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An Examination of Safety Net Utilization by Race, Ethnicity, and Nativity Status

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ABSTRACT

Objective: This study examines the relationship of immigrant status and race/ethnicity with using a community health center (CHC) or an emergency department (ED) as a usual source of care.

Study Design: Data is obtained from the 2006 and 2007 National Health Interview Survey (NHIS). Only respondents who reported race/ethnicity as non-Hispanic White, non-Hispanic Black, or Hispanic, were aged 18 years or older, and reported having a usual source of care are included in the study (n=80,683). Logistic regression modeled race/ethnicity and nativity as predictors of using CHC or ED as a usual source of care, while adjusting for other factors. Post-estimation analyses calculate odds of CHC or ED utilization, stratifying race/ethnicity among CHC users and ED users by foreign vs. U.S. nativity and, separately, stratify nativity by race/ethnicity. Multinomial logistic regression modeled the effects of race/ethnicity, nativity, and citizenship on using one source of safety net care over another, adjusting for other factors. All analyses were conducted using STATA 10.0.

Principal Findings: In the full model, foreign-born [OR=1.28 (95%CI 1.18,1.39)] and Hispanic [OR=1.92 (95%CI 1.75,2.10)] respondents are associated with higher odds of CHC use compared to U.S. natives and non-Hispanics, though not associated with ED use. In post-estimation analyses, significant association between being foreign-born and using a CHC is similar across race/ethnicity strata. There is not a significant association for being foreign-born and using an ED within any race/ethnicity. Multinomial logistic regression showed that being foreign-born Hispanic [OR=0.52(95%CI 0.32,0.85)] or Hispanic of foreign citizenship [OR=0.32(95%CI 0.17,0.61)] was associated with a lower likelihood of choosing an ED over a CHC.

Conclusions: Hispanic immigrants who use the safety net prefer using a CHC to an ED. Reasons that Hispanics and immigrants use CHCs extend beyond reasons commonly attributed to health care access. After adjusting for factors typically associated with health care access, Hispanics and immigrants were still significantly more likely than non-Hispanics and U.S. natives to use a CHC. Communities seeking to expand the safety net for Hispanic immigrant populations should consider CHC expansion.

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AN EXAMINATION OF SAFETY NET UTILIZATION BY RACE, ETHNICITY AND
NATIVITY STATUS

Erin K. Carlson, M.P.H.

APPROVED

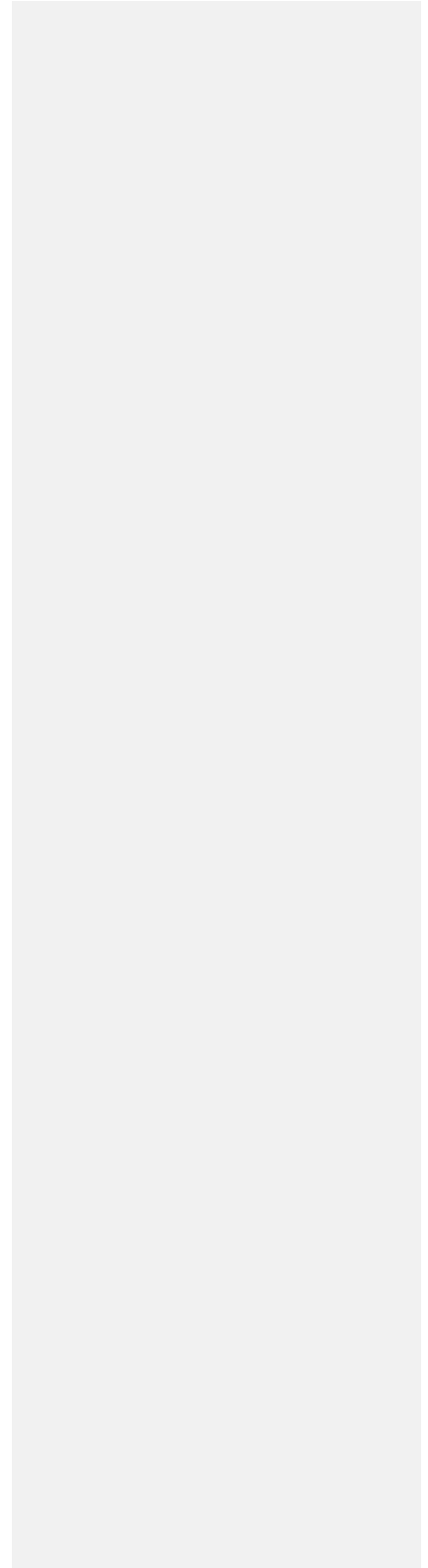
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AN EXAMINATION OF SAFETY NET CARE UTILIZATION BY
RACE, ETHNICITY AND NATIVITY STATUS

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CHAPTER 1

INTRODUCTION

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A large body of research documents that Hispanics face barriers accessing health care due to low socioeconomic status and high rates of uninsurance when compared with any other racial or ethnic group. High rates of immigration among Hispanics lead to further challenges in accessing health care such as language barriers, knowledge of the U.S. health system, and obstacles in obtaining public insurance. As a result, many Hispanics rely on the use of safety net services for their health care. Currently, formal U.S. safety net services consist of community health centers (CHCs) and other publicly-funded community clinics, as well as hospital emergency departments (EDs).

The use of the safety net by Hispanics--particularly Hispanic immigrants--is the subject of a controversial national discussion. In the context of public and private discussions, it is widely believed that Hispanic immigrants inappropriately and excessively use EDs, placing a burden on the health care system. However, little quantitative evidence exists to substantiate or refute such opinions.

During such discussions, community health centers, the other component of the nation's safety net, are rarely mentioned. Yet, evidence demonstrates that Hispanics disproportionately use CHCs, with over one-third of CHC users being Hispanic (National Association of Community Health Centers, Inc., 2003). CHCs accommodate the needs of medically underserved populations, providing care regardless of ability to pay and offering linguistically and culturally competent services (Proser, 2003). These CHC practices have been associated with improved health outcomes among minority patients (Institute of Medicine, 2002). CHCs serve as a medical home and a cost-effective safety net alternative to EDs.

A distinct dichotomy exists with respect to the services available, resources utilized, and costs incurred between EDs and CHCs as safety net providers. Little empirical data exist documenting CHC or ED utilization among Hispanics, and, specifically, Hispanic immigrants. This study will examine CHC and ED utilization by race, ethnicity and nativity.

Specific Objectives and Hypotheses

Objective 1: Examine the association between patient race/ethnicity and utilization of safety net care by CHC and ED.

It is well known that there are variations in the type of safety net utilization among different populations. For example, there is greater ED utilization among publicly insured than the uninsured and among those with certain chronic disease than healthy individuals and lower income groups are more likely to use CHCs than other racial/ethnic groups. In identifying the association between race/ethnicity and safety net utilization will help to understand the patient characteristics that impact safety net use. The association between race/ethnicity and safety net utilization will be examined using logistic regression analysis.

Hypothesis 1: Racial/ethnic minorities will have greater utilization of safety net care from community health centers and emergency departments than non-Hispanic U.S. born Whites.

Objective 2: Examine predictive factors of patients using CHCs as a usual source of care by race/ethnicity, nativity, and citizenship.

It is important to understand socio-demographic and other factors that affect racial/ethnic variation in CHC use. Immigration variation and U.S. acculturation among racial/ethnic groups may be one factor that that helps to explain variation in CHC use.

Hypothesis 2: CHC users will be disproportionately Hispanic of foreign nativity and foreign citizenship, though other characteristics will be similar among racial/ethnic minority groups of

CHC users. While CHC use has been shown to vary by race/ethnicity, this variation has not been examined by foreign nativity nor by U.S. citizenship.

Objective 3: Examine predictive factors of patients using EDs as a usual source of care by race/ethnicity, nativity, and citizenship.

It is important to understand socio-demographic and other factors that affect racial/ethnic variation in ED use. The characteristics typical to immigrants, as well as characteristics that vary according to U.S. acculturation, may be factors that help to explain variation in ED use.

Hypothesis 3: ED utilization will be similar across racial/ethnic minorities, those of U.S. and foreign nativity, and U.S. and foreign citizenship. Other characteristics of ED users will also be similar across minority groups of ED users.

CHAPTER 2

REVIEW OF THE LITERATURE

Description of the Health Care Safety Net

The U.S. health care safety net provides care to individuals who do not have health insurance or other means with which to pay for health care services. The safety net includes all sites that provide health care for those who cannot pay for care. The safety net is comprised of an “informal” safety net and a “formal” safety net. The informal component includes non-reimbursed charity care by physician’s offices and hospitals, faith-based services for the indigent and free clinics run by community organizations or academic medical centers. In addition to the informal safety net, the safety net also includes “formal” safety net providers who receive federal reimbursement to provide care to the uninsured and medically indigent. The formal safety net consists primarily of two pillars: federally qualified community health centers (CHCs) and other publicly-funded community clinics, as well as hospital emergency departments (EDs).

Community Health Centers

Community Health Centers (CHCs) are an integral part of the nation’s safety net. They were established in 1965 as part of Lyndon B. Johnson’s War on Poverty and intended to provide poor workers with a place to receive medical care (Iglehart, 2008). CHCs provide comprehensive preventive and primary care services to residents of federally designated medically underserved areas (Poltzer et al., 2001). CHCs are federally funded under Section 330 of the Public Health Services Act, with the U.S. Department of Health and Human Services’ (DHHS) Health Resources and Services Administration’s (HRSA) Bureau of Primary Health Care (BPHC) contributing approximately one-quarter of annual revenue. According to the National Association of Community Health Centers, all CHCs are required to fulfill five requirements in order to be

federally funded (Proser, 2003). To be in accordance with those requirements, CHCs must: 1) Be located in areas that, prior to applying, have been designated as “medically underserved” i.e., areas with a high concentration of low income families and few providers; 2) Provide comprehensive health care as well as social services, including cultural and linguistic competency among staff; 3) Serve all persons, regardless of insurance status or ability to pay; 4) Be governed by community boards, the majority of which must be center patients; and 5) Follow administrative, clinical, and financial performance and accountability requirements and report performance outcomes to the BPHC.

Attaining CHC status does not mean a clinic is automatically funded by the federal government. Rather, going through the rigorous process of applying to the U.S. Health Resource and Services Administration (HRSA) Bureau of Primary Health Care (BPHC) and eventually being awarded CHC status allows a clinic to apply for federal grants specifically for CHCs, as well as be entitled to maximum levels of state Medicaid reimbursement (Taylor, 2004).

CHCs provide care to all persons regardless of documentation status, insurance status or ability to pay and serve one-fifth of the nation’s uninsured. CHCs provide preventive and routine care, in addition to acute care, and are an increasingly common source of care for growing numbers of uninsured and financially disadvantaged Americans (Iglehart, 2008). In addition, many CHCs create services to accommodate the needs of medically underserved populations, including the provision of linguistically and culturally competent services. Though the number of new CHCs and the capacity of existing CHCs have rapidly expanded in recent years, CHCs are not ubiquitously located; some cities have one or more CHCs while in other areas residents are without a CHC for many miles (Iglehart, 2008).

Emergency Departments

Under the Emergency Medical Treatment and Labor Act (EMTALA), hospital emergency departments are mandated to screen and treat or stabilize all patients coming into the emergency department for emergency conditions regardless of insurance status or ability to pay (Federal Register, 1985). “Emergency condition” is defined by federal legislation as a “medical condition (including emergency labor and delivery) manifesting itself by acute symptoms of sufficient severity (including severe pain) such that the absence of immediate medical attention could reasonably be expected to result in—(a) placing the patient’s health in serious jeopardy, (b) serious impairment to bodily functions, or (c) serious dysfunction of any bodily organ or part.” (Social Security Act, 42 USC Section 1903). The Health Care Financing Administration (HCFA) strictly enforces EMTALA to prevent the unsafe practice of turning away patients who need medical attention (Trzeciak & Rivers, 2003). Such enforcement of EMTALA makes EDs the first and only health care facility to which access is guaranteed by law (Trzeciak & Rivers, 2003). EDs are the most widely available form of safety net care and provide more safety net care than any other safety net provider; in the absence of other safety net facilities, EDs are the only source of health care available to persons who do not have health insurance or the immediate means to pay out-of-pocket (Asplin, 2001).

Differences in Safety Net Health Care Delivery

Notable differences in health care delivery exist between CHCs and EDs, the two pillars of the safety net. Such differences span the supply and demand for care, quality of care, attitudes toward care, organization and financing, and affordability and accessibility.

Emergency Departments

Supply and Demand for Care

EDs are overcrowded with greater demand for services than what their resources can meet. The growing number of uninsured Americans and dwindling number of physicians accepting Medicaid beneficiaries has led many patients to rely on the ED for their health care, creating an increasing patient influx (Committee on Pediatric Emergency Medicine, 2004; Richardson, 2001).

The emergency medicine literature reports that service delivery in the ED has been re-characterized since the passage of EMTALA due to ED overcrowding. Trzeciak and Rivers (2003) define ED overcrowding as “an extreme excess of patients in treatment areas, exceeding ED capacity and frequently necessitating medical care to be provided in ED hallways and other makeshift examination areas” (p.403). ED overcrowding results in delays in care, excessive waits for inpatient hospital admission, and poorer treatment outcomes (Trzeciak & Rivers, 2003). ED overcrowding is not isolated; it is a widespread phenomenon critically affecting the delivery of care in EDs across America. It is reported that 90% of large hospitals in the U.S. report that their EDs run “at” or “over” capacity (Lewin Group, 2002).

Populations that face multiple social and economic disadvantages, such as some minority and immigrant groups, are found to face greater barriers to accessing care in the ED due to overcrowding than other groups (Kennedy et al., 2004). Underprivileged groups frequently report that prolonged wait times, as well as cost, and insurance coverage concerns, hinder their access to care (Kennedy et al., 2004). Lambe et al. (2003) found that hospitals located in low-income neighborhoods had significantly longer wait times than hospitals located in neighborhoods of average socioeconomic status.

Quality of Care

While ED providers are well-trained and intend to provide the best care to all patients, constraints on time, beds, and other resources can compromise care. Delays in treatment due to excessive demand have been linked with increased morbidity and mortality among patients seeking care for acute conditions in the ED, including delays in treating time-sensitive conditions such as myocardial infarction, acute stroke, surgical emergencies, and severe sepsis (Derlet & Richards, 2002). Constraints on provider time and demands on time elsewhere in patient care delivery in the ED caused by patient volume can contribute to “system” errors. These errors threaten patient safety and include problems such as medication errors or inadequate attention paid to patients (Trzeciak & Rivers, 2003).

Attitudes Toward Care

While first-hand experiences and word-of-mouth about poor quality care and outcomes due to ED resource constraints affect patient attitudes, the drivers of resource constraints affect provider attitudes. Revisions, reinterpretation, and increased enforcement of EMTALA have shaped the manner in which hospital administrators and providers deliver emergency care. EMTALA interpretation and enforcement has become “increasingly punitive” and greater demands are being placed on the law as a last resort for care for the burgeoning numbers of uninsured (Committee on Pediatric Emergency Medicine, 2004, p.879). Hospital administrators bemoan the financial liability that EDs assume because they often serve as an open door for patients without means to pay (who may subsequently require admission and extensive treatment) (Kennedy et al., 2004). The increasing demands placed on hospitals to comply with EMTALA can strain attitudes about the burden to care for the uninsured and other safety net patients.

Organization and Financing of Care Delivery

The organization of care delivery within the ED is a product of financing and legal obligations. The number of hospital beds per capita has decreased 39 percent in the U.S. between 1981 and 1999 due to cost-containment efforts (Trzeciak & Rivers, 2003). The bed shortage has made hospitals ill-equipped to handle surges in patient volume (Trzeciak & Rivers, 2003). Other financial challenges impacting ED care include the unfunded EMTALA mandate. EMTALA requirements are estimated to cost emergency care facilities over \$425 million annually, yet no mandate for reimbursement accompanies the EMTALA mandate to provide care (Committee on Pediatric Emergency Medicine, 2004).

Affordability and Accessibility

While open to all for emergent care regardless of ability to pay, the ED is not “free.” The patient is charged according to the usual rate for ED services—up to three times the usual price for non-emergent care (Thompson & Glick, 1999). Bills are sent to the patient, requiring payment in full. If payment is not received by the hospital, the patient may have the opportunity to apply for full or partial debt forgiveness with the hospital. If no forgiveness program is offered at the hospital, or if the patient doesn’t qualify, bills will continue to be sent. If not paid, the debt will go to collection.

Though not free, ED care is often readily accessible geographically. EDs are the largest and most readily available safety net provider in the nation, often requiring little travel time in urban areas before arriving at an ED for care (Asplin, 2001).

Community Health Centers

Supply and Demand of Care

Care at CHCs is in demand, flanked by waiting lists and driven largely by word-of-mouth from patients. Nationally, there are 1200 CHCs, operating in 6000 urban and rural sites in every state and territory in the U.S. and estimated to serve 16.3 million people this year (Iglehart,

2008). Approximately 40% of CHC patients are uninsured and thus pay according to a sliding fee scale based on the patient's ability to pay (Iglehart, 2008). Similar to EDs, as the economy declines—further exacerbating difficulties in obtaining employer-sponsored health insurance (ESI)--individuals become uninsured and a greater demand is placed on CHCs for care. However economic decline also hinders CHC expansion and resources, with Medicaid often facing cutbacks during times of economic decline (Iglehart, 2008).

There is a great and growing demand for health care at CHCs among Hispanics. Reports show that Hispanics comprise the largest racial or ethnic minority group of CHC patients, consisting of 35 percent of all CHC patients (National Association of Community Health Centers, Inc., 2003). Furthermore, one of five Hispanics uses a CHC as his regular source of care (Commonwealth Fund, 2001). CHCs are mentioned in the research literature and in policy recommendations as a means to improve access to health care, given the burgeoning numbers of uninsured Hispanics (Casey, Blewett, & Call, 2004).

Demand is further increased by the universal CHC “open-door policy” to treat all regardless of ability to pay or documentation status. Documentation status, including families of mixed documentation status, pose barriers for immigrants to obtaining health care and family insurance coverage (Capps, Kenney & Fix, 2003; Mueller et al., 2004). Passed and proposed legislation in numerous states requiring health care workers to report immigration violations has engendered fear among immigrants when seeking care (Bernstein, 2006). Because CHCs do not inquire about immigration status and treat all patients equally, many immigrants may see them as a safe haven for care.

Attitudes and Culture of Care Delivery

Shi et al. (2001) concluded that the absence in health disparities among CHC patients was due to the provision of culturally competent services that other sites of primary care delivery

often lack. One of the five federal requirements for a CHC to receive funding under Section 330 of the Public Health Services Act is to provide “enabling services” (Proser, 2003, p.4). Enabling services include culturally and linguistically appropriate services, such as ready availability of medical interpreters and/or bilingual providers and staff (Proser, 2003). Hadley, Cunningham, and Hargraves (2006) found that Spanish-speaking Hispanics had the largest improvements in access to care due to expanded CHC funding of any racial/ethnic group among low-income people. Spanish speakers are also more likely to use CHCs than English-speakers because of the availability of on-site interpreters maintained at CHCs and the fostered cultural sensitivity (Hadley, Cunningham, and Hargraves, 2006).

The linguistic and cultural competency found among CHC staff facilitates communication and guidance between staff and patients. In a 2001 survey of CHC patients, 95% of patients reported that their doctor spoke their same language (Proser, 2003). CHCs commonly employ bilingual case workers whose duties can include serving as resources to immigrants as they learn to navigate the complexities of the U.S. health care system and helping to connect them with needed care beyond the scope of the primary care provided by CHCs.

Organization of Care Delivery

The structure of care delivery in CHCs unintentionally resembles the health service facilities in many Latin American countries. A CHC is a medical home that often houses multiple health care services in one facility such as obstetrics and gynecology, pediatrics, laboratory, health education programming, mental health services, pharmacy, and radiology (Proser, 2003). This further reduces the challenges of navigating specialty care in an unfamiliar, fragmented health care system, potentially resulting in greater comfort with and use of primary and preventive care.

Availability of Resources

CHCs face a physician shortage. It is difficult to recruit physicians because hospitals and medical groups can offer them higher salaries than CHCs. The shortage of physicians, particularly in rural areas, resulted in 809 total vacancies at CHCs across the nation (Rosenblatt et al., 2006). The provision of specialty care poses special challenges for CHCs as it is difficult to locate specialists who will treat uninsured patients (Iglehart, 2008). Further, fewer than one in five CHCs is affiliated with a medical school or hospital, thus further hindering access to specialized physicians and other resources (Iglehart, 2008).

Policy Influences on the Safety Net

Paying for Care of Recent Immigrants

Several macro-level policies influence safety net viability and utilization. First, the Medicaid eligibility criterion that defines the low income population is a significant impediment to accessing public health insurance for immigrants. The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996—more commonly referred to as “welfare reform”—is largely responsible for a national decline in public coverage among immigrants (Cunningham et al., 2006). Welfare Reform created a formidable barrier for immigrants attempting to obtain health insurance by legally restricting their access to public coverage. The provisions in the Act bar all immigrants who entered the country after the law was enacted on August 22, 1996 from receiving non-emergency Medicaid or other public assistance for their first five years they are in the U.S. (U.S. Congress, 2002). PRWORA left many immigrants without any recourse for obtaining health insurance during the first years in the U.S.—a time in their lives when they have the least English proficiency, the least money, and their employment is least likely to offer ESI.

Though states are barred from using federal money to fund health insurance programs for immigrants under Welfare Reform, states have the option to use state and local funds to cover immigrants barred from Medicaid or State Children's Health Insurance Program (SCHIP) (Zimmerman & Tumlin, 1999). However, only two (Nebraska and Colorado) of the ten states experiencing the greatest percent increase in immigration between 1990 to 2000 offer state-funded coverage for immigrants ineligible for Medicaid and SCHIP (Fremstad & Cox, 2004).

Policy and Payments for Care for the Undocumented

The safety net absorbs the costs of providing care for the undocumented as federal laws governing payment of care for the undocumented have resulted in a patchwork of scarce funds and inconsistent policy. Covering payment for health care for this population differs among states and, in some instances, among hospitals in the same state (Campbell, Sanoff & Rosner, 2010). Currently, there are three sources of funding for health care for the undocumented: 1) emergency Medicaid; 2) disproportionate share payments; 3) Medicare Prescription Drug and Modernization Act payments. A complex and inconsistent history led to the patchwork of federal funds providing threadbare payments for care to the undocumented. The 1986 Omnibus Reconciliation Act included enactments to prohibit federal Medicaid payments for care for undocumented persons (except for emergency care for those otherwise eligible for Medicaid by income requirements) and to establish EMTALA (Consolidated Omnibus Reconciliation Act of 1985, Public Law No: 99-272, 100 Statute 82.). In 1996, the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) denied all public state and local benefits to undocumented immigrants, requiring states to pass their own new legislation if they chose to provide benefits for undocumented persons (Personal Responsibility and Work Opportunity Reconciliation Act of 1996, Public Law 104-193, 110 Statute 2105). In the same year, the Illegal Immigration Reform and Immigrant Responsibility Act essentially denied health care for

undocumented persons, requiring specific documents to prove legal documentation status in order to receive care (Public Law 104-208). The Balanced Budget Act of 1997 acted conversely to previous legislation concerning care for the undocumented and, rather than further deny care or funding, instead provided funding in the amount of \$25 million annually from 1998 through 2001 to the 12 states which had the most undocumented persons. The trend towards funding continued with the 2003 passage of the Medicare Prescription Drug, Improvement and Modernization Act which included a provision for \$250 million from 2005 to 2008 to hospitals and eligible providers for emergency care delivered to undocumented persons (Public Law No. 108-173).

Paying for Uncompensated Care

Medicaid payments are not only critical to covering individual Medicaid beneficiaries, but also to financing the safety net. Medicaid payments are used to offset the costs of uncompensated care, provide cost-based reimbursement to community health centers, and finance (in conjunction with Medicare) 30 percent of uncompensated care at safety net hospitals through federal disproportionate share hospital (DSH) subsidies. DSH subsidies are the mechanism through which Medicare and Medicaid make large payments to hospitals to assist with the costs of uncompensated care. Under the DSH adjustments applied to the prospective payment system (PPS), Medicare makes payments between \$6.2 and \$6.9 billion per year to hospitals that serve large numbers of patients who cannot pay (Hadley and Holahan, 2003). Medicaid DSH payments also subsidize hospitals that provide a large share of uncompensated care, reserving approximately \$8.4 billion in federal and state funds for DHS payments.

However, cuts in funding for DSH and other sources of hospital safety net funding threaten to weaken the safety net. To prevent the community and their organization from the potentially debilitating consequences of uncompensated care, health care organizations proactively work to manage uncompensated care costs while still serving as a safety net for the

uninsured. Nevertheless, the decline of Hill-Burton funds, the closing of non-profit and public hospitals, cuts in disproportionate share (DSH) funds, and lack of coordination between federal and state governments in offsetting uncompensated care costs endanger hospitals' ability to provide care to the uninsured (Weissman, 1996). Rising costs of care, lower operating margins, state budget cuts, and the rise in uninsurance further threaten hospitals' provision of safety net care (Silow-Carroll and Alteras, 2004).

Not only hospitals, but also CHCs feel the repercussions of a decline in safety net funding. With fewer Medicaid payments flowing into safety net providers, CHCs are receiving less reimbursement and struggling to find alternative means to funding. Such funding constraints limit safety net capacity and, subsequently, the number of patients whom can be seen.

Policies to expand CHCs offer promise for safety net growth and increased access to care for Hispanic immigrants and other safety net populations. One such policy has been community health center expansion grants. In 2001, the Bush administration began a five-year initiative to create 1,200 new CHCs. The goal of the Bush administration was to increase the number of patients treated at CHCs from 10 million in 2001 to over 16 million in 2006. In 2002, \$175 million was spent to award 460 new grants, expanding CHC services to an estimated 1.6 million new patients (Hoadley, Felland, & Staiti, 2004). Between 2001 and 2006, 900 community health centers were expanded or created, providing care to an additional 4.3 million Americans (Association of State and Territorial Health Officials [ASTHO], 2006).

Safety Net Use by Race, Ethnicity and Nativity

Research has shown higher rates of uninsurance among racial and ethnic minorities and foreign-born persons than White and U.S.-born persons, respectively (Kaiser Commission on Medicaid and the Uninsured, 2004; Thamer et al., 1997). Particular concerns exist regarding barriers to health insurance and health care and implications for ED utilization among persons of

foreign nativity. One in nine persons in the U.S. is foreign-born and foreign-born persons have less access to health care than those born in the U.S. (U.S. Census Bureau, 2000; Kaiser Family Foundation, 2000). Immigrants often face barriers to health care due to language barriers, documentation status, over-representation in low-wage jobs, lack of access to employer-sponsored health insurance, and immigrant ineligibility for Medicaid resulting from restrictions enacted by Welfare Reform (Flores et al., 1998; Ellwood & Ku, 1998; Ku & Matani, 2001; Shah & Carrasquillo, 2006). In particular, because of immigration trends among Hispanics, nativity is an important factor to consider in health care utilization among the Hispanic population. Immigration was a key force driving the 58 percent increase in Hispanic population in the 1990's (Pew Hispanic Center, 2005). Currently, half of all immigrants in the U.S. are from Latin America (Millard & Chapa, 2004). The U.S. Census bureau reports that immigration is a strong contributor to the projected 1.5 million annual increase in the U.S. Hispanic population (Schmid, 2006).

CHAPTER 3

THEORETICAL FRAMEWORK

The two frameworks applied in this study to defining and understanding safety net populations, health care delivery, and utilization are Andersen's "Model of Health Services Utilization" and Penchansky and Thomas' "Concepts of Access." Andersen's 1995 iteration of his "Model of Health Services Utilization" will serve to explain factors driving safety net health care utilization. Penchansky and Thomas' (1981) *Concepts of Access* will define the characteristics of health care delivery that determine at which safety net site a patient seeks care. According to recent research, the Andersen Model of Health Services Utilization is appropriate in predicting if Hispanic immigrants will use health services, but is not an appropriate indicator of which site for health services they will choose (Akresh, 2009). In light of this, the Andersen model is coupled with a model that suggests the factors on which an individual bases his or her decision about where to obtain health care.

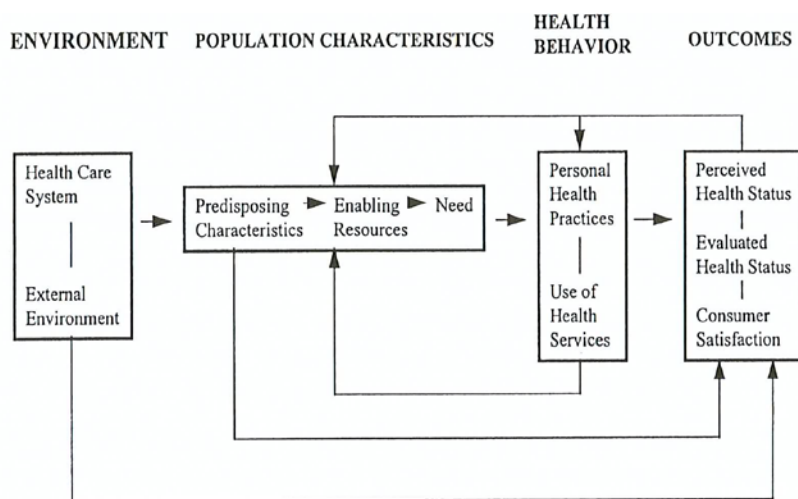
Theoretical Model Applied to Patient Safety Net Utilization

Andersen's Model of Health Services Utilization is designed to explain and predict how and why individuals or populations use health services (Figure 1). It addresses this by taking into account the many factors that influence whether or not one has access to and uses health services and the outcomes of that utilization. The original model sought to measure the use "of physician ambulatory care, hospital and physician inpatient services, and dental care which families consumed over a year's time" (Andersen, 1995, p. 3) and was developed "to assist the understanding of why families use health services, to define and measure equitable access to health care, to assist in developing policies to promote equitable access" (Andersen, 1995, p. 6).

Recent versions of the model seek to explain both personal health behaviors and the behavior of utilizing health services, in addition to the outcomes of these behaviors. In his latest

model, Andersen focuses on how the environment, population characteristics, health behavior and health outcomes interact to affect need for services, access to care, and results (Andersen, 1995). Environmental factors are key components in assessing how to best provide coverage and care for the Hispanic population and include access and ability to navigate the health care system; population characteristics, such as income, language, and need; the health behaviors, such as personal or cultural health practices; and outcome of perceived health status. Furthermore, Andersen believes that social status, which he defines as ethnicity, education, and health beliefs, influences one's utilization of health care. Also important in Andersen's model as it relates to cross-cultural application are the "enabling resources" discussed in the model. Such resources include health facilities available in one's community, annual income, transportation to the facility, and insurance status. Using the Andersen model as a guide facilitates understanding the wide range of barriers preventing safety net populations from obtaining health care through the mainstream U.S. health care system and ultimately leaving their health care needs to be met by the safety net.

Figure 1. Andersen's Emerging Model of Health Services Utilization (Andersen, 1995)



Theoretical Model Defining Differences in Safety Net Health Care Delivery

Penchansky and Thomas' (1981) *Elements of Access*, defines the overarching characteristics of health care delivery that determine where a patient seeks care. Penchansky and Thomas portend that access reflects the fit between characteristics and expectations of providers and the clients. Their framework is based on the concept of the system's ability to meet the needs of the patient and offers five dimensions across which to measure this. Those five dimensions are availability, accessibility, accommodation, affordability, and acceptability.

First, *availability* measures the extent to which the provider has the resources necessary to meet patient needs. Second, *accessibility* refers to geographic accessibility. That is, how easily the patient can physically arrive at the provider clinic. Third, *affordability* is defined by the

provider's price for health care compared to the client's ability and willingness to pay for services. Fourth, *acceptability* refers to how comfortable the patient is with the provider, taking into account response to patient characteristics such as ethnicity, culture, gender, socio-economic status, and health insurance status. Finally, *accommodation* reflects the organization of health care delivery and the extent to which it meets the patient's needs and preferences.

Figure 2. *Penchansky's Elements of Access* (Penchansky & Thomas, 1981)

Penchansky's Elements of Access	
Demand compared to supply:	Availability
Location, travel resources:	Accessibility
Income compared to price:	Affordability
Attitudes and culture:	Acceptability
Organization of care:	Accommodation

Application of Models

Both of the two aforementioned models offer a necessary characteristic to define the safety net population and their use of health care. Andersen's "Model of Health Services Utilization" explains the interplay of ethnicity and external factors driving safety net health care utilization. Penchansky and Thomas' "Elements of Access" define health care delivery characteristics that determine at which safety net site, CHC or ED, a patient seeks care. Application of the models to the research at hand is presented in Figures 3 and 4.

Each of the factors of Andersen's model affects the need for and use of health care by many minority and immigrant populations. Within the *environment* component of Andersen's model, how foreign or familiar the health care system feels may make immigrants feel intimidated or comfortable in navigating it. Specific attributes within the health care system may contribute to how a recent immigrant or member of an underserved population may feel, including attributes such as: similarity of health care system to that in home country; enabling programs; provider ratios; and ethnic/racial/language concordance of provider.

Andersen defines *population characteristics* as *predisposing characteristics*, *enabling resources*, and *need*. *Predisposing characteristics* apply to safety net populations through cultural beliefs towards medical care, perceived health status, frequency of health care use, and prior experience with U.S. or other health care system. *Enabling resources* may include socioeconomic status, job flexibility, country of origin, citizenship, acculturation, immigration status, lack of health insurance, and/or perceived discrimination when applied to safety net users. Finally, *need* encompasses the pain, medical history, acute injury, impairment to job performance, and/or chronic disease that drives the need for care.

Figure 3. Penchansky and Thomas' (1981) *Elements of Access* as they apply to safety net utilization among Hispanic immigrants.

	Emergency Department (ED)		Community Health Center (CHC)	
	Limitations (-)	Positive attributes (+)	Limitations (-)	Positive attributes (+)
Availability <i>(Supply and demand)</i>	<ul style="list-style-type: none"> -90% are over capacity -Delays in receiving care -Excessive demand for services in low-income areas where immigrants commonly live -Primary care unavailable 	<ul style="list-style-type: none"> +Specialty care readily available 	<ul style="list-style-type: none"> -Specialty care not readily available, difficult to access -Wait lists for appointments, demand exceeds supply -Provider shortage 	<ul style="list-style-type: none"> +Primary care available
Accessibility <i>(Location, travel resources)</i>		<ul style="list-style-type: none"> +Numerous locations in most cities +Minimal travel required 	<ul style="list-style-type: none"> -Many towns without an FQHC -Lengthy travel may be required; can present challenges if transportation not readily available 	<ul style="list-style-type: none"> +Located in medically underserved areas*
Affordability <i>(Income compared To price)</i>	<ul style="list-style-type: none"> -Patient charged full rate for care -Bills, debt, collection ensue without payment -Already low-incomes of immigrants may suffer garnished wages to pay for 	<ul style="list-style-type: none"> +Emergent care regardless of ability to pay 		<ul style="list-style-type: none"> +Primary care available to all, regardless of ability to pay* +Sliding fee scale based on ability to pay

	<p>care</p> <p>-Immigrants fear high cost of care</p>			
<p>Acceptability</p> <p><i>(Attitudes and culture)</i></p>	<p>-Federal policies about immigration engender fear about use of ED</p> <p>-Time constraints, delays in treatment compromise quality, outcomes</p> <p>-Medical foreign language interpreters in short supply, unfunded mandate to provide language interpretation hurts attitudes towards language provision</p> <p>-Increasingly punitive EMTALA policies create negative attitudes towards caring for uninsured</p> <p>-Hospitals view EDs as financial liability</p>			<p>+“Don’t ask, don’t tell” policy toward documentation status</p> <p>+95% of patients speak same language as provider</p> <p>+Culturally, linguistically competent staff *</p> <p>+Incentive-based system; performance makes organization competitive for federal grants</p>
<p>Accommodation</p> <p><i>(Organization of care)</i></p>	<p>-Only emergent care</p> <p>-Cost-containment strategies due to unfunded EMTALA mandate cause resource shortages</p>	<p>+Must meet quality requirements to be JCAHO accredited</p>		<p>+Primary and preventive Care</p> <p>+Resembles care delivery structure in Latin America</p> <p>+Serves as a “medical home”, centralized,</p>

				<p>coordinated care delivery</p> <ul style="list-style-type: none">+Governed by community boards comprised of patient majority*, immigrants' represented in governance+Federally accountable for quality and performance*+Social services to assist patients with coordination and financing of care*
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Application of 'Elements of Access' to Hispanic Immigrants Choices in Safety Net Providers

Availability

The excess in demand compared to supply characterizing both ED and CHC services, particularly among uninsured and disadvantaged populations, results in diminished capacity among both types of service providers to provide services to patients such as Hispanic immigrants. The difference is that EDs have access to specialists, while such care is infrequently available at CHCs and may be difficult to secure for uninsured patients.

Accessibility

Overall, EDs are more geographically accessible than CHCs. EDs are located in numerous locations throughout most cities, requiring minimal travel time in urban areas. Thus, EDs may be more geographically accessible to Hispanic immigrants than the less numerous CHCs. Barriers to transportation faced by many immigrants present a further challenge to traveling to a CHC if one is not located nearby. However, because CHCs are required to be located in neighborhoods that are federally designated as “medically underserved”, the CHCs in existence are all located so they can be immediately accessible to the target population in their community.

Affordability

Both CHCs and EDs treat all patients regardless of ability to pay, though, financially, CHCs are a more attractive option. The chief differences between the two are the type of care provided and the ramifications of receiving “free” care. Under EMTALA, EDs only offer emergency services to all, while the mission of CHCs is to offer primary and preventive services to all. Care received at an ED will eventually be followed by a bill and attempts to collect on the debt owed for care. CHCs do not make such attempts and determine at the time of service what

the patient is able to pay, and charge the patient accordingly. This results in less stress for the patient, without fear of creating debt by seeking care. Further, preventive care can prevent emergency health conditions and the subsequent fear of payment for costly emergency services.

Acceptability

CHCs carry an array of attributes in both their culture of care delivery and their attention to cultural competency that would make them much more appealing to immigrant populations than the care provided at EDs. Knowledge that one will be cared for by providers who speak one's language in an environment that is sensitive to one's cultural background offers incentive for recent immigrants to choose CHCs as their source of care. Further, the culture of care delivery toward uninsured patients at an CHC may be more positive than that of an ED, making patients feel accepted rather than judged due to their insurance or financial status. CHCs were founded on a mission to provide care to the underserved. That mission continues due to the federal requirements for becoming federally qualified and receiving federal grant money. On the other hand, EDs provide care for the uninsured due to fear of punitive enforcement measures linked to EMTALA.

Accommodation

The organization of care at CHCs is another incentive for Hispanic immigrants to choose such facilities for their care. The structure of care delivery, with multiple services housed together in a single facility, resembles the structure of delivery they are familiar with in their home countries. Therefore, Hispanic immigrants may feel comfortable in the CHC setting and experience less stress than if navigating the normally fragmented U.S. system of specialty-based care.

CHCs are also designed to serve as a "medical home" for patients, fostering patient-provider relationships and coordinated, centralized care. This system of care is preferable to

patients over the range of “unknowns” that a patient enters each time they use the ED. That is, each visit requires the patient to answer the same questions to provide medical information that would already be readily available in medical records at a medical home. Apprehension about receiving care from an unfamiliar provider and about language access services causes stress when seeking care at an ED that would not be faced when seeking care at a CHC.

CHAPTER 4

METHODS

Data

Data for analysis will be obtained from merging 2006 and 2007 data from the National Health Interview Survey (NHIS) to build a sample with sufficient size to look at narrow sub-groups. The NHIS contains information about utilization of health services, health care access, health status, and demographic information. In addition to the Person Level core questionnaire, the primary set of survey questions asked of all respondents, additional interview questions regarding health status, health insurance, and access to and utilization of health services are asked of each family in the NHIS survey. Data from this additional survey component, the Adult Health Care Access and Utilization Section of the Sample Adult File, will provide variables about CHC utilization for this study. To include data on CHC use with the data from the core questionnaire, the Adult Sample interview data file will be merged with the main Person Level file. NHIS data includes person-level weights to account for each household's equal probability of selection, to reflect population distributions, to adjust for national population estimation, and to adjust for non-response.

Study Sample

Only respondents who reported race/ethnicity as non-Hispanic White, non-Hispanic Black, or Hispanic, were aged 18 years or older, and who reported a usual source of acute care will be included in the study. Responses of "refused", "not ascertained", or "don't know" for the question asking where the respondent usually seeks acute care will be recoded as missing and not included in the sample. Further descriptive analyses will be based on a sub-sample of respondents who selected the response "community health center or public clinic" or "hospital emergency department" when asked where they usually seek acute care.

Measures

The variable for Hispanic ethnicity will include all persons who reported their ethnicity as 'Hispanic.' The variables for White and Black will consist of respondents who reported their race as 'non-Hispanic White' or 'non-Hispanic Black.' A variable will be created to include respondents who cited 'Hispanic' ethnicity and who said they were born outside the U.S. In addition, the created variable for foreign-born Hispanic will be further analyzed to include reported U.S. citizenship status. The citizenship variable and its derivatives will be used in descriptive analyses, but not in multivariate analyses due to issues of collinearity with variables of race and ethnicity.

Measures by Objective

Objective 1: Examine the association between patient race/ethnicity and usual source of safety net care:

Race/ethnicity will include non-Hispanic White, non-Hispanic Black, and Hispanic.

“Safety net” care sources will consist of community health centers and hospital emergency departments.

Objectives 2 and 3: Examine predictive factors of patients using CHCs/EDs as a usual source of care by race/ethnicity, nativity, citizenship. Description of the socio-demographic, health access, and health status characteristics of CHC/ED users:

Race/ethnicity will be categorized by the following five groups: Non-Hispanic U.S. born White, non-Hispanic U.S. born Black, U.S. born Hispanic, foreign-born Hispanic of U.S. citizenship, and foreign-born Hispanic of foreign citizenship.

Socioeconomic variables will include age, gender, marital status, income and education.

Variables pertaining to health care access will include uninsurance, type of insurance coverage, availability of employer-sponsored health insurance, and having a usual source of preventive care. Health status variables include self-reported health status, having had an overnight hospital stay, number of nights spent in the hospital in the past year, and number of visits to the emergency department in the last year. Health status variables will also include reported medical history including disability, body weight, cardiovascular disease, stroke, diabetes, hypertension, and heart attack.

Analysis

Chi-square statistics will be used to investigate differences in CHC and ED utilization as a regular source of care by race/ethnicity, U.S./foreign nativity, and U.S./foreign citizenship within the following groups: Non-Hispanic U.S. born White, non-Hispanic U.S. born Black, U.S. born Hispanic, foreign-born Hispanic of U.S. citizenship, and foreign-born Hispanic of foreign citizenship. Bivariate analyses will also identify characteristics associated with patients who use CHCs and EDs as a regular source of care within each of the aforementioned racial/ethnic groups.

Multivariate logistic regression will be used to predict the odds of using a CHC or an ED as a usual source of care, adjusting for socioeconomic, health access, and health status factors. Stratified analyses will allow the research to examine how the adjusted effects of independent variables differ for each racial and ethnic or nativity status category. Multinomial logit regression will model the effects of race, ethnicity, or nativity on the likelihood of choosing one source of safety net care over others, adjusting for other factors. All analyses will be performed using Stata 10 statistical software (StataCorp, College Station, TX). Study results will be adjusted for the complex survey design of the NHIS.

Analyses by Objective

Objective 1: Examine the association between patient race/ethnicity and usual source of safety net care:

Variables for each response option for usual source of acute care will be dichotomized. Univariate results will be stratified by race/ethnicity and nativity. Multivariate logistic regression analysis will estimate adjusted odds ratios of usual source of care by race/ethnicity.

Objectives 2 and 3: Examine the predictive factors of patients using CHCs/EDs as a usual source of care by race/ethnicity, nativity, citizenship and likelihood of choosing one source of care over another by race/ethnicity. Description of the socio-demographic, health access, and health status characteristics of CHC/ED users:

The variables representing CHC use and ED use will each be dichotomized. Bivariate chi-square analyses of subsets of CHC users and ED users will identify crude socio-demographic, health access, and health status predictors of CHC use and ED use. Multivariate logistic regression analyses will estimate the odds of CHC use and ED use by race/ethnicity and nativity, adjusting for insurance status, income, age, marriage, education, gender, region of country, and health status. Stratified analyses will identify the odds of using a CHC and an ED by race/ethnicity stratified by nativity and by nativity stratified by race/ethnicity. Multinomial logit regression will model likelihood for each racial/ethnic/nativity group of using an ED, other source or care, or no usual source of care compared to using a CHC.

CHAPTER 5

RESULTS

Descriptive Characteristics by Race/Ethnicity

Socio-demographic Characteristics

Table 1 describes study variables by race/ethnicity and Hispanic nativity. Non-Hispanic U.S.-born Whites (hereafter referred to as “Whites”) were older than the other groups, with less than half (46.6%) under age 35 and 13.6% over age 65, while U.S.-born Hispanics were the youngest group with over half (81.4%) under age 35 and only 3.1% over age 65. Over half of White and foreign-born Hispanic populations, respectively, were married (55.6% of both) and approximately one-third of non-Hispanic U.S.-born Blacks (hereafter referred to as “Blacks”) (31.3%) and one-third of U.S. born Hispanics (33.4%) were married. Nearly three-quarters of Whites (73.3%) and three-fifths (58.3%) of Blacks had at least a high school education, while only two-fifths of U.S.-born Hispanics (41.9%) and of foreign-born Hispanics (41.2%) had a high school diploma. Similar to education, there was great disparity in income levels by race/ethnicity and nativity. Compared to non-Hispanic Whites, Blacks and U.S.-born Hispanics reported income levels below the poverty line at approximately a 10% higher rate, and foreign-born Hispanics reported poverty-level earnings at rate 23.7% higher, with over half (51.9%) reporting living below federal poverty level. Of foreign-born Hispanics, one-third (31.4%) were U.S. citizens and fewer than half (38.96%) had been in the U.S. for at least 10 years.

Table 1: Percentages for selected characteristics by race/ethnicity and Hispanic nativity (n=109,485).

<i>Characteristic</i>	<i>U.S. Born Non-Hispanic White (n=61,497) %</i>	<i>U.S.-born Non-Hispanic Black (n=17,477) %</i>	<i>U.S.-born Hispanic (n=17,251) %</i>	<i>Foreign-born Hispanic (n=13,260) %</i>
Gender				
Male	46.6	44.9	48.9	48.8
Female	53.4	55.1	51.1	51.2
Marital status				
Married	55.6	31.3	33.4	55.6
Widowed	5.8	6.2	2.6	3.3
Divorced /Separated	8.7	13.0	8.0	8.7
Never Married	24.3	43.5	50.2	25.9
Living with Partner	5.6	6.0	5.8	6.5
Age				
<18	26.01	37.0	60.1	11.4
18-34	20.6	22.8	21.3	38.4
35-64	39.7	31.6	14.6	43.2
≥ 65	13.6	8.6	3.1	7.0
Education				
<High School Diploma	26.7	41.7	58.1	58.8
High School Diploma/GED	25.3	24.6	18.5	21.8
Some College	16.3	16.0	12.7	8.0
College Degree	23.8	14.5	9.3	9.3
Graduate Degree	7.9	3.3	1.4	2.1
Years in U.S.				
<1	-	-	-	1.4
1 to 4	-	-	-	14.9
5 to 9	-	-	-	22.6
10 to 14	-	-	-	14.7
≥15	-	-	-	46.3
U.S. Citizen	100.0	100.0	100.0	31.4
Income by Federal Poverty Level				
<100%	28.2	37.5	38.8	51.9
101% - 200%	24.0	30.5	30.6	30.0
201% - 300%	24.4	21.4	19.4	12.4
>300%	23.4	10.7	11.3	5.7
Uninsured	9.7	14.8	19.6	50.8

Table 1: (Continued) Percentages for selected characteristics by race/ethnicity and Hispanic nativity (n=109,485).

*Months without coverage in the past year				
1-3	42.6	45.1	33.9	23.8
4-6	27.2	24.2	30.4	32.3
7-9	12.9	12.8	15.1	15.7
10-12	17.3	17.9	20.6	28.3
Privately Insured	74.2	50.2	42.8	30.8
Medicaid	6.8	23.6	29.4	11.7
Insurance offered by workplace	69.6	72.9	64.9	39.8
Self-Reported Health Status				
Excellent	37.6	32.9	37.4	27.0
Very Good	31.7	26.3	28.5	26.5
Good	21.9	28.1	27.2	34.2
Fair	6.6	9.7	5.8	9.8
Poor	2.3	3.0	1.1	2.5
Have usual place of acute care	87.6	86.1	77.1	67.4
Usual place of acute care				
Clinic or health Center	15.7	19.0	26.7	34.9
Doctor office or HMO	81.2	75.0	68.4	58.2
Emergency Department	0.7	2.6	1.6	2.8
Hospital Outpatient Department	0.9	2.4	1.8	2.3
Some other place	0.8	0.4	0.6	0.8
Doesn't go to only one place	0.8	0.6	0.9	1.6
*ED visits in past 12 months				
0	79.5	73.2	80.1	84.0
1	13.2	14.9	12.5	10.2
2	5.4	8.3	5.6	4.4
3	1.1	2.0	0.8	0.8
>4	0.8	1.6	1.1	0.8
Diagnosed with diabetes	7.3	10.6	7.6	6.8

Table 1: (Continued) Percentages for selected characteristics by race/ethnicity and Hispanic nativity (n=109,485).

Diagnosed with cancer	8.5	5.0	4.1	2.9
Diagnosed with asthma	11.2	11.9	11.2	7.1
Diagnosed with hypertension	27.4	34.3	20.4	18.8
Diagnosed with coronary heart disease	4.5	3.9	2.4	2.5
Had a heart attack	3.5	3.2	2.0	1.8
Had a stroke	2.5	3.4	1.6	2.0
*Told to lose weight	18.8	21.2	19.9	16.9
*Usual place of health care was not open sometime when you needed it	3.0	2.7	2.8	2.4
*There a time no transportation prevented you from going to the doctor	1.5	3.5	2.3	2.1
*There a time when you couldn't afford prescription drugs	8.3	12.0	10.7	10.6
*There a time you delayed medical care due to cost	7.6	7.2	5.7	9.1
*There a time you needed care and couldn't get it due to cost	5.4	6.1	4.6	7.8
*Stayed in the hospital overnight	8.4	8.6	7.3	6.4

Table 1: (Continued) Percentages for selected characteristics by race/ethnicity and Hispanic nativity (n=109,485).

*Number of times in the hospital overnight (Of those who were in the hospital overnight)				
1	76.9	72.6	85.1	82.0
2	14.0	16.3	10.3	9.9
3	4.5	6.0	1.9	3.2
4	2.0	1.8	0.9	2.1
>5	2.5	3.3	1.8	2.7

*Within the past 12 months

Health Insurance Status

A notable disparity existed in health insurance coverage among groups by race/ethnicity and nativity. Blacks and U.S.-born Hispanics had similar rates by insurance status and type of insurance, while Whites and foreign-born Hispanics showed marked differences. As poverty rates would suggest, rates of uninsurance were the highest among foreign-born Hispanics. Over one-half (50.8%) reported having no health coverage of any kind contrasted to 9.7% of Whites and 14.8% of Blacks, and 19.6% of U.S.-born Hispanics. Among the uninsured, 44.0% of foreign-born Hispanics had been without any coverage for over 6 months, compared to approximately one-third each of Whites, Blacks, and U.S.-born Hispanics. Three-quarters of Whites were privately insured compared to less than one-third (30.8%) of foreign-born Hispanics. Blacks and U.S.-born Hispanics had the highest rates of public insurance (23.6% and 29.4%, respectively). Whites and foreign-born Hispanics were publicly insured at less than half the rates of Blacks and U.S.-born Hispanics, with 6.8% of Whites and 11.7% of foreign-born Hispanics reporting Medicaid coverage. Finally, foreign-born Hispanics reported that their employer offered health insurance far less frequently than other groups, with 39.8% of foreign-born Hispanics reporting that their workplace offers insurance, compared to approximately two-thirds of Whites (69.6%), Blacks (72.9%), and U.S.-born Hispanics (64.9%).

Health Status

The largest proportion of respondents to the question “How do you rate your current health status?” of both Whites and U.S.-born Hispanics, over 37%, reported “excellent” health, while approximately 33% of Blacks and 27% of foreign-born Hispanics reported “excellent” health. Whites and U.S. born-Hispanics reported fair and poor health status at similar rates (8.9% and 7.9%, respectively) while Blacks and foreign-born Hispanics each comparably reported fair and poor health at just over 12%. Foreign-born Hispanics reported the lowest rates among the ethnic groups of having been diagnosed with diabetes, cancer, asthma, hypertension, coronary heart disease, heart attack or overweight. Rates among Whites, Blacks, and U.S.-born Hispanics were comparable among reported health conditions, though Blacks reported have been diagnosed with diabetes (10.6%) and hypertension (34.3%) at nearly a one-third higher rate than either Whites or U.S.-born Hispanics.

Usual Place of Care

Results by race/ethnicity from those reporting they have a usual place of acute care, defined as responding to the question “Where do you usually go for care when sick?”, are displayed in Table 2. The majority in every racial/ethnic group considered a “doctor’s office or HMO” as their usual place of care. Over four-fifths of Whites and three-fourths of blacks reported a doctor’s office or HMO as their source of care, while 68.4% and 58.2% of U.S.-born and foreign-born Hispanics, respectively, reported doctor office or HMO as their usual source. “Clinic or health center” was the second most-chosen response within each group, selected by 15.7% of Whites, 19.0% of Blacks, 26.7% of U.S.-born Hispanic and over one-in-three (34.9%) of foreign-born Hispanics. “Emergency department” and “hospital outpatient department” were the least reported, with fewer than 3% of respondents in any racial/ethnic group reporting using the ED or using a hospital outpatient department as their usual place of care. Whites reported regular use of these

sources less than other groups, with less than 1% reporting using an ED and less than 1% reporting using a hospital outpatient department. U.S.-born Hispanics reported use of the ED and hospital outpatient department the second-least of the racial/ethnic groups, with 1.6% reporting using an ED and 1.8% reporting using a hospital outpatient department as their usual source of care. Blacks and foreign-born Hispanics use EDs and hospital outpatient departments at the highest rate. Among Blacks, 2.6% report using the ED and 2.4% said they use hospital outpatient departments as their usual source of care. Among foreign-born Hispanics, 2.8% reported using an ED and 2.3% reported using a hospital outpatient department as their usual source of care. Foreign-born Hispanics were also nearly twice as likely as any other group to say that did not go to only one place for care, with 1.6% reporting such compared to less than 1% in each of the other groups.

Table 2: Usual place of acute care by race/ethnicity and Hispanic nativity (n=80,683).

Usual place of acute care	Non-Hispanic White (n=48,533) %	Non-Hispanic Black (n=13,871) %	U.S.-born Hispanic (n=10,962) %	Foreign-born Hispanic (n=7,317) %
Clinic or health center	15.70	19.14	26.72	34.89
Doctor office or HMO	81.14	74.90	68.40	58.23
Emergency Department	0.68	2.51	1.60	2.17
Hospital Outpatient Department	0.94	2.40	1.79	2.30
Some other place	0.80	0.40	0.63	0.83
Doesn't go to only one place	0.74	0.65	0.87	1.57

Table 3 shows the results by race/ethnicity of respondents who selected a safety net provider as their usual source of care, defined as those who responded “clinic or health center” (CHC) or “emergency department” (ED) to the question “Where do you usually go for care when sick?” Of non-Hispanic Whites, U.S.-born Hispanics, and foreign-born Hispanics who responded they use a CHC or ED, approximately 95% in each group chose CHC. Non-Hispanic Blacks chose CHC at a lower rate (88.4%) than other groups and chose ED (11.6%) at over twice the rate of the other groups.

Table 3: Those who reported using a CHC or ED as their usual source of acute care by race/ethnicity and Hispanic nativity (n=18,178).

	<i>Non-Hispanic White</i>	<i>Non-Hispanic Black</i>	<i>U.S.-born Hispanic</i>	<i>Foreign-born Hispanic</i>
	%	%	%	%
Usual Source of Acute Care				
CHC	95.83	88.41	94.36	94.14
ED	4.17	11.59	5.64	5.86

Health Care Utilization

Foreign-born Hispanics reported less health care utilization than other groups. They were less likely to report having a usual place for acute care than other groups with only two-thirds reporting having a place they usually go when sick compared to over four-fifths each of Whites and Blacks, and over three-fourths of U.S.-born Hispanics. Foreign-born Hispanics also reported having stayed in the hospital overnight in the past year at a lower rate than other groups, as well as reporting the lowest rate of ED utilization in the past year of the racial/ethnic groups. Of foreign-born Hispanics, 16% reported having visited the ED at least once in the past year compared to approximately 20% of Whites and of U.S.-born Hispanics.

Responses to questions “Was there a time you delayed medical care due to cost in the past 12 months?” and “Was there a time you needed care and couldn’t get it due to cost in the last 12 months?” are consistent with foreign-born Hispanics’ lower reported rates of care utilization. They reported “yes” to each of the aforementioned questions at a higher rate than the other racial/ethnic groups.

Blacks also reported facing certain barriers to primary health care at higher rates than other groups. Blacks were more than 50% more likely than any other race/ethnicity to say “yes” to the question “Was there a time that no transportation prevented you from going to the doctor in the past 12 months?” In addition, Blacks reported barriers to affording prescription drugs at a higher rate than other groups. Blacks reported the highest rate of ED utilization of the racial/ethnic groups, with 26.8% reporting having used the ED at least once in the past year.

Descriptive Characteristics by Source of Safety Net Care

The percentage of persons within each race, ethnicity, socio-demographic, and health characteristic who use a CHC or ED, respectively, as a usual place of care are reported in table 4, with race/ethnicity and Hispanic nativity and citizenship depicted in figures 4 through 7. The percentages for CHC use are much larger than ED use for each racial, ethnic, and nativity group. The largest difference is between Hispanics of foreign nativity and foreign citizenship. While 42% reported using a CHC for a usual source of care, only 2.29% of the same population reported using an ED as a usual source of care.

Table 4: Proportion of subjects per selected characteristic who are CHC or ED users (N=18,178).

<i>Characteristics</i>	<i>% who use CHC as usual place of care (N=17,128)</i>	<i>% who use ED as usual place of care (N=1,050)</i>
Non-Hispanic White (All)	15.70	0.68
Non-Hispanic White U.S. born	15.72	0.68
Non-Hispanic Black (All)	19.14	2.51
Non-Hispanic Black U.S. born	18.98	2.55
Hispanic	29.89	1.83
Hispanic U.S. born	26.72	1.60
Hispanic foreign born	34.89	2.17
Hispanic foreign born of U.S. citizen	23.78	1.87
Hispanic foreign born of foreign citizenship	42.04	2.29
U.S. Born	18.27	1.14
Foreign Born	27.74	1.57
Years in U.S.		
<1 yr	25.90	4.82
1 to < 5 yrs	38.87	1.79
5 to < 10 yrs	33.45	1.85
10 to <15 yrs	29.81	2.57
≥15 yrs	23.14	1.07
Uninsured	31.82	3.82
Privately insured	14.56	0.56
Medicaid	31.95	2.42
Employer offers health insurance	15.41	0.82
Have usual place of preventive care	19.50	0.56
Health status > good vs. fair and poor	19.54	1.16
Been admitted to hospital for overnight stay in last year	19.63	1.82
Have delayed care due to cost in last year	24.64	2.93
Did not receive care at some point due to cost in last year	26.35	3.48
not received care because no transportation	31.16	3.93
No clinic open during hours you could go	24.82	1.21
Diagnosed with diabetes	19.78	1.13
Diagnosed with cancer	15.64	0.54
Diagnosed with asthma	21.74	1.63
Diagnosed with hypertension	18.45	1.06
Diagnosed with coronary heart disease	17.80	1.03
Diagnosis with heart attack	18.46	1.29
Diagnosed with stroke	17.74	1.44
Overweight	18.67	0.74

Figure 4. Community health center utilization by race/ethnicity.

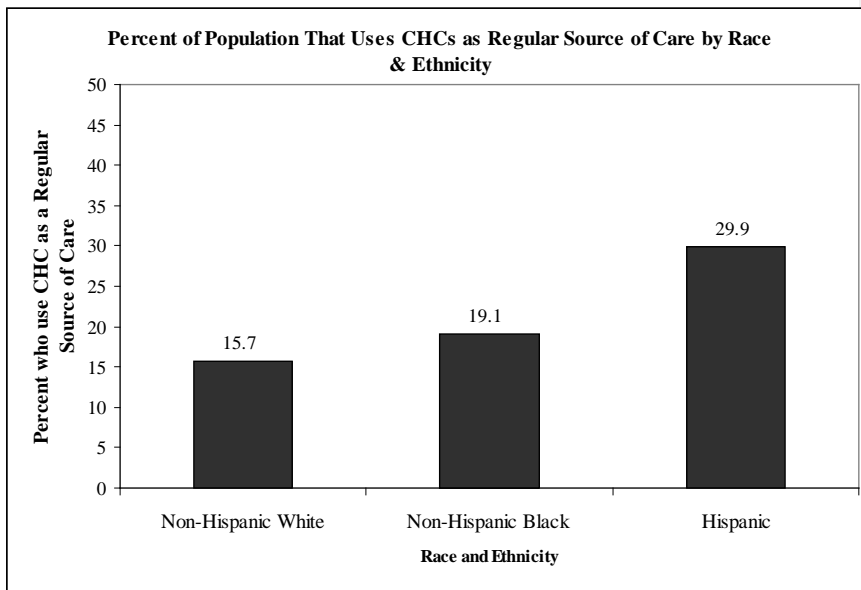


Figure 5. Community health center utilization by Hispanic nativity and citizenship.

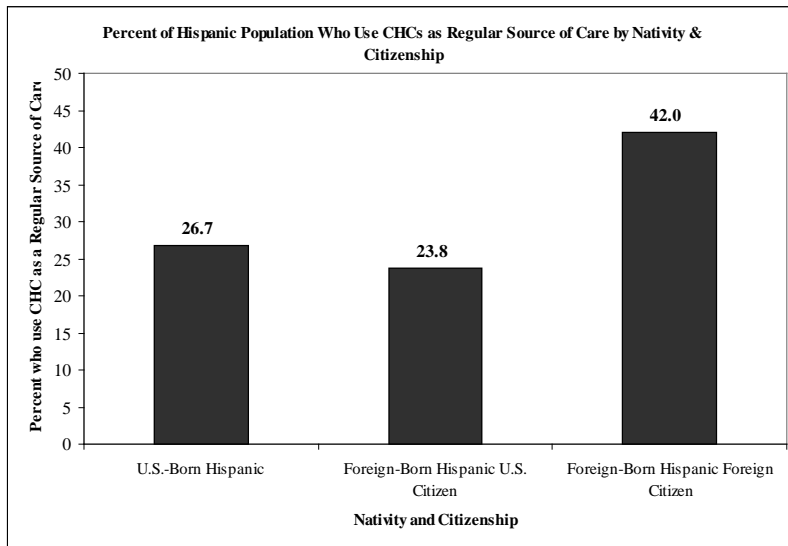


Figure 6. Emergency department utilization by race and ethnicity.

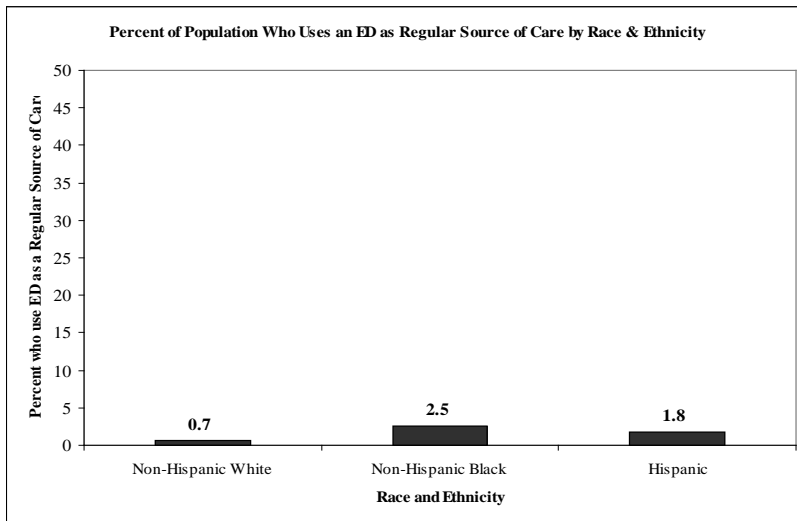
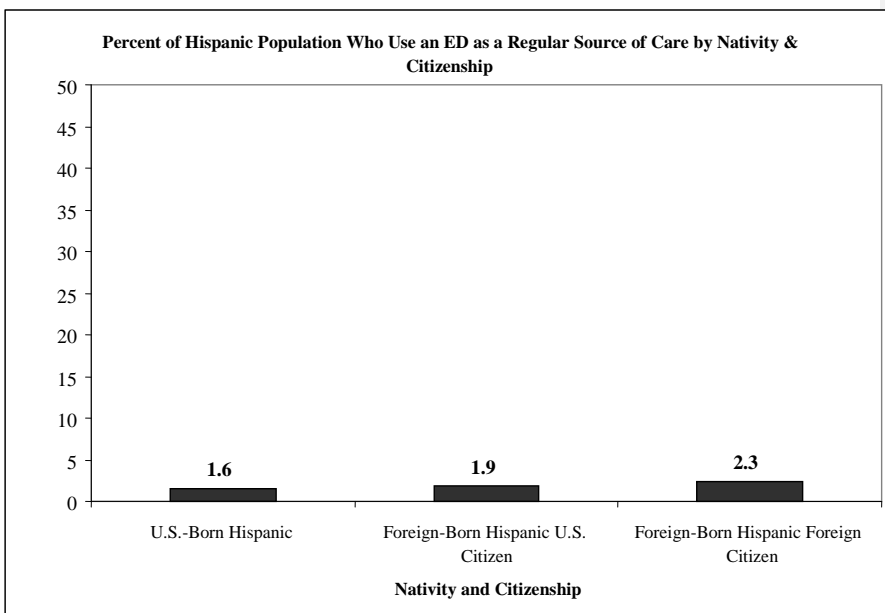


Figure 7. Emergency department utilization by Hispanic nativity and citizenship.



Race, Ethnicity, Nativity, and Citizenship of CHC Users

Table 5 describes the population that reported using a CHC as a usual source of care according to characteristics reported by proportions of those who use a CHC as their usual source. Nearly half of those who reported using a CHC as their usual source of care were non-Hispanic White (44.5%), approximately one in six CHC users were Black (15.5%), and 1 in 3 CHC users were Hispanic (32.1%). Over one-fifth of CHC users were of foreign nativity (21.9%).

Nativity variations exist within Hispanics accounting for one-third of CHC users. Over 53% of Hispanics who reported using a CHC as a usual source of care (figure 8), and 17.1% of CHC users overall, were of U.S. nativity and 46.5%, 14.9% overall, were of foreign nativity. Within the proportion of CHC users who were foreign-born Hispanic, nearly three-fourths were of foreign citizenship (figure 9); Hispanics of foreign nativity and foreign citizenship comprised over one-tenth of all CHC users.

Table 5: Descriptive characteristics of CHC and ED users (N=18,178).

<i>Characteristic</i>	<i>% of CHC users (N=17,128)</i>	<i>% of ED users (N=1,050)</i>
Non-Hispanic White	44.49	31.62
Non-Hispanic Black	15.50	33.14
Asian	5.94	3.05
Other	1.98	0.19
Hispanic (All)	32.09	32.00
Hispanic U.S. Born	17.11	16.70
Hispanic foreign born	14.92	15.17
Hispanic foreign born U.S. Citizen	3.80	4.89
Hispanic foreign born foreign citizenship	10.94	9.79
U.S. Born	78.13	79.77
Foreign Born	21.87	20.23
Years in U.S.		
<1 yr	1.20	4.00
1 to < 5 yrs	16.35	13.50
5 to < 10 yrs	21.72	21.50
10 to <15 yrs	15.24	23.50
≥15 yrs	45.49	37.50
High school graduate	57.39	52.42
Uninsured	19.04	37.09
Privately insured	47.99	29.73
Medicaid	20.93	25.72
Employer offers health insurance	57.71	51.59
Have usual place of preventive care	92.0	86.35
Fair or poor health status	10.83	13.65
*Been admitted to hospital for overnight stay	8.33	12.62
*Have delayed care due to cost	7.87	15.27
*Did not receive care due to cost	6.24	13.44
*Did not receive care due to lack of Transportation	2.88	5.97
*No clinic open during hours you could go	3.50	2.77
*Could not afford prescription medication	11.61	25.31
Age		
18 to 34	35.56	49.86
35 to 49	28.02	25.93
50 to 64	21.30	15.81
≥65	14.11	8.40
Female	53.84	50.29
Married	46.15	31.67

Table 5: (Continued) Descriptive characteristics of CHC and ED users (N=18,178).

Times in the ED in past year		
0	77.08	44.71
1	13.17	22.50
2	6.98	20.58
3	1.44	4.33
4	1.33	7.88
Diagnosed with diabetes	8.78	8.19
Diagnosed with cancer	5.64	3.24
Diagnosed with Asthma	12.18	14.93
Diagnosed with Hypertension	27.13	25.43
Diagnosed with Coronary heart disease	3.93	3.72
Diagnosis with Heart attack	3.18	3.62
Diagnosed with Stroke	2.52	3.34

[†]Within the past 12 months

*Totals 100% of CHC users

**Totals 100% of Hispanic CHC users

***Totals 100% of Foreign-born Hispanic CHC users

Figure 8. Nativity of Hispanic CHC users.

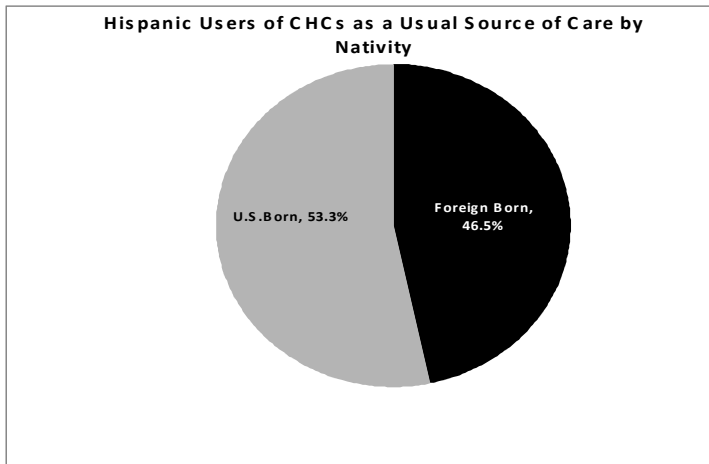
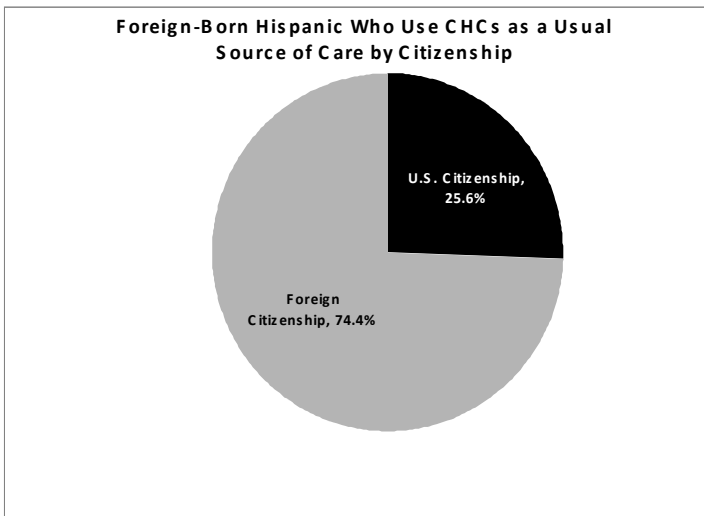


Figure 9. Citizenship of Hispanic CHC users.



Race, Ethnicity, Nativity, and Citizenship of ED Users

Rates of those reporting using an emergency department as a usual source of care were near-evenly divided by race/ethnicity, shown in Table 5. Of ED users, 32.6% were White, 33.1% were Black, and 32.0% were Hispanic. Proportions of ED users by nativity were similar to proportions of CHC users, with approximately one-fifth of foreign nativity. However, a higher proportion of ED users had been in the U.S. less time than CHC users, with 4% of ED users having been in the U.S. less than one year, compared to 1.2% of CHC users having been in the U.S. less than one year. Proportions of ED users who were U.S.-born Hispanics and foreign-born Hispanics were similar to CHC users, with 16.7% of ED users being U.S.-born Hispanic and

15.2% being foreign-born Hispanic. Of foreign-born Hispanics who use the ED, two-thirds were of foreign citizenship.

Similar Characteristics of CHC Users and ED Users

Among those who reported using a CHC as their usual source of care and those who reporting using an ED as their usual source of care, several similarities emerge, as shown in the side-by-side comparison in Table 5. Both groups have similar availability of employer-sponsored health insurance, with 57.7% of CHC users and 51.6% of ED users reporting that their employer offers health insurance. In addition, both groups similarly reported health status. Over 89% of CHC users and over 86% of ED users reported their health status to be “good”, “very good” or “excellent” compared to “fair” or “poor”. Accordingly, both groups reported similar rates of having been diagnosed with selected chronic conditions and diseases. The two groups were within 1% of each other in reported rates of having been diagnosed with diabetes, coronary heart disease, heart attack and stroke. Further, CHC users and ED users were within 3% of each other in reported rates of cancer, asthma and hypertension.

Differences in Characteristics Between CHC and ED Users

Notable differences exist between CHC users and ED users pertaining to health insurance shown in Table 5. ED users had twice the rate of uninsurance as CHC users (37.1% compared to 19.0%). ED users also reported carrying private insurance (29.7%) at approximately a 30% lower rate as CHC users (48.0%) and carrying Medicaid (25.7%) at a 20% higher rate as CHC users (20.9%).

ED users reported barriers to health care at a considerably higher rate than CHC users. ED users reported having a usual place of preventive care at less than half the rate of CHC users, at 43.4% compared to 92% of CHC users. ED users reported at twice the rate of CHC users

having delayed care due to cost, not received care due to cost, and having not received care due to transportation sometime during the last year.

Predictors of Source of Safety Care

Predictors of CHC Utilization

Table 6 presents results of the multivariate logistic regression model predicting the odds of using a CHC as a usual source of care. Throughout each iteration of the model, Hispanic ethnicity and foreign nativity remained significant positive predictors of CHC use.

In model 1, a basic, unadjusted model including only ethnicity, race, and nativity, Hispanic ethnicity [OR= 1.92 (95% CI 1.75,2.10)], black race [OR =1.20 (95% CI 1.08,1.34)], and foreign nativity [OR=1.28 (95% CI 1.18,1.39)], were each significantly associated with greater odds of using a CHC as a usual source of care; and as they also were in model 3 when adjusting for age. In model 2 with ethnicity and race, only adjusting for age, both Hispanic ethnicity [OR= 2.03 (95% CI 1.82, 2.27)] and black race [OR=1.15 (95%CI 1.01,1.32)] were again significantly positively associated with greater odds of using a CHC as a usual source of care. Model 4 accounts for the aforementioned ethnicity, race, age, nativity, and further includes uninsurance in the model. When uninsurance was included, black race was no longer found to be a significant predictor of CHC use [OR=1.14 (95% CI 0.99, 1.30)] though Hispanic ethnicity [OR= 1.72 (95% CI 1.53, 1.94)] and foreign nativity [OR=1.40 (95%CI 1.25,1.57)] maintained a predictive effect;. Uninsurance was also found to be significantly predictive of CHC use [OR=1.40 (95%CI 1.25, 1.57)]. Annual income at or below federal poverty level was added in model 5 [OR=1.53 (95% CI 1.38, 1.68)] and found, along with Hispanic ethnicity, foreign nativity, and uninsurance, to be significantly positively predictive. Model 6, the full model, added

gender, marital status, education, health status, and region of the country to the previous model. Hispanic ethnicity, foreign nativity, uninsurance, and poverty remained significantly positively predictive of CHC use, while being married (vs. not married) [OR=0.88 (95% CI 0.79,0.97)] and having less than a high school education [OR=0.86 (95% CI 0.76,0.97)] were significantly negatively predictive of CHC use.

Table 6: Results of logistic regression analyses predicting CHC as a usual place of care among non-Hispanic White, non-Hispanic Black, and Hispanic respondents aged 18 years and older.

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
	<i>OR</i>					
	<i>(95% CI)</i>					
Hispanic (vs. non-Hispanic)	*1.92 (1.75,2.10)	2.03 (1.82,2.27)	1.72 (1.53,1.94)	1.58 (1.40,1.78)	1.51 (1.32,1.74)	1.41 (1.23,1.61)
Black Race (vs. White)	1.20 (1.08,1.34)	1.15 (1.01,1.32)	1.14 (0.99,1.30)	1.11 (0.97,1.27)	1.00 (0.87,1.15)	0.96 (0.83,1.01)
Age (vs. 18 to 34 years)						
35 to 49		0.84 (0.78,0.91)	0.83 (0.77,0.90)	0.87 (0.80,0.94)	0.89 (0.82,0.98)	0.92 (0.84,1.01)
50 to 64		0.82 (0.76,0.89)	0.82 (0.75,0.89)	0.87 (0.80,0.95)	0.89 (0.81,0.98)	0.91 (0.82,1.01)
65 and over		0.73 (0.66,0.80)	0.73 (0.66,0.81)	0.80 (0.73,0.88)	0.83 (0.74,0.92)	0.82 (0.73,0.90)
Foreign-born	1.28 (1.18,1.39)		1.40 (1.25,1.57)	1.33 (1.76,1.49)	1.37 (1.19,1.57)	1.40 (1.21,1.61)
Uninsured				1.77 (1.61,1.96)	1.74 (1.55,1.96)	1.67 (1.48,1.89)
Female						1.08 (0.99,1.19)
Federal Poverty Level (<100% vs. ≥100%)					1.53 (1.38,1.68)	1.47 (1.33,1.63)
Married (vs. not married)						0.88 (0.79,0.97)
Below high school diploma (vs ≥ high school diploma)						0.86 (0.76,0.97)
Fair or poor self-reported health status (vs. good, very good, excellent)						1.20 (1.01,1.41)
Region of U.S. (vs. Northeast)						
Midwest						2.85 (2.39,3.40)

Table 6: (Continued) Results of logistic regression analyses predicting CHC as a usual place of care among non-Hispanic White, non-Hispanic Black, and Hispanic respondents aged 18 years and older.

South						1.12 (0.96,1.32)
West						2.13 (1.81,2.50)
Probability > F	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
N	79724	55811	55654	55240	36858	36110

* **Boldface** denotes statistically significant at $\alpha=0.05$

Race and Ethnicity Stratified by Nativity

Results of CHC utilization by race/ethnicity stratified by nativity are presented in table 7.

There were notable differences in utilization among groups according to nativity (foreign-born compared to U.S.-born) within each racial/ethnic group. Within Whites [OR=1.35 (95% CI 1.18, 1.53)], Blacks [OR=1.35 (95% CI 1.11, 1.59)], and Hispanics [OR=1.35 (95% CI 1.15, 1.56)], foreign-born were significantly more likely than U.S.-born to report using CHCs as a usual source of care.

Table 7. Results of multivariate logistic regression analysis predicting odds ratios of using a community health center or emergency department as usual place of care by race/ethnicity stratified by nativity status.

	<i>Community Health Center</i>		<i>Emergency Department</i>	
	<i>OR</i>	<i>CI</i>	<i>OR</i>	<i>CI</i>
White				
U.S. Born	1.00	(reference)	1.00	(reference)
Foreign Born	1.35*	1.18, 1.53	0.824	0.49,1.16
Black				
U.S. Born	1.00	(reference)	1.00	(reference)
Foreign Born	1.35*	1.11, 1.59	0.824	0.44, 1.21
Hispanic				
U.S. Born	1.00	(reference)	1.00	(reference)
Foreign Born	1.35*	1.15, 1.56	0.824	0.41, 1.24

* denotes statistically significant OR

Nativity Stratified by Race and Ethnicity

Table 8 presents results of using a CHC as a usual source of care by nativity stratified by race/ethnicity. In both foreign-born [OR=1.27 (95% CI 1.08, 1.46)] and U.S. born [OR=1.27 (95% CI 1.10, 1.43)], Hispanics were 27% more likely to report using a CHC as a usual source of care than Whites. Neither U.S.-born [OR=0.96 (95% CI 0.83, 1.08)] or foreign-born Blacks [OR=0.96 (95% CI 0.79, 1.12)] were found to be significantly more or less likely to use a CHC as a usual source of care than Whites.

Table 8. Results of multivariate logistic regression analysis predicting odds ratios of using a community health center or emergency department as usual place of care by nativity status stratified by race/ethnicity.

	<i>Community Health Center</i>		<i>Emergency Department</i>	
	<i>OR</i>	<i>CI</i>	<i>OR</i>	<i>CI</i>
U.S.-born				
White	1.00	(reference)	1.00	(reference)
Black	0.96	0.83, 1.08	3.19*	2.12, 4.25
Hispanic	1.27*	1.10, 1.43	1.59	0.89, 2.29
Foreign-born				
White	1.00	(reference)	1.00	(reference)
Black	0.96	0.79, 1.12	3.19*	1.52, 4.86
Hispanic	1.27*	1.08, 1.46	1.59	0.82, 2.36

*denotes statistically significant OR

Predictors of ED Utilization

Table 9 presents results of the multivariate logistic regression model predicting the odds of using an ED as a usual source of care. Black race remained predictive of ED use in all models, with 3 times greater odds of ED use compared to Whites in each model, while foreign nativity was not found to be a significant predictor in any model.

Table 9: Results of logistic regression analyses predicting ED as a usual place of care among non-Hispanic White, non-Hispanic Black, and Hispanic respondents aged 18 years and older.

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
	<i>OR</i>					
	<i>95% CI</i>					
Hispanic (vs. non-Hispanic)	*2.22 (1.69,2.91)	2.14 (1.57,2.92)	1.81 (1.24,2.66)	1.42 (0.92,2.17)	1.47 (0.94,2.30)	1.39 (0.86, 2.23)
Black Race (vs. White)	3.76 (2.87,4.93)	3.30 (2.43,4.48)	3.26 (2.40,4.42)	3.13 (2.29,4.27)	3.37 (2.40,4.78)	3.36 (2.35,4.79)
Age (vs. 18 to 34 years)						
35 to 49		0.58 (0.46,0.73)	0.58 (0.46,0.73)	0.66 (0.52,0.84)	0.74 (0.57,0.96)	0.75 (0.57,0.99)
50 to 64		0.44 (0.34,0.57)	0.43 (0.34,0.56)	0.52 (0.41,0.68)	0.57 (0.42,0.77)	0.54 (0.38,0.77)
65 and over		0.30 (0.18,0.45)	0.30 (0.18,0.45)	0.43 (0.29,0.58)	0.23 (0.10,0.43)	0.22 (0.06, 0.47)
Foreign-born	1.28 (0.93,1.76)		1.35 (0.86,2.12)	1.16 (0.70,1.91)	0.93 (0.56,1.29)	0.89 (0.54,1.47)
Uninsured				4.07 (3.17,5.23)	4.29 (3.19,5.77)	3.94 (2.88,5.42)
Female						0.68 (0.52,0.90)
Federal Poverty Level (<100% vs. >100%)					1.43 (1.12,1.84)	1.42 (1.08,1.86)
Married (vs. not married)						0.88 (0.62,1.25)
Below high school diploma (vs ≥ high school diploma)						0.78 (0.56,1.09)
Fair or poor self-reported health status (vs. good, very good, excellent)						1.48 (0.90,2.44)
Region of U.S. (vs. Northeast)						
Midwest						1.23 (0.76,1.95)
South						1.37 (0.92,2.06)

Table 9: (Continued) Results of logistic regression analyses predicting ED as a usual place of care among non-Hispanic White, non-Hispanic Black, and Hispanic respondents aged 18 years and older.

West						0.88 (0.51,1.54)
Probability > F	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
N	79724	55811	55654	55240	36858	36110

* **boldface** denotes statistically significant at $\alpha=0.05$

In model 1, a basic, unadjusted model including only ethnicity, race, and nativity, Hispanic ethnicity (compared to non-Hispanic) [OR=2.22 (95% CI 1.69,2.91)] and black race (compared to White) [OR=3.76 (95% CI 2.87,4.93)] were both significantly associated with greater odds of using an ED as a usual source of care, as they also were in models 2 and 3 when adjusting for age. Uninsurance was included in model 4, in addition to the aforementioned ethnicity, race, age, and nativity, and found to be a significant predictor with uninsured persons found to be over 4 times more likely than insured persons to report using an ED as a usual source of care [OR=4.07(95% CI 3.17, 5.23)]. Ethnicity and race remained significant positive predictors, with Hispanics [OR=1.42 (95% CI 0.92, 2.17)] over 40% more likely than non-Hispanics and Blacks [OR=3.13 (95% CI 2.29, 4.27)] over 3 times more likely than Whites to use the ED. Model 5 further included living at or below federal poverty level, with ethnicity, race, uninsurance maintaining their predictive effect, along with a significant predictive effect of poverty [OR=1.43 (95% CI 1.12, 1.84)]. In model 6, the full model, added gender, marital status, education, health status, and region of the country are added to the previous model. Hispanic ethnicity was no longer predictive of ED use in the full model [OR=1.39 (95% CI 0.86, 2.23)] , while Black race [OR=3.36 (95% CI 2.35, 4.79)], uninsurance [OR=3.94 (95% CI 2.88, 5.42)], and poverty [OR=1.42 (95% CI 1.08, 1.80)] remained predictive.

Race and Ethnicity Stratified by Nativity

Results of ED utilization as a usual source of care by race/ethnicity stratified by nativity were presented in table 7. There were not apparent differences in use among groups according to nativity (foreign-born vs. U.S.-born) within racial/ethnic group. Regardless of race or ethnicity, foreign-born Whites [OR=0.82 (95% CI 0.49, 1.16)], Blacks [OR=0.82 (95% CI 0.44, 1.21)], and Hispanics [OR=0.82 (95% CI 0.41, 1.24)] were not found to be significantly more or less likely than U.S.-born to use the ED as a usual source of care.

Nativity Stratified By Race and Ethnicity

Table 8 presented results of using an ED as a usual source of care by nativity stratified by race/ethnicity. In both foreign-born [OR=3.19 (95% CI 1.52, 4.86)] and U.S. born [OR=3.19 (95% CI 2.12, 4.25)], Blacks were found to report using the ED as a usual source of care three-time more often than Whites. Neither U.S.-born [OR=1.59 (95% CI 0.89, 2.29)] or foreign-born Hispanics were found to be significantly more or less likely to use the ED as a usual source of care than Whites; OR=1.59 (95% CI 0.82,2.36)].

Comparison of Preferences in Source of Care by Race, Ethnicity, Nativity and Citizenship

Tables 10 through 12 report the likelihood of choosing a particular usual place of health care over a CHC. The reported coefficients for Hispanics in Table 10 show that Hispanics are less likely to choose an ED over a CHC [OR=0.70 (95% CI 0.44, 1.06)] , compared to non-Hispanics and less likely to choose another source of care (physician office, HMO, hospital outpatient or other) over a CHC [OR=0.61 (95% CI 0.53, 0.69)]. Foreign-born Hispanics, compared to U.S.-born non-Hispanics, were even less likely to use an ED or another source of care over a CHC. Table 11 shows that foreign-born Hispanics were less likely to use an ED over a CHC [OR=0.52 (95% CI 0.32, 0.85)] and less likely to use another source of care over a CHC [OR=0.49 (95% CI

0.42, 0.56)]. A similar, but still stronger, story is reported in Table 12, displaying that foreign-born Hispanics of foreign citizenship are less likely to use an ED over a CHC [OR=0.32 (95% CI 0.17, 0.61)], and less likely to use another source of care over a CHC [OR=0.40 (95% CI 0.34, 0.48)]. Neither U.S.-born Hispanics nor foreign-born Hispanics of U.S. citizenship were found to have a significantly greater or lower likelihood to use an ED over a CHC.

Not only within ethnicity and citizenship were differences in preferences of safety net care found, but also between racial groups. Non-Hispanic U.S.-born Whites were significantly less likely to use the ED as a usual source of care compared to a CHC while non-Hispanic U.S.-born Blacks were the only group found to have a significantly greater likelihood for ED use over CHC use.

TABLE 10: Multinomial logistic analysis comparing Hispanics' use of emergency department, other source, or no source of care to community health centers as a usual source of care.

	<i>Emergency Department</i>	<i>Other (physician office, HMO, hospital outpatient office, other)</i>	<i>No usual source of care</i>
	<i>OR (95% CI)</i>		
Hispanic (vs. non-Hispanic)	0.70* (0.46,1.06)	0.61 (0.53,0.69)	0.94 (0.81,1.09)
Age (vs. 18 to 34)			
35 to 49	0.80 (0.59,1.07)	1.09 (0.99,1.19)	0.74 (0.67,0.83)
50 to 64	0.60 (0.42,0.85)	1.11 (1.02,1.23)	0.57 (0.50,0.65)
65 and over	0.26 (0.12,0.59)	1.22 (1.03,1.44)	0.28 (0.21,0.36)
Female	0.73 (0.55, 0.96)	0.96 (0.88, 1.05)	0.61 (0.55, 0.69)
Married (vs. not married)	0.90 (0.63,1.27)	1.15 (1.04,1.27)	0.87 (0.76,0.99)
Below High School Education (vs > High School)	0.88 (0.60,1.29)	1.24 (1.09,1.40)	1.04 (0.89,1.20)
Fair/poor health status (vs. good, very good, excellent)	1.38 (0.84,2.25)	0.84 (0.71,0.99)	0.96 (0.81,1.15)
Uninsured	2.62 (1.87,3.66)	0.58 (0.51,0.65)	2.73 (2.39,3.13)
Federal Poverty Level (≤100% vs. >100%)	0.98 (0.74,1.29)	0.67 (0.60,0.74)	0.81 (0.72,0.91)
Region of U.S. (vs. Northeast)			
Midwest	0.49 (0.24,0.86)	0.40 (0.33,0.48)	0.62 (0.50,0.76)
South	1.09 (0.65,1.82)	0.84 (0.70,1.00)	1.20 (0.98,1.47)
West	0.48 (0.25,0.92)	0.50 (0.42,0.60)	0.84 (0.68,1.04)
N=46,785			

***Boldface** indicates significance at $\alpha=0.05$.

TABLE 11: Multinomial logit analysis comparing foreign-born Hispanics' use of emergency department, other source, or no source of care to community health centers as a usual source of care.

	<i>Emergency Department</i>	<i>Other (physician office, HMO, hospital outpatient office, other)</i>	<i>No usual source of care</i>
Foreign-born Hispanic (vs. U.S.-born, non-Hispanic)	0.52 (0.32,0.85)	0.49 (0.42,0.56)	0.96 (0.82,1.14)
Age (vs. 18 to 34)			
35 to 49	0.81 (0.60,1.08)	1.10 (1.01,1.20)	0.75 (0.67,0.83)
50 to 64	0.60 (0.42,0.85)	1.13 (1.03,1.25)	0.58 (0.50,0.65)
65 and over	0.26 (0.12,0.59)	1.23 (1.04,1.46)	0.28 (0.21,0.37)
Female	0.72 (0.55,0.95)	0.96 (0.88, 1.04)	0.62 (0.55,0.69)
Married (vs. not married)	0.92 (0.64,1.30)	1.16 (1.06,1.28)	0.87 (0.76,0.99)
Below High School Education (vs > High School)	0.81 (0.55,1.21)	1.18 (1.04,1.34)	1.05 (0.90,1.23)
Fair/poor health status (vs. good, very good, excellent)	1.37 (0.84,2.23)	0.83 (0.71,0.98)	0.97 (0.81,1.15)
Uninsured	2.70 (1.94,3.73)	0.58 (0.52,0.66)	2.72 (2.39,3.12)
Federal Poverty Level (≤100% vs. >100%)	0.98 (0.74,1.30)	0.67 (0.61,0.74)	0.81 (0.72,0.91)
Region of U.S. (vs. Northeast)			
Midwest	0.44 (0.24,0.83)	0.40 (0.33,0.48)	0.63 (0.51,0.77)
South	1.07 (0.64,1.80)	0.83 (0.69,0.99)	1.20 (0.98,1.48)
West	0.46 (0.24,0.88)	0.48 (0.40,0.59)	0.88 (0.66,1.01)
N=46,773			

***Boldface** indicates significance at $\alpha=0.05$.

TABLE 12: Multinomial logit analysis comparing Hispanics' of foreign citizenship use of emergency department, other source, or no source of care to community health centers as a usual source of care.

	<i>Emergency Department</i>	<i>Other (physician office, HMO, hospital outpatient office, other)</i>	<i>No usual source of care</i>
Hispanics of foreign citizenship (vs. U.S.-citizen, non- Hispanic)	0.32 (0.17,0.61)	0.40 (0.34,0.48)	0.94 (0.77,1.15)
Age (vs. 18 to 34)			
35 to 49	0.80 (0.60,1.07)	1.09 (1.00,1.19)	0.74 (0.67,0.83)
50 to 64	0.58 (0.41,0.82)	1.12 (1.02,1.23)	0.57 (0.50,0.65)
65 and over	0.26 (0.12,0.58)	1.22 (1.03,1.44)	0.28 (0.21,0.37)
Female	0.72 (0.55,0.96)	0.95 (0.87,1.04)	0.62 (0.55,0.69)
Married (vs. not married)	0.94 (0.66,1.34)	1.17 (1.06,1.29)	0.86 (0.76,0.99)
Below High School Education (vs \geq High School)	0.76 (0.52,1.12)	1.18 (1.03,1.34)	1.06 (0.91,1.24)
Fair/poor health status (vs. good, very good, excellent)	1.35 (0.83,2.20)	0.82 (0.70,0.97)	0.96 (0.81,1.15)
Uninsured	2.80 (2.02,3.87)	0.60 (0.53,0.67)	2.74 (2.39,3.14)
Federal Poverty Level (\leq 100% vs. >100%)	1.00 (0.76,1.32)	0.67 (0.61,0.74)	0.81 (0.72,0.91)
Region of U.S. (vs. Northeast)			
Midwest	0.42 (0.23,0.77)	0.40 (0.33,0.49)	0.63 (0.51,0.77)
South	1.08 (0.65, 1.82)	0.84 (0.70,1.00)	1.21 (0.98,1.49)
West	0.47 (0.24,0.89)	0.49 (0.41,0.58)	0.82 (0.66,1.01)

N=46,697

***Boldface** indicates significance at $\alpha=0.05$.

CHAPTER 6

DISCUSSION

This research used the National Health Interview Survey to compare differences in use of CHC and ED services among foreign-born Hispanics, U.S.-born Hispanics, Whites, and Blacks. Findings refute the notion that Hispanic immigrants rely on the ED as their safety net and substantiate the importance of the role of CHCs' in providing accessible health care to Hispanic immigrants. The study also uniquely considers Hispanics, Hispanics of foreign nativity, and Hispanics of foreign citizenship separately when describing Hispanic safety net utilization. Results demonstrate that foreign-born Hispanics use the ED at a rate comparable to other groups, but use CHCs at a notably higher rate than Whites, Blacks, or U.S. born Hispanics. Adjusting for other factors, Hispanic ethnicity and foreign nativity are both predictive of CHC use and neither are predictive of ED use, while Black race is not predictive of CHC use and is predictive of ED use. Further, this study specifically compares use of an ED to a CHC for each population by race, ethnicity, nativity, and citizenship. The comparison specifically found that foreign-born Hispanics of foreign-citizenship showed the lowest likelihood for ED use over CHC use, compared to U.S.-born non-Hispanics and U.S.-born non-Hispanic Blacks were the only group to show a preference for using an ED over a CHC.

Previous studies on safety net site utilization have considered EDs and CHCs separately and largely examined predictive factors of ED use and the role of health care delivery in CHCs in reducing health disparities. Research on predictive factors of ED utilization has examined race/ethnicity (Hong et al., 2007; Luo et al., 2003; Ziv, Boulet & Slap, 1998), health insurance (Lucas & Sanford, 1998; Marx, 2008; Newton et al., 2008; Prasal & Klingner, 2009; Ruger et al., 2004; Ruger, Lewis & Richter, 2006), and health status (Ruger, Lewis & Richter, 2006). Studies focused on CHCs and race/ethnicity have reported the role of CHCs in reducing health disparities

(Reagan et al., 1999; Shi et al., 2001) and the racial/ethnic composition of CHC users (Commonwealth Fund, 2006; Politzer, 2001; Proser 2003; Forrest and Whelan, 2000). Further, previous research studying nativity as it relates to health care utilization have largely focused on overall utilization of health services by immigrants or the undocumented and not specifically on safety net utilization (Derose, Escarce & Lurie, 2007; Goldman, Smith & Sood, 2006; Ku, 2009; Mohanty et al., 2005; Ortega et al., 2007; Weinick et al., 2004).

This study contributes to the body of research by comparing utilization of the two pillars of the “formal” safety net—CHCs and EDs –and addresses the paucity of literature considering the role of nativity or citizenship status in adult utilization of safety net sites. Further, unlike previous research studying safety net utilization, this study recognizes the rich diversity of the U.S. Hispanic population by considering differences among immigrants, persons of foreign citizenship, and U.S. natives.

Race, Ethnicity, and Nativity of CHC and ED Users

Hispanic CHC users were disproportionately of foreign nativity, with nearly half born outside of the U.S., and over one-third of Hispanic CHC users were also of foreign citizenship. In fact, Hispanics of foreign nativity and foreign citizenship accounted for one-tenth of all CHC users. More specifically, findings suggest that foreign-born Hispanics utilize CHCs as a regular source of care for reasons beyond those of uninsurance and/or poverty. After adjusting for these and other factors, CHCs are still disproportionately utilized by foreign-born Hispanics, compared to other groups, as a regular source of care.

In particular, citizenship status played a role in choice of safety net site. Among CHC users, a greater proportion of foreign-born Hispanics were of foreign citizenship compared to ED users. Results of the multinomial logit analysis strengthen this finding. Analysis showed that Hispanics were less likely to choose an ED over a CHC compared to non-Hispanics, foreign-born

Hispanics (including both U.S. and foreign citizens) had an even lower likelihood to choose an ED over a CHC, and Hispanics of foreign citizenship were the least likely of all Hispanic sub-groups, being less likely to choose an ED over a CHC.

In stratified analysis, both foreign-born and U.S.-born Hispanics were more likely to use a CHC as a usual source of care, while neither foreign- nor U.S.-born Blacks were more likely to use a CHC as a usual source of care. ED users did not differ by nativity status within racial and ethnic groups, neither Hispanics of foreign nor U.S. nativity were found to be more likely to use the ED.

In addition to race, ethnicity, and nativity, other variables were also found to be important predictors of CHC and ED use. First, health insurance differed between CHC and ED users. ED users had twice the rate of uninsurance as CHC users, carried Medicaid coverage at a higher rate, and private coverage at a lower rate. Uninsurance was predictive of both CHC use and of ED use, even after adjusting for other factors, with uninsured persons having 63% greater odds of using a CHC than those with insurance and the uninsured having four times the odds of using the ED compared to the insured.

Description of Hispanic CHC Users

Our findings provide needed quantitative evidence about Hispanics who use CHCs. Current literature explains that over one-third of CHC users are Hispanic (National Association of Community Health Centers, Inc., 2003), and that one of five Hispanics use CHCs as their regular source of care (Commonwealth Fund, 2001). Forrest and Whelan (2000) also found that a larger percentage of Hispanics use CHCs than EDs as their primary care safety net. Studies on Hispanic immigrants and health care have reviewed policies and data pertaining to Hispanic immigrants' access to insurance and health care (Berk et al., 2000; Cunningham et al., 2006; Ku & Vega, 1998; Granados et al., 2001). However, ours is the first study to provide quantitative evidence

that describes in detail the Hispanic population who uses CHCs and delineates CHC use between Hispanic immigrants and Hispanics native to the U.S. Our study also adds to existing knowledge in comparing predictors of CHC use to predictors of ED use, as well as comparing usual sources of safety net care by race and ethnicity.

Ethnicity and Nativity as Factors in ED Use

Findings that Hispanics and immigrants do not use the ED at a higher rate than other groups are supported by previous studies. Cunningham's 2006 study to examine whether an increase in the population of racial or ethnic minorities in communities increased ED use found that communities with the highest levels of ED use did not necessarily have highest numbers racial/ethnic minorities or immigrants. In fact, no significant ED use trends were found among immigrants. Rather, Cunningham found that cities experiencing a decrease in ED use saw an increase in Hispanic and immigrant populations and, inversely, found that high ED use in communities was associated with fewer Hispanics and non-citizen residents. Additional research also supports the finding that foreign nativity is not a predictor of increased ED utilization. Studies show that the foreign-born population uses disproportionately fewer health care services and contributes less to health care costs than those of U.S. nativity (Goldman, Smith, and Sood, 2006; Mohanty et al., 2005; Ku, 2009; Ortega, 2007). Cunningham (2006) states that lower rates of health care utilization among immigrants also pertains to undocumented populations and that growth in undocumented population will not lead to increased ED utilization. Lower utilization can be explained, in part, by a younger, presumably healthier population and barriers to care. In particular, high rates of uninsurance among foreign-born persons impacts utilization as insurance coverage has been shown to increase utilization of care (Goldman, Smith & Sood, 2006; Kaiser Family Foundation, 2000; Eisbert & Gabow, 2002).

Race as a Predictor of ED Use

Our finding that black race was highly predictive of ED use adds to the current body of literature, and is substantiated by other research. Early studies found race to be a significant predictor of ED utilization, though they failed to consider factors underlying utilization (Weinerman, et al, 1966; White & O'Connor, 1970). These studies focused on crude results and did not use multivariate analysis to control for confounding factors in health care utilization such as poverty and health status. Cunningham's (2006) research bolsters the finding that Blacks were more likely to use the ED than Whites with his finding that cities with an increase in their population of Black residents also experienced an increase in ED use.

Further strengthening the finding is the large body of literature reporting higher ED use among the publicly insured. In our study sample, Blacks reported having Medicaid at a far higher rate than Whites or Hispanics. In line with this finding, the publicly insured have been found to use the ED at higher rates than the uninsured or the privately insured (Galbraith et al., 2004; McCormick et al., 2000; McCormick et al., 2001; Peppe et al., 2007; Scheck, 2005; Soliday & Hoeksel, 2001; Ziv, Boulet & Slap, 1998). Several studies report that the publicly insured have high rates of chronic disease, disability, and poor health status. Among Medicaid enrollees, 19% report fair or poor health status, compared to 7% of those with private coverage, and 14% are disabled (Kaiser Family Foundation, 2007). In addition to health status, barriers faced by those with public insurance are pervasive among individuals with lower incomes, regardless of race, ethnicity, and nativity. Difficulty finding providers who accept public insurance, wait lists to be seen at public clinics, and inability to take time off of work to be seen in a primary care clinic during business hours all contribute to ED utilization (Galbraith et al., 2004; Soliday & Hoeksel,

2001). Rust (2008) further notes the importance of securing timely appointments for patients with poorer health status as delays in care can contribute to ED utilization.

CHC Use by Hispanics of Foreign Nativity

There is existing literature to substantiate the finding that Hispanics are more likely to use CHCs than non-Hispanics, as well as support the unique finding that foreign-born persons are more likely to use CHCs than U.S.-born individuals. Shi, Stevens, & Politzer (2007) found that among Hispanics, 98.2% of the uninsured who used CHCs, versus 41.6% of the uninsured in the U.S. overall, had a regular source of care. Another study, aimed to examine the effect on increases in CHC funding on minority health care access, found that only Spanish-speaking Hispanics benefited from access resulting from increased CHC funding (Hadley, Cunningham & Hargraves, 2006).

This contributes to existing literature in showing that factors other than those which commonly drive safety net use are responsible for higher CHC use among Hispanics and those of foreign nativity. Even after adjusting for factors commonly posing barriers to health access among immigrant populations, such as uninsurance and educational attainment, the effect remains for Hispanics and foreign-born. Thus, factors other than those included in the multivariate models are responsible for higher CHC use among Hispanics and immigrants. Further, descriptive results indicate that Hispanics of foreign nativity, in particular, Hispanics of foreign citizenship, comprise a notable proportion of all CHC users. Of all persons reporting using a CHC as their usual source of care (Table 6), one-third were Hispanic, nearly 15% were Hispanics of foreign nativity, and over one-tenth of all CHC users were Hispanics of foreign nativity and foreign citizenship. Finally, among Hispanics of foreign nativity, a striking 42% reported using a CHC as their usual source of care, the largest proportion of any group by race, ethnicity, or nativity (table 4).

The cultural competency and degree of community engagement with which CHCs provide care may be a vital reason for high CHC utilization among Hispanic immigrants. According to a study by Shi et al. (2001), the absence in health disparities among CHC patients was due to the provision of culturally competent services that other sites of primary care delivery often lack, as well as their community involvement, with those services having particular impact on Hispanic CHC users. Shi found that, among CHC users, non-White Hispanics had better health than White and Black CHC users, though detecting no significant difference in the health between White and Black CHC users. While, conversely, Whites have better health than both Blacks and Hispanics among non-CHC users.

As previously mentioned, one of the five federal requirements for a CHC to receive funding under Section 330 of the Public Health Services Act is to provide “enabling services” (Proser, 2003, p.4). Enabling services include culturally and linguistically appropriate services, such as ready availability of medical interpreters and/or bilingual providers and staff (Proser, 2003). CHCs commonly employ case workers whose duties can include assisting immigrants in navigating the complexities of the U.S. health care system and connect them with needed care beyond the scope of the primary care provided by CHCs. Proser, Schempf, Starfield & Shi (2003) found that community-based primary health care that includes access to other social services improves health outcomes. Furthermore, a CHC is a medical home that often houses multiple health care services or specialties in one facility (Proser, 2003). Thus, the structure of care delivery in CHCs resembles the health service facilities to which many immigrants from Latin America are accustomed in their home countries.

CHCs “enabling services”, as well as their mission to serve all regardless of ability to pay, may be chief reasons why CHC users reported at half the rate of ED users having, sometime in the past year, delayed care due to cost, not received care due to cost, and having not received

care due to transportation. When compared to uninsured patients who do not receive care at health centers, health center uninsured patients are much less likely to delay seeking care because of costs, go without needed care, or fail to fill prescriptions for needed medicine (Politzer et al., 2001).

The level of involvement between CHCs and the members of the communities they serve may also promote health among Hispanic immigrants. Another of the five requirements for a CHC to receive federal funding is to have a 51% patient majority governing board. Governance provided by the community served by CHCs fosters trust between CHCs and the communities from where their patients come. Not only the clinical care provided, but also provider continuity and trust that patients have in their provider has been shown to be a significant factor in patient adherence to treatment, satisfaction with care, and health outcomes (Nutting et al., 2003; Kerse et al., 2004; Johnson et al., 2006). In addition, trusting relationships between CHCs and their patients may help explain why CHC users reported having a usual source of preventive care at twice the rate of ED users.

Documentation status can pose substantial barriers in obtaining health care and may be another plausible reason that over one-fourth of foreign-born persons and over two-fifths of Hispanics of foreign citizenship reported using a CHC. Since CHCs do not inquire about immigration status and treat all patients equally, many immigrants may see them as a safe haven for care. While undocumented persons increasingly account for population growth, health services are not proportionately expanding to meet their needs. In 2000, approximately 27 percent of the 32 million immigrants to the U.S. were undocumented, and estimates report that 40 to 49 percent of the immigrants in eight of the ten states with the highest recent growth in immigrant population are undocumented (Fremstad & Cox, 2004; Urban Institute, 2000). Hispanics in these communities of recent growth in immigration without CHCs available are more likely to rely on

the emergency department for ambulatory care than Hispanics in cities with long-established Hispanic populations (Cunningham et al., 2006). Communities experiencing recent growth are becoming more common as the undocumented population has decentralized from border states, resulting in more undocumented persons seeking care from providers and safety nets throughout the U.S. (Campbell, Sanoff & Rosner, 2010; Passel & Cohn, 2009). Yet, undocumented persons have few places to turn for health care. Passed and proposed legislation in numerous states requiring health care workers to report immigration violations has engendered fear among immigrants when seeking care (Bernstein, 2006). Even families of mixed documentation status encounter barriers to obtaining health care (Capps, Kenney & Fix, 2003; Mueller et al., 2004).

Additional Factors Predictive of CHC Use

Educational attainment, poverty, and uninsurance were significant predictive factors of CHC use and ED user in the full models. While “good” or better health status was negatively predictive of ED use, though not significantly predictive of CHC use. The confluence of educational attainment and income is documented to be predictive of uninsurance and other factors associated with safety net use (Hadley 2003; Institute of Medicine 2000). The prevalence of uninsured patients in CHCs is well-known, as serving the uninsured is inherent in the mission of CHCs. It is well-documented that CHC patients tend to be significantly poorer, at elevated risk of poverty, poor health, and low health literacy (Dor et al., 2008). Patients facing such challenges seek care at CHCs not only because CHCs lift the financial and insurance barrier to access, but also due to quality of health care. The Institute of Medicine (2003) specifically noted CHCs’ achievements in this respect, stating “the community health center model has proven effective not only in increasing access to care, but also in improving health outcomes for the often higher-risk populations they serve.” Dor et al. (2008) found that health centers achieve considerably higher

levels of preventive health care for these patient populations, including differences up to 22% in screenings for diabetes, hypertension, and breast and cervical cancer.

Region of Country

Region of the country was found to be a significant predictor of CHC use, though not for ED use. The finding is understandable in the context of accessibility of EDs compared to CHCs. ED care is often readily accessible geographically. EDs are the largest and most readily available safety net provider in the nation, often requiring little travel time in urban areas before arriving at an ED for care (Asplin, 2001). Nationally, there are relatively few (6000) CHCs sites (Iglehart, 2008). Though the number of new CHCs and the capacity of existing CHCs have rapidly expanded in recent years, CHCs are not ubiquitously located; some cities have one or more CHCs while in other areas residents are without a CHC for many miles (Iglehart, 2008). Thus, CHC use is not simply driven by user preference; proximity of sometimes scarce CHCs may be an important factor in utilization.

Benefits of CHC Use among Underserved

CHC models of preventive and primary care delivery may play an important role in improving health outcomes and narrowing health disparities among racial/ethnic minorities and among lower income groups. While explaining the role that the primary care model CHCs play in improving America's health ranking, Politzer, Schempf, Starfield, and Shi (2003) state:

“Current sources of health care for vulnerable populations include health centers, physicians' offices, hospital outpatient departments, and emergency rooms, of which only health centers are expressly designed to serve the underserved and to accommodate the unique circumstances and special needs of vulnerable populations. By targeting those in greatest need, health centers are uniquely positioned to mitigate socioeconomic and racial health disparities, and thereby to improve the nation's position in health status rankings.” (p.298)

Quantitative research supports Politzer et al. (2003) in their assessment. Forrest and Whelan (2000) reported that doubling the CHC program while maintaining current patient composition would decrease the Hispanic and White disparity by 50% and the Black and White disparity by 24% (Forrest & Whelan, 2000). Hispanic and African-American women, as well as lower income or uninsured female patients, were found to be more likely to receive early detection services such as mammograms, clinical breast exams, and pap smears than comparable women who do not receive care at CHCs (Politzer et al.,2001). Shin, Jones, and Rosenbaum (2003) found that as the proportion of a state's low income population served by health centers grows, health disparities decrease between Blacks and Whites and between Hispanics and Whites in infant mortality, prenatal care, tuberculosis case rates, and age-adjusted death rates, and other key areas.

Study Limitations

There are several limitations to this study. First, CHC use is approximated using a variable representing "health center or clinic" use. A precedent for this approximation exists. Shi et al. (2001) used the same response variable for the same NHIS survey question to represent CHC users in a study comparing CHC users to non-CHC users. The NHIS states that the response is meant to include "clinics and walk-in clinics" and that CHCs would be included in the response description, though other clinics of similar structure will also fall into this response category. CHCs, public clinics, and many other clinics, as excluded from those encompassed by other response selections to the question (doctor's office or HMO, hospital outpatient clinic, emergency department), are often sources of publicly financed safety net care other than the emergency department and are utilized by similar patient populations with similar needs.

Second, undocumented persons may have under-reported foreign-born status or over-reported citizenship status. Third, differences within Hispanics according to country of ancestry

such as Cuban, Puerto Rican, Mexican, and others, were not measured and the study lacked measures for acculturation other than number of years living in U.S. Fourth, this study does not take into account those living in areas without access to a CHC. Fifth, the data do not allow for analysis to determine how much ED use is attributable to non-emergent conditions and how much is due to a lack of primary care resulting in emergent needs. Finally, this study is based on responses regarding where acute care is sought and does not address where routine and preventive care is sought.

CHAPTER 7

POLICY IMPLICATIONS

The Case for CHC Expansion

Current Savings to the Health Care System

Per-patient, state and national health care savings from CHC use has been examined. One study found per-patient medical expenditures are 41% lower (\$1,810) among CHC patients compared to patients seen elsewhere, including emergency departments. Based on those results, CHC utilization was estimated to save between \$9.9 and \$17.6 billion annually for the entire health care system (NACHC and Robert Graham Center, 2007). Another study examined savings afforded to a state by CHC use, comparing the costs of health care expenditures for Medicaid patients who use CHCs to patients who do not use CHCs. The study, after controlling for age and disability, found that CHC patients incurred lower total pre-member per-month Medicaid costs than non-CHC users, thereby saving their state \$44.87 per member per month, \$17.8 million total for the study period, in Medicaid expenditures (McRae & Stampfly, 2006). Further, CHCs not only reduce health care spending, but also generate economic activity. While concurrently saving health care costs, CHCs supply more than 140,000 jobs and provide over \$12.6 billion annually in economic benefits (NACHC and Robert Graham Center, 2007).

Projected Cost-Savings of Providing Care through CHCs

According to analysis conducted pertaining to the recently passed health care reform legislation, up to \$80 billion in overall health care costs would be saved within one decade due to reduced hospitalization rates, emergency room use, and lower third-party insurance expenditures as more patients are seen in CHCs (National Association of Community Health Centers (NACHC), July 2009). In addition, because CHCs are built in underserved areas which, thus,

stand to benefit from economic infusion from a new business, as much as \$77.6 billion worth of economic activity stands to be created and as many as 884,000 jobs would be maintained or created in some of the nation's most vulnerable communities (NACHC, July 2009).

CHC Use Lowers ED Use

The CHC serves as a medical home for its population, promoting the continuity of care, prevention, and primary care known to be crucial to improving health outcomes, facilitating efficient use of health care, and reducing health care costs and ED visits. Having a medical home supplies the patient with a consolidated medical record. Consolidated medical information saves health care costs by providing complete information to subsequent health care providers and diminishing reliance on diagnostic tests to learn of health issues.

Both publicly insured and uninsured CHC users have been found to be less likely to present in the ED for care and less likely to be hospitalized for care compared to non-CHC users. The findings of one study show that Medicaid patients who used CHCs as their usual source of care were 19% less likely to use the ED and 11% less likely to be hospitalized than Medicaid patients using outpatient and office-based physicians for usual care (Falik, Needleman & Herbert, 2006). Hadley & Cunningham (2004) found that uninsured persons who live near a CHC are less likely to have had an emergency room visit and less likely to have a hospital stay, as well as less likely to have an unmet medical need or to have postponed or delayed seeking needed care, compared to other uninsured (2004). Recent research on the effect of CHC presence on ED use in rural counties showed that counties without a CHC had a 33% higher rate of ED visits for all-causes among uninsured than counties with a CHC, even after adjustment for poverty, race, number of hospitals, and other factors (Rust et al., 2009).

CHCs in Wake of Health Care Reform

The advent of U.S. health care reform creates heightened demand for CHCs and provides funding to support an expected increase in demand. Previous research confirms the expected increase in CHC demand following health reform enactment. Ku et al. (2009) showed that CHC caseloads rose after Massachusetts enacted health care reform and expanded health coverage. The health care reform bill, passed by the U.S. Senate on March, 21, 2010, provides substantial new funding for Community Health Centers through the year 2019 targeted to building new CHCs, expanding current capacity, and fortifying services in hopes they will be recognized as patient-centered medical homes for purposes of state, local, or national efforts to reconfigure health care delivery (NACHC July 2009; Iglehart, 2010; Berenson et al., 2008). Specifically, within that time, health care reform aims to increase the number of patients served by CHCs to 45 million by 2015, providing \$12 billion in funds from 2011 through 2015 to augment CHC capacity towards this end (Iglehart, 2010).

Financial Sustainability of CHCs

Political Support for Sustainability

The agreeable political climate toward the community health center program is calmly anomalous among the contentions besetting past and present health care reform debates. Parties on both sides of the table openly recognize the successes of CHCs, backing approving rhetoric with approving votes to fund CHC expansion. Iglehart (2010) states that CHCs have received “unprecedented bipartisan favor” (p.343), in view that both President George W. Bush and President Barack Obama generously funded CHCs with bipartisan support. President Bush stated during a visit to a CHC in December, 2007, that CHCs are “an integral part of a health care system because they provide care for the low-income, for the newly arrived, and they take pressure of our hospital emergency rooms.” (Iglehart, 2010, p.343). Bush backed his verbal

support with dollars, doubling funding for CHCs over a five year period and increasing the number of CHCs from 750 in the year 2001 to 1200 by December 2007.

Political support for CHCs is expected to remain safe in coming years; regardless of tumult occurred in the political tide through health reform for several additional reasons. First, locations of CHCs are conducive to favor from a wide range of political constituencies as CHCs are located in 400 of the nation's 435 congressional districts and a mainstay in serving both urban and rural underserved areas. Second, quantitative evidence exists to show that federal funding for CHCs results in increases in patient services and staffing (Lo Sasso & Byck, 2010). Lo Sasso & Byck (2010) found that \$500,000 in federal grants provides treatment for 540 uninsured patients. Reliable research indicating that funding translates to an increase in patients seen transcends opinion through data.

Future Sustainability

Despite fervent political support, CHCs still face challenges in maintaining solvency while upholding their mission to serve all patients, regardless of receipt of payment. Cunningham, Bazzoli & Katz state that "Maintaining the balance between their mission and the requirements for financial viability has been tenuous for some time, but is becoming more so in a marketplace that is becoming more competitive and profit-driven." (p. 382) To continue financial viability, CHCs will have to ceaselessly innovate future plans to foster sustainability. According the National Association of Community Health Centers (February 2010), the cost of increasing capacity surpasses a one-time investment of federal funding; on-going support is necessary to maintain the newly established additional services and sites. In efforts to underpin future financial sustainability, CHCs are currently taking the following actions (Cunningham, Bazzoli & Katz, 2008):

- Strengthening payer mix.
- Strict efforts to verify income & apply sliding fee scale.
- Encouraging referrals from EDs to establish medical homes at CHCs
- Expand profitable service lines such as obstetrics and gynecology.
- Lobby private payers to pay the same increased rates to CHCs that Medicaid, Medicare, and SCHIP pay due to the additional services (translation, social services, transportation) provided by CHCs.

CHAPTER 8

RECOMMENDATIONS FOR FUTURE POLICY

Findings of this research indicate that CHCs are an appropriate means through which to provide health care to Hispanic immigrants who seek care from the safety net, showing they utilize CHCs rather than EDs as their preferred source of safety net health care. Previous research supports this as an appropriate choice for care, indicating that CHCs are a more efficacious source of safety net health care delivery than EDs.

However, as previously noted, local availability can override preference as a factor in CHC utilization. Therefore, the question becomes whether CHCs are available to the population that our findings indicate have the greatest preference for using them. Policy efforts to locate CHCs in places where they will be well-utilized inherently consider where the population resides who would be most likely to use them. Likewise, policy efforts to provide the growing Hispanic immigrant population with effective primary care should consider the locations of greatest current and projected growth of this population and availability of CHCs in these locations, given the propensity of this population to use CHCs. Following is an explanation of which areas have the greatest projected growth in Hispanic immigrant populations and, thus, the areas which warrant consideration for CHC expansion.

Identify Areas of Projected Hispanic Immigration Growth

Hispanic immigration continues to surge throughout the U.S., including in states that have seen few Hispanic immigrants in the past. States experiencing the highest growth in immigrant population are not the typically noted states of California and Texas; rather, states such as North Carolina, Georgia, Arkansas, Utah, Nebraska, and Kentucky are ranked in the top ten for greatest growth in immigration from 1990 to 2000 (Fremstad & Cox, 2004). Areas that have

recently experienced a large growth in their Hispanic population have been named “new growth” communities and are experiencing the highest growth rates of Hispanic immigration in the nation (Cunningham, Banker, Artiga, & Tolbert, 2006). The growth of the Hispanic population has disproportionately occurred in new growth areas, with the Hispanic population growing by 3.7 million or 93 percent in these areas, compared to 23 percent growth of Hispanic immigration in areas such as Texas and California where Hispanic immigration is already established (Cunningham et al., 2006).

Locate CHCs in Areas of Projected Hispanic Population Growth

Currently, due to the rural nature of new growth areas, only 43 percent of Hispanics in new growth communities live within five miles of a CHC and about half live within 10 miles of a safety net hospital (Cunningham et al., 2006). The concern is that communities with the greatest projected growth in Hispanic foreign-born population currently lack CHCs and face significant challenges to securing funding to establish CHCs.

Background

In 2001, the Bush administration began a five-year initiative to create 1,200 new CHCs through community health center expansion grants. Three types of grants could be awarded under the initiative: New access point, expanded medical capacity, and service expansion. New access point grants are awarded to new grantees or existing grantees to open a new center, while the other two grants are for existing centers. Expanded medical capacity grants increase capacity to serve more patients and locations, and service expansion grants add new dental, mental health, or substance abuse services (Taylor, 2004).

Obtaining a Grant

To successfully secure a grant, the applicant must currently be a recipient of federal funds, financially stable, and not be solely dependent upon federal funding. Additional

requirements vary according to the specific type of grant (Hoadley, Felland, & Staiti, 2004). Recipients of CHC grants are legislatively required to serve areas or populations designated as medically underserved by the Secretary of Health and Human Services (Health Resources and Services Administration [HRSA], 2006). The Criteria for Designation of Medically Underserved Areas (MUAs) and Populations (MUPs) are based on the Index of Medical Underservice (IMU). The IMU formula consists of the weighted value of the following four variables (HRSA, 2006):

- 1) Ratio of primary care physicians per 1,000 population
- 2) Infant mortality rate
- 3) Percentage of the population with incomes below the federal poverty level (FPL)
- 4) Percentage of the population aged 65 years and over

While the federal requirements for CHC funding are important in establishing functioning CHCs that competently fulfill their mission, they pose challenges for new growth communities applying for a CHC expansion grant. First, overall populations in new growth areas often have incomes too high to be designated as medically underserved (Cunningham et al., 2006). Further, many Hispanic immigrants are over-represented in the workforce, with the highest workforce representation of any group in the U.S. (U.S. Hispanic Advocacy Association, 2006). With at least one person in the household employed full-time, their household incomes commonly are above 100 percent FPL. Moreover, the medically underserved designation also does not explicitly take into account health insurance status. This omission again fails to encompass many of the working poor Hispanics who are over-represented in low-wage jobs (Blewett et al., 2003) and frequently unable to afford the employee contribution to ESI (if available) or a private health plan.

Physician-to-population ratios and infant mortality are two other aspects within the requirements to be designated as medically underserved that also do not apply well to the Hispanic population in new growth areas. The mere presence of physicians in a community does not equate with access to care, particularly for a population that is one-third uninsured. Hispanics are also poorly served with the infant mortality requirement for medically underserved areas as Hispanics are shown to have infant mortality rates as low as or lower than non-Hispanic Whites (Taylor, 2004; Leslie et al., 2003; Frisbie & Song 2003). These limitations can be addressed, though technical knowledge and detailed data analysis may be beyond what is locally available. Outside expertise may be needed such as that found in some BPHC state Primary Care Offices (PCOs) or through hired consultants.

Competitive Application Process

Lack of Resources to Create a Strong Application

Once designated as a medically underserved area, the application process for an expansion grant can begin. However, the application process also presents numerous hurdles. First, many new growth communities are without the existing infrastructure needed to receive a grant. An organization must already be receiving federal funding under the Consolidated Health Center Program to qualify for an expansion grant (Hoadley, Felland & Staiti, 2004). Thus, many new growth communities without established safety net are faced with a catch-22: They do not have the funds to create the infrastructure needed for a competitive grant application, yet need the grant to obtain funds to create the infrastructure.

A 2004 study by the Center for Studying Health System Change found that expansion grants have less impact on communities with weaker safety nets. Rather, strong safety nets showing sufficient infrastructure and financial resources were more likely to receive expansion grants than communities with weaker safety nets and the greatest need (Hoadley, Felland & Staiti,

2004). While community need is a factor taken into account during the awards process, even strong safety nets can show need. Need is inherent in the safety net as the safety net does not profit and exists only in response to demand. If a community can show fairly ubiquitous traits such as growth in uninsurance rates, then it can justly demonstrate need. Furthermore, the Health Resources and Services Administration (HRSA) has indicated that the grant award process for new sites has not adequately targeted communities with the greatest need (General Accounting Office, 2005).

Finally, there is a knowledge gap in communities that have never before applied for a CHC grant. They may lack experience and in producing a competitive application, as well as knowledge about where to go for guidance. State PCOs can offer some support, but vary greatly by funding and resources.

Challenges Gaining Community Support

Community support is essential in organizing the infrastructure and administrative support—including governing boards—needed to be a competitive applicant. Difficulties arise in rural communities in garnering wide-spread support for a CHC. For example, local providers may feel threatened by the creation of a new health care facility and/or may resist the creation of a facility with a majority consumer governing board. With extensive inter-linkages among people in rural areas, many may fear that their support of a CHC will compromise their relations with the current local medical community (Carlson, Fraser & Jones, 2005; Mueller et al., 2004). The difficulty in establishing wide-spread community support also weakens the community's ability to lobby to local legislators to support state funding and federal grant awards for the center. Finally, the population in greatest need of the CHC may feel little political voice in the matter or remain unaware of the movement due to language and cultural barriers.

Figure 10. *Two Stages in Application for CHC Expansion Grant*

<p><u>Stage 1:</u></p> <p>Meet Criteria to Obtain Medically Underserved Area (MUA) Designation</p>
A) Ratio of primary care physicians per 1000 people.
B) Infant mortality ratio.
C) Incomes < 100% Federal Poverty Level.
D) Percent of population \geq 65 years of age.
<p><u>Stage 2:</u></p> <p>Meet Criteria to Compete within the Grant Process</p>
A) Current recipient of federal funds.
B) Current organization is financially stable.
C) Current organization is not sole dependent on federal funds.
D) Community support and established governing board with consumer majority.

Specific Recommendations for Revising Grant Criteria and Competitive Process

Two primary challenges exist for new growth communities in applying to obtain funds to establish a ‘new access point’: Obtaining a medically underserved designation and the competitive grant application process. The following four recommendations are offered to mitigate these obstacles:

- 1) Create and include a definition of “new growth community” within the CHC expansion grant process.
- 2) Allocate targeted funds for communities that fall within the definition of new growth communities.
- 3) Revise the variables used to determine an MUA.
- 4) Reconcile the requirement for demonstrated capacity by offering increased technical assistance.

Defining “New Growth Community”

Before policies can be made to effectively foster safety net expansion in new growth communities, a definition is necessary to give identity to new growth communities within the process of CHC grant application. No federal definition of new growth communities currently exists and the quantitative criteria that identify “new growth community” have not been formally defined in the current body of academic literature. A definition could be based on the shared characteristics of communities that have been termed in literature as new growth communities. One such definition is a community whose immigrant population has grown from less than or equal to five percent of the community population to greater than ten percent of the community population within the past 10 years. The definition would encompass communities who have experienced significant growth in immigration from persons from any country of origin, and not only refer to those communities who have seen an increase in Hispanic immigrants.

Allocate Targeted Funds for New Growth Communities

It is unfair to have fledging new growth community safety nets compete with strong, established, urban safety nets for the same pool of resources. The urgent need coupled with lack of safety net infrastructure and limited experience typical of new growth communities should be recognized within funding allocation. Communities that fit the definition of a new growth

community would be eligible to apply for CHC new access point expansion grants that use funds allocated only for new growth communities. Funding for these targeted grant awards would come from the current pool of funds for CHC expansion grants and would not require additional money. New growth community applicants who apply for a new access point grant would have the option to compete within that pool or to compete within the larger pool of applicants in order to allow them inclusion in the applicant pool in which they feel they would be most competitive.

Additionally, *need* should not only be demonstrated, but weighted in the application assessment. Greater weight on need should particularly be given to expansion grant applications for new access points, as new growth communities applying for grants are likely to be without an existing center and applying to create a CHC for the first time. Weighing need in the award process would help to direct limited funds to the places where they are most urgently needed (Taylor, 2004).

Revising the MUA Criteria

Several of the variables in the IMU formula to determine if an area is medically underserved do not apply well to new growth communities. To ameliorate this, revising the factors that determine MUA designation merits consideration, shown in Table 15.

First, insurance status should be included in the factors that determine medically underserved areas (Taylor, 2004). This revision is important to accommodate the large number of working poor Hispanics who come to the community for plentiful low wage jobs and whose subsequent incomes are insufficient to afford coverage. Due to the high rates of uninsurance common to new growth communities, insurance status as a measure of access may be as fitting or better than ratios of the number of providers per capita (Taylor, 2004).

Second, due to low Hispanic infant mortality rates (Taylor, 2004; Leslie et al., 2003; Frisbie & Song, 2003) measures other than infant mortality are needed to present a more accurate

picture of health care needs in new growth areas. For example, given the prevalence of diabetes, cardiovascular disease, and obesity among Hispanics (American College of Physicians-American Society of Internal Medicine, 2000), chronic disease rates among a community or population may be an option appropriate for assessing need among a Hispanic new growth population.

Third, factoring the percentage of population below 100 percent FPL does not take into account Hispanics' high employment rates. Even with low wages, one full-time worker will often make wages above 100 percent of federal poverty level. As such, accounting exclusively for incomes that fall below 100 percent FPL leaves out the working poor. Research indicates that eligibility of at least 150 percent FPL is a more accurate representation of poverty level and a more appropriate threshold at which to include the working poor in public health insurance programs (Feder, Levitt, O'Brien & Rowland, 2001). Aligning with this research, the FPL requirement for new growth communities should be raised to 150% to include representation of the working poor.

Fourth, factoring the percent of the population aged 65 years or older for MUA designation is not congruent with the younger, working age of the immigrant population. Because Hispanics are over-represented in jobs with high risk of job-related injuries and illnesses (Blewett et al., 2003), weighting the Bureau of Labor and Statistics job safety ratings for the local industries that employ the highest percentages of the local population may better indicate employment factors rather than age as a driver of health utilization.

Figure 11. *Suggested revision of variables used in the medically underserved designation for new growth communities applying for community health center expansion grants.*

Current Variable	Recommended Revision
Ratio of Primary Care Physicians per 1000 people	Ratio of Primary Care Physicians per 1000 people AND Uninsurance rates per 1000 people
Infant mortality	Infant mortality OR Chronic disease rates
Incomes <100% FPL	Incomes <100% FPL OR Incomes \geq 150% FPL
Percent of population \geq 65 years of age	Percent of population \geq 65 years of age OR Bureau of Labor and Statistics job safety ratings for the local industries that employ the highest percentages of the target population

Assistance with Grant Application

For recipients to be capable of the complex and demanding undertaking of creating and administrating a successful clinic, a rigorous application process is necessary to ensure the awardees are sufficiently strong to carry through their intents. The policy question that ensues is how to reconcile the need for funds to initiate a safety net in resource poor communities with the

imperative that communities have sufficient capacity and capabilities to successfully employ those funds.

In response, federal and state guidance should be available for new growth communities establishing a CHC for the first time. A federal program should be developed through the Bureau of Primary Health Care and administered by state Primary Care Offices (PCOs) to assist new growth communities in the technical aspects of grant writing. Such assistance would support new growth communities in their efforts to compete with the strength of applications presented by communities with strong safety nets who have previously demonstrated success in the process. A state model for administering such assistance could be based on the Texas Primary Care Office (TPCO). TPCO created the CHC Incubator Program that serves to expand and create CHCs in communities through technical grant-writing assistance and grant awards (ASTHO, 2006).

Additional guidance from BPHC, or through the state PCO, should be offered with a federal grant award for a new access point. Supportive direction on leadership recruitment, provider recruitment, and business plans for financial sustainability should be provided to facilitate the success of a community's first venture at establishing a formal safety net facility. This additional federal investment would help to ensure that funds granted to new growth communities would successfully secure the establishment of a safety net and foster its continued success.

CHAPTER 9

CONCLUSIONS

Detailed description provided by this study regarding the nativity breakdown of the Hispanic population that uses CHCs and EDs gives information that helps move the discussion of safety net services for minorities beyond that of health disparities, as well as provides quantitative evidence to override assumptions about where minority groups seek safety net care. This study draws attention to the unique needs of immigrants that may prompt them to choose one source of care over another. Detailed information about which safety net source of care is selected by racial, ethnic, and immigrant groups provides information that contributes to policy formation targeting provision of safety net services appropriate for the populations who use them.

Delineating between Hispanics of foreign nativity, foreign citizenship, and U.S. citizenship improves efforts to provide safety net care to these growing populations by highlighting the unique characteristics of these groups, rather than considering Hispanics as a homogenous population and missing subtleties that may impact policies for safety net care delivery. Ignoring the need to address health care for growing U.S. Hispanic immigrant populations leaves individuals and families at risk for avoidable poor health outcomes, and, subsequently, leaves the U.S. health care system vulnerable to financial consequences. Targeting services to Hispanic sub-populations of foreign nativity may help to ameliorate barriers to health care and health status encountered by this population. Applying data about what sites of care are preferred by this population offers insights into health care preferences by this population and, thus, which sites may appropriately serve as models of health care delivery and/or be the most meaningful for targeted health interventions.

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