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Traditional, complementary and alternative medicine among Latinas: Patients' practices
and physicians' attitudes and communication skills

By

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I. Literature Review

1. Introduction

Latinos represent a large, diverse, and growing presence in the United States. According to the 2010 Census Latinos comprise 16.3% of the US population, accounting for more than half of the nation's growth in the past decade. By 2050 Latinos are expected to comprise one-quarter to one-third of the US population. California has the largest Latino population in the nation, with over 14 million Latinos representing 38% of the state's total population, up 28% since 2000 (US Census Bureau, 2011). Currently nearly 50% of babies born in California are to Latino parents (Pew Hispanic Center, 2009). By sheer numbers alone, the health of Latinos in California and throughout the US matters.

In the United States, racial and ethnic minorities receive lower quality health care and suffer worse health outcomes than white Americans, even when access to care (cost, insurance coverage, hours, location) is adequate (Smedley, Stith, & Nelson, 2003). Latinos suffer disproportionately high rates of obesity, diabetes, HIV/AIDS, tuberculosis, certain cancers, depression, and death from homicide or incarceration. Besides biomedical care and individual behavior, increasing attention is being paid to how social and economic factors contribute to health outcomes and disparities (Raphael, 2006). Health disparities can be defined as "differences in health which are not only unnecessary and avoidable but, in addition, are considered unfair and unjust" (Whitehead M, 1992). Low income, lack of health insurance and access to health care, immigration status, language barriers, working conditions, environmental contamination, neighborhood safety, and unhealthy lifestyles have all been cited as causes for Latino health disparities (J. R. Betancourt, Carrillo, Green, & Maina, 2004; Morales, Lara, Kington, Valdez, & Escarce, 2002). Besides addressing structural barriers to care, improving the cultural competency of medical services has been proposed as an important strategy for reducing health disparities among low-income and ethnic minority populations in the US (J. R. Betancourt, Green, Carrillo, & II, 2003).

Despite limited income and access to care, recent Latin American immigrants have lower overall mortality and infant mortality than their US-born Latino and non-Hispanic counterparts, a phenomenon known as the "Latino health paradox." Many researchers point to cultural factors that protect and support better health outcomes than might be expected given their low socioeconomic status and limited access to healthcare. Community and family support networks (Gresenz, Rogowski, & Escarce, 2009), religiosity (Jurkowski, Kurlanska, & Ramos, 2010), traditional diets including high levels of fruits and vegetables, and low rates of illicit drug, alcohol and tobacco use (especially among women) (Lara, Gamboa, Kahramanian, Morales, & Hayes Bautista, 2005) have been identified as cultural protective factors shared by Latinos, especially those of Mexican origin.

Cultural traits often identified as contributing to worsening health outcomes following migration to the US include Spanish language, low utilization of screening and preventive health measures, stigmatization of certain diseases including mental illness and HIV/AIDS, lack of contraception use or safer sex practices, sedentary lifestyle, and

high-fat diets, as well as religious fatalism (Barron, Hunter, Mayo, & Willoughby, 2004; Elder JP, Ayala GX, Parra-Medina D, & Talavera GA, 2009). Promoting culturally-appropriate healthy behaviors and attitudes, while addressing potentially unhealthy practices with sensitivity and community-oriented education and outreach, have been recommended as ways to apply culturally appropriate care with Latinos in clinical and community contexts (Garcés IC, Scarinici IC, & Harrison L, 2006).

Traditional, complementary and alternative medicine (TCAM) remains central to Latino health beliefs and practices in the US. TCAM refers to the diverse spectrum of health practices not encompassed within or validated by conventional biomedicine. Like other cultural practices, Latino TCAM is often viewed as either a barrier or a benefit to health (Holliday, 2008). The preference for herbal remedies over pharmaceuticals, the tendency to treat health problems at home before seeking medical advice (Borraro & Jenkins, 2003), the use of toxic substances or exotic rituals (DeBellonia et al., 2008), and the potential for herb-drug interactions (Rivera, Ortiz, Lawson, & Verma, 2002), have all been cited as potentially undermining Latino health. On the other hand, the importance of health maintenance through diet and physical activity, the effective use of home remedies for minor health complaints, and the utilization of prayer and folk healers to treat mental-emotional disorders may contribute to the overall good health of many Latinos, especially recent immigrants and others who maintain more traditional customs (Waldstein A, 2010).

Data on rates of TCAM use among Latinos vary from 27% (Graham et al., 2005) to 98% (Ortiz, Shields, Clauson, & Clay, 2007). Herbal remedies are the most common form of TCAM among Latinos, while as few as 2-5% of Latinos report consulting with a traditional healer such as a *curandero* (Applewhite SL, 1995; Higginbotham JC, Trevino FM, & Ray LA, 1990). The choice to treat health complaints with TCAM is not always associated with low income or limited access to Western biomedicine; rather, many Latinos may use TCAM because it is delivered in a culturally-appropriate manner (Kiesser, Mcfadden, & Belliard, 2006) or because traditional remedies are deemed safer and/or more effective for certain ailments (Sanchez, 2007).

While medical practice standards recognize the importance of physicians inquiring about medications their patients are using, studies indicate that up to 80% of Latinos do not talk about TCAM with their doctor (Graham et al., 2005; Keegan, 1996; Kuo, Hawley, Weiss, Balkrishnan, & Volk, 2004; Mikhail, Wali, & Ziment, 2004; Rivera et al., 2002), and many also fail to discuss mental health and folk illnesses that are not explained by Western biomedicine. Similarly, many providers do not ask about these topics. The potential for herb-drug interactions and the use of dangerous alternative remedies are commonly cited reasons why conventional healthcare providers should understand the pharmacology and cultural context of TCAM. Lack of communication not only increases the risk of herb-drug interactions or missing potentially serious health problems, but also points to a profound breakdown in the patient-provider relationship. Increasing knowledge and communication skills about health beliefs and TCAM is critical to reducing cultural barriers to health care for Latinos.

A better understanding of Latino health beliefs and TCAM use may also illuminate opportunities for integrating traditional and modern practices to best address the particular needs of Latino patients. Certain health practices may have benefits that

could be incorporated into a culturally appropriate model of holistic health care for medically underserved communities, with the goal of reducing health disparities.

Of course, culture is not the only cause or solution for health disparities. Beyond individual behaviors and biomedical treatments lies the broader social and economic context in which Latinos experience life in the US. Incorporating cultural beliefs and practices into clinical practice is only one piece of a much larger puzzle, one which involves addressing the unequal distribution of wealth and social resources as well as the psychosocial realm of racism and social marginalization experienced by Latinos and other ethnic minorities in the US.

In this paper, I review the literature on Latino health disparities, the Latino paradox, and the role of cultural competency in reducing health disparities. I also explore the literature on Latino health beliefs and practices in the US, including the use of TCAM, including a range of botanical and pharmaceutical remedies. I argue that for Latinos in the US, culture should not be seen as an inherent “barrier” to care, but that certain cultural beliefs and practices, including traditional, alternative and complementary medicine in the domestic and folk spheres, may contribute to better health outcomes. Instead of relying on fixed knowledge about particular cultural traits, I argue that health care practitioners need to combine basic cultural knowledge with communication skills and cultural humility in order to elicit each patient’s “explanatory model” of health. This is especially important given the “medical pluralism” practiced by many Latinos in the US who utilize both traditional, alternative and conventional medicine.

2. “Latinos”: Diversity and Terminology

The diversity of national backgrounds, racial/ethnic identity, and language preferences of Latinos makes generalizing about Latinos an enormous challenge. People of Mexican origin represent the largest Latino group in the US (65.6%), followed by Puerto Ricans (9.1%), Salvadorans (3.6%), Cubans (3.5%), Dominicans (2.8%), and Guatemalans (2.2%). Within California, 84% of Latinos are of Mexican origin (Pew Hispanic Center, 2011a).

National studies, research institutes, and federal programs tend to use the term “Hispanic,” while the term “Latino” has been popularized by media and political advocacy groups. These terms represent a constructed identity that encompasses all individuals of Spanish or Latin American descent, glossing over differences between distinct national and ethnic subgroups and projecting a unified political and cultural identity. Although politically useful, the category of Hispanic/Latino is highly non-specific, failing to distinguish between recent immigrants and families with many generations of US citizenship, and obscuring “racial” or cultural identity. Most Latin American immigrants residing in the US prefer to be identified by their national origin (Mexican or Mexican-American, for example) rather than “Hispanic” or “Latino.” Furthermore, many Latin American indigenous immigrants to the US maintain cultural identities distinct from national and Spanish-origin cultures although they are citizens of those countries (Beltrán, 2010).

For the purposes of this paper, I will use the term Latino due to its popularity and frequency of use in California, and Hispanic when referring to studies or centers that use

the term. Because the vast majority of Latinos in California are of Mexican descent, much of the literature reviewed focuses on Mexican and Mexican Americans in California and the Southwest. I will specify other national or ethnic groups whenever possible in order to avoid generalizations.

3. Latino Health Disparities: Social determinants of health

The evidence of worsening health status among Latinos living in the US can be understood through the lens of social determinants of health. Social determinants refer to the social and economic conditions that impact the health by influencing the extent to which individuals and communities are able to access social and economic resources, to make a living and fulfill their aspirations, to live free of oppression and discrimination, and to cope with their environment. Addressing social determinants of health means moving beyond biomedical and behavioral interventions to change the conditions of inequality that result in poor health (Grzywacz & Fuqua, 2000; Raphael, 2006).

Social determinants exist at macroscopic, intermediate, and individual levels, exerting unique and interactive effects on individuals and communities. The broadest level includes governmental structures, public and economic policies, health care systems, and cultural norms. Intermediate, or community-level factors include employment/income, geography, education, housing, food access, family and other interpersonal relationships. At the individual level, personal beliefs and behaviors, psychology, genetics, race/ethnicity, gender, sexuality, and disability all have direct impacts on health as well as how individuals interact with community and macro-level factors (Raphael, 2006). Depending on the context, certain determinants termed “leverage points” may have exceptionally potent effects on health (Grzywacz & Fuqua, 2000). For Latinos, important “leverage points” for health include migration experiences, immigration policy and legal status; poverty; work environment; educational attainment; neighborhood environment; and incarceration and homicide. Furthermore, various structural barriers such as cost, health insurance, and language services affect access to health care

3.1 Socioeconomic and environmental determinants of health

Across all ethnic groups in the United States, poverty is associated with worse health. In California, Latinos fall short of non-Hispanic whites and blacks in terms of income. The median annual personal earnings for Hispanics aged 16 and older is \$20,500, compared to \$40,000 for non-Hispanic whites and \$30,000 for African Americans. Over a quarter of Hispanic children live in poverty, compared to 9% of non-Hispanic whites, and 17% of Hispanic adults live in poverty, compared to 2% of non-Hispanic whites and 11% of African Americans (Pew Hispanic Center, 2009). The recent economic crisis has greatly impacted Latinos compared to other ethnic groups; median household income dropped 66%, from \$18,359 in 2005 to \$6,325 in 2009 (compared to a 53% decline among African Americans and 16% among non-Hispanic whites) (Taylor P, Kochhar R, & Fry R, 2011). The impact of poverty on health extends beyond access to health care services, and includes the stress of trying to make ends meet, crowded housing, dangerous neighborhoods, and limited access to healthy food. Furthermore, the

lack of self-efficacy and social engagement encountered among people with low socioeconomic status has been linked to biological stress pathways that impact individuals' health (Marmot, 2006).

Latinos work for lower wages and in more dangerous, less unionized, and more socially isolating jobs, all of which place a burden on health. In California, Mexican immigrant men make up 20% of the workforce. More Latinos suffer work-related injuries than their white counterparts, explained by their participation in construction, agriculture, day labor, and service work (Schenker MB, 2010). These jobs are the least likely to offer health insurance, leaving workers at risk for complications from workplace injury and toxic exposure (Health Initiative of the Americas, 2007). Exposure to occupational toxins affects not only workers but also their families, impacting the health and development of children (Eskenazi B, Bradman A, & Castorina R, 1999).

Educational attainment has a lifetime impact on occupation, income, and health outcomes. As a group, Latinos have some of the lowest levels of educational attainment in the US. Almost one-quarter of Latinos have less than a 9th-grade education (8.9% of US-born and 34.6% of foreign born), compared to only 3.0% of non-Hispanic white and 5.4% of black Americans. Among US-born Latinos, about 9% drop out of high school, and over 20% of foreign-born Latinos drop out of high school, compared to 3.9% of non-Hispanic whites and 6.6% of blacks. Fewer Latinos graduate from college (16.6% of US-born and 9.7% of foreign-born) than whites (31.1 %) or blacks (17.7%) (Pew Hispanic Center, 2011b). Besides the impacts on socioeconomic status, low educational attainment has been associated with a higher need for health information (Matsuyama RK et al., 2011). Although the link between formal education, reading ability and health literacy (the ability to make sound health decisions) is not entirely clear, research on health literacy and health outcomes indicates that lower health literacy leads to worse health outcomes (Hawkins AO, Kantayya VS, & Sharkey-Asner, 2010).

Neighborhood-level factors affecting Latino health outcomes include transportation, housing, public services, safety and violence, social networks, environmental contamination, and access to quality food, schools, and venues for physical activity (parks, sidewalks, recreation centers, etc) (Beyers M et al., 2008). For Latinos, living in a neighborhood with a high proportion of Latin American immigrants has a mixed effect on health behaviors and outcomes. Enclaves may help maintain and build social capital through "social embeddedness" (A. Portes & Sensenbrenner, 1993); improve access to healthier traditional foods (Osypuk TL, Roux AV, Hadley C, & Kandula NR, 2009), and buffer from the stress of discrimination (Viruell-Fuentes, 2007). On the other hand, living in Latino enclaves has been associated with less physical activity (perhaps due to safety and infrastructure problems) as well as increased social isolation (Osypuk TL et al., 2009). Living in a majority-Latino, low-income urban neighborhood has also been associated with riskier health behaviors and failure to achieve upward mobility among Latino adolescents (Frank R, Cerdá M, & Rendón M, 2007).

Violence and incarceration are significant sources of health disparities among communities of color in the US, including Latinos. Assault and homicide are the 7th leading cause of death for Latinos in California. In 2007, three times as many Latinos (1,055) were murdered in California than whites (372), and about twice as many as African Americans (665). The overall California incarceration rate for Latinos is 1.7

times that of whites. US-born Latino males are five times more likely than their foreign-born counterparts to be incarcerated (3.5% vs. 0.7% respectively) (Rodriguez & Hernández-Santana, 2009). The health consequences for those imprisoned include substance abuse, HIV and other infectious disease, perpetuation of and victimization by physical and sexual violence, mental illness, chronic disease, and reproductive health problems. For Latino communities affected by high rates of violent crime and incarceration, the correctional system indirectly impacts community health through the disruption of families, limiting economic opportunities and political participation, and changing how communities view sex, drugs and violence (Freudenberg N, 2001).

3.2 *Access to care*

Access to care means having medical insurance and having access to a usual source of care. The low rate of employer-sponsored health insurance in certain industries, combined with low wages, contributes to extremely low rates of health insurance coverage for Latinos in California. In 2005, approximately 35% of working Latinos had employer-sponsored insurance, compared to nearly 67 % of non-Hispanic whites. Overall, about one third of Latinos lack health insurance, accounting for more than half of the uninsured throughout the state. When broken down by nativity, about 40% of foreign-born Latinos are uninsured, whereas 18% of US-born Latinos lack insurance (Pew Hispanic Center, 2009). Latino adults (22.9%) are over twice as likely as whites (8.4%) to lack a usual source of medical care. Due to state- and federally-sponsored healthcare programs such as Medi-Cal and Healthy Families, and thanks to county-based health initiatives, fewer Latino youth 17 and under are uninsured (15%). However, Latino youth fare worse in terms of health coverage than white (5% uninsured) and black youth (9% uninsured). While most Latino children have a usual health care provider, they are more than three times as likely as white children to be seen in a community or government-run clinic (Rodriguez & Hernández-Santana, 2009), indicating that they are being caught by the safety net services. Recent changes in health care reform excluding undocumented immigrants from national healthcare programs are expected to further decrease the number of Latinos with insurance and/or consistent sources of healthcare (Derose KP, Escarce JJ, & Lurie N, 2007).

Lack of health insurance is a leading reason why Latinos, especially immigrants, do not seek health care services. When people aren't insured, they utilize less preventive care, such as screenings and immunizations, resulting in preventable diseases and late-stage problems (Perez-Escamilla 2010). Recent California data disprove the stereotype that Latinos place a burden on the healthcare system by over-utilizing the emergency department for healthcare services. While slightly more Latino children and US-born adults visit the ED than white Californians, Latino adolescent and foreign-born adults are far less likely to use the emergency department (Rodriguez & Hernández-Santana, 2009). Regardless of the ultimate source of care, lack of insurance coverage is both a hazard to health and a burden on healthcare services.

3.3 *Migration and undocumented status*

Although the native-born Latino population now exceeds the number of foreign-born immigrants (Pew Hispanic Center, 2011c), migration experiences remain a dominant force shaping the life path of many Latinos. In 2010 an estimated 11.2

undocumented immigrants resided in the US (down from 12 million in 2007), about 60% from Mexico and another 20% from the rest of Latin America (Passel & Cohn, 2010). At least 1 million undocumented immigrants are apprehended each year along the 2,000-mile US-Mexico border, and between 225 and 370 immigrants are found dead each year (Sapkota et al., 2006).

For undocumented Mexicans and Central Americans, the militarization of the US-Mexico border has made the journey more expensive, dangerous, and often traumatic, and has also resulted in a drastic change in migration patterns. Rather than crossing back and forth relatively freely, immigrants often stay longer or permanently in the US, in relative isolation from their families and social networks back in their home countries. The re-establishment of homes, families, social networks, and opportunities for work and education in the US poses a significant challenge to recent immigrants. For the undocumented, the constant threat of deportation and the intensity of anti-immigrant sentiment in the US have a negative impact on physical and mental health. These stressors may exacerbate the health risks associated with low socioeconomic status (Gallo, Penedo, Espinosa de los Monteros, & Arguelles, 2009). Immigrant syndrome with chronic and multiple stress, dubbed “Ulysses’ Syndrome,” has become recognized as a unique set of symptoms resulting from overwhelmingly stressful migration experiences (Achotegui J, 2005).

4. Latino Paradox: Culture and acculturation

Much of the discussion of Latino health revolves around the so-called “Latino health paradox.” Since the 1970s, epidemiologists have noted surprisingly positive health indicators among first-generation immigrants in terms of infant mortality, life expectancy, and adult mortality. What seemed paradoxical to researchers was that Latino immigrants exhibited health and mortality outcomes more similar to non-Hispanic whites despite their lower socioeconomic status and delayed or lack of access to health care. They noted that the Latino paradox did not include other health indicators such as diabetes and infectious diseases, where Latinos experience worse outcomes (Hummer RA, Powers DA, Pullman SG, Gossman GL, & Frisbie WP, 2007).

Unfortunately, the Latino paradox does not hold true for all health outcomes. Compared to the rest of the US population, Latinos experience higher rates of diabetes, obesity, stomach, liver and cervical cancer, HIV, tuberculosis, liver disease, homicide, incarceration, and work-related injuries. Mental health status is also a major concern, especially among Latina adolescents and adults (Network for a Healthy California--Latino Campaign, 2009). Furthermore, the more time immigrants spend in the US, the more the Latino paradox and the good health outcomes tend to diminish. Data from the 2006 NHIS show that the rate of diabetes increases from 2.2 percent among recent Mexican immigrants to 11.5 percent among those in the US for at least 10 years (CONAPO and Health Initiative of the Americas, 2008). US-born Mexican-American women experience worse perinatal outcomes than their Mexican-born counterparts (Guendelman, Thornton, Gould, & Hosang, 2006).

Nor does the paradox hold for all Latino subgroups. The paradox primarily applies to Mexican-born immigrants, but is not found among Puerto Ricans. Cubans, who

experience relatively good health outcomes, tend to enjoy higher socioeconomic position than most other Latinos due their privileged immigration status and pre-immigration socioeconomic position (Morales et al., 2002).

Four explanations for the Latino paradox dominate the public health literature: the healthy migrant effect, the salmon bias effect, problems with data, and sociocultural factors. Immigrant selectivity, also known as the “healthy migrant” effect, refers to the tendency of people who migrate to be healthier than people left in their home countries. Although a popular argument, a recent study conducted in Mexican communities of origin did not find statistically significant differences in health status between people who migrate and those who stay at home (Rubalcava, Teruel, Thomas, & Goldman, 2008). Some argue that out-migration of unhealthy and/or elderly Latinos back to their home countries (the “salmon bias” effect) leads to lower morbidity and mortality rates in the US. Hummer et al (2007) discount the notion that out-migration of recent mothers with dangerously ill newborns can account for the low rate of infant mortality. Abraido-Lanza et al (1999) also discount both the healthy migrant and salmon-bias effects using statistical analysis of national data sets.

Another explanation for the paradox is the poor quality of epidemiologic data on Mexican and other Latin American immigrants. Some argue that under-reporting of illness and injury among an under-insured and undocumented population underestimates actual rates of morbidity and mortality among Latinos. Yet numerous studies have confirmed the presence of a Latino health paradox despite problems with epidemiologic data (CONAPO and Health Initiative of the Americas, 2008; Hummer RA et al., 2007).

The last argument holds that traditional Latin American cultures harbor health protective factors that contribute to better health outcomes, while acculturation to US culture ultimately leads to deteriorating health status among immigrants and subsequent generations (A. F. Abraido-Lanza, Dohrenwend, Ng-Mak, & Turner, 1999; Lara et al., 2005; Morales et al., 2002). Acculturation describes “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups” (Redfield, Linton, & Herskovits, 1936).

In research on Latino immigrant health, acculturation is associated with negative health behaviors such as illicit drug use, drinking (among women), smoking, less nutritious diet, obesity, and outcomes such as lower birthweight and worse perinatal outcomes. On the other hand, acculturation is associated with improved access to care and higher frequency of preventive healthcare services such as screenings (Lara et al., 2005). Furthermore, English proficiency, better employment, education, and access to health care, which many Latino immigrants achieve during the acculturation process, are associated with better health (Carter-Pokras & Bethune, 2009; Castro, Marsiglia, Kulis, & Kellison, 2010). Cultural factors such as family- and community-oriented values, healthy diet, and the use of home remedies and folk practitioners to support physical, mental and spiritual health do appear to protect immigrants’ health, and community-based health promotion programs often incorporate traditional beliefs and practices (McCloskey, 2009). Thus culture and acculturation are used to explain both sides of the Latino paradox: why recent immigrants have better health, and why later generations have worse health.

Problems with the “acculturation argument” include: 1) it assumes that culture is

composed of static traits shared by group members, instead of viewing culture as a fluid, socially-constructed system; 2) it assumes a unidirectional progression of assimilation from one culture to the other, ignoring the nuances of cultural change experienced by immigrants and their descendants; and 3) it ignores other structural factors impacting the health of immigrants and subsequent generations. “Culture-driven models used to study the Latino population, such as acculturation, ignore the impact of low socioeconomic position (SEP) and institutional practices of unequal treatment (Carter-Pokras & Bethune, 2009). Rather than drawing attention to the historical, political and economic impacts on immigrants’ health, the acculturation model focuses excessively on culture as both the cause of and cure for Latino health and illness (Santiago-Irizarry, 2001; Viruell-Fuentes, 2007). Instead, culture and acculturation ought to be seen as both a mediator and a moderator of social determinants of health (Thomson & Hoffman-Goetz, 2009).

Acculturation as a framework for cultural change is rooted in early 20th century “melting pot” theorists such as Milton Gordon (1964) and Robert E. Park, who envisioned immigrants abandoning their culture of origin and assimilating into a homogenous American culture. By unlearning their backward cultures and acquiring the language, dress, food, and norms of “core” (Anglo) American culture, immigrants would gain social status and access to resources. Of course, these theories were descriptive of late 19th century and early 20th century European immigrants, and do not adequately capture the experiences of non-European immigrants and subsequent US-born generations (Carter-Pokras & Bethune, 2009; Lara et al., 2005).

A common definition of acculturation still used in public health research is “the process by which individuals adopt the attitudes, values, customs, beliefs and behaviors of another culture” (A. F. Abraido-Lanza et al., 1999). In a systematic review of public health articles measuring acculturation, over 50% of researchers adopted a similar unidimensional definition, classifying individuals along a spectrum from not acculturated to completely acculturated (Thomson & Hoffman-Goetz, 2009). Cabassa (2003) calls the unidimensional model a “zero sum game” that “restricts individuals to carry only one piece of cultural luggage”, leaving no room for individuals to simultaneously experience multiple cultures. Furthermore, unidimensional models fail to account for any changes in the host culture in response to immigrants’ contributions.

In recent years, some researchers have developed bi- and multi-dimensional models that assess how immigrants simultaneously assimilate pieces of the dominant culture independent of their adherence to or loss of traditional ways. Bidimensional models are less linear and more inclusive of diverse individual experiences, emphasizing the uneven relationships that immigrants have with their culture of origin and the host culture. Berry (2003) identifies four possible states of acculturation: (a) integration—incorporating behaviors and attitudes of both cultures; (b) assimilation—complete adoption of the new culture; (c) separation—maintenance of the original culture through rejection of the new; and (d) marginalization—the exclusion from both cultures. Mendoza (1989) describes four similar categories: (a) cultural incorporation; (b) cultural shift; (c) cultural resistance; and (d) cultural transmutation, the creation of a new subcultural identity. The latter, seen in second- and third-generation immigrants, often occurs in the face of marginalization from both the culture of origin and the new culture, as well as through interactions with non-dominant subcultures in the host society.

Quantitative scales used as research instruments to measure acculturation vary

somewhat based on the concept of acculturation they rely on, but most rely heavily on language as a proxy for cultural orientation (A. F. Abraido-Lanza et al., 1999; Carter-Pokras & Bethune, 2009). Other proxy measures such as generational status, age at immigration, place of birth, and place of education “assume that acculturation can be approximated by the amount of exposure that individuals have to the dominant culture (Lara et al., 2005) (p.373). However, proxies don’t measure how attitudes and behaviors change, and they fail to consider the socioeconomic context of acculturation (Thomson & Hoffman-Goetz, 2009) (p984). Nor do proxies take into account the impact of discrimination and the significance of becoming a “minority” for individual immigrants. Thus, studies that correlate health beliefs, behaviors or outcomes to proxies such as language only skim the surface of individuals’ experiences.

Although bidimensional models do a better job at capturing the unevenness and individuality of acculturation, these frameworks take for granted that immigrants have free choice in the realm of culture, and thus control their process of acculturation. These models do not account for the structural factors in sending and receiving communities that shape immigrants’ experiences of acculturation. Immigrants’ personal backgrounds and home communities, reasons for immigrating, migration experiences, the communities that receive them, the other ethnic minority cultures with which they interact, and structural forces such as immigration policy, economic opportunities, and racial ideologies, all influence how immigrants negotiate the multiple processes of culture change that occur with migration (A. F. Abraido-Lanza et al., 1999; Cabassa, 2003; Lara et al., 2005).

The concept of segmented assimilation (A. Portes & Zhou, 1993) helps to address some of the limitations of uni- and bidimensional acculturation models by recognizing that immigrants do not invariably assimilate to middle-class Anglo-American culture, but instead “differentially adopt the attitudes, beliefs and behaviors of divergent cultural groups in the United States” (A. F. Abraido-Lanza et al., 1999)(p. 1344). Three possible trajectories of segmented assimilation include: upward (toward White culture coupled with upward socioeconomic mobility); downward (toward ethnic minority culture with lower socioeconomic status); or resistance to assimilation. Downward assimilation is often the outcome for immigrants with low social or human capital (Castro et al., 2010). Abraido-Lanza et al (1999) argue that institutional racism and residential segregation in the US, especially in urban areas, are structural constraints that affect the ways that non-white immigrants assimilate to ethnic minority status.

For low-income and/or undocumented immigrants, the process of “othering” in forming their identity as ethnic minorities in the US is a powerful factor that erodes at later generations’ health. In a qualitative study with Mexican-origin women in Detroit, first-generation Mexican American women expressed a sense of optimism, hope, and having been treated well in their new country. Experiences of discrimination were most often considered isolated incidents, in part because these women lived in an enclave with limited contact with non-Mexicans. For second-generation Mexican-American women, however, growing up within the dominant society meant being exposed “to explicit and pervasive ‘othering’ messages, which made them aware of belonging to a marginalized group” (1528). For these women, “‘becoming American’ entails contending with the country’s racial stratification system, which ascribes them to a minority, disadvantaged status.” From this perspective, acculturation is less about adopting dominant social norms

than about identifying as a low-status minority and experiencing the impact of racism (Viruell-Fuentes, 2007).

How ethnic enclaves affect the health of immigrants and US-born Latinos varies. Viruell-Fuentes' conclusion that living in a Mexican neighborhood protected first-generation women from the strain of cultural change and discrimination corroborates other research demonstrating the protective effects of ethnic enclaves on immigrant health. Gresenz et al found that insured and uninsured Mexican immigrants living in neighborhoods with more Spanish-speakers had greater access to health care, which was attributed to both a higher concentration of Spanish-language services as well as closer social networks among individuals, which helps recent immigrants learn about available health care services. However, US-born Mexican Americans without insurance had worse access to health care, possibly because they were excluded from social networks that help immigrants gain access to care (Gresenz et al., 2009). Even in the face of low income and lack of insurance, the social networks, or "bounded solidarity," developed within relatively isolated immigrant communities provides a source of social capital that has health protective effects (A. Portes & Sensenbrenner, 1993). The separation from immigrant social networks that comes with relative degrees of acculturation, combined with the stress of structural and individual-level racism as US-born Latinos experience life outside of protected enclaves, contribute to deteriorating health. Downward mobility and social marginalization in subsequent generations may add to this process.

Thus the acculturation process may negatively impact health, both due to the exchange of healthy for unhealthy behaviors, as well as due to structural factors impacting immigrants who join the lower status ethnic minority ranks of the US. Research on social determinants of health demonstrates that both socioeconomic status (income and education, which relate to health care access) and social position (where one stands in the social hierarchy) impact health outcomes. The combination of factors such as poverty, menial or unstable employment, violent and/or toxic neighborhoods, and chronic exposure to emotional trauma compromises individuals' sense of autonomy as well as their degree of social integration, giving them less sense of control over the micro- and macro-level conditions affecting their lives. Besides having less ability to make healthy lifestyle choices, the combined effects of less control and less social engagement negatively impacts health vis-à-vis physiological stress pathways (Marmot, 2006; Vega, Rodriguez, & Gruskin, 2009).

An understanding of acculturation as a multidimensional, segmented process affected by individual-level as well as structural factors helps to move the discussion of acculturation and health away from nostalgia for the loss of "traditional" health-protective traits and toward a critical analysis of the social determinants of Latino's health. A more nuanced definition of "culture" as a dynamic toolkit for navigating through the world, instead of a box of static behaviors and values, can influence how researchers interpret the health beliefs and practices of Latinos at all levels of acculturation. Understanding how Latinos understand their own health, and what they do to protect (or harm) their health, is critical to unraveling the paradox of better health on arrival and worse health after time in the US.

5. Cultural competency as a strategy for reducing health disparities

Definitions of cultural competence draw on the work of mental health researchers in the 1980s, who defined cultural competence as “a set of congruent behaviors, attitudes, and policies that come together in a system, agency or amongst professionals and enables [them] to work effectively in cross-cultural situations” (Cross & others, 1989). A number of cultural competency strategies have been identified as ways to reduce health disparities: (1) language services, (2) recruitment and retention of minority staff, (3) cultural competency training, (4) coordinating with traditional healers, (5) use of community health workers, (6) culturally competent health promotion, (7) including family and community members into health decision-making, (8) cultural immersion, and (9) making accommodations to meet the scheduling and transportation needs of diverse patients (Brach & Fraser, 2000).

Language services have been the initial focus of cultural competence policies at the federal, state, and institutional level. Of the 14 standards for Culturally and Linguistically Appropriate Services (CLAS) released in 2000 by the Office of Minority Health, only the standards relating to language services are mandated, which means that federal funding depends on compliance. Other standards relating to culturally appropriate care, recruitment of minority staff, cultural training, community participation, and assessment of cultural competency are merely guidelines or recommendations (Office of Minority Health, US Department of Health and Human Services, 2001).

In 2003, the California legislature passed SB853, the Health Care Language Assistance Act, which holds health plans accountable for the provision of language services. The law not only requires the availability of interpretation services and translated written materials, but also requires the collection of data on race, ethnicity and language in order to track health inequalities. The bill does not include standards related to other aspects of cultural competency (California Pan-Ethnic Health Network, 2011).

The impact of cultural competency/humility on reducing health disparities has been studied through the lens of language services provision (J. Betancourt & Green, 2010). Without translation available, limited English proficiency patients receive worse emergency care, in terms of number of tests and procedures received; duration of ED visit; quantity of medications received; and likelihood of an IV being started (G. Flores, 2005). Provision of professional language services and the presence of bilingual staff have been shown to improve patient satisfaction and understanding (Crossman, Wiener, Roosevelt, Bajaj, & Hampers, 2010; Cunningham, Cushman, Auete-Penn, & Meyer, 2008).

Diversifying the healthcare workforce is another measure that will likely improve satisfaction with care and healthcare outcomes for ethnic minority patients and their communities (J. R. Betancourt et al., 2003; Brach & Fraser, 2000; Street RL Jr, O'Malley KJ, Cooper LA, & Haidet P, 2008). California not only has an overall shortage of health care professionals, but also has an under-representation of Latino physicians, and inadequate numbers of primary care physicians in counties with large Latino populations. Although Latinos make up over one third of the state population, only five percent of physicians in the state are Latino, and the number of California Latinos entering medical school is declining (Latino Coalition for a Healthy California, 2011).

Besides language services and workplace diversity, the other major focus of cultural competence is cross-cultural education for clinicians. Betancourt et al (2003) describe two primary methods for cross-cultural education of healthcare providers: the “categorical” approach versus the “communication” approach.

The categorical, or multicultural, approach imparts specific information about distinct cultures—attitudes, beliefs, and behaviors—on the premise that arming practitioners with cultural facts will improve cross-cultural understanding and quality of care. The shelves of the public health library and indices of ethnic health journals are full of guides to working with different racial and ethnic groups (Bigby, 2003; G. Flores, 2000; National Alliance for Hispanic Health, 2001). This approach treats culture as an all-encompassing, timeless structure that defines how its members experience and interpret their lives. Thus culture can be taught as “an easily demonstrable mastery of a finite body of knowledge” (Tervalon & Murray-Garcia, 1998), just as other competencies are taught in medical education (Taylor, 2003).

Of course, certain information about patients’ backgrounds is useful to clinical questioning and decision-making, such as knowledge about etiquette, decision-making practices, folk illnesses, use of herbal remedies, or disease prevalence. Yet this approach does not account for individual agency or cultural change. Since individuals’ experiences of culture are overlooked, the categorical approach can lead to stereotyping that negatively impacts the quality of care. For example, in one study physicians who believed that Latinas defer to men consulted the husband rather than the wife during prenatal visits. This dynamic created a “self-fulfilling prophecy” where Latina women were stripped of agency due to physician’s cultural assumptions (Hunt & de Voogd, 2005).

For the past 40 years, social theorists have been revising definitions of culture that make space for individual agency and cultural change, and question how culture relates to power. Culture is increasingly viewed “...as a process in which views and practices are dynamically affected by social transformations, social conflicts, power relationships, and migrations” (Guarnaccia & Rodriguez, 1996). Rather than an integral, bounded structure that defines the beliefs and behaviors of its members, culture is seen as a less-than-conscious toolkit of “schemas” for understanding and acting in different contexts with access to different resources and power dynamics. Cultures are constantly interacting, overlapping, and changing (Lo & Stacey, 2008). Even if one were to understand something about the contents of an individual’s cultural toolkit, it would be impossible to predict that individual’s behavior or thoughts at any given time (Gregg & Saha, 2006).

Understanding culture as individualized, dynamic and socially constructed means that every social interaction is a cross-cultural experience. In a medical context, cultural background and social positioning influences how individuals—both patients and clinicians—experience and understand health, disease, and clinical reality (Kleinman A., Eisenberg L., & Good B., 1978).

Such perspectives have contributed to the growing recognition that communication skills are more important than categorical knowledge in learning how to work effectively with diverse populations. Skills for effective cross-cultural communication include the use of non-verbal cues (body language and active listening); verbal skills (eliciting the patient’s explanatory model and expressing empathy); recognition of potential cultural differences; incorporating core cultural knowledge; and negotiation and collaboration (Teal & Street, 2009). Respecting patients as teachers is

central to this model of communication (J. R. Betancourt et al., 2003). Cross-cultural experiences and demonstrating an openness to learn from individuals help build communication skills (Campinha-Bacote, 2002).

Deeply engrained biases and discrimination are other factors that lead to poor communication between clinicians and patients. For this reason it is critical for health care practitioners to examine their own cultural backgrounds and “isms” (e.g., racism, sexism) as part of an ongoing process of self-critique and reflection. Clinicians must also develop an awareness of medicine as a culture unto itself, rather than focusing merely on patients’ cultures. Traditional medical education and clinical practice place a strong emphasis on objectivity, creating a “culture without culture” in which medical professionals often discount patients’ explanatory models (Taylor, 2003), and are unaware of the unequal power dynamics between clinicians and patients, health care institutions and the communities they serve (El-Askari & Walton, 2009).

Self-awareness and critical reflection are central components of “cultural humility,” which has been offered as an alternative to cultural competence (Tervalon & Murray-Garcia, 1998). Cultural humility asserts that culture, due to its fluidity, is not something that clinicians can become competent in. Rather than making assumptions about patients based on their ethnic/racial identity, cultural humility allows the provider to check his or her own biases and to get to know each patient as an individual. Cultural humility thus becomes central to “patient-centered care,” where the emphasis is on building rapport and developing an individualized treatment plan in negotiation with each patient.

Combining the teaching of relevant cultural information and communication skills with self-reflection and cross-cultural engagement, and framing clinician education as an ongoing process rather than an identifiable endpoint, seems like a sensible way to build cultural competence and humility among healthcare providers. Beyond educating clinicians, instituting institutional change by providing language services, enhancing workforce diversity, increasing accessibility, and engaging with families and communities must also be part of cultural competence efforts to reduce health disparities.

6. Traditional, complementary and alternative medicine among Latinos

The National Center for Complementary and Alternative Medicine (NCCAM) defines CAM broadly as “a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine”. “Complementary” refers to practices used in combination with conventional medicine, whereas “alternative” indicates the use of non-conventional therapies in place of the conventional. “Integrative medicine” refers to the evidence-based practice of complementary medicine by an interdisciplinary team (National Center for Complementary and Alternative Medicine, 2008). The 2007 National Health Information Survey CAM supplement categorizes CAM into 1) alternative medical systems (acupuncture, ayurveda, homeopathy, naturopathy, and traditional healers); 2) biologically-based therapies (chelation, folk medicine, botanicals, diets, and vitamins); 3) manipulative and body-based practices (chiropractic, osteopathy, massage, and movement therapies); and 4) mind-body techniques (biofeedback, meditation, guided

imagery, deep breathing, hypnosis, yoga, tai qi, qi gong, and reiki) (Barnes PM, Bloom B, & Nahin R, 2008). Notable is the lack of prayer or spirituality as a CAM category in these official definitions; other studies include prayer as a form of CAM (Graham et al., 2005; Hsiao AF et al., 2006).

In contrast to NCCAM definitions, the World Health Organization distinguishes between CAM and traditional medicine (TM) by their degree of integration into different country's mainstream health care practices. TM encompasses both comprehensive medical systems such as traditional Chinese medicine, Indian ayurveda and Arabic unani medicine, as well as indigenous practices across Asia, Africa, the Near East, Oceania, and the Americas. In these societies, according to the WHO, TM remains a significant source of health care for the majority of people. In contrast, the WHO defines CAM as "a broad set of health care practices that are not part of a country's own tradition, or are not integrated into its dominant health care system" (World Health Organization, 2002). From this perspective, CAM encompasses non-traditional, imported or newly developed practices used primarily by people in Europe, the US and Canada, and Australia.

The result of these classifications is twofold. First, biomedicine is the core against which non-conventional practices are compared. Second, TM is presented as the medicine of the global South and ethnic minorities in industrialized nations, whereas CAM is for higher-class people in wealthy nations. "While the categorical references, 'complementary' and 'alternative', are embedded in biomedical implications of modern progress, 'traditional' and 'folk' designations, by default, are inextricably linked with notions of isolation and placed within an ahistorical past" (Holliday, 2008). Who uses CAM, and the scientific investigation of CAM, has led to the growing medical validation of certain non-conventional practices, whereas TM has been generally excluded or viewed with suspicion by medical and public health establishments. The tentative advocacy by the WHO of TM as a strategy for meeting global health care needs is a recent development that may change these attitudes.

In discussing Latino health beliefs and practices, most researchers use the terms "traditional" or "folk" medicine, rather than CAM. Furthermore, CAM research in the US has generally excluded questions that adequately assess the breadth of health beliefs and practices employed by Latinos. These practices include not only "natural" therapies, but also non-conventional use of over-the-counter and prescription medications, as well as the widespread use of prayer for healing and health maintenance. Despite the problems with the term "traditional," in this paper I use the acronym TCAM to refer to non-conventional medicine used by all groups, including Latinos, in order to avoid dichotomizing between "traditional" and "folk" versus "complementary and alternative."

The rising popularity of TCAM in the United States has attracted significant attention from medical researchers in recent years. National studies indicate that the rate of TCAM use among American adults is on the rise, from 33.8% in 2002 to 38% in 2007. TCAM use varies by income, gender, ethnic group, and education level. According to national data sets, women and people with more education and higher incomes appear to use TCAM more than other segments of the population. When broken down by ethnicity, American Indians and Native Alaskans use the most TCAM (50.3%), followed by white Americans (43.1%); Hispanics (according to this dataset) use the least (23.7%) (Barnes PM et al., 2008). The types of therapies used differ among ethnic groups: up to two-thirds of African Americans use prayer for health and healing, Asian Americans have a higher

rate of use of acupuncture and Chinese herbal medicine, whereas white Americans tend to use herbal medicine, relaxation, and chiropractic most frequently (Graham et al., 2005; Hsiao AF et al., 2006).

Although national studies indicate that Latinos do not use TCAM frequently, many smaller studies show that many Latinos heavily utilize TCAM, with rates that range from 44% (Keegan, 1996) to as high as 77% (Rivera et al., 2002). Anglo-centric study design and under-sampling of Latinos in large surveys may explain these different statistics. The definition of CAM and the categorization of therapies may also have affected participants' responses. For example, in Hsiao et al (2006), the only Latino folk healer listed was *curandero*, excluding other lay practitioners. The 2002 NHIS survey asked about 35 specific herbs, but did not include many herbs commonly used by Latinos. Furthermore, the multiple-choice format of large telephone surveys does not elicit details about health beliefs or variations within CAM subcategories (Graham et al., 2005).

Regional and cultural differences also affect reported rates of TCAM use among Latinos. Studies of Mexican Americans along the US/Mexico border (Southern California, Texas, and New Mexico) show higher rates of TCAM use than national surveys (Hsiao AF et al., 2006; Keegan, 1996; Kuo et al., 2004; Rivera et al., 2002; Zeilmann et al., 2003). This may be due to easier access to TCAM in Mexico, as well as greater cultural and social continuity in border regions. Other studies focus on traditional healing practices among Latinos in New York City, where *botánicas* (shops selling herbal products and religious icons) serve the healthcare and spiritual needs of Puerto Rican, Dominican, and other Latin American immigrants (Gomez-Beloz & Chavez N, 2001). Smaller qualitative studies among Mexican immigrants in Georgia (Waldstein, 2006), Central Americans in Washington, DC (Murguía, Peterson, & Cecilia Zea, 2003), and Colombians, Dominicans, and Guatemalans living in New England (Zapata & Shippee-Rice, 1999) do not quantify the use of TCAM, but they demonstrate the importance of traditional health practices for health maintenance within those Latino communities.

Herbal remedies, folk chiropractors (*sobadores*), massage, spiritual practices, and relaxation techniques are some of the most frequently reported forms of TCAM among Latinos. Despite much curiosity about folk healers such as *curanderos*, most studies indicate that no more than 4% of Latinos have visited such a healer within the past year (Higginbotham JC et al., 1990; Murguía et al., 2003; Rivera et al., 2002; Zeilmann et al., 2003), although other studies report rates as high as 13% (Keegan, 1996) and 25% (Lopez, 2005). Self-care through diet and lifestyle, as well as herbal home remedies appear to be the most important features of Latino health maintenance, and are indeed the first steps most Latinos take before consulting a medical professional (Mendelson, 2003; Sanchez, 2007; Waldstein A, 2010; Zapata & Shippee-Rice, 1999).

Researchers disagree about factors affecting Latinos' use of TCAM. A helpful framework for analysis is found in Young's ethnomedical research in rural Mexico, where he identified four factors influencing health decision-making: 1) perceived degree of illness; 2) knowledge about folk remedies; 3) belief in the efficacy of folk remedies; 4) cost and availability of different health care resources (from traditional to conventional) (Young J, 1980). Education, gender, and immigration and acculturation are further factors discussed in the literature that I will introduce here.

6.1 *Cost and accessibility*

Compared to all other ethnic groups, Latinos may be more likely to use CAM because they cannot afford conventional treatment (Applewhite SL, 1995; Graham et al., 2005; Gupchup et al., 2006; Su D & Li L, 2011). In one study, Medicaid recipients used TCAM twice as often as other Latinos (Loera, Reyes-Ortiz, & Kuo, 2007). However, other studies do not indicate a correlation between insurance status or income level and TCAM use (Higginbotham JC et al., 1990; Kuo et al., 2004; Rivera et al., 2002). Although some Latinos may use TCAM due to lack of money or access to conventional healthcare resources, these data indicate that other factors may have a more significant effect on TCAM use.

6.2 *Safety and efficacy*

Some researchers argue that Latinos consider herbal therapies to be more effective, safer because they are natural, and less likely to cause side effects or addiction (Waldstein, 2006). Belief in the efficacy of herbal medicine may also be a predictor of use (Gupchup et al., 2006). Other studies conclude that Latinos prefer to see a doctor and use pharmaceuticals because they are considered to be safer and backed by research, but use herbs and other alternative therapies as a complement to conventional treatment (Mikhail et al., 2004). Combining herbs and drugs is not uncommon; in one study, 40% of Hispanics thought that taking herbs and prescription drugs together was better than taking either alone (Kuo et al., 2004).

6.3 *Chronicity and seriousness of illness*

Among Latinos, common/minor illnesses are often treated within the home before seeking conventional medical care (Applewhite SL, 1995; Mendelson, 2003; Ortiz et al., 2007; Sanchez, 2007; Waldstein A, 2010; Zeilmann et al., 2003). Latinos also use TCAM in the management of chronic conditions such as diabetes, hypertension and asthma (Ortiz et al 2007). Among older Mexican Americans, higher TCAM use has been associated with a greater number of medical conditions (Loera et al., 2007). Folk healers such as *curanderos* may be consulted as a last chance effort, after conventional medicine has failed (Applewhite SL, 1995).

6.4 *Education and gender*

Nationally, TCAM use is associated with higher education level and being female. Multiple studies indicate that Latinas use TCAM more frequently than men (Graham et al., 2005; Loera et al., 2007; Waldstein, 2006). In a study of Mexican Americans in Texas, education was the only statistically significant predictor of TCAM use; higher overall TCAM use (including traditional and alternative practitioners as well as commercial products) was associated with having more education, while less education was associated with using only home remedies and herbs (Rivera et al., 2002). Higginbotham et al also found that less-educated Mexican Americans were more likely to consult a *curandero*. However, Kuo et al (2004) found no association between TCAM use and gender or educational attainment.

6.5 *Immigration status, nativity and duration of stay in US*

Researchers do not agree on how immigration and acculturation affect TCAM use. Studies indicate that immigrants born in Mexico use more TCAM than US-born Mexican Americans (Higginbotham JC et al., 1990; Loera et al., 2007). In one study, there was no significant difference in TCAM use between recent immigrants (<9 yrs) than immigrants with more time in US (over 10 yrs) (White, Knox, Zepeda, Mull, & Nunez, 2009). In another study, individuals with immigrant family members used herbal remedies more frequently (Kuo et al., 2004). These studies indicate that a greater cultural orientation toward Mexico is correlated with more TCAM use. However, qualitative studies show that even highly acculturated Mexican American women maintain TCAM practices and have extensive knowledge of folk illnesses (Lopez, 2005).

7. Latino Health Beliefs and Practices

The understanding of health care systems across cultures has been fundamentally shaped by the work of medical anthropologist Arthur Kleinman, who argued that medicine constitutes a cultural system rather than merely a set of biomedical facts. Unlike early- to mid-20th-century structural-functionalists who focused on institutions and coherent social structures, Kleinman's work contributed to a major shift in anthropology toward the exploration of symbolic meaning in the context of social relationships. According to Kleinman, health care is a cultural system that includes "patterns of belief about the causes of illness; norms governing choice and evaluation of treatment; socially-legitimated statuses, roles, power relationships, interaction settings, and institutions" (1980: 24). In his model, health care systems contain three overlapping spheres: the popular (laypeople); folk (healers); and professional (formally trained and licensed). In each sector, a unique "clinical reality" prevails, a socially constituted set of symbols used to explain social, physical, and psychological reality (1980: 38-41).

Individuals, whether patients or practitioners, constantly navigate through these spheres, negotiating between their own worldviews and the clinical realities they encounter. "All of this affects the way individuals think about and react to sickness and choose among and evaluate the effectiveness of the health care practices available to them" (Kleinman, 1980: 37-38). The ways in which individuals experience and give meaning to health and illness, and make health care decisions, make up what Kleinman calls the "explanatory model," which deals with five core issues: 1) etiology; 2) onset of symptoms; 3) pathophysiology; 4) course/severity of illness; and 5) treatment (Kleinman A. et al., 1978: 256). Depending on the sphere, the explanatory model may shift as necessary to accommodate competing beliefs as well as structural limitations.

When describing the health beliefs and practices of contemporary Latinos in the United States, it is critical to keep in mind the shifting and relational dynamics of culture, and not lapse into a static notion of culture as a clearly-demarcated set of beliefs, values, roles and institutions. Latinos navigate between the popular, folk and professional sectors of the health care system, where clinical realities interact with individuals' explanatory models. No one monolithic set of cultural health beliefs exists; rather, the term "medical pluralism" illustrates the "dynamic tension" with which Latinos negotiate between various healing modalities and explanatory models (Kiesser et al., 2006). The concept of

medical pluralism highlights the fact that most individuals do not limit their interactions to only one healthcare arena, but negotiate between spheres depending on their health status, cultural orientation, and access to resources.

Latino cultures have a long history of hybridization between European, indigenous and African cultures, from the colonial era through more recent processes of migration and globalization, making the identification of the “traditional” a challenging task. Furthermore, beliefs and practices vary widely among Latinos of different national origins. For this reason, in the following discussion of health beliefs and practices, I will try to avoid stereotyping while still calling attention to common themes. Given the predominance of Mexican-origin people in California and a certain degree of continuity throughout Mesoamerican cultures through Central America, I will primarily focus on Mexican (and Central American) beliefs and practices, and specify other cultural groups when appropriate.

7.1 Theories of health and disease: naturalistic causes and hot-cold theory

Throughout Latin American cultures, health is seen not merely as the lack of disease, but as a state of balance between mind, body, spirit, and society (Jurkowski et al., 2010; Lopez, 2005). Categories of illness attribution include both natural and supernatural causes, and may be exogenous (environmental, behavioral, nutritional, “*aire*”, or witchcraft) or endogenous (emotional, psychological).

Many descriptions of Latin American folk medicine rely heavily on Foster’s “Relationships between Spanish and Spanish-American Folk Medicine” (Foster, 1953). Foster argued that Latin American folk medicine is rooted in the Hippocratic humoral system imported by the Spanish conquistadors, based on the four humors and the balance of hot and cold, dry and wet. The four humors, or bodily fluids, and their energetic properties include: blood (hot and wet), yellow bile (hot and dry), phlegm (cold and wet), and black bile (cold and dry). Health depends on the balance of the humors; illness results from a state of imbalance. Hot diseases are treated with cold substances, while cold diseases are treated with warm remedies. The basic tenets of this ancient belief system still persist in many Latino cultures, where illnesses and remedies are often classified as hot or cold (or sometimes “temperate”).

Ethnographic and historical studies of various Mesoamerican cultures suggest that concepts of hot and cold also have indigenous roots. Contrary to the dominant perception that Native Americans passively accepted the Spanish worldview and Hippocratic humoral system, researchers argue that the hot-cold dichotomy existed in diverse forms throughout Mesoamerica in the pre-Columbian era. In Aztec, Mayan, and other Mesoamerican cultures, the duality of hot and cold dominated the entire cosmology, from deities to disease; “heaven” (hot) and “earth” (cold) were seen as sources of hot versus cold diseases. Just as certain native spiritual belief systems included deities with uncanny similarities to Catholic saints, leading to a unique Latin American religious syncretism, similarities between Spanish and indigenous hot-cold systems created an opening for the hybridization of health beliefs (Messer, 1987).

Early Spanish historians applied 16th and 17th century European concepts of disease and pharmacologic principles to plants they encountered in the New World. Thus native plants used by indigenous healers were assigned the properties of hot, cold, moist and dry, regardless of how they were originally conceptualized in native healing systems.

Furthermore, many medicinal plants were brought from Europe and Asia (chamomile, rosemary, ginger, etc.), which were already classified under the humoral system. However, the vernacular application of domestic remedies does not always include explicit translation of the historical use and classification of plant medicines (Kay & Yoder, 1987)

Hot-cold beliefs persist in contemporary Latin American and Latino cultures, albeit in diverse manifestations and degrees of importance. Tedlock (1987) questions the common practice of putting the hot-cold dichotomy at the center of all accounts of Latin American folk and traditional health care. In her research with laypersons and folk healers in Guatemala, Tedlock found that hot-cold theory was used only in cases of uncertainty, when familiar remedies were ineffective and another explanatory model was needed to explain and cure disease (Tedlock, 1987). Alternately, Kay and Yoder argue that among Mexican Americans in the Southwest, women are generally unaware of the hot-cold classifications of the herbs they utilize for female health issues, but they do perceive illness and apply practices consistent with the humoral system.

According to Clark's study of a Mexican American community in California in the 1960s, many minor health problems are attributed to an imbalance of hot and cold in the environment, diet, or body. Children, pregnant women, and people from cold or hot climates are believed to be more susceptible to imbalance. In children, eating too much cold food (temperature or energetic), as well as exposure to cold winds, are commonly believed to cause the common cold as well as ear infections, gastrointestinal complaints and skin eruptions. Pregnant women are advised to avoid extremely hot or cold foods, for they may produce symptoms in the mother or infant; "cold womb" is a commonly cited cause of infertility (Clark, 1970)(pp. 167-170). Although such folk explanations do not conform to Western biomedical models, they constitute a naturalistic framework for understanding health and disease

7.2 Magic/supernatural causes of disease

The role of supernatural forces or magic as causes of illness and sources of cures is not to be underestimated in Latino cultures, but has also been overemphasized, as in Foster's exoticized descriptions of Spanish-American folk medicine (1953). The line between formal religion and belief in the supernatural is fluid, especially given the hybrid nature of Latin American spiritual traditions. Nor is the natural world always distinct from the supernatural. The belief in supernatural causes of disease does not exclude biomedical explanations of illness. Natural/biological processes are recognized as sources of disease, but supernatural/magical forces determine *why* a person gets sick. In some cases, magic or witchcraft is determined to be the cause of illness if medical treatments are unsuccessful. In such situations, spiritual or magical intervention may be considered as a part of treatment, and many folk healers possess skills in treating such supernatural conditions (Maduro, 1983; Ness & Wintrob, 1981; Pasquali, 1994).

Mal de ojo (the evil eye) is a commonly cited supernatural ailment, whereby a child is made ill due to the voluntary or involuntary glance or "strong eyes" of an admiring adult. Thought to be derived from old Spanish and Moorish magical beliefs, *mal de ojo* heats the child's blood, resulting in a range of symptoms including fever, vomiting, diarrhea, body aches, weight loss and low appetite, and easy crying. Touching the child's head after giving the eye may prevent illness. Amulets provide protection

from “the eye,” as well as wearing undergarments inside out. Treatment often includes the ritual use of a chicken egg. The egg is swept over the child’s body, and then broken in a glass of water which is placed under the bed overnight. If the egg looks “cooked” in the morning, it is thought to have absorbed the evil, and the child improves (Clark, 1970; Foster, 1953; Risser & Mazur, 1995)(Clark 1970, p172).

Related to *mal de ojo* is the concept of *envidia*, or illness caused by intense jealousy, with or without evil intent. While symptoms usually vary depending on the severity, *envidia* is often associated with bad luck. Like *mal de ojo*, *envidia* may be prevented or cured if the jealous person touches the affected individual. Some Latinos also believe that malevolent individuals or spirits can also place a “*hechizo*” (hex) that causes both poor health and bad luck, often with psychological manifestations that may mimic signs and symptoms of schizophrenia or mania (Kreisman, 1975).

Another explanation for illness is *mal aire* (bad air), related to both supernatural beliefs as well as naturalistic humoral models of hot and cold causes of illness. *Mal aire* may result from evil spirits or corpses, or be merely a cold draft, leading to pain, muscle cramps, and facial paralysis (Clark, 1970; Foster, 1953; Lopez, 2005) (Clark 1970 p173).

That Latinos in the US continue to believe in and experience such supernatural maladies indicates that non-naturalistic disease causation remains an important aspect of Latinos’ explanatory models. In a qualitative study of 51 Latino caregivers (including participants not of Mexican descent), 70% of respondents had experience with the illness and treatment of *mal de ojo* (Risser & Mazur, 1995). In another study of 76 Central American immigrants, 35% had heard of and 10% had experienced *envidia*; 57% had heard of and 13% had experienced *mal de ojo*, and 84% had heard of and 10% had experienced *hechizo* (Murguía et al., 2003). Health practitioners should be aware of patients’ beliefs surrounding these conditions and their treatments in order to remain non-judgmental while negotiating between differing perspectives on causality and appropriate treatment of biomedically recognizable disease, especially when physical and psychological symptoms are present.

7.3 Folk illnesses of childhood

A common childhood folk illness is *mollera caída* (fallen fontanel). In one study, 52% of participants had experience with the illness and its cure (Risser & Mazur, 1995). The syndrome is attributed to a fall or other trauma, causing the fontanel to drop and the infant to nurse ineffectively because he or she can’t latch on properly, leading to diarrhea and vomiting. Upon examination, a *bolita* (little ball) is said to be palpable along the upper palate. Thought to be unrecognizable by Western medical practitioners, care is usually provided by a mother or grandmother, a community elder, or a *curandero/a*. One commonly cited treatment is to hold the infant up side down by the ankles, slapping the feet and/or suspending the head in lukewarm water. Another treatment is to wet the baby’s head with warm water and soap, then to push up on the hard palate while pulling the hairs over the fontanel upward (R. D. Baer & Bustillo, 1998; de la Torre & Estrada, 2001). Medically, the syndrome is likely caused by a bacterial or viral gastroenteritis, with vomiting and diarrhea causing severe dehydration and a fallen fontanel (Trotter, Ortiz de Montellano B, & Logan MH, 1989).

Concern around folk treatments for *mollera caída* include the risk of traumatic brain injury, as well as failing to treat the active infection and potentially lethal

dehydration (R. D. Baer & Bustillo, 1998; G. Flores, 2000). Medical personnel may view the failure to seek medical attention earlier as a sign of parental ignorance or neglect, whereas the parents have been seeking the care they believe to be appropriate to the condition (Lopez, 2005). A seminal case in which a child treated for *mollera caída* experienced traumatic head injuries in 1972 made treatment for this condition part of the differential for shaken baby syndrome in medical literature and practice (Guarnaschelli J, Lee J, & Pitts FW, 1972). However, Hansen found no further cases of such extreme injuries resulting in folk treatment, and argues that the gentle manipulations used to treat *mollera caída* are not consistent with the whiplash-like movements necessary to cause shaken baby syndrome (Hansen, 1998). Baer and Bustillo (1998) argue that the treatments for *mollera caída* may provide symptomatic relief that allows low-income immigrants to treat their infant's diarrheal disease at home with relatively low incidence of mortality. They argue that instead of suspecting child abuse or neglect, physicians should seek to understand the family's concern about the infant's health and feeding habits when *mollera caída* is suspected.

Empacho is another childhood gastrointestinal illness characterized by stomach pain, vomiting, constipation or diarrhea, and bloating. It is believed to result from undigested food or other ingested materials sticking to the intestines, and many Latinos consider the condition to be life threatening. Therapy aims to dislodge the causal agent and promote bowel movements. Treatments given at home or by a *curandero* include topical oil-based rubs on the abdomen or back, as well as dosing internally with laxatives, Pepto-Bismol, herbal teas, or olive oil (Risser & Mazur, 1995). The medical differential diagnosis for *empacho* includes viral or bacterial gastroenteritis, as well as bowel obstruction, appendicitis, and other serious abdominal illnesses.

Lead-based remedies, including *greta* (lead monoxide), *azarcón* (lead tetroxide), and *albayalde* (lead carbonate) for *empacho* have received considerable attention from researchers in both Mexico and the United States due to the risk of lead toxicity (R. D. Baer & Ackerman, 1988; Bose, Vashistha, & O'Loughlin, 1983; Poma, 1984). While these remedies may occasionally still be used, there is little evidence for the use of lead for *empacho* among Mexicans and Mexican-Americans. In a survey of 1900 Mexican-American households in Texas, Trotter found that lead-based remedies were not in the top ten treatments for *empacho* (number one was going to a physician) and only about 1 person per 10 households studied had received lead-based remedies (Trotter, 1985). A study of 547 Hispanics in Texas included only one respondent who reported having used lead to treat *empacho* (Rivera et al., 2002). A systematic review of case reports and epidemiologic studies from 1966 to 2006 presenting cases of acute lead poisoning and elevated BLLs in children 6 years and under included only 47 cases of atypical lead poisoning due to folk remedies among all ethnicities in the US (Gorospe & Gerstenberger, 2008). These studies indicate that while health care practitioners should ask about lead exposure, and also to suspect lead toxicity in pediatric patients with mysterious gastrointestinal and neurologic symptoms, the actual prevalence of lead-based remedies for *empacho* is quite low.

7.4 Psychological health and the role of emotion in illness

Throughout Latin America, intense or prolonged states of emotion are believed to cause physical and emotional imbalance. Perhaps more than in North American and European

cultures, psychological disorders often manifest with physical symptoms. According to Foster,

...one of the most striking characteristics of Spanish-American folk medicine is the prevalence of recognized and named illnesses or conditions which are not due to natural or supernatural causes or to witchcraft but to a series of emotional experiences which anyone can undergo and which can seriously incapacitate an individual. Anger, sorrow, sadness, shame, embarrassment, disillusion, rejection, desire, fear—all are recognized as potentially dangerous... (1953: 216).

Foster, in the Eurocentric language of his era, effectively labels Latin Americans as neurotic by arguing that emotional folk illnesses are a culturally sanctioned “easy out” from the “realities of life.” The contemporary psychiatric and medical anthropology literature treats these conditions as important markers of biomedically significant stress and depression, which often have somatic manifestations (Weller, Baer, de Alba Garcia, Javier G., & Salcedo Rocha, 2008). The purpose of studying these conditions is not to reduce them to biomedical equivalents, but to understand their meaning and why they are linked with a significant increased risk of morbidity and mortality (R. Baer et al., 2003).

Susto (fright) and *nervios* (nerves) are the two most commonly cited emotional illnesses, which Weller et al describe as “cultural constructions and codifications of extremely stressful experiences with culturally sanctioned responses to those experiences” (2008). *Susto*, and its more extreme form *espanto*, are acute emotional conditions caused by a frightening or traumatic event (such as a car accident) that strips the person of vital force or even causes the soul to leave the body. Symptoms include agitation, anorexia, insomnia and nightmares, shaking, and general fear. Left untreated, *susto* is believed to cause death (Lopez, 2005) or diabetes type 2 (Coronado GD, Thompson B, Tejada S, & Godina R, 2004).

Nervios may present with similar symptoms, but is often a persistent condition related to chronic exposure to emotional distress (work stress, family conflict, drugs and alcohol, etc). The condition can also begin with *susto*, indicating the connection but distinction between the two. *Nervios* is more common among adults and women, whereas *susto* can affect children as well. Diverse practices including modern psychiatry, prayer, rituals, and topical and internal remedies may be employed in the treatment of both conditions (R. Baer et al., 2003). Although definitions and treatments of *susto* and *nervios* vary across Latino subgroups, the commonalities and prevalence of these conditions, along with their link to higher rates of co-morbidity and mortality, indicate that they have substantial emotional and physical impacts on those affected.

These folk mental illnesses do not directly correspond with Western psychiatric diagnoses, but they do have significant overlap, especially *nervios* with depression and anxiety disorders. Depression is widely recognized across subgroups, and qualitative studies show that Latinos’ definitions of depression “could come right out of a standard diagnostic manual”. Despite widespread recognition, rates of accessing mental health services are low among Latinos due to factors that include structural barriers (insurance and language), cultural and family stigma around mental illness, lack of provider sensitivity, as well as a preference for home remedies over antidepressant medications. A personal and respectful tone with patients, combined with an understanding of the cultural interpretation of psychological symptoms and preference for treatments, may

help improve clinical-level interventions in mental health with Latinos (Guarnaccia & Rodriguez, 1996).

7.5 Spirituality and religion

Increasing attention has been paid to the role of spirituality and religion in health and disease (Chatters LM, 2000; W. R. Miller & Thoresen, 2003). Often religion is “associated with institutional activities and rituals, whereas spirituality is perceived as a broader and individualistic experience that includes thoughts, experiences, and behaviors related to faith” (Jurkowski et al., 2010). A common theme throughout Latino cultures is a holistic perspective on health, where spirituality, physical and mental/emotional health are equally important and intertwined. Diverse expressions of spirituality intersect with how Latinos experience health and disease, and how they relate to preventive medicine and lifestyle choices.

The history of Catholicism, conquest, and religious syncretism is pervasive throughout Latin American cultures. Despite the rapid growth in evangelical Protestantism, indigenous and Catholic spirituality still have a widespread impact on health beliefs and practices. The melding of Catholicism with indigenous American and African belief systems has forged diverse forms of religious syncretism unique to specific regions of Latin America and the Caribbean. Some researchers have attributed the integration of indigenous customs into Catholic religious symbols as a calculated strategy to convert Indians for whom coercion and violence was ineffective (Lujan & Campbell, 1996). Tedlock (1987) argues that such a perspective reifies a structural-functionalist view of cultural change that ignores the agency of the indigenous subjects. Instead, Tedlock points to the processes by which native people forged their own meanings from both indigenous and Spanish Catholic cosmologies. Somewhere between the extremes of these arguments lies a historical reality in which Spanish oppression and manipulation of Catholic and indigenous symbols interfaced with the belief systems and survival strategies of native civilizations.

As a result, contemporary expressions of spirituality and religiosity throughout Latin America include many elements foreign to the Vatican or non-Latino Catholics in the United States. Examples include the wide array of Mexican saints, such as the Virgen de Guadalupe, who embody elements of Catholic and Aztec cosmology; or the practice of *santería* in Cuba, Puerto Rico and the Dominican Republic, which draws on West African deities and ceremonial traditions (Pasquali, 1994). Making pilgrimages to shrines, burning candles, wearing amulets, or offering flowers, candles or paintings to saints in exchange for health miracles, have been described as translation of ancient traditions of pilgrimage and offerings to Aztec and Mayan gods (Lujan & Campbell, 1996). Yet few Latinos see these practices as separate from their Catholicism.

The overwhelming majority of Latinos in the US identify with a specific religion, indicating that spirituality continues to play a large role in Latino culture. Ninety-two percent identify as Christian, with 68% reporting to be Roman Catholics¹, followed by 15% who identify as born-again or evangelical Protestants, and 5% mainline Protestants.

¹ Overall, Mexicans are more likely to be Catholic (74%); in fact, Mexico and Guatemala are the only Latin American countries where the share of Catholics has increased, compared to relatively large increases in Protestantism in the rest of Central America.

Only 6% do not identify with any religion, and less than 1% report belonging to other major religious traditions (Judaism, Islam, Buddhism, etc). Regardless of their religious affiliation, national origin, church attendance, or duration of time spent in the US, over two-thirds of Latinos say that religion is very important, and a similar number pray daily. About three quarters believe that miracles still occur today, and that God grants health and wealth to the faithful (Pew Hispanic Center and Pew Forum on Religion and Public Life, 2007).

For Latinos, religiosity is not necessarily defined by or limited to participation in organized religious activities, but centers instead around faith. Only 42% of Latino Catholics report attending church weekly, while more than a quarter of Catholics attend church three per year or less. Instead, religious objects in the home and prayer to saints during difficult times are ways that Catholics express their religion. Both Catholic and Protestant Latinos tend to identify with “charismatic” teachings emphasizing a direct, personal relationship with God (Pew Hispanic Center and Pew Forum on Religion and Public Life, 2007).

Among the faithful, their relationship with God directly or indirectly mediates health and disease. Fatalism is a prevailing theme in the literature dating back to the 1950s.

To the Mexican American, every aspect of one’s personal life is subject to God’s judgment and will; illness in many cases is accepted as His will, and is therefore believed that little can be done about it (Moustafa & Weiss, 1968: 38).

The belief that God ultimately controls health and destiny is captured in the common phrase “*si Dios quiere*” (if/as God wishes). Some consider illness to be a direct punishment from God (Clark, 1970; Lujan & Campbell, 1996). Such fatalism has often been noted in the public health literature as a significant barrier to self-care, preventive health measures, or medication adherence (Barron et al., 2004; G. Flores, 2000). The literature addressing attitudes among Latinas regarding cancer screening and treatment is especially rich with references to fatalism as widespread belief that contributes to low breast and cervical cancer screening and thus to a higher burden of disease among Latinas (A. F. Abraido-Lanza, Armbrister, Florez, & Aguirre, 2006).

However, not all Latinos express such passive fatalism in regards to health. A number of qualitative studies demonstrate that many Latinos express an active relationship with God, whom they see as a helper in health. They pray to God or saints to help them return to health, and feel a responsibility to stay healthy because of God’s role in their lives. Rather than a substitute for medical care, prayer may enhance the efficacy of medical treatments (Applewhite SL, 1995; Zapata & Shippee-Rice, 1999). A personal relationship with God also provides Latinos with active coping mechanisms that assist the faithful get through challenging medical or emotional experiences (Jurkowski et al., 2010). Religion has been documented as a critical support among Mexican Americans in particular during childbirth, mental illness, chronic disease, and when facing the end of life (Lujan & Campbell, 1996).

Assuming that Latinos are all fatalistic, or that religious or spiritual beliefs are barriers to changing health behaviors, limits the possibilities for engaging spirituality to support healthy lifestyles. Rather than posing a barrier to health, religion has been

associated with better health status and disease prevention behaviors (Chatters LM, 2000; Lujan & Campbell, 1996). Ignoring the role of spirituality in the daily lives of Latinos prevents medical personnel from applying a holistic mind-body-spirit approach to health.

It is important to recognize that fatalism may not be merely a cultural-religious trait, but may be a result of structural factors that constrict Latinos' abilities and opportunities for empowerment. Abraido-Lanza et al (2007) argue that pervasive racism, inadequate access to health care, and discrimination in health care settings contribute to general pessimism and fatalism among Latinos. In a qualitative study of 54 Latinas, women attributed having little control over their health due to the "system", and mentioned structural barriers such as lack of information, language, and lack of access to health care or medications (Garcés IC et al., 2006). Public health interventions that focus exclusively on changing cultural attitudes ("be less fatalistic") or individual behaviors ("get screened!") may be ineffective if the root causes of these attitudes and beliefs are not addressed.

7.6 Latino health care systems: popular, folk and professional spheres

Three primary arenas of healthcare in Latino cultures include the popular, folk and professional spheres. Kleinman (1980) proposes that in most cultures, the majority of health care occurs in the popular arena, which includes self-care, home remedies, and advice from friends and community members. Waldstein (2010) argues that popular medicine and self-care are not mere accessories to Western biomedicine, but significantly contribute to the health and well being of Mexican immigrants, especially in the face of poverty, low educational attainment, and limited access to medical services. Not only are some practices and remedies effective, but also the reliance on self-care indicates a willingness of individuals to actively participate in their own health. From this perspective, the continued importance of popular health practices among Latino immigrants can be seen as a health-protective factor that may contribute to the Latino health paradox.

In the domestic arena, Mexican-origin women play a primary role in promoting wellness through nutrition and the family environment, diagnosing and treating health problems, and making health care decisions for themselves and the entire family (Sanchez, 2007; Waldstein A, 2010). Maintaining elements of a traditional Mexican diet including beans, corn tortillas, homemade broths, and fruits and vegetables are recognized by homemakers and public health researchers alike as important to health (Lara et al., 2005; Mendelson, 2003). Both recreation and exercise (from walking to participating in sports) are also considered important to maintaining health, although studies indicate that in general, most Latinos participate in less physical activity than white Americans (Morales et al., 2002). Overall, Mexican-origin women emphasize maintaining physical, emotional and spiritual balance for good health—for themselves and for their families.

Part of women's role in maintaining their own health and the health of their families is recognizing signs of ill health. In her ethnographic study of Mexican migrant women in Georgia, Waldstein (2010) noted that the women paid close attention to early signs and symptoms of illness in themselves and family members, in order to treat before health problems became serious, or to identify more serious problems that warranted immediate medical attention. These findings counter the argument that the use of home

remedies may delay treatment for medical emergencies; rather, these Mexican migrant women were skilled at assessing what they could treat at home, and what needed more advanced care.

When the balance of health is disrupted, women in the family, close friends or neighbors may use home remedies, prayers, simple massage, and loving attention to restore balance. Common home remedies, including special foods, herbal preparations for internal and topical use, and over-the-counter pharmaceuticals, as well as antibiotics and other prescription medications imported from Latin America, will be covered in the next section. When these treatments fail to resolve illness and re-establish the balance of health, folk healers or Western medical practitioners are often the next line of defense. The primacy of the domestic sphere in health promotion and treatment, and the importance of family decision-making around which treatments and practitioners to pursue in the face of more serious disease, highlight the concept of *familismo* (familism) common across Latin American cultures (Padilla & Villalobos, 2007; Sanchez, 2007). Obligation to family as a collective unit, in which individuals are not separable from the whole, makes the domestic sphere an obvious and necessary arena for healthcare.

The folk sphere encompasses a wide spectrum of lay practitioners that vary between Latino subgroups. Although the entirety of Mexican-American folk medicine is commonly referred to as *curanderismo* (from the Spanish verb *curar*, to cure) (Trotter 2001), *curandero/as* occupy a unique role that should not be conflated with other healers or domestic practices. Furthermore, the contemporary role of *curanderos* and other folk healers in the US is much less prominent than health care within the popular sphere (Higginbotham JC et al., 1990; Sanchez, 2007; R. T. Trotter, 2001).

Folk healers operate on multiple levels—physical, emotional spiritual, and supernatural. Healers that address primarily physical maladies include *yerberos* (herbalists), *parteras* (lay midwives), *hueseros* (bone-setters) and *sobadores* (therapeutic massage). Little is known about the prevalence of these traditions in the US (Anderson 1987). Healers operating more exclusively in the spiritual and supernatural realms include *santeros* and *espiritistas* (the latter two are more common in Cuba, Puerto Rico and the Dominican Republic)².

In Mexican and Mexican American culture, the *curandero/a* encompasses all three realms: physical, spiritual and supernatural. *Curanderos* employ a combination of herbal remedies, healing rituals, and prayer to treat a wide range of conditions. *Curandero/as* often undergo long apprenticeships with an emphasis placed on developing innate healing talents, considered to be a *don* (gift) from God. During treatments a *curandero/a* may utilize religious objects including holy water, pictures of saints, or crosses to facilitate the healing process. Spiritual healing rituals, as in many shamanistic traditions, may involve entering an altered mental state in order to communicate with the

² *Santeria* is a blend of folk Catholicism and West African (Yoruba) traditions. *Espiritismo* is a spiritual belief in which deceased spirits are believed to perform malevolent or beneficent deeds among the living, including affecting health (Murgía et al 2003). *Espiritistas* are folk healers who communicate with the spirit world in an effort to redirect malevolent spirits toward good work; besides rituals, they may also prescribe herbal medicines, ritual objects, or prayers (Ness and Wintrob 1981).

spirit world. Traditionally, many did not charge for their services, because they considered healing a spiritual path, rather than an occupation (Tafur, Crowe, & Torres, 2009; R. T. Trotter, 2001).

Not all Mexican Americans embrace *curanderismo*. Some may fear or shun *curanderos* due to an association with witchcraft and supernatural acts (Zapata & Shippee-Rice, 1999). In one study, the vast majority of elderly Mexican Americans associated *curanderos* with witchcraft. “Discussions about witchcraft elicited lowered voices, loss of eye contact, or fading interest. ...[M]ost participants were uneasy, indifferent, uninformed, unwilling, or skeptical in discussing [witchcraft].” Instead, the elders preferred to use home remedies, consult an herbalist, or see a physician for their health problems. Some, however, said they would consider consulting a *curandero* if a physician could not help them with a health problem (Applewhite SL, 1995). While many Latinos may have more confidence in Western physicians for serious illnesses (Mendelson, 2003), some may turn to *curanderos* or other folk healers for help with folk illnesses not recognized by Western biomedicine (Risser & Mazur, 1995).

This ambivalence about *curanderos* and the supernatural elements of disease and healing are reflected in the rate of use of *curanderos* among Mexican Americans, which hovers around 5% or lower (Higginbotham JC et al., 1990; Hsiao AF et al., 2006). One study of rural Hispanics living in the Texas Rio Grande Valley showed rates of *curandero* use as high as 13.6% (Rivera et al., 2002). Latinos living in urban areas or further from border regions may have lower rates of use, due to increased access to conventional medical services and limited access to traditional healers.

Studies show that Latinos use medical care services at lower rates than whites (Morales et al., 2002; Ortega et al., 2007). Low rates of screening and other preventive health care services among Latinos are of particular concern in the early detection and treatment of disease (Vargas Bustamante, Chen, Rodriguez, Rizzo, & Ortega, 2010). Cultural and personal choices to utilize the popular/domestic and folk arenas of health care may account for some of these differences (Borrayo & Jenkins, 2003). However, financial, structural, and interpersonal barriers to care are important factors that influence how and why Latinos choose to interact with the professional medical sphere (Viruell-Fuentes, 2007).

Access to health care services is the primary factor that limits or promotes the use of conventional medical services by Latinos. Lack of health insurance and the cost of health care services are the leading barriers to care for Latinos. Location and hours of health care services and transportation, as well as the poor distribution of physicians in low-income neighborhoods and communities of color are significant structural barriers to care (Morales et al., 2002).

Language is both a structural as well as a cultural barrier to care for Spanish-speaking Latinos. Because clear communication is so central to any kind of medical encounter, lack of language concordance between providers and patients, or lack of interpretation services, poses a consistent barrier to diagnosis, treatment, compliance, patient-clinician relationships, and health outcomes (Garcia CM, 2009; Timmins CL, 2002). Language barriers are especially significant in psychiatric settings, where lack of interpretation may lead to misdiagnosis or patients leaving against medical advice due to miscommunication (G. Flores, 2000).

Besides language, studies show that for many Latinos, compassion, trust and respect are the most important elements of the relationship with their physician. Lack of time and perceived lack of interest by the physician are two factors that limit what Latino patients tell their doctor. Expressing interest by asking direct questions and practicing active listening are strategies for gaining trust and eliciting information from patients. Incorporating the patient's views and preferences into decision-making is another important step (Barron et al., 2004; Julliard K et al., 2008; Street RL Jr et al., 2008).

Cultural competency guidelines often list normative cultural values that influence Latinos' preferences for and expectations of health care providers. *Simpatía* (kindness), *personalismo* (formal friendliness), *respeto* (respect, or deferential behavior), and *familismo* (family-centeredness) are cultural values that frame how Latinos expect to interact with medical professionals. Being warm, polite and courteous, as well as expressing personal interest through empathetic comments, are part of *simpatía*. *Personalismo* includes touching (whether by handshake or hugging, when appropriate), as well as inquiring about family, friends, work, etc. *Respeto* operates in two directions between patients and clinicians. Latino patients may be hesitant to offer information or ask questions due to *respeto* toward the physician, resulting in poor communication. Demonstrating respect toward elderly patients or patients of higher social status may include using the formal *Usted* rather than *tu*, using formal greetings, and including patients in medical decisions. *Familismo* can either interfere with medical treatment or facilitate care through family support; incorporating family into medical decisions is an important way physicians can respect *familismo* (G. Flores, 2000). Failure to incorporate such cultural values into clinical encounters may contribute to why Latinos choose non-conventional health care or return to their home country for medical treatment (Wallace, Mendez-Luck, & Castañeda, 2009).

Besides access and communication, satisfaction with medical encounters affects how patients follow treatment plans and also informs future interactions with the professional sphere. According to the IOM report *Unequal Treatment*, Latinos (as well as African-Americans) are more likely to feel dissatisfied with their relationships with physicians, and to perceive a poor quality of care (Smedley et al., 2003). Having some level of concordance—or commonality—between patients and physicians may enhance trust and improve both patient satisfaction and health outcomes. In some settings, ethnic matching of Latino patients with Latino providers may improve satisfaction and outcomes (Field & Caetano, 2010). Other researchers argue that other types of perceived similarity reduces the social distance between physicians and patients, resulting in improved satisfaction with care and adherence to treatment plans. Although racial/ethnic concordance may enhance feelings of similarity, having other points of commonality and using patient-centered communication is more strongly linked to positive outcomes (Street RL Jr et al., 2008).

Matching Spanish-speaking patients with Spanish-speaking providers or utilizing interpretation services, incorporating normative cultural values into communicating with Latino patients, and finding points of concordance, even when other differences (class, ethnicity, nationality) are present, are all tangible strategies for improving relationships between Latino patients and providers. When incorporating cultural values, especially in cross-cultural contexts, it is critically important to avoid stereotyping or missing clues from individual patients. Not every Latino patient expects to be touched by his or her

doctor, needs to consult the whole family before making a decision, or wants to make small talk. Furthermore, focusing excessively on the interpersonal and cultural elements of the patient-physician encounter may detract from efforts to address the broader structural factors that limit Latinos' access to quality health care (Viruell-Fuentes, 2007).

Furthermore, efforts to improve access to care should recognize the "medical pluralism" practiced by many Latinos, who experience different degrees of tension and integration between traditional and conventional medical systems. As discussed in the above sections, Latinos often seek solutions for health complaints in the popular/domestic sphere and, less frequently, from folk healers. Reasons may be financial, cultural, or because the illness they are experiencing do not conform to Western biomedical diagnoses. Improving Latinos' access to conventional care should not aim to eradicate non-professional spheres of health care, but to educate patients about how to choose the sphere that will best help given their health conditions, and to educate physicians about the cultural beliefs and values most significant to communicating with Latino patients about health.

8. Latino ethnopharmacology: *materia medica*

Ethnopharmacology encompasses the study of how people use and understand medicinal substances, as well as the mechanism of pharmacologically active substances. Ethnopharmacology is concerned not only with natural substances, but also with the folk use of industrially produced materials, including pharmaceuticals, illicit drugs, and toxic substances (Waldstein, 2006). An exploration of Latino *materia medica* thus includes all of these substances.

8.1 Herbs

Plant-based home remedies rank highest among Latino TCAM practices. Studies indicate that as many as 50% of Mexican Americans have used herbal remedies in the past year (Rivera et al., 2002; Zeilmann et al., 2003). Medicinal herbs and special foods are used both for health care maintenance, as well as for treating minor illnesses not considered serious enough to merit medical attention. Preparations include teas, syrups, tinctures, capsules, oils and liniments. Teas, the most common type of preparation, may be infused (aerial parts steeped in hot water) or decocted (roots simmered in water). Tinctures are produced by macerating plants in alcohol (vodka, brandy, etc) to extract the active constituents. Topical preparations include liniments (soaking herbs in ethanol or isopropyl alcohol), herb-infused oils, and salves. Spices, culinary herbs, and special fruits and vegetables with health benefits are included in the traditional diet on a regular basis.

Herbs and herbal preparations may be produced at home, collected from the environment (urban or rural), or purchased at a Latino grocery or *botánica*, an herb shop that often sells religious icons and other materials for spirit healing. In the New York metropolitan area, *botánicas* serving primarily Puerto Rican and Dominican communities have been studied as important sources of natural products as well as health advice (Gomez-Beloz & Chavez N, 2001; Viladrich, 2006). Fewer studies have been conducted on the role of *botánicas* in Mexican American communities in the West and Southwest. One qualitative study in Texas indicates that like East Coast *botánicas*, folk herbalists

working in Texan shops not only dispense herbs but also offer health consultations (Garza & Young, 2007).

Concerns about the purity and safety of imported herbal remedies have been raised due to the significant number of Chinese and Indian herbal medicines found to be contaminated with heavy metals (lead, arsenic, mercury) or adulterated with pharmaceutical drugs (Ernst, 2002). Little information is available, however, about the quality and purity of Latino herbal remedies available for purchase in the US. Some pre-packaged spices and dried herbs are imported from Mexico, and appear on shelves in Mexican groceries alongside dried chilies and other foodstuffs. At minimum, these products are not very fresh. Many herbs have multiple common names, and inconsistencies may be found with Latin nomenclature, posing the risk of misidentification of plant materials and potential sale and ingestion of toxic species (Jordan SA, Cunningham DG, & Marles RJ, 2010).

Although endless variations occur by region, community and family, the three most common medicinal herbs used by Mexican Americans are chamomile (*Matricaria recutita*), aloe vera (*Aloe barbadensis*), and spearmint (*Mentha spicata*). Other commonly mentioned herbs are garlic (*Allium sativum*), oregano (*Oreganum vulgare*), cinnamon (*Cinnamomum* spp.), ginger (*Zingiber officinalis*), lime (*Citrus limonia*), basil (*Occimum basilicum*), eucalyptus (*Eucalyptus globules*), mullein (*Verbascum thapsus*), wormwood (*Artemesia* spp.), and rue (*Ruta graveolens*), (Clark, 1970; Ortiz et al., 2007; Risser & Mazur, 1995; Rivera et al., 2002; Waldstein, 2006; Zeilmann et al., 2003).

Many of these plants are European or Asian in origin, were originally introduced by the Spanish, and are classified as hot or cold by the humoral system. Other plants, such as osha (*Ligusticum* spp.), chaparral (*Larrea tridentata*), and yerba mansa (*Anemopsis californica*), which are native to the Southwest and northern Mexico, have eluded humoral classification (Kay & Yoder, 1987).

Western physicians unfamiliar with herbal and other folk remedies are often concerned about the safety and efficacy of these bioactive substances. Safety concerns include toxicity, safety in children or pregnancy, and interactions with pharmaceuticals. Many of the commonly used herbs listed here are also found in European and North American folk herbalism and are generally well-tolerated and safe, such as chamomile, mint, ginger, basil, lime, oregano, and cinnamon (excepting rare allergic reactions). Their long history of use as culinary spices and home remedies provides a substantial evidence base for the safety, if not also the efficacy, of these herbs in the treatment of minor health complaints.

The mode of preparation and the solubility of constituents may have an effect on herb safety. The internal consumption of purified essential oils may cause side effects or drug interactions, as in the case of peppermint essential oil (Rodriguez-Fragoso L, Reyes-Esparza J, Burchiel SW, Herrera-Ruiz D, & Torres E, 2008). Wormwood, including *A. mexicana* as well as the European *A. absinthium*, has raised concerns about neurotoxicity due to its thujone content. However, thujones are more soluble in ethanol than water. Wormwood's history of folk use as a tea in Europe and the Americas, as well as recent evidence of neuroprotective benefits, suggests that wormwood is relatively safe in small quantities (Lachenmeier, 2010).

Table 1. Sixteen common herbs used by Mexican Americans

Common name	Latin binomial	Folk uses
Chamomile (<i>Manzanilla</i>)	<i>Matricaria recutita</i>	Dyspepsia, anxiety, insomnia
Aloe vera (<i>Sábila</i>)	<i>Aloe barbadensis</i>	Skin ailments, constipation
Peppermint or Spearmint (<i>Yerba Buena</i>)	<i>Mentha spicata</i> or <i>Mentha x piperita</i>	Dyspepsia, health maintenance
Garlic (<i>Ajo</i>)	<i>Allium sativum</i>	Ear infection, URI, hypertension
Prickly pear cactus (<i>Nopal</i>)	<i>Opuntia</i> spp.	Type 2 diabetes
Cinnamon (<i>Canela</i>)	<i>Cinnamomum</i> spp.	Cough, fever, vomiting, menstrual cramps
Ginger (<i>Jenjibre</i>)	<i>Zingiber officinalis</i>	Vomiting, dyspepsia, URI
Oregano (<i>Orégano</i>)	<i>Oreganum vulgare</i>	URI
Lime (<i>Limón</i>)	<i>Citrus limonia</i>	URI, fever
Basil (<i>Albahaca</i>)	<i>Occimum basilicum</i>	Dyspepsia; externally for pain
Eucalyptus (<i>Eucalypto</i>)	<i>Eucalyptus globulus</i>	Asthma, URI
Mullein (<i>Gordo lobo</i>)	<i>Verbascum thapsus</i>	Cough, asthma
Arnica (<i>Arnica</i>)	<i>Arnica</i> spp.	Externally for pain; internally for stomach inflammation and postpartum
Wormwood (<i>Estiafete</i>)	<i>Artemesia vulgaris</i> , <i>A. mexicana</i>	Diarrhea, dyspepsia, intestinal parasites, menstrual complaints
Linden (<i>Tila</i>)	<i>Tilia</i> spp.	Stress, insomnia, anxiety, URI
Rue (<i>Ruda</i>)	<i>Ruta graveolens</i>	Externally for pain, <i>empacho</i> or <i>mal de ojo</i> : internal for menstrual complaints and postpartum recovery

Larrea tridentata, commonly known as creosote bush, *gobernadora*, or *hedondilla* is traditionally used as a tea for gallbladder and kidney stones, cystitis, and other urinary tract diseases, and topically for infections and inflammatory conditions. Numerous studies have reported significant renal and hepatic toxicity with excessive internal use of encapsulated *Larrea*; however, fewer cases have been found among patients consuming tea. While *Larrea* should be avoided in individuals with renal failure or liver disease, short-term use of small doses of tea do not appear to pose a significant risk in healthy individuals (Arteaga, Andrade-Cetto, & Cárdenas, 2005).

The safety of other herbs depends on its internal versus external application, and the health status of the individual. Rue is safe topically, but internal consumption is contraindicated in pregnancy (Waldstein, 2006). Similarly, aloe vera is considered safe for external use, but concerns exist about its internal use as a laxative, especially by pregnant or lactating women, due to its strong purgative action (Cohen SM, Rousseau ME, & Robinson EH, 2000). In European and North American herbal medicine, arnica is considered to be safe for topical application to intact skin, but its internal use is restricted to very small doses of ethanol extracts or homeopathic preparations due to concerns about toxicity (Cohen SM et al., 2000). In contrast, Mexicans and Mexican Americans commonly drink a preparation of dried arnica flowers; no information is available about the safety of aqueous extracts for internal consumption. It is possible that native arnica

species commonly consumed in Mexico and Central America lack the toxicity found in North American and European species.

Although relatively few clinical trials have been conducted on the efficacy of herbal medicines, some evidence can be found supporting the utility of herbs commonly used by Mexican Americans. Peppermint and chamomile have both been shown to be effective at reducing dyspepsia, confirming their traditional use for upset stomach. Linden has been found to have antispasmodic activity, making it a useful sedative, and also has mucilage helpful in treating sore throat and coughs. Both aloe vera and *nopal* have been shown to reduce blood glucose levels in individuals with diabetes type 2 (Rodriguez-Fragoso L et al., 2008).

Knowledge about herb-drug interactions is based on case-reports and limited *in vitro* and clinical evidence. Some pharmacologists argue that herbal medicines may have a higher potential for herb-drug interactions because they are chemically complex and not standardized, unlike industrially produced pharmaceuticals. Individuals who consume licorice (*Glycyrrhiza glabra*), St. John's wort (*Hypericum perforatum*), Korean ginseng (*Panax ginseng*) and herbs with anti-coagulant activity such as garlic, ginger or ginkgo are at higher risk for interactions. Warfarin is the drug most likely to interact with herbal medicines, especially anti-platelet herbs. In these cases, the increased in coagulation time is not a result of altered pharmacodynamics or pharmacokinetics, but results from the additive action of coumarin-containing herbs (Fugh-Berman & Ernst, 2001; L. G. Miller, 1998). With the exception of garlic and ginger, most of the plants with documented potential for drug interactions are not frequently utilized by Mexican Americans. However, this may be in part due to the under-reporting of herbal medicine use by Latino patients and lack of research on potential interactions. Furthermore, as immigrants learn more about herbs commonly found in the US marketplace, they may begin to use some of the herbs that present a risk of drug interactions. Thus it is important for healthcare providers to ask their Latino patients about herbs they may be taking, so that future possible interactions can be documented and researched.

In addition to herbal medicines, special foods with medicinal properties are commonly found in traditional Mexican diets, both for health maintenance as well as for treating specific maladies. *Nopal*, the pads of the prickly pear cactus (*Opuntia streptacantha*) is widely consumed to combat diabetes type 2. Clinical trials confirm the hypoglycemic effects of prickly pear cactus, possibly due to the soluble fiber and pectin content, which decrease intestinal glucose uptake (Yeh, Eisenberg, Kaptchuk, & Phillips, 2003). Due to its efficacy at lowering blood glucose levels, *nopal* may have an additive effect when taken along with oral hypoglycemic medications such as glipizide and metformin, thus caution should be taken to avoid the risk of hypoglycemic events (Sobieraj & Freyer, 2010). The use of *nopal* to reduce the dose or eliminate the need for hypoglycemic drugs is deserving of more research, given its history as a non-toxic food plant.

8.2 Over-the-counter and prescription medications

Both prescription and non-prescription medications fit into the Latino folk *materia medica*, although preferences for herbal remedies versus pharmaceuticals varies among individuals and communities. Common over-the-counter remedies include Vick's Vapo-Rub, acetaminophen (Tylenol), ibuprofen (Advil/Motrin), Alka Seltzer or plain

baking soda, and various topical products. Common prescription medications include cough syrups, anti-fungal cream, antibiotics, antihypertensives, and diabetes medications (Waldstein, 2006). Some Mexican immigrants may not understand the biomedical mechanism of action of these drugs, but apply their ethnopharmacology to pharmaceuticals, designating them as “hot” or “cold” based on their apparent actions.

Mexican-origin women may prefer herbal remedies over “*pastillas*” because they believe herbs are safer. Pharmaceuticals, on the other hand, are too strong for the body to withstand, cause bad side effects, or lead to addiction or dependence.

“ ‘Oh, I believe that the natural medicine, that many times the body accepts these medicines much better than the antibiotics and other medicines that are stronger; Those that if they cure you of one thing they give you another ... There are some medicines that are very strong they debilitate other parts of the body. While they cure you, they are debilitating another part of the body’ ” (Waldstein 2006: 302).

In another study, some Mexican immigrants and Mexican-Americans preferred herbal remedies because they considered herbs to be safer than pharmaceuticals, which they used only as a last resort (Rogers, 2010).

Other Latinos consider pharmaceuticals to be faster and more effective than herbal remedies (Rogers, 2010). Antibiotics are commonly considered a panacea. The self-prescribing of antibiotics is a widespread practice among Latinos in urban and rural communities throughout the US, reflecting the belief that antibiotics are effective against viral infections and other non-infectious maladies such as asthma. Most of these antibiotics are sourced from outside of the US and obtained from independently owned grocery stores, friends or family members. Self-prescription is more common among recent immigrants, and among individuals from countries where antibiotics are available without prescription. Socioeconomic barriers to care, as well as cultural beliefs about efficacy, and greater comfort using familiar medications from one’s native country, are all factors that contribute to self-prescription of antibiotics. Besides inefficacy of antibiotics for viral infections, infectious disease specialists and public health officials are concerned with the rise in antibiotic resistance resulting from inappropriate antibiotic use, and point to the need for culturally-appropriate interventions that target consumers as well as vendors of these antibiotics (Céspedes A & Larson E, 2006; Mainous, Diaz, & Carnemolla, 2008).

The high prevalence of using herbal remedies and non-prescription drugs among Latinos, as well as the potential for herb-drug and drug-drug interactions, point to the importance of asking about TCAM during medical encounters. The safety of many common herbs, as well as the proven efficacy of remedies such as chamomile and *nopal* suggest the need for more clinical and pharmacologic research to confirm herb safety, identify possible drug interactions, and validate the continued therapeutic use of herbal remedies among Latinos. However, by focusing on molecular and cellular mechanism of action of isolated chemical constituents, biomedical research often ignores the cultural context in which herbs are used, as well as the complex spectrum of active constituents contained within herbal products. This, combined with the lack of research on Latino ethnopharmacology points to the need for more ethnographic approaches to understanding how Latinos conceptualize how herbs and other remedies act in the body,

and why they prefer (or not) these remedies in the first place. The combination of ethnographic research with a biomedical evidence base for the safety and efficacy of herbal remedies may point to opportunities for integrating culturally-appropriate, affordable herbal treatments into standards of practice for Latino patients, especially in resource-limited settings.

9. Opportunities for integrative medicine for Latinos

Integrative medicine refers to a “broader paradigm of medicine than the dominant biomedical model” which is patient-centered, recognizes the body’s capacity to heal, emphasizes prevention, and utilizes a combination of conventional and alternative therapies. Beyond the incorporation of evidence-based alternative and complementary therapies, integrative medicine has been promoted as a new model of health care that addresses the physical, psychological, and spiritual needs of patients and their communities (Maizes V, Rakel D, & Niemiec C, 2009).

Both TCAM and integrative medicine are often perceived as elite specialties limited to those who can afford it. National data show that TCAM use is indeed higher among those with a college education and among people with an annual income above \$50,000 (Eisenberg et al 2008). In some communities, low-cost acupuncture clinics or non-profit organizations that offer complementary and alternative therapies have increased access to these services for low-income residents. The UCSD student-run free clinic is an example of a program offering integrative health services to underserved communities (Cook, 2008).

Other countries have made systematic efforts to incorporate TCAM into their national health care systems. China is a leading example, where efforts to integrate traditional Chinese medicine (TCM) and Western biomedicine began in 1981. In addition to 300 integrative hospitals, most Western-style hospitals in China house a department of TCM, and most patients receive both Western diagnoses and TCM pattern differentiation, and a combination of herbal medicine, acupuncture, and Western treatments (Lu AP, Ding XR, & Chen KJ, 2008). In Cuba, natural and traditional medicine (NTM), ranging from folk herbalism to acupuncture, has been incorporated into medical education and practice since 1992. By 2002, 86% of Cuban physicians practiced some form of NTM (Appelbaum et al., 2006).

Few examples exist for integrating the traditional health beliefs and practices unique to Latinos into Latino-specific health care services. Efforts to increase cultural competency of health care services have often focused on incorporating cultural symbols and celebrations into their programs but fall short of integrating conceptual models and treatment modalities favored by many Latino patients, remaining trapped within a hegemonic Western biomedical framework (Santiago-Irizarry, 2001). The *Instituto Familiar de la Raza* in San Francisco’s Mission district is a notable exception; a non-profit community-based organization offering mental health services, the *Instituto Familiar* incorporates elements such as drumming into group counseling for at-risk Latino youth (Instituto Familiar de la Raza, Inc., 2011). Yet there is a paucity of information on programs that incorporate other Latino TCAM modalities such as bodywork, herbal remedies, or *curanderos*.

The most frequently encountered strategy for culturally competent health promotion in Latino communities is the use of community health workers (CHWs), also known as *promotore/as de salud*. CHWs are motivated community members who receive special training in health promotion in order to connect members of their community with health care services and to promote healthy lifestyles. CHWs have been employed to improve access to health care both in the US and in developing countries since the 1960s (Witmer, Seifer, Finocchio, Leslie, & O'Neil, 1995).

CHWs play diverse and overlapping roles, ranging from educator, to advocate, to healer, to organizer. CHWs help increase access to health care by teaching about healthy living and preventive care, familiarizing community members with available health care services, making referrals to other social services, and offering guidance when applying for aid, using the language and values system of their community. They help improve the quality of care by educating providers about community health needs and cultural issues, and by advocating for community members while receiving medical care. Since CHWs are either volunteers or receive lower salaries than other health care workers, they are often cited as a strategy for lowering healthcare costs (McCloskey, 2009; Witmer et al., 1995).

As community insiders, CHWs are not only health educators and advocates, but also culture brokers who help community members navigate healthcare systems and healthcare systems navigate the community. They are in a unique position to utilize culturally relevant metaphors, images, and practices, from spirituality to diet, in promoting healthy living and healthcare utilization among their peers (McCloskey, 2009).

I feel sometimes I'm bringing information to people, the sometimes I feel like I'm an advocate really trying to get the help for them right away. Then sometimes I feel like I'm a healer where I come and pray for people (Farquhar et al., 2008).

The ability of CHWs to incorporate culturally relevant beliefs and practices such as spirituality and diet makes them candidates for future efforts to incorporate Latino TCAM practices into health education and advocacy, whether in community-based or institutional programs.

X. Conclusions

The growing Latino population in the US and especially in California, and their steady decline in health status, will make health care for Latinos a significant challenge in coming decades. Understanding the social and cultural factors that contribute to Latinos' health, from the institutional to the individual level, is an important research goal in public health and medicine. Among those factors, exploring the health beliefs and practices of Latinos, and how Latinos navigate between traditional, alternative, and conventional medical spheres, will be critical to developing clinical and community-based interventions to reduce health disparities.

The literature on cultural competency repeatedly states that the goal is to reduce health disparities, but little clinical research supports this assertion. Few longitudinal studies correlate measurable health outcomes (lower blood pressure, better diabetic control, etc) with cultural competency programs. Furthermore, many researchers and

activists argue that the social determinants of health have a much greater impact on individuals than the clinical encounter, and that a focus on “culture” serves as a distraction from structural inequalities. There is a need for clinical, epidemiologic, and ethnographic research on how cultural competency efforts, from language services to cultural humility workshops, improve health outcomes even when social conditions remain the same.

There is also a need to explore how cultural competency efforts can grapple with the diversity of Latino cultures and individual experiences. Cultural competency education runs the risk of perpetuating stereotypes that hinder clinicians, rather than enhancing interactions with patients. My review of the literature demonstrates the importance of balancing concrete cultural knowledge with patient-centered communication skills and self-reflective cultural humility.

A balance between content and process is also important to analyzing how the ongoing processes of migration and acculturation affect Latinos’ health. The literature on acculturation and Latino health often assumes a simplistic, unidirectional progression of change from generic Latin American to monolithic Anglo American culture. More research is needed on how Latinos experience cultural change, and how these experiences affect their health-related behaviors and health care choices.

Most research on the Latino health paradox has focused on how factors such as diet, exercise, smoking, alcohol and drug use, and use of preventive care services (cancer screening, etc) promotes or hinders health. Little attention has been paid to the role of TCAM use in the domestic and folk spheres in maintaining good health in a population with limited access to professional health care services. Future studies could analyze the association between TCAM use among Latinos and their health outcomes, to identify practices that may have health-protective or health-promoting effects.

More clinical and pharmacologic research is needed to assess the safety and efficacy of herbal remedies and other TCAM therapies commonly used by Latinos. If integrative medicine necessitates the use of evidence-based practices, there will be little space for true integration of traditional and alternative modalities unless Western medical professionals have confidence in their safety and efficacy. The growing acceptance of acupuncture, chiropractic, yoga, and other mind-body therapies among conventional medical professionals is an example of how research can contribute to the legitimacy of these modalities.

In order to identify which Latino TCAM modalities to research, and which to integrate into clinical practice, more studies should be conducted on the prevalence of use of TCAM among specific Latino subgroups, as well as in the communities served by individual health care systems. Most studies either analyze large national data sets, or focus on small geographical areas; the scope is either too broad or too narrow. Among studies that examine why Latinos use TCAM, few factors are consistently correlated with TCAM use (time in US, gender, income, age, education, health insurance, severity or chronicity of disease, etc). Because Latinos are such a diverse population, generalizing is not only difficult, but also raises the potential of stereotyping. For this reason, it behooves health care institutions to understand the diversity of beliefs and practices among the specific patient populations they serve.

Studying clinicians’ knowledge, attitudes and communication skills around TCAM is also an important part of evaluating the degree to which they effectively work

with Latino patients. Even for Latino physicians, their medical training may not include information about TCAM, or may compete with the traditional practices they experienced growing up. Thus, racial/ethnic concordance between patient and clinician does not necessarily mean they share the same perspective on TCAM. Comparing clinicians' and patients' perspectives may help in the assessment of cultural competency and guide educational programs to improve clinical care and patients' health outcomes.

II. Research Manuscript

1. Background

California has the largest Latino population in the nation, with over 14 million Latinos representing 38% of the state's total population (US Census Bureau, 2011). Latinos have lower overall mortality and infant mortality than non-Hispanic whites, despite having lower incomes and educational levels and delayed access to care. This phenomenon is known as the "Latino health paradox." However, the paradox does not apply to all Latinos, nor does it apply to all health conditions. Latinos suffer disproportionately high rates of obesity, diabetes, HIV/AIDS, tuberculosis, certain cancers, depression, and death from homicide or incarceration (Hummer RA, Powers DA, Pullman SG, Gossman GL, & Frisbie WP, 2007; Lara, Gamboa, Kahramanian, Morales, & Hayes Bautista, 2005; Markides KS & Coreil S, 1986; L. Morales, Lara, Kington, Valdez, & Escarce, 2002).

Many social factors contribute to poor health outcomes for Latinos, including income, lack of access to health care, insurance status, immigration status, language barriers, working conditions, environmental contamination, neighborhood safety, and unhealthy lifestyles (Betancourt, Carrillo, Green, & Maina, 2004; L. Morales, Lara, Kington, Valdez, & Escarce, 2002). Cultural barriers between patients and healthcare providers, as well as individual- and institutional-level discrimination, also contribute to poor health among Latinos and other ethnic minorities (Smedley, Stith, & Nelson, 2003).

Cultural competence, cultural humility, and patient-centered communication have all been promoted as strategies for reducing health inequities (Betancourt, Green, Carrillo, & II, 2003; Cross & others, 1989; Teal & Street, 2009; Tervalon & Murray-Garcia, 1998). Since the federal Office of Minority Health released its standards for Culturally and Linguistically Appropriate Services (CLAS) in 2000, many health care systems have complied with language services standards. In the past decade, cross-cultural communication skills and knowledge about the particular health beliefs and practices of diverse Latino communities have become active areas of research in medicine and public health.

Latino health beliefs and practices do not always fit within the framework of Western biomedicine, and have been cited as a barrier to care (L. Morales, Lara, Kington, Valdez, & Escarce, 2002; Parangimalil, 2001). Although rates of use vary by region and national origin, at least 25% of Latinos use some form of traditional, complementary or alternative medicine (TCAM) (Graham et al., 2005; B. I. Ortiz, Shields, Clauson, & Clay, 2007). Some studies show that up to three quarters of Mexican-Americans use TCAM (Rivera, Ortiz, Lawson, & Verma, 2002).

The National Center for Complementary and Alternative Medicine (NCCAM) defines CAM broadly as "a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine". "Complementary" refers to practices used in combination with conventional medicine, whereas "alternative" indicates the use of non-conventional therapies in place of the conventional. The NCCAM identifies four primary categories: 1) natural products (botanicals, certain dietary supplements); 2) mind and body medicine (meditation, yoga,

acupuncture, deep-breathing, guided imagery, hypnotherapy, progressive relaxation, qui gong, tai chi); 3) manipulation and body-based practices (spinal manipulation, massage therapy); and 4) other CAM practices (movement therapies, traditional healers, and “whole medical systems” such as Ayurvedic and traditional Chinese medicine, homeopathy and naturopathy) (National Center for Complementary and Alternative Medicine, 2011). Notable is the lack of prayer or spirituality included as a CAM category by the NCCAM, although many traditional and alternative healing systems include such practices.

In contrast, the World Health Organization distinguishes between CAM and traditional medicine (TM) by their degree of integration into different cultures’ mainstream health care practices. TM encompasses both formalized medical systems such as traditional Chinese medicine, Indian ayurveda and Arabic unani medicine, as well as indigenous practices across Asia, Africa, the Near East, Oceania, and the Americas (World Health Organization, 2002).

The terms TM and CAM are controversial because they set up a dichotomy between the global South and ethnic minorities versus middle- and upper-class white people in wealthy nations, and treat Western biomedicine as the standard of comparison (Holliday, 2008). In discussing Latino health beliefs and practices, most researchers use the terms “traditional” or “folk” medicine, rather than CAM. Yet Latinos use not only natural therapies prescribed by traditional healers, but also home remedies, over-the-counter and non-prescribed prescription medications, as well as prayer for healing and health maintenance. I use the acronym TCAM here to refer to non-conventional medicine used by all groups, including Latinos, in order to avoid dichotomizing between “traditional” and “folk” versus “complementary and alternative.”

Herbal remedies, folk bodyworkers (*sobadores*), massage, spiritual practices, and relaxation techniques are some of the most frequently reported forms of TCAM among Latinos (Graham et al., 2005). Over-the-counter medications and non-prescribed prescription drugs (purchased across the border or under-the-table in the US) also form part of the “ethnopharmacology” of Latinos (Waldstein, 2006). Although much of the literature about Latino healing practices focuses on *curanderos* (folk healers that treat mental, physical, and spiritual maladies with herbs, prayer and rituals), most studies indicate that no more than 4% of Latinos have visited such a healer within the past year (Higginbotham JC, Trevino FM, & Ray LA, 1990; Murguía, Peterson, & Cecilia Zea, 2003; Rivera, Ortiz, Lawson, & Verma, 2002; Zeilmann et al., 2003), although other studies report rates as high as 13% (Keegan, 1996) and 25% (Lopez, 2005).

A common theme throughout Latino cultures is a holistic perspective on health, where spirituality, physical and mental/emotional health are equally important and intertwined (Kiesser, Mcfadden, & Belliard, 2006; Lopez, 2005; Murguía, Peterson, & Cecilia Zea, 2003). Illness may result from natural causes, or may be related to emotional, spiritual, or supernatural causes. Folk illnesses, also known as “culture-bound syndromes,” are collections of symptoms not recognized by conventional medicine, but with popularly understood mechanisms of causation, and which are treated using TCAM. Commonly cited folk illnesses include *nervios* (nervousness and/or anxiety), *susto* (fright), *mal de ojo* (evil eye), *empacho* (blocked bowel in children), *caída de mollera* (fallen fontanel), and *caída de matriz* (fallen uterus) (Flores, 2000; Sanchez, 2007).

Self-care with diet and lifestyle as well as herbal home remedies appear to be the most important features of Latino health maintenance, and are the first steps many Latinos take before consulting a medical professional (Mendelson, 2003; Sanchez, 2007; Zapata & Shippee-Rice, 1999). In fact, some argue that the preference for self-care and natural remedies leads Latinos to seek conventional medical treatment as a last resort (Lopez, 2005).

Of particular concern to physicians and public health officials is the underreporting of TCAM by Latino patients. Studies have shown that between 60 to 80% of Latino patients do not report TCAM use to their physician (Graham et al., 2005; Keegan, 1996; Mikhail, Wali, & Ziment, 2004; Rivera, Ortiz, Lawson, & Verma, 2002). Poor communication not only increases the risk of herb-drug interactions or of missing potentially serious health problems, but also points to a profound breakdown in the patient-provider relationship. Improving clinicians' communication skills and knowledge of patients' health beliefs and practices can enhance doctor-patient relationships and improve health outcomes (Flores, 2000; Shelley et al., 2009).

The communication gap between Latino patients and their health care providers about TCAM points to the need for research that combines an exploration of patients' beliefs and practices with an assessment of physicians' knowledge and communication skills. This study examined the health beliefs and practices of Latina patients and the knowledge and communication skills of Latino physicians at Salud en Español (SE) is a bilingual module at Kaiser Permanente Medical Center in Oakland, California.

Founded in September 2009, SE provides family and internal medicine, obstetrics and gynecology, and pediatric services to a diverse Latino patient population from across Alameda County. With the mission of serving "the health needs as well as the cultural needs of the East Bay community," SE has already succeeded at providing bilingual health services with a majority Latino staff, but physicians recognize that language is only one piece of culturally competent care, and share the concern about under-reporting of TCAM by Latinos. The study was welcomed as a step toward better understanding SE's unique patient population in order to enhance cultural knowledge, improve patient-provider communication, and ultimately raise the quality of care.

Female patients were chosen because they tend to have higher rates of TCAM use than men (Mikhail, Wali, & Ziment, 2004; Zapata & Shippee-Rice, 1999) and because they frequently play a central role in family health maintenance and care-seeking (Clark L, 1995; Eggengerger, Grassley, & Restrepo, 2006; Garcés IC, Scarinici IC, & Harrison L, 2006; Mendelson, 2003; B. I. Ortiz, Shields, Clauson, & Clay, 2007).

The study aimed to understand both patients and providers' perspectives on Latino TCAM in order to improve patient and physician education about TCAM and improve the quality of communication and care. Patient research questions included: (1) What is the prevalence of use of various TCAM modalities (including traditional healers, alternative practitioners and healing practices, and herbal remedies) as well as non-prescription and non-prescribed prescription drugs among Latina patients? (2) Why do Latina TCAM users choose TCAM, and has their use of TCAM changed since migrating to the US? (3) Which folk illnesses do Latinas recognize, which have they experienced, and how are they treated? (4) Do Latina patients report TCAM use to their doctor, and do their physicians ask about TCAM?

For the provider component, research questions included: (1) How do physicians rate their understanding of Latino patients' health beliefs and use of TCAM and pharmaceuticals? (2) Which remedies and therapies used by Latino patients do they consider most effective or most problematic? And (3) How do physicians communicate with Latino patients about TCAM and health beliefs?

2. Methods

This exploratory, cross-sectional study of one primary care clinic designed for Spanish speakers at Kaiser Permanente in Oakland, California—*Salud en Español*—used a convenience sample consisting of 65 adult Latina women patients seen at the clinic and 10 Latino/a physicians who worked at the clinic. The study employed mixed data collection methods, including a telephone survey with patients and a structured questionnaire with physicians.

Mixed methods are well suited for research questions that include multiple perspectives and explore the cultural influences on social phenomena (Creswell JW, Classen AC, Plano Clark VL, & Smith KC, 2011). The methodological approach reflected a pragmatic perspective, with the goal of developing socially useful knowledge (Yvonne Feilzer, 2010). Each instrument represented a merging approach, including closed- and open-ended questions that combined quantitative data on the prevalence of beliefs and practices with qualitative data exploring the meaning of health and illness, the reasons why individuals choose TCAM, how physicians describe their own communication styles, and physicians' concerns about TCAM use among their Latino patients (Figure 1).

The research was conducted by Ingrid Bauer, a graduate/medical student at the UC Berkeley/UCSF Joint Medical Program, in collaboration with Dr. Juan Guerra, MD, the founder and director of *Salud en Español*. The study was approved by the Kaiser Permanente Institutional Review Board and the UC Berkeley Committee for Protection of Human Subjects.

2.1 Patient survey

2.1.1 Sampling and recruitment

Inclusion criteria were: identified as Hispanic or Latino in the electronic medical record (EMR), female, at least 18 years old, and seen by any provider within the SE module since September 2009. Patients were excluded if they had a Spanish surname but did not have some Latino or Hispanic identifier in the EMR, or if they had not been seen by an SE provider during the specified timeframe.

Among patients who met the inclusion criteria, 100 patients whose EMR indicated that they required Spanish language services, and 100 patients who did not require language services were included in the sampling frame. These 200 patients were mailed a flyer describing the research and a pre-stamped fold-over post card to return to the researchers if they declined to be contacted by telephone. Two weeks elapsed between the mailing and the first telephone surveys. Telephone calls were placed during morning, afternoon, and evening hours to capture individuals with various work schedules and household obligations. Participants were read a verbal consent form before proceeding with the telephone survey, which lasted from 10-15 minutes. Surveys were

conducted by the graduate student researcher in Spanish or in English, depending on the participant's preference. Surveys were de-identified using only a numeric code in the data set; a code key linking to participant information was stored in a separate, secure location.

Out of 200 initial patient contacts, 17 were excluded during the survey process because they were not currently SE patients. Nine returned "do not call" postcards, and fourteen denied participation over the telephone; 95 others were not contacted because they had long-distance or disconnected phone numbers, or were not reached after at least three attempted calls or messages. In total, 65 out of 183 eligible patients completed the survey and 23 refused. The response rate was thus 36%, and the refusal rate was 13%.

2.1.2 *Survey instrument*

The 26-item survey lasting 10-15 minutes included closed-ended questions about demographics, TCAM use, and folk illnesses; free listing of herbs and treatment protocols; and a final section with open-ended questions about patient-provider communication and patient satisfaction. Independent variables included age, country of nativity, years in the US, primary language, years of education, self-reported health status, date of last primary care visit, and usual source of health consultation. The primary dependent variable was whether or not patients used some form of TCAM according to NCCAM definitions, excluding prayer. The survey also asked about the use of non-TCAM health practices including prayer, dietary supplements, special diets, and both over-the-counter and non-prescribed prescription drugs. Patient participants were classified as TCAM users if they reported any TCAM remedy or therapy, regardless of the therapeutic intent or self-identification as a TCAM user.

The survey was written in English, and professional translated into Spanish.

2.1.3 *Survey analysis*

Closed-ended answers and free-listed items were entered into Excel to calculate frequencies. Quantitative data were imported into STATA, and Fisher exact tests were conducted to test association between dependent and independent variables. Because this was a small exploratory study with a limited number of participants, a p-value of 0.10 or smaller was considered suggestive of significant association.

For open-ended questions, answers in Spanish were translated into English by the student researcher. Open-ended patient responses were coded using inductively prescribed domains; upon analysis of the surveys, other categories were added deductively based on open-ended answers that did not fit the original domains. Illustrative verbatim quotes were selected to provide insight into the meaning of certain domains.

2.2 Provider Questionnaire

2.2.1 *Sampling and recruitment*

All SE staff members were introduced to the study at a staff meeting in May 2010. Starting in April 2011 the student researcher invited the 10 SE physicians to participate in the questionnaire by telephone. Other providers such as nurses and medical assistants were excluded from the study because it was determined that identifying

differences between different types of providers would be difficult with such a small number of each type.

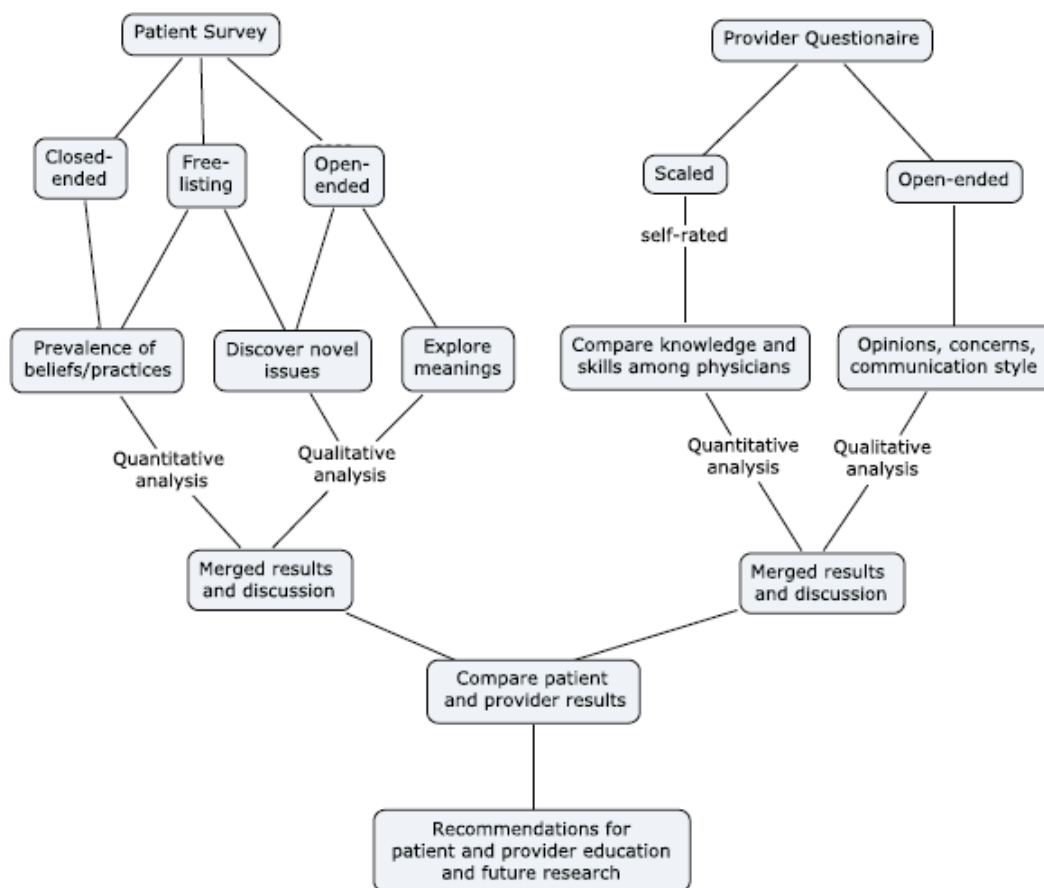
2.2.2 Questionnaire instrument

The 23-item questionnaire lasted approximately 30 minutes, and included both scaled and open-ended questions pertaining to (1) demographics and personal use of TCAM; (2) knowledge about Latino patients' health beliefs and TCAM use; and (3) communication with patients about TCAM. Scaled questions allowed providers to describe their knowledge on a three-point scale from "none" to "extensive" or their frequency of asking from "rarely" to "always." Notes were typed during the interview to record responses to open-ended questions, as audio recording was not permitted.

2.2.3 Questionnaire analysis

Scaled answers were tabulated to generate frequencies that described the characteristics, knowledge and skills of the group of interviewees. Free-listed herbs, supplements, over-the-counter, and prescription medications were sorted and compiled to generate frequencies. Open-ended answers were coded using pre-organized categories, and illustrative quotes were selected to demonstrate themes.

Figure 1. Concept map of mixed merged methods



3. Results: Patient Survey

3.1 Demographics

The average age of participants was 43, ranging from 19 to 88. As shown in Table 1, most participants (85%) were foreign-born; 84% had spent at least 10 years in this country, while only 16% had immigrated within the past 9 years. Almost three-quarters of participants were from Mexico (72%). Most spoke only Spanish (80%), while 12% spoke both English and Spanish, and 9% spoke English only. The average education level was low; 26% attended some elementary school, 25% attended some middle school, and 31% had attended some high school. Seventeen percent attended some junior or undergraduate college, and only one participant had obtained a master's degree. Among participants who were employed at least part time (69%), the mean yearly income was \$29,500, and the most common professions were in service industries (janitorial, housekeeping, childcare). Another 31% of participants were homemakers, unemployed, or retired.

Patients were asked to describe their health on a five point scale ranging from poor to excellent, and to remember when they most recently saw their primary care doctor. Most patients perceived their health to be "good" (42%) or "fair" health (26%). The vast majority (91%) had seen their physician within the past year.

When asked, "With whom do you first consult when you are sick or injured," 75% identified their doctor. The other 25% consulted with family, friends or God, or treated their condition themselves before seeking medical attention. Among the patients who said they first consulted with a family member or treated the problem themselves, all reported that if the problem were very serious they would seek medical attention.

There was no statistically significant evidence of association between TCAM use and independent variables including age, nativity, language, educational attainment, self-reported health status, date of last primary care visit, or primary source of health consultation (Table 1).

However, TCAM use did vary by the amount of time foreign-born participants had spent in the US ($p = 0.015$). Among immigrants, age was the underlying factor mediating the association between TCAM use and years spent in the US. The most recent immigrants (0 to 9 years) were also the youngest (4 of 9 were in the 19- to 29-year-old age group). This youngest group of immigrants had the lowest rate of TCAM use (75% compared to 85-100%). Therefore, among all foreign-born participants, there was evidence that TCAM use varied by age. No evidence of association was found between age and TCAM use among US-born participants (Table 2).

Table 1. Demographic characteristics of patient participants (n = 65)				
Age	All patients (n = 65)	History of TCAM use (n = 58)	No TCAM use (n = 7)	p-value
19-29	10 (15%)	8 (14%)	2 (29%)	0.243
30-39	21 (32%)	18 (31%)	3 (43%)	
40-49	19 (29%)	19 (34%)	0 (0%)	
50+	15 (23%)	13 (22%)	2 (29%)	
Country of Nativity				
Mexico	47 (72%)	43 (74%)	4 (57%)	0.292
US	10 (15%)	8 (14%)	2 (29%)	
Central America	5 (8%)	4 (7%)	1 (14%)	
South America	2 (3%)	2 (3%)	0 (0%)	
Puerto Rico	1 (2%)	1 (2%)	0 (0%)	
Primary Language				
Spanish	52 (80%)	46 (79%)	6 (86%)	0.425
Both	8 (12%)	8 (14%)	0 (0%)	
English	5 (8%)	4 (7%)	1 (14%)	
Education				
Some primary school	17 (26%)	17 (29%)	0 (0%)	0.249
Some middle school	16 (25%)	13 (22%)	3 (43%)	
Some high school	20 (31%)	18 (31%)	2 (29%)	
Some college	11 (17%)	9 (16%)	2 (29%)	
Master's degree completed	1 (2%)	1 (2%)	0 (0%)	
Self-reported health status				
Excellent	7 (11%)	6 (10%)	1 (14%)	0.909
Very good	10 (15%)	9 (16%)	1 (14%)	
Good	27 (42%)	25 (43%)	2 (29%)	
Fair	17 (26%)	15 (26%)	2 (29%)	
Poor	4 (6%)	4 (7%)	0 (0%)	
Date of last primary care visit				
<1 month	20 (31%)	17 (29%)	3 (43%)	0.381
<1 year	39 (60%)	36 (61%)	3 (43%)	
>1 year or don't remember	6 (9%)	5 (9%)	1 (14%)	
Primary source of health consultation				
My doctor/Kaiser Permanente	49 (75%)	42 (72%)	7 (100%)	0.859
Myself	7 (11%)	7 (12%)	0	
Family member	6 (9%)	6 (10%)	0	
God	3 (5%)	3 (5%)	0	

Table 2. Association between age and TCAM use by nativity and time spent in the US				
Age	All US-born (n = 10)	History of TCAM use (n = 8)	No TCAM use (n = 2)	p-value
19-29	2 (20%)	2 (25%)	0	1.000
30-39	6 (60%)	4 (50%)	2 (100%)	
40-49	1 (10%)	1 (13%)	0	
50+	1 (10%)	1 (13%)	0	
Age	All foreign-born (n = 55)	History of TCAM use (n = 50)	No TCAM use (n = 5)	p-value
19-29	8 (15%)	6 (12%)	2 (40%)	0.092*
30-39	15 (27%)	14 (28%)	1 (20%)	
40-49	18 (33%)	18 (36%)	0	
50+	14 (25%)	12 (24%)	2 (40%)	
Years in the US among foreign-born (n = 55)	All foreign-born (n = 55)	History of TCAM use (n = 50)	No TCAM use (n = 5)	p-value
< 10	9 (15%)	6 (10%)	3 (60%)	0.015*
< 20	16 (29%)	15 (26%)	1 (20%)	
< 30	20 (36%)	20 (40%)	0	
≥30	10 (18%)	9 (18%)	1 (20%)	

* Statistically significant

3.2 TCAM Use

According to study criteria, 89% of patients had ever used some kind of TCAM therapy excluding prayer (95% including prayer). No time frame was specified, and patients could report as many categories as were applicable. Within each category reported, patients were asked to free-list specific remedies or therapies used. Although 16 participants did not consider themselves to be TCAM users (25%), 9 of these individuals reported a history of using an alternative therapy or traditional remedy such as herbal tea, chiropractic, massage therapy or yoga.

Among patients reporting a history of TCAM use, the most common therapies included herbal remedies, *sobadore/as*, and chiropractic. Over half of participants (53%) had consulted with at least one traditional healer, and a similar percentage had consulted with at least one complementary/alternative practitioner. Breathing exercises (40%) were most common among the alternative therapies; numerous patients mentioned practicing breathing exercises that they learned from attending stress-reduction classes at Kaiser Permanente (Table 3).

Table 3. Types of TCAM used by patients reporting a history of use of any TCAM therapy (n = 58)	
Type of TCAM	n (%)
Herbal remedies (internal or topical)	50 (86%)
Any traditional healer	31 (53%)
<i>Sobador/a</i>	24 (41%)
<i>Botánica</i>	10 (17%)
<i>Partera</i>	7 (12%)
Herbalist	6 (10%)
<i>Curandero/a</i>	4 (7%)
Spiritual healer	3 (5%)
Any alternative/complementary practitioner	32 (55%)
Chiropractor (DC)	24 (41%)
Massage Therapist	16 (28%)
Acupuncturist	11 (19%)
Homeopathic Doctor	8 (14%)
Naturopathic Doctor	3 (5%)
Other TCAM therapy	
Breathing exercises	23 (40%)
Meditation	7 (12%)
<i>Limpia</i> (spiritual cleansing)	6 (10%)
Yoga	6 (10%)
Amulets	3 (5%)
Tai Chi	1 (2%)

Eight-six percent of TCAM users had used an herbal remedy. Some herbs were used simply as pleasant beverages, including *manzanilla* (chamomile), *yerba buena* (mint), and green tea. However, because these teas contain bioactive constituents and have a history of use as medicinal herbs, they were categorized as TCAM remedies regardless of therapeutic intent (Table 4).

Herb	n (%)	Patient-reported applications
<i>Manzanilla</i> (Chamomile)	27 (47%)	“Everything”, stomach ache, colic
<i>Yerba Buena</i> (Mint)	23 (40%)	Stomach ache, benefit digestion
<i>Limón</i> (Lemon)	9 (16%)	Sore throat, colds
<i>Miel</i> (Honey)	7 (12%)	Sore throat, colds, externally for burns
<i>Té verde</i> (Green tea)	6 (10%)	Alternative to coffee
<i>Sábila</i> (Aloe vera)	6 (10%)	Burns, constipation
<i>Canela</i> (Cinnamon)	6 (10%)	Colds/cough, <i>empacho</i>
<i>Árnica</i> (Arnica)	5 (9%)	Post-partum and post-operative recovery, inflamed stomach
<i>Aceite de olivo</i> (Olive oil)	5 (9%)	Purgative for <i>empacho</i>
<i>Gengibre</i> (Ginger)	4 (7%)	Stomach ache/inflamed stomach, sore throat
<i>Cola de caballo</i> (Horsetail)	4 (7%)	Kidney pain
<i>Ruda</i> (Rue)	4 (7%)	Menstrual pain, post-partum cleansing of the uterus, spiritual cleansing
<i>Nopal</i> (Prickly pear cactus)	3 (5%)	Blood sugar control in type 2 diabetes

Remedies mentioned three or fewer times included tarragon (for nausea), marijuana (topically for arthritis), garlic (colds, allergies), basil (colds), oregano and cumin (induce labor and speed contractions), celery stalk (stomach ache), parsley, eucalyptus (allergies), coca leaf tea, orange leaf, chaparral, tomatillo husk and plantain peel (vomiting), star anise (relaxation), valerian (sleep), mullein (sore throat, cough), flax seed (cleanse blood and uterus, weight loss), avocado seed (*empacho*), caraway seed (hypertension), corn silk, pennyroyal, *epazote*, rosemary (spiritual cleanse), psyllium husk (to promote regularity), blueberry extract (antioxidant), and ginkgo (memory/improve mental clarity). Three animal-based remedies mentioned included eating snakeskin and skunk meat to treat eczema, and goat lard rubbed on the abdomen to increase fertility.

When asked where they usually obtained herbal remedies, patients who used herbs most frequently reported shopping at a Latino grocery, while others obtained herbs from a garden, *botánica*, supermarket, or health food store (Table 5).

Source	n (%)
Latino grocery	28 (48%)
Garden	15 (26%)
Supermarket	8 (14%)
Botánica	6 (10%)
Natural foods store	3 (5%)
Home country	2 (3%)
Pharmacy	2 (3%)
Traditional healer/alternative practitioner	1 (2%)
Other (Cuba, Starbucks, GNC, Chinese herb shop, family member)	5 (9%)

Among the 49 patients who self-identified as TCAM users, 37% used TCAM because it was considered healthier and caused fewer side effects than conventional medicines; an additional 29% said it was part of their culture or family tradition, and 24% thought TCAM was effective for their health problem. Only 8% used TCAM on the recommendation of their physician (Table 6). None used TCAM to the exclusion of conventional therapies.

<i>Why do you use TCAM?</i>	n (%)
TCAM is natural, healthier, and/or has fewer side effects than drugs	18 (37%)
It's part of my culture/family tradition	14 (29%)
TCAM was effective for my health problem	12 (24%)
A friend/family member recommended it	9 (18%)
A physician didn't recognize/treat my problem	5 (10%)
A physician recommended it	4 (8%)
Conventional therapies were ineffective	3 (6%)

Foreign-born participants who self-identified as TCAM users were asked how their use of TCAM has changed since moving to the US. Over half of participants said their use of TCAM has not changed since coming to the US. Among the patients that said TCAM use had decreased, many cited lack of access to herbal remedies or distance from family members who were knowledgeable about herbs and other therapies as the primary reason they used less TCAM then when they were in their home country. Among the patients whose use of TCAM had increased, most said it was because they had more health problems now than when they first migrated (Table 7).

<i>Has your use of TCAM changed since coming to the US?</i>	n (%)
Stayed the same	22 (51%)
Decreased	16 (37%)
Increased	5 (12%)

3.3 *Vitamins/supplements, over-the-counter and non-prescribed prescription medications*

In addition to TCAM remedies and therapies, all patients were asked if they used any vitamins or supplements, over-the-counter medications, and non-prescribed prescription medications (no time frame was specified). Vitamins and supplements were widely consumed by the participants (82%), especially multivitamins and prenatal vitamins. Only a few patients mentioned non-conventional supplements, including weight loss products (2), glucosamine (1), and melatonin (1). The most common over-the-counter medications were acetaminophen (29%) and ibuprofen (26%). Among the 19% of patients who had used non-prescribed prescription medications, four participants listed

antibiotics (penicillin and co-trimoxazole (Bactrim)), and one had used dipyron (Neo-melubrina), an analgesic/anti-pyretic banned in the US in 1977 due to its association with agranulocytosis (Table 8).

Vitamins & supplements	53 (82%)
Multivitamins	23 (36%)
Prenatal vitamins	14 (22%)
Vitamin D	8 (12%)
Calcium	7 (11%)
Over-the-counter medications	38 (58%)
Acetaminophen	19 (29%)
Ibuprofen	17 (26%)
Cold medications	4 (6%)
Antacids	4 (6%)
Non-prescribed prescription medications	12 (19%)
Antibiotics (penicillin, Bactrim)	4 (6%)
Dipyron (Neo-melubrina)	1 (2%)

3.4 Prayer

Over half (51%) of all participants had used prayer, which was not categorized as TCAM. Patients who prayed usually did so on a regular basis for multiple reasons including maintaining health; in addition, some made special prayers asking God to help them or their family members overcome illness. Only one patient described God as the only source of health and healing, dismissing both conventional medicine and TCAM as inferior to God's power.

3.5 Folk illnesses

Most participants were familiar with common folk illnesses found in Mexican and other Latin American cultures, and many could describe traditional treatments. Many participants had experienced one of these illnesses or knew someone who had; a smaller number expressed disbelief in these syndromes. There was no evidence that experience with a folk illness varied by TCAM use ($p = 0.466$). In fact, all of the individuals who expressed disbelief in a folk illness had a history of some TCAM use (Table 9).

Table 9. Percentage of patients who had heard of or had experiences with folk illnesses (n = 65)

Folk Illness	Heard of	Experienced or knew someone who experienced
<i>Mal de ojo</i>	61 (94%)	13 (20%)
<i>Caída de mollera</i>	58 (89%)	21 (32%)
<i>Empacho</i>	57 (88%)	25 (39%)
<i>Caída de matriz</i>	51 (79%)	11 (17%)
<i>Susto</i>	50 (77%)	13 (20%)
<i>Ataque de nervios</i>	47 (72%)	16 (25%)
<i>Envidia</i>	40 (62%)	7 (11%)

The most recognized folk illnesses were those that affected children, including *mal de ojo* (evil eye), *caída de mollera* (fallen fontanel), and *empacho* (blocked bowel). The folk illnesses that participants had most commonly experienced or witnessed were *empacho* (39%), *ataque de nervios* (25%), and *caída de mollera* (32%). Two participants reported using TCAM (deep breathing or drinking tea) to treat *ataque de nervios*, while six women mentioned seeking counseling or psychiatric care for their condition.

Patients reported that *caída de mollera*, *empacho*, and *mal de ojo* were always treated using home remedies or folk healers, never treated by Western medical professionals. For *empacho*, the most commonly cited treatment was *sobada* on the stomach and/or back conducted either by a family member or a *sobador/a*. Internal remedies included olive oil (to cause vomiting or diarrhea, thereby clearing the blockage), teas (cinnamon, mint, or avocado seed), milk of magnesia (to “clean the stomach”), and antibiotics.

For *caída de mollera*, most participants mentioned a different massage technique, also accomplished by a family member or a *sobador/a*, which involved sticking one’s finger inside the infant’s mouth and pushing up on the palate to raise the fontanel. Only two participants mentioned shaking or turning the infant upside-down; two others emphasized that the procedure was conducted without such maneuvers.

Although many participants had heard of *mal de ojo* (94%), fewer had experience with this illness (20%), and 12% stated they did not believe in it. For those who had witnessed or experienced *mal de ojo*, the most commonly cited treatment involved passing an egg over the body and praying. Two participants mentioned using a bracelet or necklace with a deer’s eye for protection. Two others had been taken to a *curandero* as a child in Mexico for *mal de ojo*.

Similarly, many more patients had heard of *susto* (77%) than had experienced it (20%), and three percent did not believe in it. Treatments included *sobada*, passing an egg (similar to *mal de ojo*), and eating bread. One participant believed that a frightening event caused *susto*, which led to her developing type 2 diabetes.

As with other folk illnesses, fewer patients had experienced *caída de matriz* (fallen uterus) than had heard of it. Fifteen patients said this condition was treated by a *sobadora* or *partera*, although two consulted a gynecologist.

3.6 Patient-provider communication

Among patients who self-identified as TCAM users, 55% never tell their doctor about TCAM use, and 65% reported that their doctor never asked (Table 10).

Table 10. Frequency of reporting TCAM use to physician among self-identified TCAM users and frequency of physician asking about TCAM use (n = 49)	
<i>Do you tell your doctor about TCAM use?</i>	n (%)
Never	27 (55%)
Sometimes	12 (20%)
Always	10 (25%)
<i>Does your doctor ask about TCAM use?</i>	
Never	32 (65%)
Sometimes	9 (18%)
Always	7 (14%)
Don't remember	1 (2%)

When patients were asked why they did or did not report TCAM use to their physician, the most common reason for not reporting was “my doctor didn’t ask” or “there wasn’t enough time during the visit.” Some patients assumed their doctor didn’t know about TCAM or would disapprove, and others didn’t classify the remedy or therapy they used as TCAM (Table 11).

Table 11. Patients’ primary reasons for not reporting TCAM use to their physician (n = 27)		
<i>Why don't you tell your doctor about TCAM use?</i>	n (%)	Illustrative quote
Doctor didn't ask or not enough time	7 (26%)	<i>The doctor is too busy. They take your blood pressure and "boom boom" that's it, it's over.</i>
Assumed doctors don't know about or don't believe in TCAM	5 (19%)	<i>We're in the US and they only use Western medicine</i>
Afraid of doctor disapproval	4 (15%)	<i>Many times one is afraid they'll think our practices aren't correct.</i>
Didn't classify remedy/therapy as TCAM	3 (11%)	<i>I just drink herbal teas. It's just like drinking coffee in the morning, it's not a medicine for curing anything.</i>

Patients who did talk about TCAM with their doctor mostly did so because they wanted to avoid herb-drug interactions (5 out of 12 patients). Two patients commented that when they asked their doctor if they could use something besides a drug, the doctor had recommended an herbal remedy (chamomile tea). Another patient said that that her doctor approved of the homeopathic remedy she was taking, which gave her the confidence to tell him about other remedies she had used.

When asked “What more could your doctor do to make you feel more comfortable talking about TCAM?” six out of 27 patients said that if their doctor asked them about TCAM, they’d be willing to share.

Maybe if he asked me, I could tell him; if he opened the door....

I'd tell them about things if they asked, if they actually seemed interested.

One patient emphasized that Latinos are often reluctant to share personal information unless their doctor asks them directly:

We are very closed—we don't like to talk about personal things and problems. That's why the doctor needs to listen, and to ask.

For many, they were afraid to talk about TCAM because of past experiences with doctors who disapproved of non-conventional medicine:

People usually don't say anything because the doctor gives them a negative perception [of TCAM]. The doctor should give them an opportunity to explain what they do, or give them more alternatives [to conventional treatments].

Some patients said they would appreciate receiving more information about natural remedies from their doctor:

It would be good for them to know about traditional remedies. In Mexico, many doctors recommend natural remedies, and here I'd like to be able to ask if I should take something--like a tea--or not for my condition.

Give me ideas about natural remedies I could use as well as medicines, then I could decide what to take.

Others considered herbal remedies and folk healers to be “old people talk,” so they weren’t bothered that their doctor didn’t ask about or recommend TCAM.

It's old people talk, you know, about los remedios.

Everyone has a different culture, and here they don't have all these remedies. For me it's ok if they give me pills. It's not like we live back in the time of my abuelos.

At the same time, a few patients valued the healing traditions they grew up with, and bemoaned the loss of these traditions in the US.

...here in the US they have erased all of that about los remedios. They keep on cutting the traditions that our grandparents used. Home remedies won't cure AIDS, but they will cure a cut, little pains.

4. Discussion: Patient Survey

4.1 TCAM use

The high rate of TCAM use among study participants (89% excluding prayer) was higher than those reported in other studies, which range from 17% (without prayer) or 59% (including prayer) (Su D & Li L, 2011) to 77% (Rivera, Ortiz, Lawson, & Verma, 2002). Because the timeframe for TCAM use was not assessed in the survey, it is difficult to compare study rates of use to studies that asked about TCAM use in the past year. In addition to asking about lifetime use, this study included a broader range of traditional practitioners than other studies (many of which only ask about *curanderos*), contributing to a higher prevalence than expected.

Although nearly all participants reported using some TCAM modality, 25% did not self-identify as TCAM users, indicating that the way some Latinas conceive of traditional or alternative medicine differs from the study criteria. For example, some participants who consumed herbal teas did not use them for health reasons, but because they were enjoyable beverages. These participants did not consider this to be TCAM use, nor did they think it was important to report their use of chamomile tea or daily prayer to their doctor.

Patients seemed to differentiate between “traditional” Latino practices and CAM modalities more common in the US, including herbs such as ginkgo, complementary/alternative practitioners such as acupuncturists, chiropractors and massage therapists, as well as mind-body practices including yoga, tai chi, meditation, and breathing. In this study, participants used the latter practices at much higher rates than reported in the 2007 NHIS: 37% of all participants had used chiropractic (compared to 4%), 17% had used acupuncture (compared to 1%), and 51% had used relaxation techniques (deep breathing or meditation) (compared to 9%) (Su D & Li L, 2011). Many patients had used these CAM practices on referral by their KP provider, reflecting the availability of acupuncture, chiropractic, and mind-body classes available to KP members, and the openness among KP providers to complementary medicine.

The use of traditional and complementary/alternative forms of manual manipulation may reflect the large number of patient participants who did physical work such as janitorial, housekeeping and childcare, putting them at risk for musculoskeletal injuries. However, this association was not tested statistically.

The high rate of herbal use (77% of all participants) and the herbs used among study participants are consistent with the literature on Latino TCAM in the American Southwest, which reports rates of herbal use between 44% (Keegan, 1996) and 64% (Rivera, Ortiz, Lawson, & Verma, 2002; Zeilmann et al., 2003). The low rate of use of *curanderos* (6% of all study participants) was also consistent with Southwestern studies that reported rates around or below 5% (Higginbotham JC, Trevino FM, & Ray LA, 1990; Hsiao AF et al., 2006; Rivera, Ortiz, Lawson, & Verma, 2002). The rare use of spiritual healers such as *santeros* or *espiritistas* may be reflective of the lack of study participants from the Caribbean, where such practices are more common (only one participant was born in Puerto Rico, but grew up in the US).

Almost all of the herbs mentioned by participants are found in the literature describing popular Latin American herbal remedies except for psyllium husk (used for

constipation), ginkgo (used for memory and mental clarity, and bilberry (used as an antioxidant), which are remedies more commonly marketed in North America and Europe. Indeed, chamomile, mint, aloe vera, *nopal*, cinnamon, garlic, and ginger are within the top ten herbs listed in many studies (Clark, 1970; B. I. Ortiz, Shields, Clauson, & Clay, 2007; Risser & Mazur, 1995; Rivera, Ortiz, Lawson, & Verma, 2002; Waldstein, 2006; Zeilmann et al., 2003).

Most of these herbs have a long track record of safe and effective use as culinary and medicinal agents and present a low risk for drug interactions, except for a few exceptions. The excessive internal use of aloe vera in pregnancy is considered dangerous because its laxative effect could theoretically stimulate uterine contractions. Using *nopal* in addition to hypoglycemic medications may excessively lower blood sugar due to the additive hypoglycemic effect (Sobieraj & Freyer, 2010). Furthermore, for individuals using warfarin or other anticoagulants, the excessive use of garlic or ginger may increase bleeding risk due to their additional anticoagulant effect (Fugh-Berman & Ernst, 2001).

Among participants who used herbal remedies, the most common sources for herbs included Latino groceries (56%) and gardens (30%), while only 12% of herb users obtained herbs from a *botánica*, and only 15% of all participants had consulted with someone working at a *botánica*. This data stands in contrast to a study conducted among Puerto Ricans and Dominicans in New York City that emphasizes the importance of *botánicas* as a healthcare resource for Latinos (Gomez-Beloz & Chavez N, 2001). No patients mentioned if workers at Latino groceries or conventional supermarkets dispense health advice or recommend herbal remedies.

Scant information is available about the quality and purity of the herbs sold in Latino groceries. Many dried herbs are packaged and imported from Mexico without quality standards, while fresh herbs are usually grown conventionally and may be contaminated with pesticides. The safety of urban soil for growing plants for consumption is also questionable, given the high rates of lead and other heavy metal contamination. However, the fact that nearly one third of patients grow medicinal plants points to a rich tradition of domestic health care using home remedies.

Although prayer was an important component of health and healing for over half of the study participants, the participants did not categorize prayer as an “alternative” practice, but as a normal and important part of their lives. Rather than expressing a fatalistic perspective, some patients sought God’s help to maintain health or when facing health problems. Only one patient said she relies exclusively on God for her health, believing that medicine—conventional or alternative—has little to offer.

In this study, national origin was not associated with different rates of TCAM use. Some studies indicated that Mexico-born immigrants use more TCAM than US-born Mexican Americans (Higginbotham JC, Trevino FM, & Ray LA, 1990; Loera, Reyes-Ortiz, & Kuo, 2007), while others show no significant difference in TCAM use between recent immigrants (<9 years) than immigrants with more time in US (over 10 years) (White, Knox, Zepeda, Mull, & Nunez, 2009). Yet among immigrants in this study, fewer years spent in the US was associated with less TCAM use. These recent immigrants who used less TCAM were also the youngest group, possibly reflecting a downturn in the rate of TCAM use among younger women in Mexico and other parts of Latin America.

Some studies indicate that Latinos delay seeking medical attention due to cultural beliefs or lack of access to care (L. Morales, Lara, Kington, Valdez, & Escarce, 2002; Sanchez, 2007), and that Latinos choose TCAM because of unmet health care needs or because conventional medical care is too expensive (Graham et al., 2005; Su D & Li L, 2011). However, this study used a convenience sample of Latinas enrolled in a managed-care plan who were seen by Spanish-speaking clinicians. Over 75% of participants first consulted with their doctor when they were ill, and 91% had seen their primary care doctor within the past 12 months, indicating a high rate of accessing health care services. Self-reported health status, usual source of health consultation, and date of last primary care visit were not associated with differences in TCAM use. Thus, barriers to care were not significant reasons for choosing TCAM in this managed care population.

As in other studies, study participants primarily used home remedies or prayer for health maintenance and to treat minor illnesses (Applewhite SL, 1995; Zeilmann et al., 2003), but sought medical attention for more serious problems (Mendelson, 2003). TCAM use did not represent a cultural barrier to routine screening or care for serious medical problems, nor did it indicate an inability to afford conventional medical care. Instead, patients practiced “medical pluralism,” choosing which health care sphere to use—domestic, folk, or professional—depending on the severity or duration of disease and the familiarity with and perceived efficacy of available therapies (Kiesser, Mcfadden, & Belliard, 2006; Kleinman, 1980).

4.2 Over-the-counter and non-prescribed prescription medications

Although not included in NCCAM definitions or patients’ understanding of traditional, complementary or alternative medicine, how individuals and cultural groups use supplements and pharmaceuticals also forms an important part of their “ethnopharmacology” (Waldstein, 2006). In this study, patients had a high rate of use of vitamins and supplements, many prescribed or recommended by their doctor. They also frequently used over-the-counter NSAIDs. Only 19% had used non-prescribed prescription medications, including antibiotics (penicillin and Bactrim), and dipyrrone (Neo-melubrina) (which can have dangerous side effects), compared to higher rates reported in other studies (Céspedes A & Larson E, 2006; Mainous, Diaz, & Carnemolla, 2008; Rogers, 2010). This may be due to their insured status, and/or because most patients said they first consulted with a doctor when ill. Indeed, patients may not feel the need to self-prescribe when they have health insurance and access to safe, affordable medications. Recent legislation limiting over-the-counter sales of antibiotics and other prescription drugs in Mexico may also affect the availability of these drugs both in Mexico and the US.

4.3 Folk illnesses

In this study, a limited number of patients had ever experienced a folk illness or knew someone who had, but the vast majority had heard of most of the common folk illnesses. These findings closely matched the results of other studies examining the prevalence of belief in or experience of Latino folk illnesses (Lopez, 2005; Murguía, Peterson, & Cecilia Zea, 2003). The telephone survey tool did not ask patients to define

these folk illnesses, limiting the results because it is unclear how patients defined the syndromes.

A smaller number of participants expressed disbelief in folk illnesses such as *envidia*, *caída de mollera*, *caída de matriz* and especially *mal de ojo*. Although their reasons for disbelief were not elicited in this survey, other studies have indicated that a substantial number of Mexican Americans reject concepts or practices they associate with witchcraft or supernatural acts (Applewhite SL, 1995; Zapata & Shippee-Rice, 1999). Such sentiments may have played into patients' disbelief in *envidia* or *mal de ojo*, which are both associated with supernatural or malevolent forces. In the case of *caída de mollera* and *caída de matriz*, patients expressed distrust in the efficacy of folk treatments for these conditions, and indicated that the symptoms merited Western medical attention. However, all of the patients who expressed disbelief in a folk illness had a history of some TCAM use.

Studies about Latino folk illnesses have focused on the pediatric problems most familiar to study participants: *caída de mollera* and *empacho*. Some treatments for *caída de mollera* mentioned by study participants may present a danger to young infants, including massaging the palate, or turning the baby upside-down and shaking or patting the feet. Some researchers have cited the risk of head injuries or shaken baby syndrome (Guarnaschelli J, Lee J, & Pitts FW, 1972) or missing potentially lethal infections or dehydration (Baer & Bustillo, 1998). Medical personnel may interpret delaying medical treatment as a sign of parental neglect (Lopez, 2005). Other researchers have argued that folk treatments for *caída de mollera* are not associated with head injuries, and may provide symptomatic relief that allows for effective home-based treatment of childhood illnesses (Hansen, 1998). Instead of immediately suspecting child abuse or neglect, seeking to understand the family's concern about the infant's health and feeding habits, and diagnosing and treating underlying infection, should be the primary concern with both *caída de mollera* and *empacho*.

Lead-based remedies, including *greta* (lead monoxide), *azarcón* (lead tetroxide), and *albayalde* (lead carbonate) for *empacho* have received considerable attention from researchers in both Mexico and the United States due to the risk of lead toxicity (Baer & Ackerman, 1988; Bose, Vashistha, & O'Loughlin, 1983; Poma, 1984). No study participants reported using lead-based products as a treatment for *empacho*, corroborating other research showing a very low rate of use of lead among Mexican Americans (Rivera, Ortiz, Lawson, & Verma, 2002; Trotter, 1985). Physicians should be made aware of the use of antibiotics to treat *empacho* (mentioned by one study participant) as an example of the misuse of antibiotics to treat viral or non-infectious illnesses.

About three-quarters of patients were familiar with both *ataque de nervios* and *susto*, and about ¼ had experienced one of these emotional illnesses. From the treatments patients mentioned (*sobadas* and passing an egg over the body), one might deduce that patients consider *susto* to be a folk illness with supernatural overtones. On the other hand, patients seemed to understand *ataque de nervios* to be a psychiatric condition similar to depression and anxiety that could benefit from medical/psychiatric attention. About half of the study participants who described experiencing *nervios* had received medical attention, including counseling, antidepressants, and/or relaxation classes offered by KP.

Studies on Latino mental health indicate that Latinos' definitions of *nervios* include most if not all of the standard psychiatric criteria for depression, but rates of

accessing mental health services remain low among many Latinos due to structural barriers as well as cultural stigma surrounding mental illness (Cook, 2008; Guarnaccia & Rodriguez, 1996). The rate of accessing mental health services for depressive symptoms was higher among study participants. This may indicate a lower stigma around *nervios* than other mental illnesses (Carpenter-Song et al., 2010), or reflect a greater awareness of mental health diagnoses and treatment options among an insured population with a high rate of accessing conventional healthcare services. However, more research should be conducted to examine how Latina members of KP understand these folk emotional illnesses and psychiatric diagnoses, and the frequency with which they seek professional help.

4.4 Patient-provider communication

Study participants who used TCAM “always” disclosed use to their physician at rates similar to other studies showing disclosure rates around 30% (Graham et al., 2005; Keegan, 1996; Mikhail, Wali, & Ziment, 2004; Rivera, Ortiz, Lawson, & Verma, 2002). I could find no other studies asking patients to report how frequently their physician asks about TCAM. In this study, 65% of TCAM users reported that their doctor “never” asked about TCAM use. Indeed, the most common reason why patients did not tell their doctor was because the doctor never asked or there wasn’t enough time during the visit.

The low rate of patients reporting TCAM use and the low rate of physicians asking point to the need for doctors to make time during clinic visits to ask about TCAM directly, to withhold judgment, and to educate patients about the importance of telling their doctor about everything they are doing to treat an illness. Patients who did report TCAM use to their doctor appeared to have a higher awareness of the risk of herb-drug interactions. These patients considered their doctor to be a reliable source of health information, including information about herbal remedies and other alternative therapies. Their satisfaction may be improved if doctors were more educated about the safety and efficacy of TCAM practices, and if they had evidence-based alternatives to offer their patients interested in non-drug therapies.

The low rate of volunteering health information combined with the wish that their doctor would ask is reflective of the cultural value *respeto* (respect, or deference to authority). In the medical encounter, Latino patients may be hesitant to offer unsolicited information or ask questions because they think it may be disrespectful to the physician. Furthermore, for many Latinos compassion, trust and respect are the most important elements of the relationship with their physician. These expectations reflect values including *personalismo* (formal friendliness) and *simpatia* (kindness) (Flores, 2000). Lack of time and perceived lack of interest by the physician are two factors that limit what Latino patients tell their doctor. Expressing interest by asking direct questions and practicing active listening are strategies for gaining trust and eliciting information from patients. Incorporating the patient’s views and preferences into decision-making is another important step (Barron, Hunter, Mayo, & Willoughby, 2004; Julliard K et al., 2008; Street RL Jr, O'Malley KJ, Cooper LA, & Haidet P, 2008).

5. Results: Provider Questionnaire

5.1 Demographics

Ten physicians (3 men and 7 women) completed the questionnaire, including 6 in internal medicine, 3 in family practice, and one pediatrician. Their ages ranged from 32 to 57 years old, and their years since beginning their medical residency training ranged from 5 to 31 years. All of the physicians self-identified as Hispanic or Latino/a. Nine physicians felt most comfortable with English, but also spoke Spanish fluently; one felt equally comfortable speaking both languages. Eight were born in the US; one was born in Mexico and another in the West Indies.

The participants had diverse experiences with using TCAM in their personal health maintenance. Three physicians had no experience using any TCAM therapy. The other seven physicians had some experience with at least one form of TCAM, including herbal medicine, yoga, meditation, tai chi, acupuncture, and other TCAM practitioners (massage, acupressure osteopathy, reiki, craniosacral therapy). None had ever visited a *curandero* or other traditional Latino healer.

Physicians had varying levels of cultural competency training. Six of the 10 participants mentioned receiving information about cultural health beliefs and practices during orientation when they began working at Kaiser Permanente, while three reported having participated in cultural competency programs elsewhere. One physician leads such trainings at Kaiser Permanente and other settings. Five physicians participated in “extensive” cultural competency training during their medical residency training or fellowships at academic institutions.

5.2 Cultural Knowledge

The majority of physicians felt that they had “some” knowledge of their Latino patients’ health belief system (Table 12). One participant did not respond to this set of questions because she did not feel that she could generalize about all of her Latino patients due to the diversity of their cultural backgrounds and socioeconomic status.

Similarly, most physicians had “some” knowledge about Latino patients’ use of traditional, alternative and complementary therapies. Two reported having little or no knowledge about traditional healers or the role of spirituality or ritual in healing. They all had a higher level of knowledge about their patient’s use of over-the-counter medications and non-prescribed prescription drugs.

The physicians had a wider distribution of knowledge and understanding about Latino folk illnesses. Physicians expressed a greater understanding of *ataque de nervios* (nervous attack), *mal de ojo* (evil eye), *susto* (fright), and *caída de matriz* (fallen uterus). They reported less understanding of *empacho* (blocked stomach) and *caída de mollera* (fallen fontanel), both illnesses of childhood. Another commonly encountered syndrome mentioned by three physicians was the description of low back pain as *dolor de riñones* (kidney pain) in the absence of urinary tract symptoms. Two others cited the widespread belief that exposure to cold air causes illness.

Many physicians discussed how socioeconomic status, educational attainment, and level of acculturation, as well as patients’ experiences with health care in their country of origin affect Latino patients’ health beliefs and practices. Among less

acculturated immigrants, said one doctor, “they first try herbal remedies, then they get antibiotics from a friend, then they call me.” More traditional/less acculturated immigrants “are more deferential; they will nod and say yes, but they don’t necessarily trust me.” The physicians all agreed that Kaiser Permanente members were more likely to believe in and use Western medicine than traditional systems, possibly due to education, income, acculturation, and their membership in a managed care plan. “Most of these folk illnesses don’t come up in my patients, except some older or recent migrants,” said one physician. “Most tend to be pretty Westernized; [they] have a Western mechanistic understanding with various inflection points.”

Table 12. Physicians’ self-reported knowledge about Latino health beliefs & practices			
Knowledge of Latino patients’ health beliefs (n = 9)			
Health belief	No knowledge	Some knowledge	Extensive knowledge
Definition of health		8	1
Definition of illness		9	
Causes of illness/disease	1	8	
Help-seeking behaviors	1	8	
Health decision-making		6	3
Role of spirituality in health		6	3
Knowledge of Latino patients’ use of TCAM (n = 10)			
Traditional/alternative therapy	No knowledge	Some knowledge	Extensive knowledge
Herbal remedies		9	1
Traditional healers	1	8	1
Complementary/alternative therapies		8	2
Prayer, rituals, other spiritual practices	1	6	3
Over-the-counter medications		6	4
Non-prescribed prescription drugs		7	3
Knowledge of Latino folk illnesses (n = 10)			
Folk illnesses	No knowledge	Some knowledge	Extensive knowledge
<i>Ataque de nervios</i> (Nervous attack)		6	4
<i>Empacho</i> (Blocked bowel)	4	3	3
<i>Caída de mollera</i> (Fallen fontanel)	6	2	2
<i>Mal de ojo</i> (Evil eye)	2	4	4
<i>Susto</i> (Fright)		6	4
<i>Caída de matriz</i> (Fallen uterus)	2	4	4

Each physician provided a unique list of herbs, supplements, over-the-counter, and/or non-prescribed prescription drugs most commonly used by his/her Latino patients (Table 13). The most frequently mentioned herbs were *manzanilla* (*Matricaria recutita*), *yerba buena* (*Mentha spp.*), and *sábila* (*Aloe vera*). Types of preparations with which physicians were aware included teas, shakes (with *nopal*), and alcoholic extracts for internal or external use. Physicians did not consider all of the herbs or herbal products they found in use among their patients to be “traditional.” For example, they saw St. Johnswort (*Hypericum perforatum*) as a “Western” herbal remedy that more acculturated Latinos learned about while living in the United States. Similarly, physicians believed that dietary supplements were more common among more acculturated Latinos; these included chondroitin/glucosamine products, erectile dysfunction products, intramuscular Vitamin B₁₂ injections, grapeseed oil, and multivitamins.

Common name	Latin Binomial	Use (according to physician)	# times mentioned
<i>Manzanilla</i> /chamomile	<i>Matricaria recutita</i>		3
<i>Yerba buena</i> /spearmint	<i>Mentha spicata</i>		3
<i>Sábila</i> , aloe	<i>Aloe vera</i>		3
<i>Gengibre</i> /ginger	<i>Zingiber officinalis</i>	Upper respiratory infections	2
<i>Miel</i> /honey		Upper respiratory infections	2
<i>Limón</i> /Lemon	<i>Citrus x limon</i>	Colds/flu	2
<i>Linaza</i> /flax seed	<i>Linus utisatissimum</i>		2
<i>Nopal</i> /prickly pear cactus	<i>Opuntia spp.</i>	Diabetes	2
<i>Tilia</i> /linden flower	<i>Tilia spp.</i>		2
<i>Canela</i> /cinnamon	<i>Cinnamomum verum</i>	Diabetes	1
Marijuana	<i>Cannabis sativa</i>	External rub for arthritis/joint pain	1
<i>Eucalypto</i> /eucalyptus	<i>Eucaluptus spp.</i>	Upper respiratory infections	1
St. Johnswort	<i>Hypericum perforatum</i>	Depression	1
<i>Ruda</i> /rue	<i>Ruta graveolens</i>		1
<i>Cola de caballo</i> /horsetail	<i>Equisetum spp.</i>	Diabetes, kidney pain	1
Arnica	<i>Arnica spp.</i>		1
<i>Uña de gato</i> /cat’s claw	<i>Uncaria tomentosa</i>		1

Initially, physicians did not understand that the question “which herbs and other remedies are commonly used by your Latino patients” included OTC and non-prescribed prescription drugs. Once this question was clarified, they listed OTC medications including Vick’s Vapo-rub (“an amazing cure-all” according to one participant), cough syrups and NSAIDs. In terms of prescription drugs Latinos often use without a

prescription, 5 physicians mentioned antibiotics, and 3 reported oral and/or injected corticosteroids, and one said that some diabetic patients share hypoglycemic medications with family members.

Physicians expressed different opinions about the safety and efficacy of traditional remedies and therapies. One physician stated that she did not “think of acupuncture or chiropractor or *sobador* as dangerous.” Two expressed concern about the safety of Chinese herbal medicines. Two physicians believed that honey, mint and ginger were very effective for treating the common cold, and recommended these to their patients on a regular basis. Another felt that *nopal* and other herbs may not have measurable physiologic effects, but patients who use natural remedies are often more willing to make significant changes to their diet and lifestyle, which makes a difference for patients with chronic diseases such as diabetes. On the other hand, another physician had experience with diabetic patients who used sweetened fruit smoothies containing *nopal*, resulting in elevated blood glucose from the extra sugar, the opposite of the intended therapeutic effect.

Physicians were more concerned with the misuse or mislabeling of pharmaceuticals. Six of the participants considered the use of unprescribed antibiotics to be a major problem among Latinos, due to increased bacterial resistance and the danger of home-administered injections. Four physicians mentioned corticosteroids as a problem, either as injections for pain or allergies, or as an unlisted ingredient in “natural” pain relief formulas obtained in Mexico. These products, said two physicians, may also contain unlabeled NSAIDs, which posed a risk of gastric, hepatic or renal damage. One also considered weight-loss products being sold in Latino communities to be dangerous.

Six physicians could not think of any significant herb-drug interactions that they knew of or had encountered in clinical practice. One mentioned the potential for reactions between warfarin and ginkgo, or between chondroitin-glucosamine and cholesterol medications. Another physician mentioned St. Johnswort as posing a risk, as well as herbs that interact with statin drugs. Two felt that the lack of regulation of herbal products and supplements made it difficult to assess their safety or the risk of herb-drug interactions.

5.3 Attitudes and Communication Skills

All of the physicians described their way of communicating with their Latino patients about their health beliefs and practices as open-minded and/or nonjudgmental. They agreed that asking point-blank “what they think is going on” and “what they’re doing for the problem,” including “anything natural,” was the best way to elicit information about the patient’s explanatory model and use of TCAM. They reported that patients are usually quite forthcoming with this information. “That’s where the ‘*mal de ojo*’ comes up. It’s not usually their chief complaint, but it comes out when I ask them what’s going on.”

Three physicians emphasized the importance of understanding how patients understand their illness, in part because the patient population is very diverse and health literacy varies from person to person.

I always ask patients about how they understand their illness, then we can tailor or customize how much time I have to spend on health education. Because of time

issues, 'tell me what you know about hypertension or diabetes' is a good starting point, to determine how much do they need to know,

Besides tailoring health education during initial patient visits, asking how the patient understands his or her illness at follow-up visits was seen as important “because things can get lost in translation and over time people develop their own understanding of their own health.” One physician felt that asking about the patient’s perspective was most important for psychosocial issues, where the problem was less clear-cut than physical complaints.

Responding to patients’ information about TCAM in a nonjudgmental way was seen as the best way to build trust with patients and keep the lines of communication open.

I've learned that it's important for me not to be critical. I usually let it roll by. Unless I feel there's a reason for me to tell them it's dangerous, I usually don't. If I challenge what they use or the person they saw, it is counterproductive for me—it reduces my credibility.

As long as the patient was not using something harmful, physicians usually did not recommend that patients stop using TCAM.

I try and respond positively because in general it doesn't help to come down on them about it. I try to make sure it's not dangerous and then say they can drink their 'whatever' unless it's something I know is directly harmful; a diabetic taking fruit shake they have to stop, but if its nopales that's ok. I try to let them continue and incorporate that.

Physicians mentioned using online resources such as Natural Standard to look up the evidence base on the safety and efficacy of herbal remedies. “If there’s no evidence, my usual spiel is that if you think it’s helpful, go ahead. But I tend to be an empiricist; I don’t recommend unless there’s evidence.” Others were more open to the possibility that traditional medicine may be effective: “I believe that 100s or 1000s of years of traditions has some truth to the healing process.”

The frequency with which physicians asked about specific TCAM and conventional therapies varied. Half of the participants “rarely” asked about herbal remedies or traditional healers, while all of the physicians “always” asked about over-the-counter medications (Table 14).

Type of therapy or perception	Rarely	Sometimes	Always
Herbal remedies	5	3	2
Supplements	1	5	4
Traditional healers	4	3	3
Alternative practitioners	3	4	3
Spiritual practices	7	2	1
Over-the-counter medications			10
Non-prescribed prescription drugs	1		9
Medication dosage	1	2	7
Side-effects related to drugs or alternative treatments	3	4	2
How the patient understands their illness	2	6	1

Providers differed in their frequency of incorporating TCAM into treatment plans. All of the participants recommended diet and exercise “sometimes” or “regularly.” However, half of the participants had never recommended herbal remedies. Two “sometimes” recommended herbs, but only with patients who were already using natural products or who were unwilling to use pharmaceuticals. “I throw in soothing things ... if they don’t like medications, or if they’re skeptical about Western medicine, or I know that it’s important for their healing practice.” More common was referring to acupuncturists within the Kaiser Permanente network or recommended relaxation techniques. No physicians had ever recommended that a patient consult a traditional Latino healer (Table 15).

Practice/therapy	Rarely	Sometimes	Always
Diet		2	8
Exercise		1	9
Herbal remedies	8	2	
Supplements	3	4	3
Spiritual practices	4	4	1
Relaxation techniques	2	4	4
Referrals to traditional healers	10		
Referrals to alternative practitioners	2	4	2

6. Discussion: Provider Questionnaire

All of the Kaiser physicians that participated in this exploratory study described their attitude toward Latino patients regarding TCAM as non-judgmental. The physicians believed that unbiased, direct questioning during medical encounters resulted in open, honest responses from patients that allowed physicians to make good medical decisions and offer appropriate patient education.

Many of the physicians reported having a moderate to excellent understanding of Latino health beliefs, folk illnesses, and TCAM practices. However, physician's knowledge about herbal remedies may not be as extensive as their self-assessment. Although the herbal remedies that physicians listed included many of the herbs mentioned by patients and in the literature on Latino TCAM, each physician mentioned a short and distinct list, indicating a limited amount of knowledge spread over a broad spectrum. Some of their familiarity with certain herbs may arise from clinical practice. For example, internists who treat type 2 diabetic adults talked more about *nopal* (used as a hypoglycemic agent) than other physicians. The pediatrician and family medicine doctors were more familiar with folk illnesses that affect children such as *empacho* and *caída de mollera*. A lack of access to evidence-based information about herbal remedies or other TCAM modalities prevented some physicians from recommending them to patients.

Physicians may ask more frequently about over-the-counter and prescription medications, and have a better understanding of how Latino patients used these products, because they are more familiar with pharmaceuticals than with herbal medications. Similarly, while physicians did not volunteer much knowledge about herb-drug interactions or dangerous herbal remedies, they expressed more concern about the misuse of antibiotics, corticosteroids, NSAIDs, and weight-loss drugs. This concern may stem not only from the potency and potential danger of these medications over herbs, but also from more physician knowledge about drugs.

While all of the physician participants self-identified as Latino or Hispanic, each has experienced multiple processes of acculturation that may have limited his or her understanding and use of Latino health beliefs and practices. They all grew up and attended medical school in the United States, and for all but two, English was their first language. Medical education in the US inculcates physicians with a scientific culture that emphasizes objectivity and excludes many TCAM modalities (Taylor, 2003). Although they had all participated in some type of cultural competency training, none of the physicians had formal training in herbal medicine or other TCAM modalities. Increasing physician knowledge about the safety, efficacy, and potential interactions of herbs may increase their rate of asking about these remedies (Gaylord & Mann, 2007).

Physicians' concerns with their Latino patients' use of non-prescribed medications highlight the importance of including these therapies in studies of Latino healing practices. Socioeconomic barriers to care, as well as cultural beliefs about efficacy, and greater comfort using familiar medications from one's native country, are all factors that contribute to the self-prescription of antibiotics and other drugs (Coffman, Shobe, & O'Connell, 2008). In regards to antibiotics, besides their inefficacy against viral infections, infectious disease specialists and public health officials are concerned with the rise in antibiotic resistance resulting from inappropriate antibiotic use, and point

to the need for culturally-appropriate interventions that target consumers as well as vendors of these antibiotics (Céspedes A & Larson E, 2006). The literature does not include a discussion of problems with Latinos' misuse of corticosteroids or NSAIDs for pain management, but physicians' concerns point to a need to research this issue.

7. Weaknesses/Limitations:

7.1 Patient survey

This preliminary study offers a brief sketch of Latinas' health beliefs and practices and lays the framework for future studies sponsored by Kaiser Permanente. The small sample size of the patient survey makes it difficult to generalize about the patterns of TCAM use in the entire population served by Salud en Español or other clinics in Kaiser Permanente's Oakland Medical Center and limits the power to detect statistical significance in the quantitative findings. A larger quantitative study sponsored by KP, including both men and women, would elucidate trends within the greater Latino patient population. Future studies need to understand more deeply the explanatory models of health employed by Latino patients and elucidate how, why, and when patients use TCAM.

A significant limitation of the survey was the failure to ask about TCAM use within a specific time period; the past 12 months is the interval used in most other large- and small-scale studies about TCAM. Thus, data about TCAM use collected in this study does not adequately differentiate between recent use and lifetime prevalence. Furthermore, some patients who had a history of TCAM use did not classify the herbal products or complementary/alternative practices (such as chiropractic manipulation) to constitute TCAM use, leading to inconsistencies in the recording of the primary outcome measure (TCAM use).

The choice to include only women excludes the experiences and perspectives of male patients. Women's perspectives are critical to understanding Latino health beliefs and practices because they are the primary caregivers and health care system navigators for themselves and the family. However, because health-related behaviors, health care preferences, and health outcomes differ by gender, future studies should sample men and include an analysis of the role of gender in Latino TCAM use.

Because patients were selected from the panel of a gynecologist at Salud en Español, patients did not necessarily have their primary care provider within Salud en Español. Responses that referred to "your doctor" may thus reflect patients' experiences with non-SE providers, and may not adequately assess their experiences with SE providers, who may have a higher degree of cultural knowledge and communication skills around Latino TCAM than other KP providers who do not speak Spanish or work regularly with Latino patients.

By studying insured patients at a medical clinic, this study selected for a population that chooses to use Western medicine at least some of the time, thereby excluding individuals who do not seek conventional medical attention for their health care needs. Kaiser Permanente members are not representative of Latinos throughout California, many of whom are uninsured. Furthermore, KP offers more options for coverage of TCAM than most health insurance plans, contributing to the high rates of accessing chiropractic, acupuncture and stress-reduction classes.

Although the study aimed to explore the effect of immigration and acculturation on TCAM use, the survey did not include enough questions or have statistical power to adequately assess these relationships. Future studies could examine differences in TCAM use and health beliefs between recent immigrants, long-time US residents, and US-born Latinos, including a validated multidimensional measure for assessing acculturation and health literacy.

7.2 Provider questionnaire

The structured questionnaire format limited the breadth and depth of the physicians' responses. Audiorecorded in-depth interviews might have better captured physicians' knowledge and attitudes. The questions asked physicians to generalize about all Latinos, which did not allow physicians to describe the diversity of the patients they serve. Furthermore, the data is based on self-reporting, rather than observations of physician behavior in clinical encounters, so it is difficult to know if what providers say they do actually happens in clinical practice.

Because these physicians all identify as Latino/a and work with a primarily Latino patient population within a bilingual module, their cultural knowledge, communication skills, and attitudes toward TCAM may not be representative of other groups of physicians within Kaiser Permanente. As employees of a managed care organization, they may have different clinical guidelines or time constraints than physicians working in other medical settings.

8. Conclusions

This study found a high rate of overall TCAM use among Latinas: 75% self-identified as TCAM users and 89% reported a lifetime history of TCAM use. At the same time, patients had a high rate of accessing conventional medical services: 75% of patients first consulted with their doctor when sick, and 91% had seen their primary care provider within the past year. TCAM use did not present a barrier to accessing conventional medical care, nor was lack of access to medical services a reason for using TCAM.

Herbal remedies, *sobada*, and chiropractic were the most common traditional and alternative therapies used by patients. A very small percentage of patients had ever consulted with a *curandero*, herbalist, or other spiritual/mystical folk healer. Prayer was also an important part of health maintenance and healing for half of the participants. The majority of patients were familiar with common Latin American folk illnesses, and a smaller number had experienced or knew someone who experienced a folk illness. Among the folk illnesses, *nervios* closely correlated to the Western medical definition of depression, and patients were more likely to seek mental health services than folk treatments. Patients frequently did not report TCAM use, and many said their doctor never or rarely asked about their TCAM use. Patients expressed the wish that their doctor would take the time to ask about TCAM during medical encounters.

Physicians working at SE considered their communication style to be direct and their attitude open-minded. Their level of knowledge about specific health beliefs and TCAM modalities varied; they were familiar with a small number of the commonly used herbs among Latinos, and most had some knowledge of common folk illnesses. Physicians asked regularly about OTC and prescription medications, but half never asked

directly about herbal medicines. They were unlikely to incorporate TCAM practices into treatment plans, and none had ever referred a Latino patient to a traditional healer. The physicians were more concerned with the misuse of non-prescribed prescription drugs such as corticosteroids and antibiotics than with herb-drug interactions or the use of traditional healers.

The findings from this exploratory study have useful implications for practitioners. Many of the herbal remedies used by Latinos have a long history of folk use, and few present a significant danger of toxicity or drug interactions, although there is limited scientific evidence supporting herbal efficacy. Rather than automatically recommending that patients should cease herbal remedies, physicians should consult with online and other pharmacology resources to assess the safety and efficacy of herbal remedies and other therapies, as well as contraindications during pregnancy or lactation, before creating a treatment plan. Physicians who integrate evidence-based herbal and other complementary/alternative therapies into the treatment plan may facilitate better compliance and satisfaction with Latina patients who prefer natural over pharmaceutical remedies.

Physicians should receive more training on the key uses and benefits of Latino TCAM practices, potential dangers and interactions of herbal remedies, information resources about TCAM, and strategies for communication. When they know more, they may remember to ask more frequently. Asking directly about patients' beliefs surrounding folk illnesses and TCAM therapies will allow physicians to remain non-judgmental while negotiating between differing perspectives on causality and appropriate treatment of health conditions such as childhood infections, musculoskeletal and gastrointestinal complaints, and psychiatric conditions (especially depression and anxiety). Furthermore, open communication about health beliefs and practices may enhance patient compliance with other medications and protocols in response to improved patient-physician rapport.

III. Appendix: Glossary of Latino healers and folk illnesses

Healers

Botánica—a shop selling herbal remedies, dietary supplements, and spiritual products including candles, amulets, etc. Store owners and employees often dispense health advice.

Curander/ao—a traditional healer who treats physical, spiritual, and mental/emotional disorders using prayer, ceremonies, and natural remedies.

Espiritista—a traditional healer who communicates with the spirit world to cure spiritual maladies; some prescribe herbs as well as rituals.

Herbalista/yerbero—a traditional healer specializing in herbal treatments.

Huesero—a traditional bonesetter.

Partera—a traditional lay midwife.

Santero/a—a practitioner of *santería*, a blend of Catholic and Yoruba/West African spiritual traditions.

Sobador/a—a traditional bodyworker who performs musculoskeletal and visceral manipulation.

Illnesses

Ataque de nervios (“nervous attack”)—an acute flare-up of stress often imposed upon a persistent emotionally distraught state related to chronic exposure to emotional distress (*nervios*).

Caída de matriz (“fallen uterus”)—physiologic or energetic prolapse of the uterus.

Caída de mollera (“fallen fontanel”)—the upper palate is believed to collapse due to trauma, causing an infant to nurse ineffectively, and leading to diarrhea, vomiting, and irritability. Various treatments aim to “lift” the fontanel by pushing up on the palate, pulling on the hair or patting on the feet.

Empacho (“blocked stomach”)—a childhood gastrointestinal illness characterized by stomach pain, vomiting, constipation or diarrhea, and bloating. It is believed to result from undigested food or other ingested materials sticking to the intestines, and is often treated with *sobadas* or home remedies.

Envidia (“envy”)—illness caused by intense jealousy or evil intent.

Mal de ojo (“evil eye”)—a supernatural ailment, whereby a child is made ill due to the voluntary or involuntary glance or “strong eyes” of an admiring adult

Susto (“fright”)—an acute emotional condition caused by a frightening or traumatic event (such as a car accident) that strips a person of vital force or causes the soul to leave the body

IV. References

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