-Cal managed care systems and receive reimbursement that covers full cost of care provided to children enrolled in Medi-Cal.
- Review and amend regulations around healthcare partnerships to facilitate the development of community-based collaboratives (National Policy Consensus Center 2004).

- Provide resources and funding to support community-based collaborative infrastructure (Takach 2009; National Policy Consensus Center 2004).
    - Provide administrative support (e.g. facilitators, strategic planners, mediators) to serve as a convener in getting key stakeholders to the table in the development of community-based collaboratives.
    - Implement regional partnership models that facilitate activities that further healthcare access for children enrolled in Medi-Cal.
    - Evaluate the implementation of other state best practice collaborative models such as North Carolina Community Care Network (NCCCN), which is a statewide umbrella organization that represents and supports healthcare networks and collaboratives across the state.

Expanding Use of School-Based Health Centers

The second recommended alternative is expanding the use of school-based health centers (SBHC) which meets eight of the eleven criteria to expand healthcare access for children. To ensure California is able to sustain and expand the use of SBHCs to provide healthcare access for Medi-Cal enrolled children, various barriers need to be addressed. SBHCs face a few financial barriers. In a statewide survey, school district administrators indicated that the lack of adequate funding and a financing strategy was the number one challenge with sustaining and expanding SBHCs (California School Boards Association 2008). One major barrier is that under Medi-Cal, if an SBHC is not designated as a student's medical home the SBHC cannot be reimbursed for the care provided (Dornhelm 2013). The ACA is moving healthcare delivery payment from fee-for-service to managed

care that, to a certain extent, hinders the SBHC business plan unless there are other mechanisms to integrate SBHC into managed care systems (Dornhelm 2013).

Other barriers specified in the statewide school district survey were related to challenges with not having adequate staffing and facilities, difficulty in developing partnerships with other providers and delivery systems, lack of district administrators' capacity and knowledge about SBHC, and lack of stakeholder support (California School Boards Association 2008).

To address many of these barriers and ensure California is able to sustain and expand SBHCs, state policymakers should consider the following recommendations:

- Enable SBHC integration into the Medi-Cal managed care systems (California School Health Center Association 2013).
    - Strengthen requirements for Medi-Cal health plans to enter into cooperative agreements with schools to be reimbursed.
- Ensure SBHCs are able to bill and receive reimbursement that covers full-cost of appropriate care provided to children enrolled in Medi-Cal.
- Create stable funding support for the sustainability of SBHC (Dornhelm 2013).
    - Evaluate the implementation model SBHC funding methods used in other states like Connecticut and Massachusetts.
- Subsidize cost of renovating, expanding, and developing SBHCs with a priority in rural and underserved areas that do not currently have SBHCs.

- Support school districts' participation in local education agency (LEA) billing and Medicaid Administrative Activities to fund school health services (California School Health Center Association 2013).
- Provide technical assistance support to school districts considering the development of SBHC (California School Boards Association 2008).
- Provide administrative and technical assistance support to increase SBHC involvement in collaborations and partnerships with other practices and delivery systems, agencies, and community partners (California School Boards Association 2008).

Recommendations for the Implementation of Other Identified Alternatives

The CAM analysis also identified that each of the other potential alternatives to addressing children's healthcare access needs also met certain criteria. As California is diverse in terms of population demographics, geography, education and socio economic status, the needs across the state are distinct and some regions may want to implement the alternatives that address their specific needs. As such, this section looks at the remaining alternatives analyzed and provides a list of recommendations to further implementation of the other alternatives along with a description of where these alternatives would be most appropriate.

Expanding Use of Mobile Clinics

One of the alternatives to addressing children's healthcare access needs is expanding the use of mobile clinics, which meets seven of the eleven criteria to expand healthcare access for children. Mobile clinics may be most useful in diverse rural areas where there

is a lack of healthcare infrastructure and transportation to get the children to a healthcare provider. To ensure California is able to sustain and expand the use of mobile clinics in those regions that need it, state policymakers should consider the following recommendations:

- Ensure mobile clinics are able to bill and receive reimbursement that covers full-cost of appropriate care provided to children enrolled in Medi-Cal.
- Subsidize cost of renovating and expanding mobile clinic infrastructure with a priority in rural and underserved areas.
- Expand scope of practice to allow trained and qualified non-physician providers such as nurse practitioners and physician assistants to work in expanded roles (Institute of Medicine 2010).
- Amend corporate practice of medicine laws to allow trained and qualified non-physician providers to operate clinics (Center to Champion Nursing in America 2010).

Expanding Use of Technology-Based Tools

Another alternative to addressing children's healthcare access needs is the expansion of technology-based tools, which meets seven of the eleven criteria to expand healthcare access for children. The expansion of technology-based tools may be most useful in areas where there is a severe lack of healthcare providers, especially specialists, as technology-based tools can help populations in those regions connect with healthcare providers in other regions. To ensure California is able to expand the use of technology-based tools, state policymakers should consider the following recommendations:

- Ensure qualified healthcare providers can receive Medi-Cal reimbursement for appropriate care provided via eligible telehealth technologies (Roney 2012).
- Streamline physician credentialing regulations to facilitate telehealth usage by healthcare providers in multiple healthcare facilities (Roney 2012).
- Provide resources to encourage and train providers to use and implement telehealth technologies (Watson 2012).
- Invest in infrastructure needed to implement telehealth such as fast internet connections with a focus on rural and underserved areas, which many times lack needed infrastructure (Roney 2012).

Expanding Use of Medical Homes

One alternative to addressing children's healthcare access needs is expanding the use of medical homes, which meets seven of the eleven criteria to expand healthcare access for children. The immediate expansion of medical homes may be more appropriate in urban and metropolitan areas where there is a greater healthcare infrastructure and there are no geographical issues with transportation or severe provider shortages. To ensure California is able to sustain and expand the use of medical homes, state policymakers should consider the following recommendations:

- Ensure reimbursement for care provided to children in medical homes is adequate to cover the cost of care.
- Expand scope of practice to allow trained and qualified non-physician providers such as nurse practitioners and physician assistants to work in expanded roles (Institute of Medicine 2010).

- Provide technical assistance to facilitate healthcare delivery systems implementing medical home models.
- Increase healthcare provider training and retraining on integration and multidisciplinary care to facilitate transition to medical home models.
- Expand financial resources available to healthcare delivery systems for deployment of new information technology systems such as electronic medical records and telehealth (Kaye and Takach 2009).

Expanding Use of Churches and Other Community Settings

One of the alternatives to addressing children's healthcare access needs is expanding the use of churches and other community settings, which meets six of the eleven criteria.. Expanding the use of churches and other community settings to provide healthcare may be more appropriate in areas with demographically diverse populations where there is a lack of adequate access to rudimentary primary care services. To ensure California is able to sustain and expand the use of churches and other community settings to provide healthcare delivery, state policymakers should consider the following recommendations:

- Provide administrative and technical assistance support to healthcare delivery systems looking to increase the use of church and other community settings in healthcare delivery (Takach 2009; National Policy Consensus Center 2004).
- Ensure providers are able to bill and receive reimbursement for appropriate care provided at churches and other community settings.

Expanding Use of Community Health Centers

One alternative to addressing children's healthcare access needs is expanding the use of community health centers, which meets four of the eleven criteria. Expanding the use of community health centers may be more appropriate in regions with low-income and racially/ethnically diverse populations. To ensure California is able to sustain and expand the use of community health centers, state policymakers should consider the following recommendations:

- Enable community health center integration into the Medi-Cal managed care systems (Hess, Grossman, and Takach 2012).
- Ensure community health centers are able to bill and receive reimbursement that covers full-cost of appropriate care provided to children enrolled in Medi-Cal.
- Develop a state medical service study area designation to measure healthcare access for children similar to the proposed ACA designation "Medically Underserved Children and Adolescent (MUCA's) designated area" and prioritize increased community health center funding for delivery sites that fall within MUCA designation (Hess, Grossman, and Takach 2012).
- Subsidize cost of renovating, expanding, and developing community health center delivery sites with a priority in rural and underserved areas that do not currently have community health center delivery sites.
- Expand financial resources available to community health centers for deployment of new information technology systems such as electronic medical records and telehealth (Hess, Grossman, and Takach 2012).

- Allow same day Medi-Cal billing for primary care and behavioral healthcare services provided in community health centers to facilitate children's healthcare access to integrated primary care and behavioral healthcare services.
- Provide administrative support to increase community health center involvement in medical home collaboratives and partnerships with other practices, delivery systems, agencies, and community partners (Takach 2009).
- Address community health center healthcare workforce shortages via programs to increase the capacity of healthcare workforce training programs, incentivize healthcare providers to practice in underserved healthcare delivery sites, and by expanding scope of practice to allow trained and qualified non-physician practitioners (e.g. nurse practitioners and physician assistants) to work in expanded roles (Hess, Grossman, and Takach 2012).

Expanding Use of Retail Clinics

An alternative to addressing children's healthcare access needs is expanding the use of retail clinics, which meet four of the eleven criteria to expand healthcare access for children. Expanding the use of retail clinics may be more appropriate in areas with diverse middle income/working class populations. To ensure California is able to sustain and expand the use of retail clinics, state policymakers should consider the following recommendations:

- Enable retail clinic integration into the Medi-Cal managed care systems.

- Ensure retail clinics are able to bill and receive reimbursement that covers full-cost of appropriate care provided to children enrolled in Medi-Cal (Takach and Witgert 2009).
- Expand scope of practice to allow trained and qualified non-physician providers such as nurse practitioners and physician assistants to work in expanded roles (Takach and Witgert 2009).
- Amend corporate practice of medicine laws to allow trained and qualified non-physician providers to operate clinics (Takach and Witgert 2009).
- Provide administrative support to increase retail clinic involvement in collaborations and partnerships with other practices and delivery systems (Takach 2009; National Policy Consensus Center 2004).

Expanding Use of Nurse-Led Practices

One of the alternatives to addressing children's healthcare access needs is the expansion of nurse-led practices, which meets four of the criteria to expand healthcare access for children. The expansion of nurse-led practices may be more appropriate in areas with severe physician shortages where nurses can have the greatest impact treating diverse unserved and/or underserved populations. To ensure California is able to sustain and expand the use of nurse-led practices, state policymakers should consider the following recommendations:

- Expand scope of practice to allow nurse practitioners to work in expanded roles and lead healthcare teams (Institute of Medicine 2010).
- Integrate nurse-led practices into the Medi-Cal managed care systems.

- Ensure nurse-led practices are able to bill and receive reimbursement that covers full-cost of appropriate care provided to children enrolled in Medi-Cal.
- Amend corporate practice of medicine laws to allow nurse practitioners to operate clinics and have independent practices (Center to Champion Nursing in America 2010).

Increasing Healthcare Provider Reimbursement

One alternative to addressing children's healthcare access needs is increasing healthcare provider reimbursement, which meets three of the eleven criteria. Increasing healthcare provider reimbursement may be more appropriate in areas with a severe lack of providers accepting children with Medi-Cal as this would incentivize them to accept more children with Medi-Cal. To ensure California is able to appropriately increase healthcare provider reimbursement, state policymakers should consider the following recommendations.

- Increase Medi-Cal provider reimbursement to same level as Medicare provider reimbursement.
- Develop a state medical service study area designation to measure healthcare access for children similar to the proposed ACA designation "Medically Underserved Children and Adolescent (MUCA's) designated area" and increase reimbursement for healthcare providers within MUCA designation (Hess, Grossman, and Takach 2012).

Conclusion

Children throughout the state lack adequate access to healthcare, with children enrolled in Medi-Cal facing the gravest problems. As identified in this thesis, there are numerous factors that are correlated with the lack of healthcare access for children, which adds to the complexities of this issue. While both state and federal legislation has been passed to address healthcare issues, most have not been successful at addressing children's inadequate healthcare access and others have exacerbated the issue for certain populations.

There are various actions policymakers can take to ensure children enrolled in Medi-Cal throughout the state receive adequate access to healthcare. This thesis identified several alternatives and makes specific recommendations for policy makers looking to improve access to healthcare for children in Medi-Cal. Two alternatives (expanding the use of community-based collaboratives and expanding the use of school-based health centers) are recommended as they would address the most barriers to children's healthcare access. The other alternatives each address different barriers to children's healthcare access that could benefit specific regions and/or populations over others. Ultimately state policymakers should look at all options and implement what is most appropriate at the state and local levels, considering that inaction is not an acceptable option as the health of our children depends on it.

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