2017

Barriers to Preventive Healthcare for Immigrants in Michigan

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This is to certify that the doctoral dissertation by

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has been found to be complete and satisfactory in all respects,
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2017

Abstract

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Dissertation Submitted in Partial Fulfillment

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Doctor of Philosophy

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Abstract

The Affordable Care Act expanded insurance coverage to the general population; however, expanding insurance coverage to immigrants might not be sufficient to improve utilization of annual physical preventive exams. This study evaluated adult Michigan immigrants' individual demographics, perceptions, and behaviors, as well as the collective cultural and system characteristics that might act as barriers to the utilization of annual physical preventive exams. Ken Wilber's integral operating system model for medicine conceptual framework was used to create a comprehensive map of factors and bring more clarity and understanding to the barriers to annual physical preventive exam. The quantitative survey was the best approach for this study because of the large numbers of explanatory independent variables identified in the literature review. Snowball sampling was used to increase the credibility of this research by involving different immigrant communities and reaching large numbers of immigrants.

Descriptive results indicate immigrants' barriers revolve around difficulty accessing health care and the cultural competency of the health care provider. Logistic regression analysis found that immigrants who are stressed and worried, self-employed, and middle class are less likely to utilize annual physical preventive exams. This study could be a force for social change by promoting healthy behaviors and encouraging immigrants to use annual physical preventive exam to reduce the occurrence of chronic conditions and increase life satisfaction in the community.

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Dedication

I dedicated this dissertation with love and gratitude to

The memory of my father, Dr. Ghazi Al-Hachim (1936-2003), who guided me with high expectations, accepting no less than a Ph.d

To my mother, Nawal, strong and gentle, and my first teacher who taught me to work hard and trust in Allah

To my children, who are my greatest love, inspiration, motivation and support

And to all who believed in me, offering love and support during my education.

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Chapter 1: Introduction to the Study

According to the United States Department of Health and Human Services (USDHHS), The Patient Protection and Affordable Care Act (ACA) demands that health insurance plans must provide defined preventive health care services recommended by the Centers for Disease Control and Prevention (CDC) free of charge (USDHHS, 2010). Researchers have shown that preventive health care services are critically important for everyone (Kim, Strecher, & Ryff, 2014), including immigrants. In this study I utilize a comprehensive approach to the examination and analysis of the barriers associated with the utilization of preventive health care services among adult immigrants in Michigan, after the implementation of the ACA.

This study is important because it provides much-needed insight and information about the growing population of adult immigrant's utilization of preventive health care services. This study may improve the cultural competence of health care providers and be a force for social change by promoting healthy behaviors and encouraging adult immigrants to use preventive health care services. This study analyzed the association between immigrant cultures, beliefs, and behaviors and their utilization of the annual physical preventive exam to explore reasons behind the underuse of preventive health care services in immigrant communities in Michigan.

Understanding the individual and collective barriers that have faced the Michigan adult immigrant population in utilizing the annual physical preventive exam is important for the evaluation of the ACA implementation. The relevant portions include, but are not limited to: the provision of defined preventive health care services; assisting providers

and the government with ACA mandatory reporting on the race, ethnicity, and primary language of patients served through federally supported and public health programs; assisting providers in reporting appropriate information such that federal programs may improve their ACA mandated analysis of the effectiveness of federal programs serving the needs of minority and immigrant populations; and for increasing the free annual physical preventive exam utilization for the adult immigrant population in Michigan.

This chapter contains the following sections: (a) background of the study; (b) problem statement; (c) purpose of the study; (d) research questions and hypotheses; (e) conceptual foundation; (f) conceptual framework; (g) nature of the study; (h) definitions; (i) assumptions; (j) scope and delimitations; (k) limitations; (l) significance of the study; and; (m) summary and transition.

Background of the Study

Markovizky and Samid (2008) found that immigrants face a great deal of stress during the immigration and settlement process. According to Markovizky and Samid, the stress is due to the conditions in the new host country and the difficult experiences during settlement such as isolation, separation, cultural change, discrimination, unemployment, and lack of income. Social support provided a source of affection, understanding, and opportunities for social participation for immigrant populations in the acculturation process (Markovizky & Samid, 2008).

According to Salinero-Fort et al. (2011), social support provided information about the host country, helped in the process of employment and housing, as well as access to basic social resources, education and health, and was also instrumental in areas

such as language acquisition, processing or transport documents. Salinero-Fort et al. also showed that immigrants had poorer mental health than native-born people and that poor mental health had been associated with the immigrant's perception of discrimination, which causes acculturation stress. This poor mental health, however, had no association with low education level, low income, and type of occupation.

Bermúdez-Parsai et al. (2012) found that the acculturation level impacted the effectiveness of public health interventions targeting immigrants. Bermúdez-Parsai et al. found that bicultural immigrants felt more confident, prepared, and comfortable to navigate within the health care system and with health care professionals, (including preventive health care), while drawing on cultural assets that promoted positive health behaviors and health decision making. Low acculturation level immigrants, however, were often unfamiliar with medical procedures, felt uncomfortable speaking the language, and were less likely to ask questions related to their health or the health care system (Bermúdez-Parsai et al., 2012).

Schachter, Kimbro, and Gorman (2012) found that language proficiency and health status are connected. The same study also found that immigrants' language ability was associated with physical and mental health status, and immigrants who were bilingual had better physical and mental health. Ngwakongnwi, Hemmelgarn, Musto, Quan, and King-Shier (2012) concluded that immigrant patients had little awareness of interpretation services offered by health providers, and some immigrants lacked trust in interpreters. Howe, Hasanali, De Jong, and Graefe (2016) found that immigrants' lower

education level was associated with a lowered level of attention to medical problems, and that they were less likely to regularly see a doctor.

Jih, Vittinghoff and Fernandoz (2015) showed that increasing the knowledge of health care providers in understanding the immigration process, including the screening process, and the different sociodemographics of the immigrants, could improve responsiveness to the utilization of primary care and preventive health care services. According to Maleku and Aguirre (2014), immigrants have concerns about accessing the health care system. Immigrants who had negative experiences with health care felt disrespected, discriminated against, helpless, and perceived a lack of power and control. Maleku and Aguirre also reported that the immigrants felt alienated from health systems, lacked trust, and experienced health disparities. Immigrants who had positive experiences felt respected, valued, and empowered, and gained trust in the health care system (Maleku & Aguirre, 2014).

Gesink et al. (2014) explained that lack of knowledge of health coverage, health literacy, lack of communication ability, and cultural customs were also some of the barriers that prevented or dissuaded immigrants from learning about preventive health care. Gesink et al. noted that immigrants were unaware of the need for preventive services, and that they feared preventive screening methods. Health care providers reported that eligible immigrant men did not visit their health care providers and that they were mostly underscreened, or never screened, because they were afraid of cultural stigma (Gesink et al., 2014). Many immigrants, however, stated that they focus on

prevention and treatment through diet, exercise, and balancing mental, emotional, physical and spiritual health (Gesink et al., 2014).

According to the "Healthy Immigrant Effect," (Beiser 2005; Urquia, Frank, Glazier, & Moineddin, 2007) when immigrants arrived in the host country they were healthier than comparable native populations, but their health status may have deteriorated with additional years in the country (Constant, García-Muñoz, Neuman, & Neuman, 2015). Sewali et al. (2015) also concluded that immigrant health declined with time in the host country, and accredited the "Healthy Immigrant Effect" to healthier diets, more physical activity, and less exposure to alcohol and cigarette consumption in their country of origin. Immigrants in the Sewali et al. study showed an increased risk of mortality from stroke, diabetes, cancer, and infectious disease with time spent in the host country. Significant differences were noted by country of origin. Similarly, Brzoska and Razum (2014) found that the immigrant's utilization of preventive health care services was highly related to the immigrants' length of stay. Immigrant patients had a higher prevalence of preventable chronic diseases than the majority population.

Team et al. (2013) found that poor utilization of preventive health care services was due to the differences in preventive health care policies in the immigrants' country of origin. Team et al. showed that immigrants had a vague understanding of preventive health care services and a distrust of doctors. Brzoska and Razum (2014) noted that most immigrants had health insurance, but 23% of the participants in the survey study had never used the health care services, including preventive health care services. Chan, Ng, and Van (2010) suggested the removal of barriers that impede access to health care

services and increase access to preventive health care could significantly improve overall health status for immigrant populations.

The literature review to date showed that no studies have examined the barriers to preventive health care services utilization by the growing population of adult immigrants in Michigan. Barriers have not been incorporated into a single cohesive, comprehensive, and inclusive conceptual framework for understanding adult immigrant utilization of free annual physical preventive exams. Understanding adult immigrants' individual and collective barrier factors is important for planning services based on public needs, and preparing health care organizations for the projected growth of diverse immigrant populations.

This study is important for the understanding of the underutilization of preventive health care services among Michigan adult immigrant populations and their traditional health beliefs, health behavior, social support, and system access that may have acted as barriers in access to, and utilization of health care services. The result in this study provides insight into the relationships between individual and collective barriers, factors, and use of preventive health services. This analysis and understanding could improve the utilization of free annual physical preventive exams by adult immigrants not only in Michigan, but by extrapolation, across the United States.

Problem Statement

Health care reform under the ACA has changed the way health care is financed, delivered, and regulated, by expanding general population insurance coverage through multiple insurance vehicles (USDHHS, 2010). According to the USDHHS, the ACA

demands that health insurance plans must provide certain preventive health care services free of charge (USDHHS, 2010). In preventive health care research, Kim et al. (2014) showed that preventive health care services were critically important for the prevention and early diagnosis of physical and mental health problems. According to the American Immigration Council (AIC), immigrants make up 6.2% of the Michigan population, and they come from many different countries, with different languages, cultures, and backgrounds (AIC, 2015; Segal et al., 2010). Benefits of assuring access to preventive health care for adult immigrants will be reflected in savings from reduced hospital utilization, improved health status, and increased satisfaction with health care services (Feinglass, Nonzee, Murphy, Endress, & Aimon, 2014).

Expanding insurance coverage to immigrants may not in itself be sufficient to improve access and utilization of preventive health care services, as other barriers may still prevent adequate and appropriate utilization. The literature review, to date, found no comprehensive approach studies that have examined the barriers to, and utilization of preventive health care services by adult immigrants in Michigan after the passing and implementation of the ACA. This study can be used to improve the body of knowledge in this area, provide more clarity and comprehension of the barriers, make utilization more likely, and bring personal transformation, social change, and better health to adult immigrants in Michigan.

Purpose of the Study

The purpose of this quantitative survey study was to create a comprehensive map of factors that could be used to bring more clarity and understanding to the internal and

external barriers to annual physical preventive exam utilization among the adult immigrant population in Michigan. This study was designed to evaluate the immigrants' individual demographics and behaviors, as well as the collective, cultural, and social system characteristics that may have acted as barriers to free annual physical preventive exam utilization among adult immigrants in Michigan. In this study, I aimed to describe an integrated solution that accounted for all major factors and dynamics that might have acted as barriers to preventive health care service utilization. The findings of this study could contribute to, and build upon previous professional literature, and explore cultural influences in the utilization of free annual physical preventive exams of adult immigrants in Michigan.

Understanding the perceptions of, and barriers to, preventive health care service utilization could help explain why immigrants may or may not engage in preventive health care services. In the study, I aimed to provide some insights for planning and implementing effective strategies that would help improve access to, and utilization of preventive health care services among the immigrant population. The nature of this study (methodology) is detailed below.

Research Questions and Hypotheses

Research Question 1: Is there an association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$1: There is no association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$1: There is an association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Research Question 2: Is there an association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$1: There is no association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$1: There is an association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Research Question 3: Is there an association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$3: There is no association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$3: There is an association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Research Question 4: Is there an association between cultural competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$4**:** There is no association between cultural competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$4: There is an association cultural competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Conceptual Framework

Ken Wilber's Integral Operating System Model for Medicine (IOS) was used to organize and understand helpful information about potential barriers to annual physical preventive exams utilization for adult immigrants in Michigan. According to Wilber (2001), entities such as human beings exist in dual context: individually on their own, as well as part of a collective, and in context distinctions of interior and exterior. Wilber's IOS offered comprehensive knowledge by addressing human diversity, the values of all cultures, systematic issues, and it honored individual development (Wilber, 2004). The IOS offered a structured approach for the most effective way of looking at societal issues and barriers, as well as their interactions with shared systems for this study (Wilber, 2011).

IOS was extremely useful for embracing the complexity of the immigrant population and their utilization of the annual physical preventive exams in ways few other frameworks or models did. IOS covered all the bases and allowed this study to select the most relevant barriers, insuring no barrier was neglected. Immigrants had direct access to experiential, behavioral, cultural, and systemic aspects of their reality because those are actual dimensions of the immigrants own existence (Wilber, 2011). The immigrants who participated in this study thought about the various realities that he/she perceived as a barrier to annual physical preventive exam utilization. This was

useful for immigrants because it empowered them to notice, acknowledge, and interact more effectively with their new world. The immigrants' awareness of their barriers could direct their behaviors in a knowledgeable fashion and increase their utilization of preventive health care services.

This conceptual foundation allowed the identification of barriers that could prevent people from utilizing the annual physical preventive exam, as well as how and where each barrier fits in relation to all the others. This framework also offered insight into the likelihood of success of attempts to eliminate the barrier (Wilber, 2006). This framework focused on both population-level and individual-level factors in order to improve the utilization of the annual physical preventive exams (Wilber, 2011). The framework suggested that it is necessary to act across the individual and collective, as well as external and internal perspectives of the human being in order to determine if an association exists among the different levels of barriers and utilization of the annual physical preventive exams. The framework also suggested that interventions are most likely to be effective when all quadrants and levels are addressed (Wilber, 2006).

For annual physical preventive exams services to thrive, all of Wilber's IOS quadrants must be addressed, thus resulting in a complete model that combines all relevant aspects.

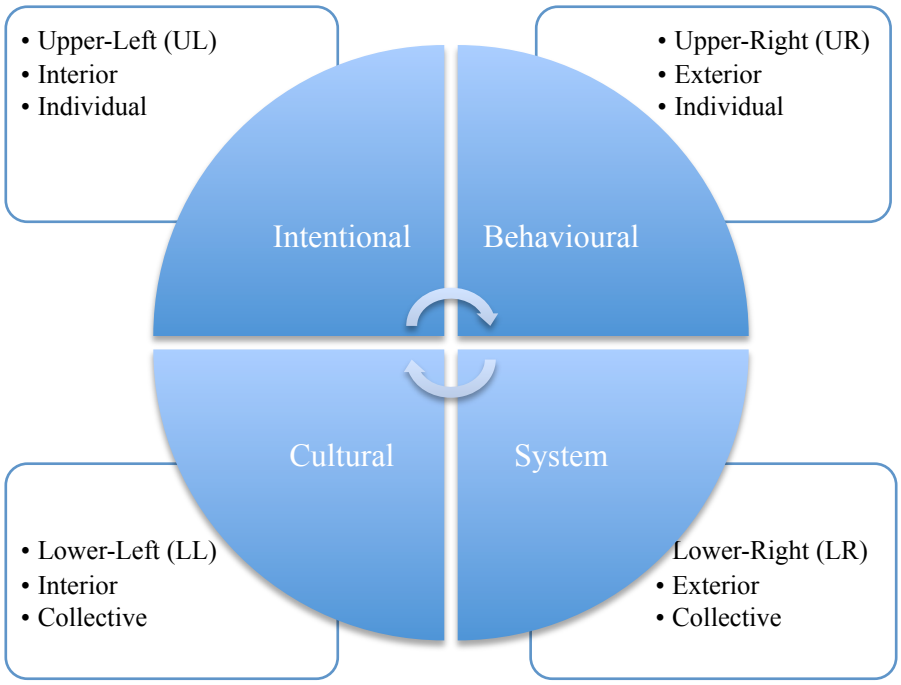

Figure 1. Wilber's Integral Operating System Model Quadrants (All Quadrants All Levels [AQAL] Model)

According to Wilber (2004), when attempting to fully understand any issue, one must analyze the four perspectives of the human being, including:

1. The Upper Left (UL) Quadrant (The Individual-Interior): this quadrant focused on individuals' identities and intentions, particularly those social identities related to demographics, beliefs, attitudes, and socioeconomic factors. The individual-interior played a significant role in causation and outcomes.
2. The Upper-Right (UR) Quadrant (Individual-Exterior): this quadrant focused on individuals' behaviors and behavioral factors including their concepts of fitness, nutrition, and health risk behaviors.

3. The Lower-Left (LL) Quadrant (Collective-Interior): this quadrant focused on cultural values and social and family support. The cultural values and social supports can have a profound impact on how individuals convey, accept, and value preventive health care services.

4. The Lower-Right (LR) Quadrant (Collective-Exterior): this quadrant focused on the values shared by the relevant group, and included the system perspective. The LR quadrant included economics, insurance, and health system delivery, and access that can influence annual physical preventive exams utilization.

According to Wilber (2004), each perspective is relatively independent of the other, but change in one variable could cause a change in the other three in a dynamic interaction. Wilbur looked at the barriers to annual physical preventive exams for adult immigrants in Michigan using the Wilber IOS framework, responses to participant surveys, and the variables identified in the literature review. Wilbur analyzed the immigrants' *individual-interior*, including the immigrant demographic, language, health care beliefs, and socioeconomic factors. Wilbur further analyzed the *individual-exterior*, including the immigrants' self-reports of physical and mental health status, and immigrants' health behaviors. Wilbur also analyzed the *collective perspective*, including social and family support, and health system factors.

The IOS framework was a comprehensive approach, and helped organize knowledge and understanding of immigrants' experiences with the preventive health care system. The IOS framework brought clarity to barriers to preventive health care services, increased personal and community utilization, and increased researchers' knowledge and

awareness of the immigrants' experiences and what motivates them to utilize or fail to utilize the preventive health care system.

Nature of the Study

Immigrants in Michigan responded to a quantitative, cross-sectional survey, and identified individual and collective barriers to utilization of preventive health care service based on the Wilber IOS. In the study, I measured the association between the independent variables and dependent variable. The use of primary data was selected to fill the data gaps in existing statistical and non-statistical data available for the growing population of immigrants in Michigan to better understand immigrants' health care experiences and utilization of the free annual physical preventive exam. The secondary data available was not specific to this study. The absence of some useful data (such as immigrant legal status, immigrants perception of health care services available, the use of interpreter services, and immigrants health beliefs) and data incompatibility, were among the current data production problems in current immigrant data available for this study.

The independent variables were the demographic, language ability, health care belief, socioeconomic status, self-report health status, health behaviors, health literacy, family support and perception of health care use, friends' support and perception of health care use, community support and perception of health care use, and health care system access.

The dependent variable was the utilization of free annual physical preventive exams (adequate utilization, inadequate utilization, or no utilization). Annual physical preventive exam recommended by the CDC and provided as part of all insurance

coverage pursuant to ACA mandate were utilized unchanged. Because there were large numbers of explanatory independent variables, a quantitative survey was the best design for this study.

The participants were English-speaking adult immigrants born outside the United States, currently living in Michigan, and willing to participate and answer survey questions. The snowball sampling method, (a nonrandom participant selection), was used for this study to locate hard to reach immigrants. Community members were used as key informants who could distribute information about this study, as well as recommend community members that fit this study characteristic and were willing to participate in this study. Snowball sampling increased the credibility of the research by identifying the resources within a community to select those people best suited for the survey process (Atkinson & Flint, 2001). The sampling would ensure a diversity of contacts by including different immigrant communities such as Indian, Arab, African, Asian, Pacific Islander, and Hispanic communities.

The speed of the Internet and use of social media was used to expand the geographic area of research throughout the target population, increase the sample size and response rate, lower the cost, and increase the representativeness and confidentiality of the participants in the study (Baltar & Brunet, 2012; Truell, 2003). Additional participants were recruited by asking each initial participant to refer three individuals in their social network who met the eligibility criteria for this study and consent to be surveyed.

Descriptive statistical analyses were carried out for correlation among independent and dependent variables. Logistic regression analyses tested the association of independent and dependent variables and examined the effect of independent variables on annual physical preventive exams. All data analyses were interred and conducted in Mac SPSS Statistics (version 22.0.0.0) to identify barriers that affected Michigan adult immigrants' use of preventive health care services and their satisfaction with such health services when engaged.

Definitions

Access to care: Access to care is the ability to obtain appropriate health care resources in order to preserve or improve individual health. Access to care requires the evaluation of the availability of health care services, the information about access to health care providers, and the barriers to utilization of primary and preventive services including individual and collective barriers (Gulliford et al., 2002).

Acculturation: Acculturation is the process of social changes resulting from continuous interaction between individuals from different cultural backgrounds. These changes include, but are not limited to, learning a new language, creating a new social network, integrating new values, beliefs, attitudes, lifestyle and more (Whittal & Lippke, 2016).

Adult: An adult is a person of legal age of majority in the State of Michigan pursuant to the Age of Majority Act of 1971. Such a person is one who has attained the age of 18 years (MCL 722.52).

Annual physical preventive exams: A scheduled medical evaluation exam of an individual that focuses on preventive care. Annual physical preventive visits includes an age and gender appropriate history, an examination, a review of risk factors and plans to reduce them and the ordering of appropriate immunizations, screening laboratory tests, ultrasound or diagnostic procedures (Virgini, Meindl-Fridez, Battegay, & Zimmerli, 2015).

Demographic factors: Demographic factors refer to sex, age, country of birth, legal status, marital status, education level, and ethnicity of adult immigrants participating in the study.

Health care cultural competency: Health care cultural competency is the process of conducting and providing health care services in a manner that is responsive to the beliefs, interpersonal styles, attitudes, language and behaviors of individuals who are receiving services, and ensuring the maximum benefit (National Center for Cultural Competence, n.d.).

Health Risk Assessment (HRA) by Michigan Department of Health and Human Services: HRA is a two-part document completed by health care services beneficiary and primary care providers. It includes questions about an annual physical preventive exam and a discussion about behavior use and willingness to change including alcohol use, substance use disorders, tobacco use, obesity and immunizations. It also includes the recommended healthy behaviors including annual physical preventive exam, maintaining appropriate BMI, maintaining appropriate blood pressure, cholesterol and blood sugar

monitoring, healthy diet, regular physical exercise and personal prohibition of tobacco use.

Health literacy: Health literacy is the patient's capacity to obtain, process, and understand basic health information and services provided in order to make appropriate health care decisions (USDHHS, n.d.).

Healthy immigrant effect: The Healthy Immigrant Effect refers to the changes in immigrants' health, whereby immigrants are often healthier than nonimmigrants when they first arrive, but their health declines as they become more established in their new host country (Beiser 2005; Urquia et al., 2007).

Host country: Country of destination that has accepted to receive migrants and provide secure and permanent residency status, which immigrants are not natives or citizen, in order to reside (International Organization for Migration, 2008).

Immigrant: An immigrant is an individual who has lived outside the country of birth for more than one year and intent to live permanently in a foreign country (Castles, 2002). For the purposes of this study, immigrants are individuals who were born outside the United States and are currently living in Michigan.

Immigrant legal status: Immigrant legal authorization to reside in the United States, and visa or immigrant classification held by immigrants in the United States. It includes U.S. citizenship, permanent resident alien status, or visa-holding individuals.

Immigrant origin: The immigrant's origin refers to the immigrant's country of birth.

Immigrant perspective: Immigrant perspective is the immigrant's personal view.

Integral Operating System Model of Medicine (IOS): The research model for social research published by Ken Wilber in his book "The Spectrum of Consciousness" (1999) is called the "Integral Operation System Model for Medicine." The model examines four quadrants that have causative and curative aspects to be considered together to give the most comprehensive and clear assessment of the problem and address why it is happening, and how it can be changed and improved (Wilber, 2011).

Interpreter services: Interpreter services are the foreign language to English language translation services provided by health care providers for non-English speaking patients in order to understand the medical process, consent forms, pre-operative or procedure preparation instructions, postoperative or procedure instruction, and prescription labels (Free et al., 2013).

Mental illness: **"**Collectively all diagnosable mental condition that characterized by alterations in thinking, mood, or behavior associated with distress and/or impaired functioning" (USDDH, 1999). Depression and anxiety are the mood disorders that are most pervasive of all mental disorders (CDC, n.d.).

Preventive health care services: Evidence-based health care services recommended by the CDC that are used to prevent illness, disease, and detect illness at the early stage when treatment is likely to work best. Preventive services include screening, check-ups, and patient counseling as recommended by the CDC and provided as part of all insurance coverage pursuant to ACA mandate (Centers for Disease Control and Prevention, n.d.).

Quadrants: The four quadrants of the IOS framework are the upper right (UR), upper left (UL), lower right (LR), and lower left (LL). The four coarising perspective quarters, (individual-interior, individual-exterior, collective-interior, collective-exterior), are not reducible to each other, each provides its own valid claim, and gives four lenses to view aspect of the issue. This study adopts the model by mapping the four quadrants based on the literature reviews and testing it in the context of the research questions stated for this study (Wilber, 2011).

Socioeconomic factors: The socioeconomic factors refer to income and employment status of immigrants participating in the study.

Social support: The network of family, friends, and community members that are available in times of need, and are available to provide social, cultural, psychological, physical, or financial help for immigrants (Lin, Dean, & Ensel, 2013).

The Patient Protection and Affordable Care Act (ACA)

The United States federal statute signed by President Barack Obama in March 2010 to improve the availability and accessibility of quality and culturally competent care for all Americans and legal immigrants, reduce the growth of health care cost, and emphasize the use of primary and preventive care services (USDHHS, 2010).

Utilization of Preventive Health Care Services

The process of seeking professional health care and submitting oneself to the application of regular health services, with the purpose of preventing future health problems and reducing premature mortality (Bauer, Briss, Goodman, & Bowman, 2014).

Assumptions

This study was based on the following assumptions:

1. The ACA increases access to health care, including preventive health care services, by making the recommended and included prevention services and screening accessible and free of charge.
2. Wilber's IOS framework assumes the four irreducible perspective quadrants are considered when attempting to fully understand the barriers to preventive health care service utilization by immigrants.
3. The immigrants participating in this study will answer all survey questions truthfully and to the best of their knowledge. The participants are volunteers who may withdraw from this study at any time and with no negative consequences.
4. The sample is representative of the adult immigrant population living in Michigan. This study used the snowball sampling process, involved different immigrant communities, and surveyed a large number of immigrants.

Scope and Delimitations

Delimitations of this study include:

1. The study was limited to adult immigrants living in Michigan who speak and read English. The result of this study can be generalized to other adult immigrants living in Michigan who speak English. Generalization to other immigrants may or may not be warranted.

2. This study examines the utilization of annual physical preventive exam. Generalization to other health care services may or may not be warranted.
3. The conceptual framework will investigate the immigrant individual and collective factors that can be preventive health care service utilization barriers. Other factors will not be included in the study.

Limitations

The study was limited to the adult immigrants born outside the United States, who speak English, and live in Michigan. As with all self-reported sample surveys, this study data may be subject to systematic error resulting from nonresponsive (e.g., refusal to participate in the survey or to answer specific questions), or measurement (e.g., social desirability, proper line data response, or recall bias), that cannot be eliminated, but it can be minimized by using appropriate model of measurement.

This study utilized the snowball sampling survey method based on individuals' recommendations therefore, people who were not recommended for the survey have not been surveyed. The non-random snowball recruitment of initial and subsequent participants can also result in recruitment bias towards specific demographic respondents who are willing to participate.

This survey study was conducted only in English, excluding immigrants who did not speak English and spoke only their native language. The results of this study were interpreted from Western scientific perspectives and immigrants may hold different views. Other factors, not preconsidered in this study, might cause differentiation or variation in the results.

Significance of the Study

Individual and community cultural beliefs about health, illness, services, and social norms do not disappear when immigrants arrive in a new country or live in a new culture. The understanding of immigrants' beliefs are important to improve health care services and utilization. This research filled literature gaps that remained in terms of understanding the barriers to utilization of preventive health care services from immigrants' perspectives.

The results of this study can provide much-needed insights about the growing immigrant population and a better understanding of their cultural perception of preventive health care, which could improve preventive health care services for immigrants in Michigan. The information can be used to enhance the existing literature on the subject, and bridge knowledge gaps that prevent immigrants from utilizing preventive health care services and assist immigrant-provider communication.

This study could help health care professionals, program directors, and other researchers to understand the essence of health care cultural competence beyond language and attitudes. If preventive health care services were improved, it may indirectly assist providers and the government with ACA mandatory reporting on the race, ethnicity, and primary language of patients served through federally supported and public health programs, and assist providers in reporting appropriate information such that federal programs may improve their ACA mandated analysis of the effectiveness of federal programs serving the needs of minority and immigrant populations. This study could be a force for social change by promoting healthy behaviors in the community, and

encouraging immigrants to use preventive health care services to reduce the occurrence of chronic conditions and increase life satisfaction.

Significance to Framework

The Wilber IOS framework was used to investigate preventive health care service utilization of Michigan adult immigrants and explore their individual and collective barriers to preventive health care service use in an objective and subjective manner following immigration to the United States. The IOS mapped the four quadrants of the model based on survey responses, and assisted the researcher in concluding what barriers exist, and in finding ways to eliminate barriers and improve annual physical preventive exams utilization among Michigan immigrants. The model could explain the immigrants' perspectives, health behaviors, and health attitudes, and determine personal and social meaning that attributes to, or otherwise affects health. In the study, I made recommendations for future research, summarized the immigrant view of preventive health care services and the health care system, and addressed broadly the needed policies and/or programs.

Significance to Practice

Health care policy and service is shaped by many factors, including political, utilization, and social and economic resources (Abrego, 2015). Addressing the needs of the immigrant population has been challenging because of the diversity of immigrants and the fact that recent federal and state laws have restricted access to health care for some immigrants. Health care access differs for those in the immigrant population with legal residents being legally afforded access to government health care programs (based

on qualifiers), and undocumented immigrants, and long-term visa-holders not being as eligible (Abrego, 2015).

Health care providers needed to respond to immigrant patients with cultural sensitivity and competence in order to provide satisfactory, high-quality services. This study provided insight into the relationships between individual and collective barriers, factors and use of preventive health services, and insights for planning and implementing effective strategies that will help improve access and utilization of preventive health care services among the immigrant population.

Significance to Social Change

The United States population continues to grow and diversify, and health care providers continue to face immigrant patients with culturally and ethnically diverse backgrounds. Transforming individual and social health beliefs, and improving health care systems can bring positive social change. This research could assist providers and the government with ACA mandatory reporting on the race, ethnicity, and primary language of patients served through federally supported and public health programs. It could assist providers in reporting appropriate information such that federal programs may improve their ACA mandated analysis of the effectiveness of federal programs serving the needs of minority and immigrant populations, thus contributing to greater information on the effectiveness of the ACA implementation on overall health of the entire population.

Finally, I recommended removing barriers, and improving access and utilization of the preventive health care system. Through identifying barriers to preventive health

care service utilization and understanding Michigan immigrants' perspectives, culture, and health status, this research aimed to improve annual physical preventive exams utilization service access for Michigan immigrants.

Summary and Transition

Immigrant beliefs about health, illness, health care services and social norms are different than the nonimmigrant population and did not disappear when immigrants arrived in the United States. Understanding the growing population of immigrants' individual and collective beliefs can improve preventive annual physical preventive exams utilization. The literature reviews to date showed that no studies have examined Michigan immigrant barriers and utilization of the free annual physical preventive exams. This study was a quantitative survey, using the Wilber IOS framework, and aimed to describe an integrated solution that accounted for all major dynamics that might work as barriers to annual physical preventive exams for immigrants. Chapter two will cover the literature review of the current scholarly reviewed knowledge and methodology used for this study.

Chapter 2: Literature Review

The U.S. Census Bureau (2014) reported 13.3% (42.7 million) people in the United States were foreign born meaning that one in every eight residents was foreign born. According to the AIC (2015), immigrants make up 6.2% of the Michigan population. Immigrants come from different countries, with different languages, cultures, and backgrounds, and varying traditions, values, skills, and expectations (Segal et al., 2010).

Health care reform under the ACA has changed the way health care is financed, delivered, and regulated by expanding general population insurance coverage through multiple insurance vehicles (USDHHS, 2010). According to the USDHHS (2010), the ACA demands that health insurance plans must provide preventive health care services free of charge. Preventive health care services were critically important for the prevention and early diagnosis of physical and mental health problems (Kim et al., 2014). Expanding insurance coverage to immigrants under the ACA, however, may not in itself be sufficient to improve adult immigrant utilization of preventive health care services.

This literature review will discuss the individual interior and external influences, as well as collective internal and external influences in the utilization of the annual physical preventive exams. The literature also discusses the IOS framework of this study. This chapter contains the following sections: (a) literature search strategy, (b) conceptual foundation, (c) conceptual framework, (d) literature review including sections addressing immigrants in the United States, immigrants in Michigan, and interior-

individual (intentional), exterior-individual (behaviors), interior-collective (culture), and exterior-collective (system) factors.

Literature Search Strategy

The literature review showed a wide range of demographic, socioeconomic, social and systemic barriers to annual physical preventive exams for immigrants. The identification and understanding of the personal, social, and systemic barriers for immigrants, in general, helped in the development of a rich, scientific background, and filled a gap in the relevant literature. Additionally, it identified the immigrant communities' resources and built a bridge of understanding for those closest to the problem (Minkler, 2012).

The strategy for the literature review was based on the question: "What is known about the factors that hinder and annual physical preventive exams utilization among the immigrant population?" To answer the literature review research question, articles were identified by searching the Walden Health Science Research database, including Medline, ProQuest, and CIHNAHL. The searches were performed in March and April 2016, and limited to articles published between the years of 2009 and 2016. The databases were searched using keywords that covered the domains *utilization*, *access*, *barriers of health services*, *preventive health care services*, and *immigrants*. The articles were selected from article titles and abstracts. The database search also included *culture*, *health system*, *communication*, *family and social support*, and *duration of stay*.

The included articles were required to contain information pertaining to immigrants, health care, and factors that may hinder utilization of the free annual

physical preventive exams. All types of full-text scholarly (peer reviewed) journals including, qualitative, quantitative, and mixed method research were included in this literature review. Articles defining the type of outcome measures of the barriers that hinder the use of annual physical preventive exams were included in this literature review. Health education articles and articles with only an abstract and no full-text were excluded from this literature review.

Conceptual Framework

Ken Wilber's IOS was used to identify helpful information about barriers to annual physical preventive exams for immigrants in Michigan. Wilber's IOS is similar to the Four Fields of Knowledge model put forward by Ernst Friedrich Schumacher in his 1997 conceptual theory.

Schumacher, in "Guide for the Perplexed" (1997), broke down his Four Fields of Knowledge: Inner I, Outer I, Inner World, Outer World. He further explained that the Inner I quadrant addresses what is going on in an individual's own inner world. The Outer I quadrant addresses others' perceptions of how the individual looks in the eyes of other beings. The Inner World quadrant addresses the individual's perception of what is going on in the inner world of other beings. The Outer World quadrant addresses what the individual actually observes in the surrounding world (Schumacher, 1997). Schumacher's theory, however, did not include culture or acculturation as relevant factors for consideration.

The philosopher and transpersonal synthesist, Ken Wilber, spent more than 25 years creating the "integral" model, by studying the western and eastern work of

hundreds of researchers to finally come up with the complete IOS in 2000 (Voros, 2001). According to Wilber (2004), entities such as human beings exists in dual context, both individual in their own right and as a part of the collective, and in context distinctions of interior and exterior. The interior is subjective to experiences, feelings, and emotions, the exterior, however, is objective and can be measured like height and weight (Wilber, 2000). This conceptual foundation identified how and where each barrier fits in relation to all the others, and also offered information that may lead to the likelihood of success in eliminating the barrier.

The IOS four-quadrant model honored all forms of existence; body, mind, spirit, and soul, as they unfold in self, culture, and nature (Wilber, 2001). For annual physical preventive exams to thrive, all of Wilber's IOS quadrants must be addressed, thus resulting in a complete model that combines all relevant aspects (Wilber, 2005).

Wilber's approach suggested the possibility of a fresh look at the barriers to the utilization of the free annual physical preventive exams for the immigrant population. Wilber's IOS offered comprehensive knowledge addressing human diversity, the values of all cultures and systematic issues, and honors individuals' development (Wilber, 2004). The IOS offered a map for the most effective way to identify and evaluate barriers to issues and problems, and may offer possibilities for a better, more compassionate, and more sustainable future for all individuals, as well as the system (Wilber, 2011).

According to Wilber (2004), there are at least four irreducible perspectives (quadrants) that must be consulted when attempting to fully understand any issue. The

upper left (UL) and upper right (UR) quadrants represent individual development and the lower left (LL) and lower right (LR) quadrants represent the collective (Wilber, 2006).

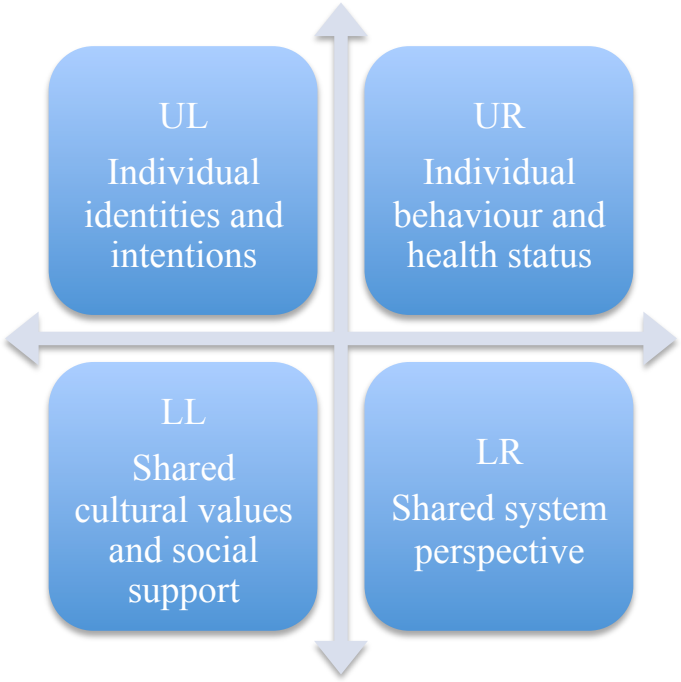

Figure 2. Wilber's Integral Operating System Model Quadrant Elements (Wilber, 2004).

Each quadrant is relatively independent of others, but the change in one quadrant may cause a change in the other three in a dynamic interaction (Wilber, 2004). For example, a change in the health care system through the implementation of the ACA (external), improved the individual (internal) eligibility for annual physical preventive exams like cancer screening and preventive consultation, and also resulted in an individual achieving better health status, improved the collective's experiences, and improved the perception of the collective regarding the preventive health care system, resulting in a positive emotional pattern. The four quadrants have both causative and curative aspects that need to be considered together to give a complete assessment of the

problem (Wilber, 2011). The IOS addresses "why" utilization of preventive annual physical exams is happening at the rate it is, and "how" it can be changed and improved.

Ken Wilber's IOS Quadrants

The Upper Left (UL) Quadrant. The UL quadrant addressed the interior feelings or awareness of an individual's conscious being, and focused on self and identities, particularly those social identities related to race, ethnicity, nationality, religion, sex/gender, sexual identity, and class. It also identified the individual's demographics, socioeconomics, language ability and health beliefs about annual physical preventive exams. The UL quadrant helped evaluate an individual's interior barriers to preventive health care that may have caused immigrants to not utilize annual physical preventive exams.

Some internal identities were based on external, shared system recognition and perspective (LR), whereas others were based on external shared interests or beliefs (LL) (Wilber, 2001). These social identities bridged the quadrant. One cannot identify with a gender, racial/ethnic, sexual, or religious identity in isolation of a social, cultural, or broader societal context (Amodia, Cano, & Eliason, 2005). Dealing with these identities only on the individual level is limiting. Social identities are experienced by the individual (UL), but are rooted in the socio-cultural (LL), and in a broader sense, by the system (LR) (Wilber, 2011).

The Upper Right (UR) Quadrant. The UR quadrant addressed the interior and individual behaviors. The UR quadrant broadened the perspective of internal behavior to include concepts of fitness, nutrition, and biological effects of preventive health care

services such as health risk behavior (Wilber, 2000). The UR quadrant demonstrated the health risk behaviors of an immigrant such as physical activities, nutrition, smoking, alcohol consumption, clinical preventive practices, and existence of chronic conditions. It also addressed an individual's physical and mental health status, including effects from acculturation and the "Healthy Immigrant Effect."

The UR quadrant focus on physical health in isolation was limiting. Wilber's IOS recognized the intersection of individuals' health and attitudes, values, and beliefs with those of the shared community (Amodia et al., 2005). Preventive health care services affected the exterior health behaviors (UR), were reflected in the individual experience (UL), and in shared cultural values and beliefs (LL).

The Lower Left (LL) Quadrant. The LL quadrant addressed the exterior or collective consciousness shared by those who are "in" culture or subculture (Wilber, 2000). The LL quadrant identified the role of social and cultural environment, including the collective values, cultural contexts, and attitudes of family and friends (Amodia et al., 2005). The LL quadrant also addressed an individual's country of birth in the context of medical attention provided there. The LL quadrant looked at the shared values and culture of the immigrant and immigrant population toward annual physical preventive exams, and recognized the power of family and peers' views and support.

The Lower Right (LR) Quadrant. The LR quadrant addressed the exterior collective form of a group, and it focused on nature, the interaction with government and health care systems, and the greater environment of sentient beings or individuals (Wilber, 2000). The LR quadrant focused on the immigrants' collective experiences,

access to and utilization of preventive health care services, and any structure that enhanced integral awareness and integral partnerships to achieve better health. The LR quadrant identified health care system access barriers including the cultural and language competency of the health system. The recognition of system weakness were empowering, increasing the knowledge of health care providers to better understand how policies impact immigrants and the utilization of the annual physical preventive exams, and helped establish social justice (Amodia et al., 2005).

Wilber's stated quadrants arose in isolation, but they all happened together through dynamic interaction. This study evaluated all quadrants of the IOS to evaluate annual physical preventive exams utilization for immigrants in Michigan.

The use of Wilber's IOS framework for this study provided an understanding of immigrant experiences with the health care system, and increased researchers' knowledge and awareness of the barriers that immigrants experience as they affect their interests and motivations for using the preventive health care system.

Literature Review

The use of Wilber's IOS framework presented a core level analysis tool for examining immigrants' views on both the individual's subjective and objective views regarding the individual's lived reality (Voros, 2001). The IOS framework allowed the evaluation of the whole scanning frame (quadrants), and still permitted focus on distinct and limited areas of the overall framework (Voros, 2001).

The IOS framework had been used in many studies because researchers found it to be a unique approach to wellness, behavior change, holistic practice, and healing

(Senzon, Epstein, & Lemberger, 2011). It has contributed to system transformation, personal discovery, and the relationship between the self, social, and cultural factors (Senzon et al., 2011).

The framework was used by Amodia et al. (2005), in a study for addiction. The Amodia et al. study needed a more comprehensive model of etiology and treatment to create health by engaging old and new approaches to health. The IOS approach helped the Amodia et al. (2001) substance abuse researchers address the complex issues of addiction, including biological, social, cultural, spiritual and developmental needs of individuals, system, and the community.

The IOS was also used to develop reorganizational healing methods to assist individuals in discovering who they are in their current situations, symptoms, life challenges, or life evaluations. According to Senzon et al. (2011), the IOS is a map that assists both healer and patient in understanding how patients change, as well as identifying relevant resources available for the patient. In understanding such a map and increasing the integral information, a portrait of change emerges. By understanding an individual's intelligence, wellness of change, and wellbeing, resourcefulness can unfold. The inner and outer of the patient's lifeworld in all four quadrants became more congruent, and new meanings associated with symptoms were connected. Senzon et al. concluded that by understanding individuals and the four quadrants' intelligence, the life becomes more congruent and connected (Senzon et al., 2011).

Honcock and Minkler (2012) stated that the understanding of these identified issues in a survey of the community members developed "rich and most honest answers"

as seen from the perspective of those that the intervention sought to benefit. Additionally, it also discovered community resources and assets, and the barriers to the annual physical preventive exams utilization from those closest to the problem, and it built bridges of understanding and community strength (Honcock & Minkler, 2012). Emergency room physician, William Benda, stated that the IOS was necessary and fundamental to solving the current health care system problems (Schlitz, 2008).

Immigrants in the United States

Migration is an old phenomenon, and the norm in the United States. The United States has attracted immigrants from around the world, with different ethnic, cultural, and linguistic backgrounds. There are 38.5 million foreign-born people in the United States, increasing by 25% between 2000 and 2009, and expected to increase in the future (U.S. Census Bureau, 2010).

Immigrant communities are groups that share minority status in the United States due to ethnicity, place of birth, language, religion, and cultural differences from non-immigrants. Many immigrants practiced different cultural norms and values, and many used different languages at home (Stronks, Glasgow, & Klazinga, 2004). Immigration and relocation from the home country to a host country required extensive adjustment, added stress, and presented barriers to using preventive health care services when the immigrant arrived in the host country (Lum & Vanderaa, 2009). The immigrant utilization of preventive health care services was lower when compared with non-immigrant counterparts (Scheppers, Van Dongen, Dekker, Geertzen, & Dekker, 2006). Immigrants' were still one of the most poorly understood minority groups, whose health

problems and underlying mechanisms have not been adequately identified (Gong, Xu, & Takeuchi, 2012).

Immigrants in Michigan

Latino, Asian, and Arab immigrants account for a large and growing population in Michigan (AIC, 2015). According to the AIC, immigrants make up 6.2% of Michigan's population, and they come from different countries, with different languages, cultures, and backgrounds. Michigan is the home of the highest concentration of Arab Americans in the nation (AIC, 2015). From 2000-2010, over half (54.2%) of the Lansing, Michigan, metro area population gains were immigrants. Immigrants, in general, are young, from developing countries, suffered distress in their country of origin, and are facing challenges in the new communities into which they have settled (AIC, 2015).

Refugees, by comparison, were forced to leave their countries for fear of harm, and resettle into new countries. They are different than immigrants, who were born outside the United States, were lawfully admitted for permanent residence, and may apply for reacquisition of citizenship (8 U.S.C.§ 1101, 2014). Refugees have culturally sensitive organizations to serve them. The refugee services organizations assisted greatly in the process of resettlement, offering them services such as housing and food assistance, and schooling for their children. They also offered them employment, translation, and legal services (Lutheran Social Services of Michigan, n.d.) Because of the sensitive nature of the refugee population, they have been eliminated from this study.

The Patient Protection and Affordable Care Act (ACA)

The ACA changed the way evidence-based preventive health care services have been provided and paid for by health insurance plans, Medicare, and Medicaid. The ACA required these health plans to provide certain preventive measure services with proven effectiveness, with no out of pocket cost to the patient. For the first time, the focus of health care services was on prevention rather than cure, and guaranteeing access to health care services for all Americans and legal immigrants (Cogan, 2011). Lack of insurance was not the only barrier to receiving services. Expanding coverage may not promise better health and utilization of the annual physical preventive exams, as a number of other factors will likely continue to inhibit receipt of preventive health care (Fox & Shaw, 2014).

Preventive Health Care Services

Preventive health care services are evidence-based health care services recommended by the CDC that are used to prevent illness, disease, and detect illness at the early stage when treatment is likely to work best. Preventive services include screenings, check-ups, and patient counseling as recommended by the CDC and are provided as part of all insurance coverage pursuant to ACA mandate (CDC, n.d.).

The utilization of preventive health care services is the process of seeking professional health care and submitting oneself to the application of regular health services, with the purpose of preventing future health problems and reducing premature mortality (Bauer et al., 2014). The CDC (n.d.) stated that preventive services such as screenings, checkups, and patient counseling, could detect illness at an early stage when

treatment is likely to work best. According to the CDC (n.d.), chronic diseases are responsible for 7 out of every 10 deaths among Americans each year. Chronic diseases such as heart disease, cancer, and diabetes account for millions of premature deaths among Americans and 75% of the nation's health spending (CDC, n.d.). Preventive health care screening, along with maintaining a healthy lifestyle such as eating in a healthy manner, exercising, and avoiding tobacco use could reduce or prevent chronic diseases, leading to productive, healthy and satisfied lives, and reduced health care cost. The utilization of preventive health care services in the United States remains low, despite health care costs being as high as $2.3 trillion (Vaidya, Partha, & Karmakar, 2012).

The preventive care recommended by the CDC (n.d.) for all male adults includes:

1. Abdominal Aortic Aneurysm one-time screening for men of specified ages who have ever smoked
2. Alcohol Misuse screening and counseling
3. Aspirin use to prevent cardiovascular disease for men and women of certain ages
4. Blood Pressure screening for all adults
5. Cholesterol screening for adults of certain ages or at higher risk
6. Colorectal Cancer screening for adults over 50
7. Depression screening for adults
8. Diabetes (Type 2) screening for adults with high blood pressure
9. Diet counseling for adults at higher risk for chronic disease
10. HIV screening for everyone ages 15 to 65, and other ages at increased risk

11. Immunization vaccines for adults–doses, recommended ages, and recommended populations vary:
    - Hepatitis A
    - Hepatitis B
    - Herpes Zoster
    - Human Papillomavirus
    - Influenza (Flu Shot)
    - Measles, Mumps, Rubella
    - Meningococcal
    - Pneumococcal
    - Tetanus, Diphtheria, Pertussis
    - Varicella
12. Obesity screening and counseling for all adults
13. Sexually Transmitted Infection (STI) prevention counseling for adults at higher risk
14. Syphilis screening for all adults at higher risk
15. Tobacco Use screening for all adults and cessation interventions for tobacco users

The CDC (n.d.) also recommends the following for adult women:

1. Anemia screening on a routine basis for pregnant women
2. Breast Cancer Genetic Test Counseling (BRCA) for women at higher risk for breast cancer
3. Breast Cancer Mammography screenings every 1 to 2 years for women over 40

4. Breast Cancer Chemoprevention counseling for women at higher risk
5. Breastfeeding comprehensive support and counseling from trained providers, and access to breast feeding supplies, for pregnant and nursing women
6. Cervical Cancer screening for sexually active women
7. Chlamydia Infection screening for younger women and other women at higher risk
8. Contraception: Food and Drug Administration-approved contraceptive methods, sterilization procedures, and patient education and counseling, as prescribed by a health care provider for women with reproductive capacity (not including abortifacient drugs). This does not apply to health plans sponsored by certain exempt "religious employers."
9. Domestic and interpersonal violence screening and counseling for all women
10. Folic Acid supplements for women who may become pregnant
11. Gestational diabetes screening for women 24 to 28 weeks pregnant and those at high risk of developing gestational diabetes
12. Gonorrhea screening for all women at higher risk
13. Hepatitis B screening for pregnant women at their first prenatal visit
14. HIV screening and counseling for sexually active women
15. Human Papillomavirus (HPV) DNA Test every 3 years for women with normal cytology results who are 30 or older
16. Osteoporosis screening for women over age 60 depending on risk factors

17. Rh Incompatibility screening for all pregnant women and follow-up testing for women at higher risk
18. Sexually Transmitted Infections counseling for sexually active women
19. Syphilis screening for all pregnant women or other women at increased risk
20. Tobacco Use screening and interventions for all women, and expanded counseling for pregnant tobacco users
21. Urinary tract or other infection screening for pregnant women
22. Well-woman visits to get recommended services for women under 65

At least 15 free preventive services and one wellness visit were covered on Major Medical Plans sold after 2014 without copays and coinsurance, regardless of whether you had met your deductible yet. Services must have been done in-network to avoid cost sharing.

While adults in general had 15 services covered for preventive care, women had 22 covered services. These services included some of the most important types of prevention like immunizations, mammograms, and wellness visits. Medicare patients also gained some new benefits under the ACA as the 2010 preventive health mandates applied to them as well.

The Michigan Behavioral Risk Factor Survey (MiBRFS)

The Michigan Behavioral Risk Factor Survey (MiBRFS) is a phone survey of Michigan residents aged 18 years and older, which provides the CDC, as well as the state of Michigan, with annual data (Michigan Department of Health & Human Services, 2014). MiBRFS provided various data including health behaviors, health indicators and

diseases, and preventive health care practices (MDHHS, 2014). The MiBRFS presented data results by age group, gender, and race/ethnicity (MDHHS, 2014). However, immigrants made up only 6.2% of the Michigan residence population (AIC, 2015). Due to the small number of immigrant participants included in the MiBRFS annually, immigrants may have been included in the 'others or Hispanic" group, depending on their reported ethnicity (Hekman, Weir, Fussman, and Lyon-Callo, 2015).

Unlike the MiBRFS phone survey, this study recognized the cultural isolation of immigrant communities and aimed to improve external validity based on the variation of samples. The snowball sampling method, a non-random participant selection, was used for this study to locate key informants who could then locate and recruit participants for this study. Snowball sampling increased the credibility of the research by identifying the resources within a community and selecting those best suited for the survey process (Atkinson & Flint, 2001). This study combined other methods of sampling including internet and face-to-face surveys to help increase the variation of respondents in this study and reduce the number of dropouts.

The MiBRFS annual study had no specific data for the growing population of immigrants in Michigan and their utilization of annual physical preventive exams. The absence of useful data (such as immigrant's legal status, perception of health care services available, the use of interpreter services, and health beliefs) were among the current data production problems available. Without the special immigrant sampling, the MiBRFS sample could not reliably estimate health outcomes and behaviors within the immigrant groups. Therefore, a stand-alone survey of adult immigrants in Michigan

needed to be conducted to help identify barriers and evaluate the immigrants' utilization of the annual physical preventive exams. This study was state-specific, immigration population based, and focused on the individual internal and external influences, as well as collective internal and external influences of the annual physical preventive exam utilization.

The four perspectives to this literature review:

The literature review was based on Wilber IOS framework (2001), including:

1. Interior-Individual (Intentional) including the immigrant's perspective, knowledge, age, gender, language, country of origin, immigration legal status, and length of stay in the host country.
2. Exterior-Individual (Behaviors) including acculturation, Healthy Immigrant Effect, and the immigrants' mental health status.
3. Interior-Collective (Culture) including family, friends and ethnic community support and influences, and traveling to the home country for health care services.
4. Exterior-Collective (System) including access, interpretation services, cultural competency of the health care services system.

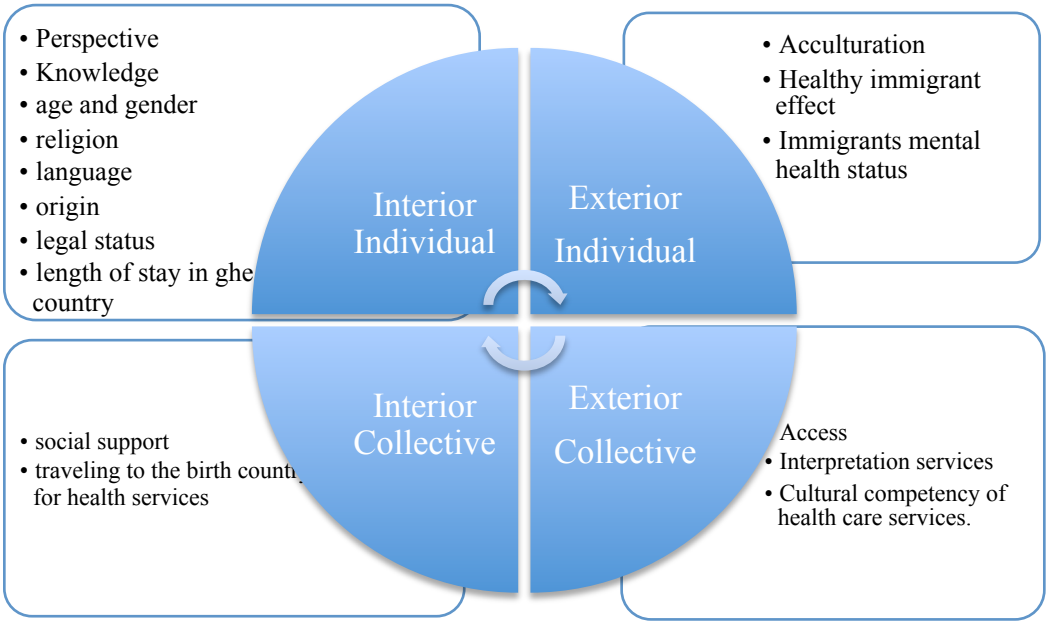

Figure 3. The four perspectives of the literature review.

Internal-Individual (Intention):

The ACA provides for access to health insurance coverage for all Americans and legal immigrants in the United States. Health insurance coverage is an important way to increase receipt of clinical preventive health care services, however, insurance coverage was not the only measure needed to ensure the utilization of preventive health care services. Knowledge and attitudes about preventive health care services contribute to utilization of those services (Frieden, 2014).

Immigrant Perspective. Studies have found significant associations between participation in preventive health care services and interpersonal factors like perceived benefits, effectiveness, susceptibility, and subject of the norm, and are the key to utilization of preventive health care services (Doyle, Lennox, & Bell, 2013). Stewart, Rakowski, and Pasick's study (2009) found that the perceived benefits of preventive

health care screenings were associated with all cultures; however, some immigrants thought that health checks were the responsibility of the doctors. Female immigrants in the Team et al. study (2013), disliked the frequency and nature of preventive health care examinations. Some immigrants had a vague understanding of preventive health care services, they distrusted health care providers, and were likely to establish their own ways to avoid repercussions for failing to present to health professionals (Team et al., 2013).

Knowledge. The U.S. health care system is very different from other health care systems around the world, and it is more complicated and difficult for many immigrants to understand (Aller, Bolome, Waibel, Vargas, Vazquez, 2013). The limited information about health services and unfamiliarity with the system limit the immigrant utilization of the health care system, contributing to behavioral changes after immigration (Aller et al., 2013). Greater awareness of ACA covered services and provisions among immigrants and public health professionals, partners, health care providers, and patients might help increase the receipt of recommended services (Frieden, 2014).

Immigrants reported that they were not knowledgeable about where and how to get health care, including preventive health care services (Choi, 2013). Immigrants in the Choi study (2013) shared feelings of fear and reluctance in using health care services, aggravated by their lack of English proficiency. Immigrants explained that the lack of knowledge of their health coverage, and literacy, communication, and language barriers prevented them from learning about preventive health care services available to them (Gesink et al., 2014). Howe et al.'s study (2016) found that immigrants' lower education

level was also associated with lower medical attention rates, as immigrants with lower education levels were less likely to see a doctor regularly. Unaware of the need for preventive services, not being aware of the related risks, fears about preventive screening methods and efficacy, and never being told the importance of the services were some of the barriers to preventive health care services reported by immigrants (Team et al., 2013).

Age and Gender. Many comparative studies regarding barriers to health care for immigrants, found that age and gender acted as a potential barrier to preventive health care service utilization. According to the Gesink et al. study (2014), stigma and cultural customs were barriers to preventive health screening for male immigrants. Health care providers reported that eligible immigrant men did not visit their health care providers, and that they were mostly under-screened, or never screened because they were afraid of cultural stigma (Geink et al., 2014).

Setia, Quesnel-Vallee, Abrahmowicz, Tousignant, and Lynch (2011) found that female immigrants reported fewer unmet health care needs and delays. The researchers, however, concluded that immigrant women had lower expectations and lower health literacy, and lacked the understanding of appropriate health care services in comparison to non-immigrant women who were aware of their health needs and were vocal about the lack of care (Setia et al., 2011). According to Byrd, Mullen, Selwyn, and Lorimor's (1996) old study, young female immigrants utilized preventive health care less than other immigrants. Female immigrant patients reported being embarrassed and ashamed when pelvic and vaginal examinations were performed by a male or several male physicians (Byrd, Mullen, Selwyn, & Lorimor, 1996).

Migration altered career paths, personal characteristics, and social standing, leading individuals to experience rapid changes, and an increase in their vulnerability to stress (Gong et al., 2012). Studies also showed that immigrants experienced a steeper decline in health after age 50, compared to the native born in old age (Gubernskaya, 2015).

Religion. Religious faith influenced human life and behaviors, including health care behaviors. According to the Washington Times, 84 percent of the world population reported having a religious faith (Harper, 2012). Faith was linked to family planning, child protection, sexual and reproductive health, as well as HIV and abortion issues (Olivier et al., 2015). Although an old study reported positive associations between religious attendance and preventive health care service utilization, (Benjamins, 2005), a later study (Benjamins, Ellison, Krause, & Marcum, 2011) explored the relationship between religious service attendance and preventive services utilization using a nationwide probability sample. Benjamins et al. (2011) study revealed there to be a lack of evidence to show direct effect of religious beliefs on the usage of preventive health care services, however, church-based supported preventive health including immunization, physical activity, and health education (Benjamins et al., 2011).

Language ability. Immigrants arrived to the host country with expectations and dreams, but they soon realized that language barriers and discrimination could limit their opportunities for success. Discrimination based on language proficiency and ethnicity has become more of a barrier to health care utilization, including preventive health care service utilization (Ornelas, Eng, & Perreira, 2011). The recent study of language

proficiency and health status (Schachter et al., 2012), showed a connection between language ability and the immigrants' physical and mental health. Bilingualism was connected to better physical and mental health (Schachter et al., 2012). Presenting prevention information in immigrants' first language improved health literacy, but immigrants with language proficiency presented better ability to receive and comprehend preventive information (Todd & Hoffman-Goetz, 2011). Studies have found that limited ability to speak English is also associated with poor health care service utilization (Gushulak, Pottie, Hatcher Roberts, Torres, & Des Meules, 2011). Another 2012 study showed that immigrant patients had little awareness of interpreter services offered by health providers, and they also lacked trust in translation and interpreters (Ngwakongnwi et al., 2012).

Immigrant origin. The health characteristics of migrant populations varied according to their countries or regions of origin and previous experiences. Jil, Vittinghoff, and Fernandez (2015) suggested that health care providers involved with immigrant populations increase their knowledge and understanding of the nature of the immigration process, including the screening process, and the different demographics of the immigrants they serve. Increasing the health care providers' knowledge would improve responsiveness to primary care and preventive health care services utilization (Jil et al., 2015). The same study also showed that many immigrants seek traditional and alternative forms of health care services before they seek western health care services (Jil et al., 2015).

According to the Gesink et al., 2014, study, many immigrants focused on

prevention and treatment through diet, exercise, and balancing mental, emotional, physical and spiritual health. Some immigrant beliefs included concepts that illnesses were caused by an act of God, karma, magic, or voodoo (Scheppers et al., 2006). Some immigrants believed that mental health should include religious dimensions, and western medicine should be holistic and not just physical (Scheppers et al., 2006).

Immigration legal status. In the United States, illegal immigrants are not covered under the ACA's individual mandate, nor are they entitled to any government program coverage, subsidies, or other benefits associated with the reform (Glen, 2013). The immigrant provision of the 1996 Welfare Reform Act, and the Personal Responsibility and Work Opportunity Reconciliation Act made legal immigrants ineligible for publicly funded services such as Medicaid for the first five years of residence, shifting the responsibility away from the government onto newcomers' sponsors in an attempt to minimize large mainstream cost (Agrawal, 2008). Kandula, Wen, Jacobs and Lauderdale's (2006) study showed many legal immigrants falsely believe that using publicly funded insurance will mar or inhibit their path to citizenship, which may in part explain low rates of utilization of preventive health care services among immigrants.

Length of stay in the host country. Immigrants vary in their duration of stay from newly arrived immigrants, to immigrants who have been in the United States for more than 20 years. The duration of stay affected immigrants' health seeking behaviors, attitudes, and access to preventive health care services. The newcomers needed to learn the health care system in general, and specifically about utilization of preventive health care system services (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010). Immigrant

utilization of preventive health care services among the vulnerable immigrant groups had a strong correlation to the immigrants' length of stay (Brzoska & Razum, 2014; Dias, Gama, Cortes, & de Sousa, 2011). Brzoska (2014) found that patients with a migrant background had a higher prevalence of preventable chronic diseases than the majority population. Even though most immigrants in the 2014 study had health insurance, 23% of the participants in the survey had never used health services, including preventive health care services (Brzoska & Razum, 2014).

External-Individual (Behaviors)

The immigration process was associated with challenging demands, but the post-migration acculturation process could influence health status. Immigrants faced a great deal of stress during the settlement process due to their perceptions, fears, difficult conditions in the new host countries, and their difficult experiences during settlement such as isolation, separation, cultural change, discrimination, unemployment, and lack of income (Markovizky & Samid, 2008). Gaskin, Dinwiddie, Chan, and McCleary (2012) found that health care utilization was related to both individuals' racial and ethnic identity, as well as the racial and ethnic composition of their communities.

According to a 2013 study by Choi, immigrants' health behaviors shifted from preventive health to emergency care. They also extended the practices of self-diagnosis and self-treatment, shared medicine and treatment resources, tolerated pain, and waited longer to seek health care in the U.S., often ending up in the emergency room, rather than a primary care office (Choi, 2013).

Acculturation. Acculturation is a complex, long-term process of social changes

resulting from the continuous interaction between individuals from different cultures. These changes included, but were not limited to, learning a new language, creating a new social network, integrating new values, beliefs, attitudes, lifestyle, and more (Whittal & Lippke, 2016). The acculturation level could impact the effectiveness of public health interventions targeting immigrants (Bermúdez-Parsai, et al., 2012). The affiliation with a new society and the identification with their original culture could result in psychological distress associated with immigrant depression (Berry, 2005).

Some immigrants are bicultural in that they can be actively involved in the new culture, as well as the culture of origin (Bermúdez-Parsai et al., 2012). Acculturation is such an important aspect of immigration that more recent scholarship has included dual language measures as additional indicators of health status, finding a positive association between bilingualism and self-rated physical and mental health (Mulvaney-Day, Alegría, and Sribney, 2007). Acculturation in health research was typically measured using the length of time in the host country, immigrant generation, and language of the interview. Later immigrant generation, and preferred language were representative of higher levels of acculturation (Schachter et al., 2012).

According to Bermúdez-Parsaie et al.'s (2012) study, bicultural immigrants felt more confident, prepared, and comfortable to work within the health care system and with health care professionals, including preventive health care professionals, while drawing on cultural assets that promoted positive health behaviors and health decision making. Low acculturation level immigrants were, however, often unfamiliar with the medical procedures, felt uncomfortable speaking the language, and were less likely to ask

questions related to their health or the health care system (Bermúdez-Parsai et al., 2012). Acculturation was also significantly related to some health behaviors including alcohol consumption (Bryant & Kim, 2013), depression (Berry, 2005), dietary patterns (Lesser, Gasevic, & Lear, 2014), and daily physical activity (Alizadeh-Khoei, Mathews, & Hossain, 2011). Acculturation orientation of immigrants' perceived expectation of their doctors' expectations and perceived quality of care, helped improve the physician-patient relationship, resulting in increasing preventive health care participation, healthier behaviors, and improving the quality of life of the patients (Whittal &Lippke, 2016).

Healthy Immigrant Effect. Many articles reported that immigrants tended to have better health than native-born residents did initially, but with increased time in the host country, immigrants' health status approached that of native-born residents (Acevedo-Garcia et al., 2010; Kennedy, Kidd, McDonald & Biddle, 2015; and Corlin, Woodin, Thanikachalam, Lowe & Brugge, 2014). This is referred to as the Healthy Immigrant Effect. This phenomenon characterized the changes in immigrants' health as previously described (Beiser 2005; Urquia et al., 2007).

The Healthy Immigrant Effect continues to puzzle scholars. The Gushulak et al. (2011) systematic search study found that 90% of immigrants arrived in Canada in excellent health, exceeding the Canadian health status, but their health declined with time. Some credited the Healthy Immigrant Effect to the immigrants' healthier diets, more physical activities, and less exposure to alcohol and cigarette consumption in their country of origin (Corlin, Woodin, Thanikachalam, & Brugge, 2014; Sewali et al., 2015). Others credited the better initial health for immigrants to immigration policies that deny

admission to immigrants with certain health conditions (Gushulak et al., 2011; Fuller-Thomson, Noack, & George, 2011), and some studies concluded immigrants were simply equipped to deal with the migration process well (Sevillano, Basabe, Bobowik, & Aierdi, 2014).

Studies have found that immigrants' experienced a greater decline in health status in the four-year period following their arrival in the host country (Fuller-Thomson et al., 2011; Ng & Newbold, 2011). Immigrants showed increased risk of mortality from stroke, diabetes, cancer, and infectious disease with time spent in the host country, and significant differences have been noted by country of origin (Sewali et al., 2015). The research also showed that immigration has been associated with depression (Lee, O'Neill, Ihara, & Chae, 2013; Gushulak et al., 2011). The first generations of immigrants were less likely to have asthma, cardiovascular disease, lower body mass, lower cholesterol, and lower inflammation (Corlin et al., 2014).

Lee et al. (2013) stated that the change in healthy behaviors led to declines in immigrant health. Increased duration in the U.S. reflected the adoption of unhealthy behaviors, as well as greater exposure to harmful sources of psychosocial stress including racial and anti-immigrant sentiment and discrimination (Lee et al., 2013). Immigrants with limited language ability presented with a decline in health because they felt a sense of isolation and limited communication ability with the general population, as well as difficulty accessing the health system with their limited language skills (Fuller-Thomson et al, 2011). Discrimination was also associated with increased blood pressure, cardiovascular disease, depression, and increased mortality risk (Fuller-Thomson et al.,

2011). Females were more affected by the Healthy Immigrant Effect than men, and showed high-levels of declining health, as well as a high prevalence of depression (Ng & Newbold, 2011; Fuller-Thomson et al, 2011).

Mental Illness. Immigrants experienced major changes and many problems were encountered when arriving in the host countries, including the United States. The relevant problems with immigration included job instability, access to housing, social isolation, discrimination, and more (Landsbergis, Grzywacz, & Lamontagne, 2012). When immigrants were faced with many changes in the new host country, they needed to adjust and adapt to the transformation, and that posed health, physical, and psychological risks (Salinero-Fort et al., 2011).

Studies showed immigrants had poorer mental health than native-born people (Sevillano et al., 2014; Salinero-Fort, 2011). The poorer mental health was associated with the immigrants' high perception levels regarding discrimination and anti-immigrant sentiment, and acculturation stress. It was, however, not associated with low socioeconomic status, lower education level, low income, and type of occupation (Sevillano et al., 2014). Socioeconomic status, however, provided immigrants with resources to reside in better neighborhoods, enabled people to establish and maintain social networks, and afforded people access to better medical care (Gong et al., 2012).

Interior-Collective (Culture)

The immigrant relationship with the preventive health care system and health care providers is complex, however, it is the key element of better health outcomes (Jagosh, Boudreau, Steinert, MacDonald, & Ingram, 2011). The literature review showed that

social support from family, friends, and the immigrant's community, who share a similar background, were important factors that related to the success of the adaptation process of immigrants into the new society, helping their integration in a new environment, as well as in utilizing health care services.

Social support. Social support influenced immigrants' behaviors, including their health care utilization levels (Knight, Rodgers, Reade, Mark, & Hall, 2016). Social support was a source that provided affection, understanding, and opportunities for social participation. According to Salinero-Fort et al. (2011), the social support of family, friends, and immigrants' communities provided information about the host country, and helped in the search of employment and housing. The researcher showed that social support provided access to basic social resources, education, and health care, and provided assistance instrumental in areas such as language acquisition, transport, or processing documents (Salinero-Fort et. al, 2011).

The lack of social support may have negatively influenced the immigrant wellbeing, as studies showed that it increased their stress levels, as well as decreased their health status (Shishehgar, Gholizadeh, DiGiacomo, & Davidson, 2015). The longer an immigrant lived in the new host country, the better language and social adoption they built, and the more social support they gain (Salinero-Fort et al., 2011). Choi's (2013) study identified ethnic networks (e.g. ethnic community and immigrant networks) and ethnic media as sources of health care information and health seeking behaviors. Immigrants reported that their ethnic networks provided alternative adaptive strategies for their health care (Choi, 2013).

The impact of culture showed in other ways, for example, in the definitions of health, illness, and care. Martin's study (2009) found that immigrants' health definitions were different from the western definitions, and that had great influence on the participation in health care seeking behaviors. According to Martins' study (2009), some immigrants lacked trust in modern medicine and their pride kept them from seeking care when they needed it. Schachter et al. (2012) also found that the country of origin and ethnicity affected the health care relationship. Choi (2013) study shows that ethnic network might have been a misleading source of information by providing immigrants misleading information about health care services, and encouraging them to avoid utilizing health care services (Choi, 2013). The researchers also showed that some immigrants delayed using health care services because of their cultural beliefs and lack of similar ethnic doctors (Choi, 2013).

Traveling for Health Care. Choi (2013) study showed that some immigrants tended to use trips to their country of origin for different types of health care needs, including diagnoses, treatment, prescriptions, and preventive screening because of the high medical cost in the United States, especially for the uninsured. Their knowledge of their home country health care system and language made them consider saving money to return home for health care (Choi, 2013). Immigrants facing obstacles to accessing U.S. health care, including preventive health care services, also used their country of birth health services, either from a distance or during visits (González-Vázquez, Torres-Robles, & Pelcastre-Villafuerte, 2013).

Exterior-Collective (System)

Access to Health Care. Immigrants limited knowledge of the health care policies, the availability of insurance programs, and the need for health care services discouraged them from utilizing available health services in the host country, including using preventive health care services (Segal et al., 2010). The ACA removed many barriers to delivering quality health care services including many access barriers to preventive health care services. The ACA attempted to limit the administrative complexity, inaccessibility of clinical data, and insufficient access to primary care (Kocher, Emanuel, & DeParle, 2010). Having health insurance or a higher income was associated with higher rates of receiving these preventive health care services, affirming findings of previous studies (CDC, 2012). Health care access is directly related to utilization of primary health care and preventive health care services, and reducing emergency health care facility visits (Martinez, Ward, Adams, 2015).

Brabcová & Kajanová, (2015) found that immigrant access to health care had improved since the implementation of the ACA, with 77.9% of immigrants having health insurance, and half of the respondents in the study reporting that they had visited their physician in the past 12 months. Benefits providing access to preventive health care for the uninsured, including immigrants, were reflected in savings as a result of reduced hospital utilization, improved health status, and an increase in the satisfaction with health care services (Feinglass et al., 2014). A 2015 study showed that the number of people who delayed preventive care utilization decreased because of improving access to preventive health care services, and because of expanded Medicaid coverage among American citizens and legal immigrants in the United States. This same decrease was

causing a decrease in mortality especially for minorities and residents of poor counties (Choi et al., 2015).

Immigrants reported that they also depended on their primary health providers for advice. Informing and reminding immigrants about preventive health care might improve the utilization of annual physical preventive exams (Team et al., 2013; Cueva, Cueva, Dignan, & Landis, 2016). Primary care physicians are ideally positioned to offer their patients counseling that can help prevent chronic disease. The Katz, Lambert-Lanning, Miller, Kaminsky and Enns (2012) study showed, however, that intensive preventive interventions were not commonly provided. Many physicians were selective about using preventive care questions with their patients during routine visits. They focused on general, widely known questions, like tobacco use, and avoided more sensitive topics like nutrition, weight, and alcohol abuse due to the lack of time (Katz et al., 2012). Participants in the Team et al. study (2013), while being familiar with early diagnosis and preventive measures, still did not attend screenings because they lacked information on when and where this was available, took no initiative to find this out, and waited for their health provider to remind them.

Interpretation Services. With the increased number of immigrants and diversity in the United States, new legal requirements to ensure equal health care treatment of the limited English speaking population were enacted. Under the Civil Rights Act of 1964, "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance" (42

U.S.C. §2000d, 1964). Though interpreter services were not classified as mandatory under the Civil Rights Act, Section 1905(a) of the Social Security Act, made the recipients of federal funds responsible to ensure that health care services were delivered without language barriers, including providing interpreter services to assure that individuals who have limited English proficiency had meaningful access to medical services (USDHHS, 2003). Despite the federal right to language access for non-English-speaking patients in health care settings, the law has not yet been enforced in the health care setting in any meaningful way, except through pursuit of medical malpractice cases against providers as it impacted the patients' rights to informed consent (J. Janeway, personal communication, October 28, 2016). Many health care providers were not aware of their responsibility, had not prioritized the issue, or had not been held accountable for failing to address the language issued in their health practice or facility (Chen, Youdelman, & Brooks, 2007). Immigrant patients had shown little awareness of interpretation services offered by health providers, and expressed that they lacked trust in the translation and interpreters (Ngwakongnwi et al., 2012).

The language barrier prevented immigrants from understanding their diagnoses and asking questions, and immigrants reported that they felt a lack of support and alienation from the health system in general (Maleku & Aguirre, 2014). According to Ngwakongnwi et al. (2012), lack of communication between patients and health care providers due to patients' poor English language skills jeopardized effective communication between immigrant patients and health care providers, affecting patients' confidence. The lack of the communication ability with the health care providers also

left patients feeling neglected and detached from the health care system, adding emotional stress before and during doctor visits, and causing misunderstandings that could present medical risks (Ngwakongnwi et al., 2012).

Health care providers, including midwives, nurses, social workers, and doctors, also noted the complexity of delivering expected care to immigrants with limited English language ability (Ng & Newbold, 2011). Immigrants with limited English ability were significantly less likely than English-speaking immigrants to receive preventive care and reported fair or poor perceived health status (DuBard & Gizlice, 2008).

Cultural Competency Health.

The U.S. spopulation is becoming more diverse, and health care professionals are interacting with patients from different cultural and linguistic backgrounds every day. Health care organizations must realize how important it is for their organizations and staff to understand the culture and linguistic needs of immigrants and respond to their patients' needs with sensitivity. The National Center for Cultural Competence (NCCC) (2006) requires health care organizations to adopt a defined set of values and principles and demonstrate policies that enable them to work in an effective cross-cultural manner with immigrant patients. The NCCC recommends that health organizations incorporate a strategy that emphasizes and values diversity, that organizations conduct self-assessments, manage the dynamics of difference, acquire and institutionalize cultural knowledge, and adapt to diversity and the cultural contexts of the communities they serve (National Center for Cultural Competence, 2006).

Culturally competent health care should go well beyond language and culture. It should deliver the highest quality of care to every patient and cover the populations' unique cultural needs by being compassionate, supportive, and understanding of patient condition, regardless of race, ethnicity, cultural background, or English proficiency (Maleku & Aguirre, 2014). Providing culturally and linguistically sensitive service to immigrant patients can improve access and quality of health care, and health outcomes (Healthy People 2020, n.d.). Through the understanding of patients' unique beliefs and perceptions of health and how symptoms are interpreted, the Healthy People 2020 project aimed to achieve its goals by reducing barriers to annual physical preventive exams (USDHHS, 2010).

Maleku and Aguirre's (2014) qualitative study found that immigrants who had negative experiences with health care reported feeling disrespected, discriminated against, helpless, and perceived a lack of power and control. They expressed a perceived lack of compassion and understanding by health care providers and others in the health care system. The immigrants' negative experiences left them feeling alienated from the health system, lacking trust, and experiencing health disparities (Maleku & Aguirre, 2014). Suurmond, Uiters, de Bruijne, Stronks, & Essink-Bot's (2011) study found that most negative experiences were associated with the inadequate exchange of information between patients and health care providers, disagreement about the medical procedures, and feeling mistreated by health care providers.

Maleku and Aguirre (2014) found that immigrants who had positive lived experiences in the health care context felt respected, valued, and empowered, they gained

trust in the health care system, and they experienced more health care equality. The research concluded that integration of cultural competence in health care could improve health care quality across all cultures (Maleku & Aguirre, 2014).

Summary and Conclusions

The ACA provided access to insurance for all Americans including legal immigrants (USDHHS, 2010). The participating insurance plans must provide certain preventive health care services free of charge that help in early detection and diagnosis of preventable physical and mental health issues, and improve the quality of life. Expanded insurance coverage for immigrants under the ACA was not sufficient to improve utilization of preventive health care services for immigrants, as there may be other barriers to utilizing preventive health care services.

Ken Wilber's IOS was the framework for this study. It was used to identify from the literature review and evaluate barriers reported by study participants and test them against annual physical preventive health care services utilization by the immigrants in Michigan. The literature review followed the IOS framework and found studies and literature addressing both internal and external individual factors, as well as internal and external collective factors relating to participation in the utilization of preventive health care services by immigrants.

The literature review result demonstrated many individual and collective factors that contributed to the utilization of the health care system by immigrants, however, none of the literature used the Wilber IOS to offer a complete assessment of the problem or recommendations for possible improvement. Even though Michigan has one of the

highest immigrant populations, there were no similar comprehensive studies ever performed in Michigan. The literature review shows a need for preventive annual physical exams among immigrants in Michigan after the ACA. Chapter three will be discussing the quantitative research methodology used to analyze data collection for this study through the related immigrants' annual physical preventive exams survey.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to evaluate the intentional and behavioral factors, as well as the collective cultural and systemic characteristics that might have acted as barriers to annual physical preventive exams utilization among adult immigrants in Michigan. This study aimed to describe an integrated solution that accounted for all major dynamics that might work as a barrier to preventive health care service utilization by this population. The objective of this chapter is to describe the methodology used to examine the utilization of preventive health care services by adult immigrants in Michigan. This chapter contains the following sections: (a) research design and rationale; (b) methodology; (c) data analysis plan; (d) threats to validity; ethical procedures, and (e) summary.

Research Design and Rationale

Immigrants in Michigan were administered surveys designed to explore their barriers to utilization of preventive health care services. Based on the Wilber IOS, the immigrant individual and collective perspectives were considered to be potential explanatory variables of the association between immigrants and annual physical preventive exams utilization. The variables for this study were derived from the Wilber IOS and the recent literature review. The variables were assigned to the quadrants of conceptual framework as set forth below.

Independent Variables

Michigan adult immigrants' potential barriers to the utilization of preventive health care services were the independent variables for this study. The independent variables were based on variables identified in the literature and those variables were then allocated to the appropriate component of Wilber's IOS framework.

Table 1

The Independent Variables in theis Study

Independent Variable	Details
Upper Left (UL) Quadrant: Interior-Individual (Intention)	
Demographics	Sex (male or female), age, marital status (married, divorced, widowed, separated, or never married), education level (never attended school or only attended kindergarten, grades 1 through 8 (elementary), grades 9 through 11 (some high school), grade 12 or GED (high school graduate), college 1 year to 3 years (some college or technical school), college 4 years or more (college graduate), employment (employed for wages, self-employed, out of work for 1 year or more, out of work for less than 1 year, a homemaker, a student, retired, unable to work), annual household income (in dollars), the number of children less than 18 years of age living in the household, length of time living in the United States (in years), immigration legal status (citizen, green card holder, visa holder, undocumented, do not want to say).
Language skills	Language ability (not able to communicate, slightly able to communicate, somewhat able to communicate, moderately able to communicate, extremely able to communicate).
Knowledge	Knowledge about local preventive health care programs (yes, no, don't know/not sure).
Health care beliefs	View of importance of preventive health care visits (extremely important, moderately important, neutral, slightly important, not at all important).

(table continue)

Independent Variable	Details
Upper Right (UR) Quadrant: Exterior-Individual (Behavioral)	
Health status	Perceived health status (excellent, very good, good, fair, poor), chronic health condition (yes, no, do not know), stress level in the past 30 days (almost every day, sometimes, rarely, never), how often does poor physical or mental health prevent or hinder participant from performing their usual activities (in days), the number of days during the past 30 days the participant's mental health was not good (in days).
Healthy Immigrant Effect	The perceived physical and mental health status compared to when participant first moved to the United States (much better, somewhat better, about the same, somewhat worse, much worse, don't know/not sure).
Health behaviors	Getting healthy nutrition and exercise (every day, 3-6 times a week, 2-1 times a week, never), smoke cigarettes or other tobacco products (yes, no), alcohol consumption (yes, no, do not know/not sure), using traditional treatment as an alternative to health care system (yes, no, don't know).
Lower Left (LL) Quadrant: Interior-Collective (Cultural)	
Social Support	Have family and/or friends in United States (yes, no), support received from family, friends, and community (always, usually, sometimes, rarely, never), satisfaction with social support (very satisfied, satisfied, neutral, dissatisfied, very dissatisfied).
Health care visit in country or region of birth	Takes trip to their birth country for health care (yes, no, don't know).
Lower Right (LR) Quadrant: Exterior-Collective (System)	
Access to health care system	Health care insurance, access to services and doctors (yes, no, don't know), employer allows participant to leave work for preventive health care appointments (yes, no, don't know/not sure), has a primary health care provider (only one, more than one, no, don't know/not sure), when in need of medical attention utilizes (emergency services, primary doctor, or urgent care)

(*Table continue)*

Independent Variable	Details
Interpretation services	Knowledge about the availability of interpreter or translation services for health care services (yes, no, don't know), has utilized interpreter or translation services for health care services (yes, no, don't know).
Cultural competency	Participant experience with cultural awareness and understanding of patient's culture in health care services (excellent, very good, good, fair, poor, have not had any experience)

Dependent Variable

The dependent variable was the immigrant's utilization of annual physical preventive exams. An annual physical preventive exam is measured by the routine checkup (with in the last year, between 1-3 years, more than 3 years) (MDHHS, 2014). Preventive health care service utilization questions were based on the evidence-based health care services recommended by the CDC as provided by the ACA compliant health care insurance plans, and align with the 2015 Michigan Behavioral Risk Factor Survey question 3.4 (Fussman, 2015).

The Research Questions and Hypotheses

The survey results answered the following quantitative research questions:

Research Question 1: Is there an association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$1: There is no association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$1: There is an association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Research Question 2: Is there an association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$1: There is no association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$1: There is an association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Research Question 3: Is there an association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$3: There is no association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$3: There is an association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Research Question 4: Is there an association between cultural competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$4**:** There is no association between cultural competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$4: There is an association cultural competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

The use of the IOS framework in this quantitative study provided a richer and more comprehensive analysis of the many variables affecting immigrants' utilization of preventive health care services in Michigan, and delivered more sophisticated and effective responses to the immigrants' behavior, culture, social and environmental challenges.

Methodology

Adult immigrants living in Michigan were invited to complete a survey that asked questions identifying their barriers to utilizing preventive health care services. The four components of Wilber's IOS framework were addressed in the survey as follows.

1. The Interior-Individual (Intentional): immigrant demographics checklist as set forth in Table 1.
2. The Individual Exterior (Behavioral): immigrant physical and mental health status, and health behaviors as set forth in Table 1.
3. The Interior-Collective (Cultural): immigrant social support network of family, friends, and ethnic community membership, and the support available in the times of need as set forth in Table 1.
4. The Exterior-Collective (System): access to the health care system, awareness of availability of preventive health care services, knowledge and

utilization of the interpreter or translation services, evaluation of health care cultural competency as set forth in Table 1.

Population

The study population was calculated using SPSS Statistics (version 22.0.0.0), G*Power 3.1, Survey Monkey Inc, Calculator.Net, and Raosoft Sample size calculator. The calculation took into consideration the population of total Michigan immigrants 636,596 and subtracted the 22.4% under 18 and the 15.4% over 65. The total eligible Michigan immigrants' participants for this study were 365,945. The sample size was calculated to be 269 Michigan immigrants, based on 90% confidence level and a 5% margin of error. In this study, I aimed to get more Michigan immigrants' participants to answer its survey question, however, because in this study I used the snowball sampling method for recruiting participants, increasing the number of participants might have aggravated participants, increased cost, and complicated the recruiting process.

Each respondent should have met the following criteria to participate in this study: must be (a) born outside the United States, (b) 18 years of age or older, (c) English speaking, (d) willing to participate and answer survey questions, and (e) living in Michigan.

Sampling and Sampling Procedures

The sample size was calculated based on the power of 0.9 and α of 0.05. According to U.S. Census Bureau (2010), Michigan's population is 9.922 million, and 636,569 are immigrants born outside the United States, 22.4% under 18, and 15.4% over 65.

The snowball sampling method, a non-random participant selection, was used for this study to find key informants who could locate and recruit participants for this study. Using this approach, community members were contacted and asked to recommend a community member who fit this study and was willing to participate in the study. After identifying individuals with the desired characteristics, the individuals were invited to participate in the survey. Snowball sampling increased the credibility of the research by identifying the resources within a community and selecting those best suited for the survey process (Atkinson & Flint, 2001).

Community members were the best initial contact because they have the most contact within immigrant communities. The participation process was drafted prior to the sampling to encourage participation from potential contacts. The sampling ensured a diversity of contacts by including different immigrant communities including Asian, African, and Hispanic communities, among others.

Procedures for Recruitment, Participation, and Data Collection

Community members volunteers, through their networks, were able to recommend eligible respondents, identify hard to approach members, nominate participants who were willing to volunteer their time, and make participants feel comfortable (University of Kansas, 2012). Information and announcements about this study were disseminated at immigrant community social activities, and via electronic bulletin boards, Facebook, text massages, and by word of mouth. The speed that information travels across the internet and through social media sources allowed for an expanded geographical distribution of respondents throughout Michigan, increased

sample size and response rate, lowered cost, increased representativeness, and increased confidentiality of the participants in the study (Baltar & Brunet, 2012; Truell, 2003). Additional participants were recruited by asking each initial participant to refer three individuals in their social network who met the eligibility criteria for this study and consent to be surveyed. Those participants were also asked to refer three additional individuals to participate in the survey study.

The participants were presented with an informed consent document explaining the reason for this study, the risks and the potential benefits, the level of confidentiality, and the participant's right to withdraw consent without penalty (National Research Council, 2010). The participants agreed to participate after they fully understood the study and their rights, and before they began answering the electronic survey (Duke University, n.d.).

Pilot Study

The survey questionnaire was pre-tested in a pilot study for reliability and validity involving 12 Michigan immigrant volunteers, who met the same criteria as the target immigration population. The pilot study was administered to participants the same way that it was administered in this study. The participants were asked for feedback to identify confusing, difficult, or uncomfortable questions. In addition, the time taken for immigrants to complete the survey was recorded by the survey website (SurveyMonkey). The desired time for this survey was no more than 15 minutes. The feedback, as well as the average time taken for completion of the survey, was taken into consideration and unnecessary questions were discarded. The pilot study gave an advanced warning about

what questions might be complicated, inappropriate, or uncomfortable for immigrants to answer. Based on the pilot study feedback, changes were made and IRB approval was obtained.

Data Analysis Plan

In this study, I measured dependent and independent variables. Descriptive statistical analyses were carried among the independent and dependent variables. Based on the IOS, below are the independent variables included in this study:

1. The Interior-Individual (Intentional): immigrant demographics checklist as set forth in Table 1.
2. The Individual Exterior (Behavioral): immigrant physical and mental health status, and health behaviors as set forth in Table 1.
3. The Interior-Collective (Cultural): immigrant social support network of family, friends, and ethnic community membership, and the support available in the times of need as set forth in Table 1.
4. The Exterior-Collective (System): access to the health care system, awareness of availability of preventive health care services, knowledge and utilization of the interpreter or translation services, evaluation of health care cultural competency as set forth in Table 1.

The T-test evaluated the frequency, percentage, mean, and standard deviation, which was used to describe all independent variables and the dependent variable (annual physical preventive exams of Michigan immigrants) participating in this study. The multivariate analysis was also used to evaluate the association between the independent

variables and the annual physical preventive exams utilization. The findings were summarized and the use of graphs explained the data analytic of SPSS techniques to clarify the results.

Multivariate regression analyses were carried out to analyze data for this study to predict the probability of dependent variables (the utilization of preventive health care services). A multivariable model allowed multiple independent variables to be assessed in relation to the outcome while adjusting for potential confounders (Hidalgo & Goodman, 2013). Stepwise regression was added to provide evaluative power and information for the large number of potential independent variables. The results from the logistic regressions were presented as odds ratios (OR) with an 80% confidence interval (80% CI). All data analyses were conducted in Mac SPSS Statistics (version 22.0.0.0).

Threats to Validity

External Validity

Immigrants live in highly concentrated communities across the United States, often segregated from mainstream society (Logan, Zhang, & Alba, 2002). Immigrant communities share co-ethnicities of similar economic standing, live in close proximity from each other, form close ties with co-ethnic families and friends, preserve aspects of ethnic culture such as language, customs, religious beliefs, lifestyle, and so on (Desmond & Kubrin, 2009). Community members and residents reconstruct mini-homelands, which reflect and reinforce the culture of their constituencies, thus building community (Juan, 2005).

This study recognized the cultural isolation of immigrant communities and aimed to improve external validity based on the variation of samples. This study conducted a snowball sampling from different immigrant populations rather than using one immigrant population in Michigan. The sampling method included the community leader's recommendation, information distribution in the communities, immigrant participants' referrals, and social media recruitment to increase sample variation. The Internet survey options increased the variation of respondents in this study and reduced the number of dropouts.

Internal Validity

Many of the survey questions were taken from the Michigan Behavioral Risk Factor Survey (MiBRFS), an annual, statewide telephone survey of Michigan adults aged 18 years and older that is conducted through a collaborative effort between the Population Health Surveillance Branch (PHSB) of the CDC, the Michigan State University Institute for Public Policy and Social Research (MSU IPPSR), and the Michigan Department of Health & Human Services (MDHHS) (Michigan Department of Health & Human Services, 2014). MiBRFS contributed to the CDC's national BRFSS that is composed of stated behavioral risk factor surveys conducted within every state, the District of Columbia and several U.S. territories (MDHHS, 2014).

Some of the individual behavior and health status questions were also adopted from the Health Risk Assessment (HRA) form developed from the Healthy Michigan Plan (form DCH-1315) (Fussman, 2015). The form was designed as a two-part document, for which the beneficiary completed the first part and the primary care

provider completed the second. HRA questions covered a wide range of health issues including alcohol use, substance use, tobacco use, obesity, and immunization (Fussman, 2015). However, this survey study was focused only on the Michigan immigrant population and variables associated with an immigrants' utilization of preventive health care services, such as social support, language, legal status, and length of stay in the country in order to evaluate the acculturation, Healthy Immigrant Effect, and the cultural competency of the health care system in Michigan. Unlike the demographics checklist, health care behavior, health status, and health access questions, the MiBRFSS nor HRA did not validate the specific immigrant variables.

Construct Validity

The construct validity was supported by both exploratory and confirmatory variables analyses. The total variance was explained by the responses to the survey. Based on the Wilber IOS, the four integral parts each assessed a different type of barrier, including individual perspective, health behavior, health self-evaluation, social support, and health care accessibility. The four quadrants were independent of each other, but the change in one of quadrant precipitated changes in the other three. The four components/quadrants of the IOS were clearly demonstrated in the survey. In this study, I removed low loading variables that had no association with annual physical preventive exams utilization for Michigan immigrants, and the remaining items were evaluated to identify and assess the barriers to annual physical preventive exams utilization in this study.

Examples of items in the survey instrument included "Do you have family in the United States?" (social support); "Compare your health when you first moved to the U.S. to your health now?" (Healthy Immigrant Effect); "Do you have a primary care doctor?" (access to health care); and, "In general, how would you rate the care you received during the last visit to the doctor?" (health care system evaluation).

Ethical Procedures

The federal policy for the protection of human subjects (45 CFR 46 et seq.) requires all research involving human subjects be protected, safe, and that participants engage willingly and knowingly with appropriate informed consent. This research survey aimed to provide a very ethical study by including only adult immigrants in Michigan, and did not target any one group or vulnerable individual. This research was monitored and approved by Walden University Institutional Review Board (IRB) before surveying the immigrants to assure that ethical procedures and federal policy were followed. The survey was collected through the internet to avoid socially desirable responses, bias, proper line data, or any additional conflict of interest ethical issues that may have arisen. Even though this study was non-experimental and the participants were not manipulated, the ethics exist but are less complex.

Informed consent is mandated by the government and was obtained before the survey was conducted in order to protect the participants' privacy and confidentiality of data, and to ensure that participants were aware of the risk, benefits, and other relevant information associated with participation in the study. In this study, I obtained informed

consent from each participant before the commencement of the survey with that participant.

The participants of this study were fully informed of the purpose of this study, the level of confidentiality, as well as the anonymous nature of responses, how the results were intended to be used, and who would have access to the data (APA, 2002). In this study, I did not place the participants at risk of criminal or civil liability and did not cause damage to the financial standing, employability, or reputation of the participants in this study in compliance with federal policy as set forth in 45 CFR § 46.101(b)(2).

The research was also responsible for noting participant's projected time involvement and only collected data useful for this study (Bacon and Olsen, 2003). Subjects of this study chose whether or not to participate in the survey after a full understanding of the purpose of this study, and had the right to withdraw at any time (USDHHS, 1993). The survey questions were aligned with the research questions to collect effective and useful data for this study. The privacy, safety, and rights of the participants were closely watched and protected by this study through the IRB and this researcher's vigilant observations.

Summary

In this study, I addressed the barriers to utilization of preventive health care services for adult Michigan immigrants. It was a non-experimental, quantitative study based on the Wilber IOS. Adult immigrants living in Michigan answered a survey based on the IOS framework that considered the individual and collective potential barriers (independent variables) and annual physical preventive exams utilization (dependent

variable) to diagnose challenges and recommend appropriate solutions to the identified barriers to preventive health care services. The immigrants were recruited through a snowball sampling recruitment process from different immigrant populations, using both the internet and face-to-face survey completion methods in order to expand the geographical coverage area within Michigan, increase the sample size, lower the cost, increase the representative nature of this study, and increase the confidentiality of the participants in this study. Descriptive and logistic regression analyses using SPSS were used to analyze the resulting data.

Chapter 4: Results

Introduction

The purpose of this quantitative survey study is to bring more clarity and understanding to the internal and external barriers to annual physical preventive exam utilization among the adult immigrant population in Michigan. I designed this study to evaluate the individual demographics and behaviors, as well as the collective cultural and systemic characteristics that might act as barriers to free annual physical preventive exam utilization among adult immigrants in Michigan. In this study, I aimed to describe an integrated solution that accounts for all major factors and dynamics that might act as barriers to preventive health care service utilization. Understanding the perceptions of, and barriers to preventive health care service utilization could help explain why immigrants may or may not engage preventive health care services.

There are four research questions to this study:

Research Question 1: Is there an association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$1: There is no association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$1: There is an association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Research Question 2: Is there an association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$1: There is no association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$1: There is an association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Research Question 3: Is there an association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$3: There is no association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$3: There is an association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Research Question 4: Is there an association between cultural competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

$H_0$4**:** There is no association between cultural competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

$H_1$4: There is an association cultural competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan.

Chapter four contains the following sections: (a) pilot study, (b) data collection, (c) study results, and (d) summery.

Pilot Study

The survey questionnaire was pre-tested in a pilot study for reliability and validity after receiving IRB approval. The pilot study involved 12 Michigan immigrant volunteers, who met the same criteria as the target immigration population. The pilot study included Asian, Canadian, European, and African participants. The initial context of the pilot study included information about this study (the study background, participant's eligibility, purpose, and procedure explaining the voluntary nature of the study, the risk, and the contact information). The volunteers were provided a link to this study survey via e-mail. The participants were asked for feedback to identify confusing, difficult, or uncomfortable questions. SurveyMonkey, an online survey development software company, recorded the time taken for immigrants to complete the survey. The pilot study participants suggested a change in the order of the questions and eliminating some of confusing answers. The desired time for this survey is no more than 15 minutes. The average time taken for completion of the pilot survey was 11 minutes. The time, as well as the feedback was taken into consideration and unnecessary questions were discarded. The IRB review and approval was granted after the submission of Request for Change form for approval.

Data Collection

Data collection took about six weeks, with a total of 325 participants completing the survey. Prior to this study, the required sample size was calculated to be 269 Michigan immigrants, based on 90% confidence level and a 5% margin of error. Participants were recruited through e-mailing the survey invitation and the survey link to a list of friends and coworkers, inviting different community members through text messaging invitation including the survey link, and posting calls for participants via social media including Facebook, Instagram and LinkedIn. Data were also collected from hard to reach participants including new immigrants and refugees through personal invitation. The participants also received a reminder e-mail and text a week after they got the invitation asking them to complete the survey and share it with friends and family.

The average survey took about 11 minutes. The estimated recruitment and response rate was 28%. I rejected 36 surveys including incomplete surveys (6%) ineligible survey data (5%), and late responses (2%) submitted after the completion of the survey analysis. The ineligible survey data included surveys completed by people who did not fit the eligibility criteria for this study, including people who were born in the United States or people who were less than 18 years of age.

Study Results

Demographics

All participants were immigrant adults over 18 years of age living in Michigan. 43.0% were male, and 57.0% were female. The average age was 40.7 years of age. The participants were born in different continents including Africa (Morocco, Egypt. Algeria,

Sudan, Somalia, Nigeria), Asia (Lebanon, Iraq, Laos, Palestine, Syria, China, Saudi Arabia, Pakistan, Israel, Jordan, Yemen, South Korea, Afghanistan, India, Qatar, Bangladesh, United Arab Emirates, Oman, Kuwait, Kazakhstan, Russia, Korea, Iran), Australia, Europe (Italy, United Kingdom, Ukraine, Poland, Romania, Turkey, Greece, Germany, Spain, Ireland, France, and Czech Republic), Canada, and Latin America (Mexico, Cuba, Brazil, and Panama). The time living in United States reported by the surveyed participants was between one to 60 years (15.8 ±12.1). The legal status varied, including 61.9% U.S. Citizen, 18.6% Green Card holder, 17.2% Visa holders, and 1.0% Undocumented. Marital status varied, 65.6% of participants were married, 22.7% were single, and the rest were 11.7% divorced/widowed/separated.

The survey also included employment and household income. The results showed that 43.3% were employed for wages, 12.0% were self-employed, 17.9% were students, and 27.1% are homemakers/retired/not able to work. The mean income was $59,739. 89.0% participants had high school education or higher, and 43.4% had a bachelor's degree or higher (Table 2).

Table 2

Frequencies of participants by demographics (n = 291)

	n	Percent
Country of Origin		
Asia	169	41.9%
Africa	50	17.2%
Latin America	34	11.7%
Europe	30	10.3%
Canada/Australia	8	3.0%
Marital Status		
Married	191	65.6%
Divorced/Separated/Widowed	34	11.6%
Single, never married	66	22.7%
Legal Status		
Don't know/unsure/Undocumented	6	2.0%
U.S. citizen	180	61.9%
Green card holder	54	18.6%
Visa holder	50	17.2%
Education Level		
High school degree or Less	94	32.3%
More than high school degree	197	67.7%
Employment Status		
Employed	126	43.3%
Self-Employed	35	12.0%
Student	51	17.5%
Retired/not working/homemaker	79	27.1%
Income		
Less than $20,000	85	29.2%
$20,001 to $34,999	55	18.9%
$35,000 to $49,999	36	12.4%
$50,000 to $74,999	39	13.4%
$75,000 or higher	67	23.0%

Results

The dependent variable for this study was immigrant utilization of annual physical preventive exam. The preventive exam includes early diagnosis and treatment, as well as preventive of future medical problem. Only 43.6% participants reported having annual physical exam last year. Adults' annual physical preventive exam would include testing for blood pressure, cholesterol, diabetes, and flu vaccine. 65.3% of participants reported that they had blood pressure, cholesterol, and diabetes checked, and only 29.6% reported that they had the flu vaccine in the past year.

Internal-Individual (Intention):

This research question was to investigate the internal-individual variables including demographic (place of birth, legal status, marital status, education level, employment, and income), as well as the immigrants personal beliefs of the importance of an annual physical preventive exam. Research Question: Is there an association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants living in Michigan? 92.1% participants considered annual physical preventive exam to be somewhat important when asked about their personal. However, 7.7% believed it was slightly or not at all important.

Language ability: I also investigated the immigrants' ability to communicate in English. In this study, about 10.0% of participants reported difficulty communicating in English, while 90.0% were able to communicate in English. Table 3 describes the participants' ability to communicate in English.

Table 3

Ability to communicate in English (n=291)

Communication Ability	n (%)
Not able/Slightly able to communicate	29 (10.0%)
Somewhat/moderately/extremely able to communicate	262 (90.0%)

Immigrants place of birth: The participants were born in all continents including Africa (Morocco, Egypt. Algeria, Sudan, Somalia, Nigeria), Asia (Lebanon, Iraq, Laos, Palestine, Syria, China, Saudi Arabia, Pakistan, Israel, Jordan, Yemen, South Korea, Afghanistan, India, Qatar, Bangladesh, United Arab Emirates, Oman, Kuwait, Kazakhstan, Russia, Korea, Iran), Australia, Europe (Italy, United Kingdom, Ukraine, Poland, Romania, Turkey, Greece, Germany, Spain, Ireland, France, and Czech Republic), Canada, and Latin America (Mexico, Cuba, Brazil, and Panama).

Immigrants legal status: In this study, the legal status varied, including 61.9% U.S. Citizen, 18.6% Green Card holder, 17.2% Visa holders, and 1.0% Undocumented. The U.S. Census Bureau's (2015) reported that 52.5% of Michigan immigrants were Naturalized Citizens, and 47.5% were noncitizens. The time living in United States reported by the surveyed participants was one to 60 years (15.8 ±12.7).

Table 4 presents the mean and standard deviation of Internal-Individual (Intention) Variables.

Table 4

Means and Standard Deviations of Internal-Individual Variables (n=291)

Internal-Individual (Intention) Variable	M	SD	Min.	Max.
Lived in the U.S. (in years)	15.8	12.7	1	60
Household Income ($)	59,739	93,586	0	1,000,000

To investigate these hypotheses, logistic regression was used to investigate the Internal-Individual variables. This is appropriate because the dependent variable is binary (DeMaris 2004). Table 5 shows the logistic regression results between participant Internal-Individual and utilization of annual physical preventive exams when adjusting for potential confounders.

Table 5

Logistic Regression analysis of participant Internal-Individual characteristics and health care beliefs and their utilization of annual physical preventive exams while adjusting for other confounders (n=291)

Characteristics	Annual physical preventive exams vs. no annual physical preventive exam Unadjusted OR (90% CI)
Sex	
Male	1.00[b]
Female	2.03 (1.01-4.08)
Age Categories	
18 to 34 years	0.19 (.06-.83)*
35 to 54 years	0.30 (.11-.78)*
55 years or older	1.00[b]
Country of Origin	
Africa	1.13 (.50-2.59)
Asia	1.00[b]
Europe	0.41 (.14-1.16)
Latin	0.14 (.04-.35)*
Other (Canada and Australia)	0.81 (.11-6.03)
Marital Status	
Married	1.16 (.39-3.46)
Divorce/Separated	4.74 (1.04-21.66)
Widowed	0.64 (.08-5.33)
Single	1.00[b]
Length of Stay in U.S.	
Less than 5 years	0.60 (.14-2.65)
6 to 19 years	3.64 (1.61-8.22) **
20 years or more	1.00[b]
Legal Status	
Green Card	1.25 (.38-4.07)
Visa	2.84 (.69-11.73)
U.S. Citizen	1.00[b]

(Table continues)

Characteristics	Unadjusted OR (90% CI)
Educational Level	
Less than high school	3.40 (1.16-10.0)
More than high school	1.00[b]
Income	
Less than $20,000	0.85 (.29-2.48)
$20,000 to $34999	0.32 (.12- .85)
$35,000 to $49,999	0.18 (.05-.61) *
$50,000 to $74,999	2.14 (.85- 5.38)
$75,000 or higher	1.00[b]
Employment Status	
Employed full time	1.00[b]
Self Employed	0.26 (.10-.64)*
No work	0.70 (.19-2.59)
Homemaker	1.07 (.43-2.63)
Communication Ability	1.23 (.34-4.37)
Preventative Health Visits Important (beliefs)	0.41 (.12-1.41)

1.00[b]: reference variable
*p<.05 **p<.01 ***p<.0001

The result in this study showed gender, marital status, legal status, education level, communication ability, and preventive health important beliefs were not significant in the immigrants' utilization of the annual physical preventive exam. However, age, continent of origin, income, and employment status effected the annual physical preventive exam utilization.

According to this study result, those who are 18-54 years old are more likely to go more than a year without the utilization of annual physical preventive exam. Those who are 18-34 are 81 times less likely to utilize the annual exam. Similarly, those age 35-54 year old are 70 times less likely to utilization of annual physical preventive exam. Those who are Latin origin are 86 times less likely to utilize the annual physical preventive

exam. The result of this study also shows that having income of $35,000-$49,999 were 82 times less likely to utilization the annual physical preventive exam, and self-employed immigrants are 74 times less likely to utilization of annual physical preventive exam. The results of this study also shows that people who lived in the United States for 6-19 years are 3.6 more likely to receive annual physical preventive exam.

The data concluded that there is no association between health care beliefs and the utilization of annual physical preventive exams among adult immigrants. This supports the alternative hypothesis of RQ1.

External-Individual (Behaviors):

This research question aims was to investigate the effect of physical and mental health status and health behaviors in the utilization of annual physical preventive exam utilization. Research Question 2: Is there an association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan? This research investigated participants self-reported physical and mental health status, the healthy immigrant effect, and health behaviors including smoking, nutrition and physical activity.

General health and healthy immigrant effect: Self-assessed health is a measure of how a person perceives their own health. Self-assessed health status has been validated as a useful indicator of health among different populations and allows for broad comparisons across a variety of health conditions (Idler & Benyamini, 1997). The participants in this study were asked to self rate their health, 14.8% reported fair or poor health status, and 86.9% reported good to excellent health status. In this study, I also

investigated healthy immigration effect, the change in the immigration health since their arrival in the United States. Even though the 43.4% participants reported their health being the same as when they first moved to the US, 36.6% reported their health to be worse than when they first moved to the US. Table 6 shows immigrant health status. Table 7 shows immigrants comparing their current health status to when they first moved to the US.

Table 6

Immigrants self- report health status (n=291)

Health Status	n (%)
Excellent/very good/good	248 (86.9%)
Fair/poor	43 (14.8%)

Table 7

Health status compared to when first moved to the United States (n=291)

Compared health status	Number (percent) participants
Much/Somewhat better	47 (16.2%)
About the same	126 (43.3%)
Somewhat/Much worse	107 (36.8%)
Don't know/not sure	11 (3.8%)

Mental health: 53.6% of the participants reported tension, anxiety, or depression and 82.1% participants also reported worry and stress. 50.0% percent reported their stress level to be worse than when the first moved to the United States. Table 8 show the participants answer to the question "in the past 30 days, how often have you felt tense, anxious or depressed?" Table 9 show participants answer to the question "how often in the past 12 month would you say you were worried or stressed?"

Table 8

Tension, anxiety, and depression frequency (n=291)

Frequency of tension and depression	Number (percent) participants
Everyday/Sometimes	156 (53.6%)
Rarely/Never	135 (46.4%)

Table 9

Stress and worry frequency (n=291)

Frequency of stress and worries	Number (percent) participant
Always/Usually/Sometimes	239 (82.1%)
Rarely/Never	52 (17.9%)

Physically and mentally unhealthy days measure the number of days within the past 30 days that individuals rate their physical and mental health as not good. Poor physical and mental health was defined as 14 or more days within the past 30 days in which the adult respondents rated their physical and mental health as not good (Fussman, 2015). 7.8% of adult immigrant participants in this study reported 14 or more days of poor physical health, which could include physical illness and injury, or mental health like stress, depression or problems with emotions, during the past 30 days. Chronic conditions such as cardiovascular disease, diabetes, or cancer was reported among 19.3% of the participants.

Smoking and tobacco use: Cigarette smoking is the leading cause of preventable health problems and death in the United States (Rockville, 2014). Michigan health risk assessment (2016) reported 40.31% tobacco use among Michigan's total population,

however, this study showed 19.47% of immigrants participants smoke cigarettes. Hookah (water pipe) use has become a popular tobacco smoking method within the United States, with increasing popularity among the college student population (Fussman, 2015). Hookah use should not be considered as a safe alternative to smoking cigarettes. The charcoal used to heat the tobacco and the smoke generated from hookahs contain many toxic agents that are known to cause lung, bladder, and oral cancers (Cobb, Ward, Maziak, Shihadeh & Eissenberg, 2010). In 2014 MiBRFS, 4.1% of Michigan adults reported that they smoked tobacco using a hookah on one or more days out of the previous month (Fussman, 2015). However, in this study, 20.3% of all participants reported using a narghile, hookah, or water pipe in the past 30 days.

Exercise: exercise is used to assess an important component of maintaining a healthy weight. Exercise has shown to reduce risk of many diseases and maintain healthy body. Table 10 shows the participants answers to the question: in the past 7 days, how often did you exercise for at least 20 minutes a day?

Table 10

Exercise Report for Michigan Immigrants Adults Participant (n=291)

Exercise	Number (percent) participants
Everyday/3-6 days	106 (36.4%)
0/1-2 days	185 (63.6%)

Nutrition: Self-reported nutrition is an important component of health assessment. Diets are healthier in many home countries, including better nutrition and dietary habits that could help preserve good health (Constant, A., Garcia-Muñoz, T,

Neuman, S. and Neuman T. 2014). The participants of this study reported their healthy nutrition intake when asked how often they eat 3 or more serving of fruit and vegetable in a day. This study showed 69.8% of participants eats healthy at least 3-6 times a week, and 29.9% eat fruit or vegetable 2 times or less a week.

To investigate the association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan, logistic regression was used. This is appropriate because the dependent variable is binary (DeMaris 2004). Table 11 show Logistic Regression results for External-Individual (Behaviors) variables.

Table 11

Logistic Regression External-Individual (Behaviors) variables as predicting use of preventive exams by immigrants in Michigan

Characteristics	Annual physical preventive exams Vs. no annual physical preventive exam Unadjusted OR (90% CI)
Sex	
Male	1.00[b]
Female	1.91 (.82-4.44)
Age Categories	
18 to 34 years	0.18 (.04-.74)*
35 to 54 years	0.39 (.12-1.27)
55 years or older	1.00[b]
Country of Origin	
Africa	0.70 (.27-1.86)
Asia	1.00[b]
Europe	0.14 (.04-.48)**
Latin	0.07 (.01-.48)*
Other (Canada and Australia)	0.76 (.09-6.23)

(Table continues)

Characteristics	Unadjusted OR (90% CI)
Marital Status	
Married	0.76 (.21-2.71)
Divorce/Separated	4.21 (.71-25.13)
Widowed	0.75 (.08-6.96)
Single	1.00[b]
Length of Stay in U.S.	
Less than 5 years	0.81 (.15-4.49)
6 to 19 years	3.67 (1.45-9.33)*
20 years or more	1.00[b]
Legal Status	
Green Card	1.49 (.41-5.39)
Visa	2.49 (.53-11.79)
U.S. Citizen	1.00[b]
Educational Level	
Less than high school	1.99 (.59-6.70)
More than high school	1.00[b]
Income	
Less than $20,000	0.59 (.16-2.12)
$20,000 to $34,999	0.23 (.08-.69)*
$35,000 to $49,999	0.13 (.03-.56)*
$50,000 to $74,999	1.39 (.47-4.12)
$75,000 or higher	1.00[b]
Employment Status	
Employed full time	1.00[b]
Self Employed	0.29 (.11-.81)*
No work	1.54 (.28-8.05)
Homemaker	1.06 (.37-3.06)
External-Individual (Behaviors)	
Health Status	0.17 (.04- 0.88)
Tension/Anxiety/Depression	0.68 (.32-1.44)
Worried or Stress	0.20 (.07-.58)*
Poor Physical Health	0.19 (.03-1.36)
Chronic Health condition	0.33 (.13-.84)
Smoking	0.88 (.40-1.94)
Alcohol	0.76 (.33-1.74)
Exercise	0.89 (.44-1.83)
Healthy nutrition	1.90 (.87-4.11)

1.00[b]: reference variable
*p<.05 **p<.01 ***p<.0001

The results indicated that health status, anxiety and depression, cigarette smoking, alcohol consumption, exercise, and nutrition have no significant effect on utilizing the annual physical preventive exam. However, worries and stress has an effect on annual physical preventive exam utilization. Immigrants who have been more worried and stressed in the past 12 months were 80 times less likely utilize their annual physical preventive exam. I concluded there are no association between health status and the utilization of annual physical preventive exams among adult immigrants living in Michigan. This proves the RQ2 null hypothesis to be true.

Interior-Collective (Culture)

This study investigated the Interior-Collective (cultural) factors that could influence the utilization of annual physical preventive exam. Those factors included having family, friends and social support in Michigan, and immigrants traveling to their home country for medical services. Research question 3 is: Is there an association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

Social support: Social support including family, friends, and the immigrants' community effect the immigrants' utilization of preventive health visit and the health care relationship. 78.5% of the immigrants who participated in this study reported that they usually receive support from family, and 64.1% reported they usually receive support from friends. Only 3.7% reported that they would not get family or friends help if they trying to make some health changes in their life. Overall, 80.9% of the immigrant participants reported they were satisfied with the support they get from family, friends

and their community. Table 12 shows the percentages and frequencies of interior collective (culture) factors.

Table 12

Frequencies, Interior-Collective (Culture) (n = 291)

	N	Percent
Family in Michigan		
No	57	19.6%
Yes	234	80.4%
Friends in Michigan		
No	22	7.6%
Yes	269	92.4%
Travel to home country for medical need		
No	234	80.4%
Yes	40	13.7%

Table 13 shows the immigrants satisfaction level with the social support from family, friends and community.

Table 13

Immigrants satisfaction level with family and friends support (n = 291)

Satisfaction level	Number (percentage) participants
Very satisfied/Satisfied	235 (80.8%)
Neutral/dissatisfied	56 (19.2%)

To investigate the association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan, multivariate logistic regression was used. This is appropriate because the dependent variable is binary (DeMaris 2004). Table 14 shows the Logistic Regression results for Interior-Collective (Culture) factors as predicting use of annual physical preventive exam by Michigan immigrants.

Table 14

Logistic Regression Interior-Collective (Culture) variables as predicting use of preventive exams by immigrants in Michigan

	Annual physical preventive exams vs. no annual physical preventive exam	
Characteristics	Unadjusted	OR (90% CI)
Sex		
Male	1.00[b]	
Female	2.16 (.90-5.13)	
Age Categories		
18 to 34 years	0.15 (.03-.66)*	
35 to 54 years	0.39 (.12-1.30)	
55 years or older	1.00[b]	
Country of Origin		
Africa	0.67 (.25-1.81)	
Asia	1.00[b]	
Europe	0.14 (.04-.52)*	
Latin	0.07 (.01-.48)*	
Other (Canada and Australia)	0.60 (.07-5.28)	
Marital Status		
Married	0.69 (.19-2.53)	
Divorce/Separated	4.39 (.72-26.89)	
Widowed	0.767(.07-6.37)	
Single	1.00[b]	
Length of Stay in U.S.		
Less than 5 years	0.76 (.13-4.44)	
6 to 19 years	3.85 (1.49-9.93)*	
20 years or more	1.00[b]	
Legal Status		
Green Card	1.36 (.37-4.94)	
Visa	2.10 (.45-9.91)	
U.S. Citizen	1.00[b]	
Educational Level		
Less than high school	1.96 (.54-7.07)	
More than high school	1.00[b]	

(Table continues)

Characteristics	Unadjusted OR (90% CI)
Income	
Less than $20,000	0.59 (.16-2.18)
$20,000 to $34,999	0.23 (.08-.71)*
$35,000 to $49,999	0.12 (.03-.54)*
$50,000 to $74,999	1.44 (.48-4.30)
$75,000 or higher	1.00[b]
Employment Status	
Employed full time	1.00[b]
Self Employed	0.29 (.10-0.79)*
No work	1.70 (.30-9.50)
Homemaker	1.11 (.36-3.43)
Interior-Collective (Culture)	
Family in Michigan	0.73 (.30-1.75)
Friends in Michigan	0.80 (.22-2.95)
Social Support scale	1.41 (.85-2.33)
Travel to home country for health services	1.97 (.63-6.21)

1.00[b]: reference variable
*p<.05 **p<.01 ***p<.0001

The results indicated that having family, friends, and social support did not affect the utilization of annual physical preventive exam utilization. The result concluded there is no association between social support and the utilization of annual physical preventive exams among adult immigrants living in Michigan, proving the null hypothesis.

Exterior-Collective (System):

This study investigated the effect of the Exterior-Collective (System) variable on the utilization of annual physical preventive exam. The Exterior-Collective variables include health care access, interpretation service, quality of health services, and cultural competency. The research question 4 was: is there is an association between cultural

competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan?

Access to health care system: Adults who do not have health care coverage were less likely to access preventive health care services (Centers for Disease Control and Prevention, 2012). In 2014 MiBRFS, an estimated 12.7% of Michigan adults reported not having any form of health care coverage (Fussman, 2015). In this study, 15.5% of immigrant participants reported no health care coverage, and 83.4% reported having health care coverage. However, limited health care coverage is indicated through not having personal doctor or health provider, and having had a time during the last 12 months when you needed to see a doctor, but you could not because of the cost or access. Increasing the access to primary care show improvement in annual physical preventive exam visit (Fussman, 2015). This study shows that 22.8% of participants had no primary care physician, and 22.6% of participants needed to see a doctor but could not see one in the past 12 months. Table 15 shows percentages and frequencies of Exterior-Collective (System) variables.

Table 15

Percentages and Frequencies, Exterior-Collective (System) (n=291)

	N	Percent
Health Care Coverage		
No	45	15.5%
Yes	243	83.5%
One or More Personal Doctor		
No	74	25.4%
Yes	217	74.6%
Where seek medical attention		
Emergency Room/Urgent Care	121	41.6%
Primary Doctor	149	51.2%

More than 25% participants in this study also reported slightly or not at all easy to schedule annual physical preventive exam. Table 16 show participants respond to how easy to schedule preventive appointments.

Table 16

How easy to schedule preventive appointment (n=291)

Levels of easy	Number (percent) participant
Extremely/Very Easy	130 (44.7%)
Moderately easy	86 (29.7%)
Slightly/Not at all Easy	75 (25.8%)

Interpretation Services: 79.0% participants were extremely and moderately able to communicate, however, 10% reported that they were not able to communicate or slightly able to communicate in English. 21% reported that they use the language services when they visit their doctors, and 70.3% don't need language services because

they understand and speak English. However, 8.6% didn't know there is a language services or no language service was available for their use when they need it.

Cultural competency health: 90% of participants rated the care they received during their doctor visit as good, very good and excellent, however, 20% rated the doctor and other health care provider's cultural attitude and knowledge to be fair or poor. Table 17 show the evaluation of doctor or other health care providers attitude and knowledge about the culture.

Table 17

Rating Cultural Competency (n=291)

Rating culture knowledge and attitude	Number (percent) participant
Excellent/Very good	146 (50.2%)
Good	86 (29.6%)
Fair/Poor	59 (20.3%)

To investigate Exterior-Collective (System) variables, multivariate logistic regression was used. This is appropriate because the dependent variable is binary (DeMaris 2004). Table 18 shows the logistic regression result for Exterior-Collective (System).

Table 18

Logistic Regression Exterior-Collective (System) as predicting use of preventive exams by immigrants in Michigan (n=291)

Characteristics	Annual physical preventive exams vs. no annual physical preventive exam Unadjusted OR (90% CI)
Sex	
Male	1.00[b]
Female	3.02 (1.03-8.84)
Age Categories	
18 to 34 years	0.14 (.02-.90)
35 to 54 years	0.36 (.08-1.72)
55 years or older	1.00[b]
Country of Origin	
Africa	0.58 (.16-2.06)
Asia	1.00[b]
Europe	0.08 (.02-.36)*
Latin	0.01 (.00-.19)**
Other (Canada and Australia)	2.10 (.17-25.34)
Marital Status	
Married	1.28 (.27-6.08)
Divorce/Separated	13.71 (1.38-136.03)
Widowed	0.96 (.06-16.37)
Single	1.00[b]
Length of Stay in U.S.	
Less than 5 years	2.12 (.26-17.64)
6 to 19 years	7.00 (2.12-23.14)**
20 years or more	1.00[b]
Legal Status	
Green Card	0.54 (.11-2.67)
Visa	1.13 (.17-7.67)
U.S.Citizen	1.00[b]

(table continues)

Characteristics	Unadjusted OR (90% CI)
Educational Level	
Less than high school	4.15 (.64-26.80)
More than high school	1.00[b]
Income	
Less than $20,000	1.10 (.21-5.77)
$20,000 to $34,999	0.38 (.08-1.79)
$35,000 to $49,999	0.06 (.01-.43)*
$50,000 to $74,999	2.24 (.59-8.43)
$75,000 or higher	1.00[b]
Employment Status	
Employed full time	1.00[b]
Self Employed	0.30 (.08-1.13)
No work	2.44 (.20-29.24)
Homemaker	1.17 (.25-5.44)
Exterior-Collective (System)	
Health coverage	2.60 (.46-14.57)
Primary doctor	8.41 (1.75-40.40)
Utilize primary physician	0.37 (.12-1.14)
Difficulty accessing health care system	0.09 (.02-.34)**
Difficulty scheduling preventive appointments	0.57 (.17-1.88)
Quality health care service	0.30 (.04-2.42)
Culture competency	28.61 (4.02-203.65)**
Utilizing language services	2.25 (.36-14.29)

1.00[b]: reference variable
*p<.05 **p<.01 ***p<.0001

The results of this study indicated there is no significance in health care coverage, primary doctor availability and utilization, scheduling annual physical preventive exam, or the quality of health care services provided. However, this result showed that those with difficulty accessing the health care system or those who feel poor cultural competency among health care providers are less likely to utilize preventive annual

physical preventive exam. The result indicated that immigrants with difficulty accessing the health system are 91 times less likely to utilize their annual physical preventive exam.

The results also show that cultural competency effects the utilization of annual physical preventive exam. The results of this study shows there is an association between cultural competency in the health care services and the utilization of annual physical preventive exams among adult immigrants living in Michigan. Immigrants with positive experience cultural competency experiences were 28.6 time more likely to utilize annual physical preventive exam. This proves the hypothesis.

Summary

This chapter provided the answer to the research question, and provided important findings about the immigrant population in Michigan. The result indicated there are no associations between health care beliefs, health status, or social support with the utilization of annual physical preventive exams among adult immigrants living in Michigan. The data indicated that there is an association between cultural competencies with the utilization of annual physical preventive exams among adult immigrants. Other factors influenced the utilization of annual physical preventive exam including region of origin, age, length of stay in the United States, self-employments, income, worries and stress, and difficulty accessing the health care system. The data indicated that even though the Internal-Individual factors, such as age, origin, length of stay could influence the utilization of annual physical preventive exam, the Exterior-Collective factors, such as difficulty accessing the health care system and cultural competency could influence the utilization of annual physical preventive exam as well.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this quantitative survey study is to evaluate intentional and behavioral factors, as well as the cultural and systemic factors that might act as barriers to annual physical preventive exam utilization among adult immigrants in Michigan. In the study, I aimed to prescribe factors that might act as barriers to annual physical preventive exam utilization. Understanding the perceptions of, and barriers to annual physical preventive exam utilization could help explain why immigrants may not engage in using preventive healthcare services. In this study, I provided some insights that could help improve access to, and utilization of preventive healthcare services among immigrant populations.

This study indicated that the use of annual physical preventive exams, with the exception of the flu vaccine, was low for immigrant adults in Michigan. Unlike many literature studies have suggested, language was not an obstacle immigrants face; immigrants deal with challenges and barriers that revolve around difficulty with accessing the healthcare system, and lack of compassion and understanding by healthcare providers. Other factors influenced the utilization of annual physical preventive exam including Latin origin, young age, the length of stay in the United States, self-employment, income level, and being worried and stressed.

Interpretation of Findings

Wilber's IOS offers comprehensive knowledge addressing human diversity, the values of all cultures and systematic issues, and honors individual development (Wilber, 2004). Using the IOS offers a map identifying barriers to annual physical preventive

exam utilization, and possibilities for a better, more compassionate, and sustainable future for all individuals, as well as the health care system.

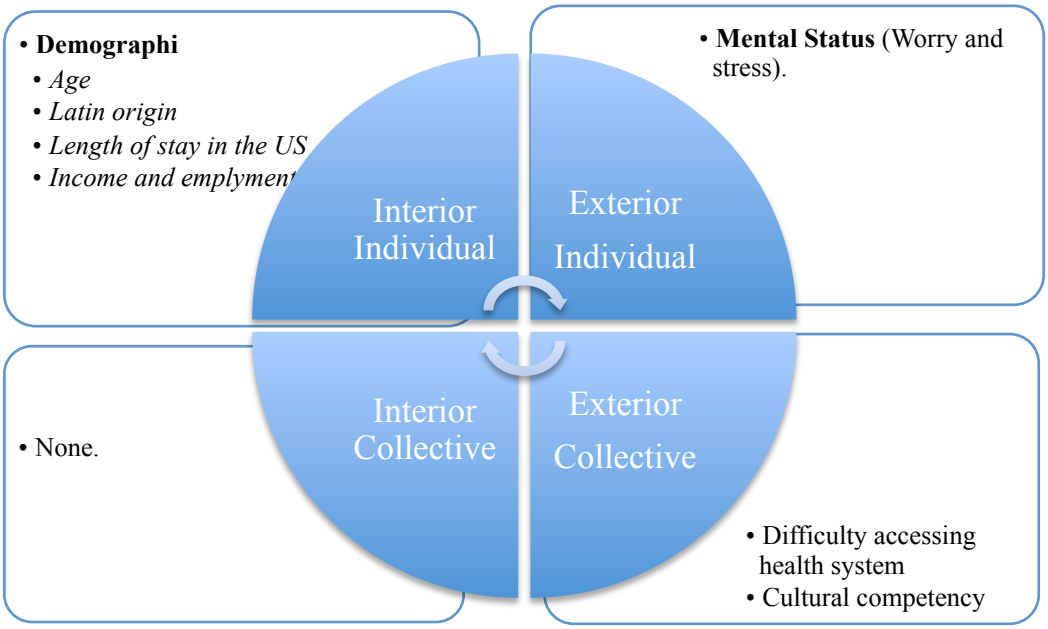

Figure 4. Factors that influence preventive annual physical exam utilization for Michigan immigrants based on this study, using IOS system (Wilber, 2004).

This study indicates that the use of annual physical preventive exam, with the exception of the flu vaccine, was low for immigrant adults in Michigan. This study found that only 43% of immigrant populations had an annual physical preventive exam, compared to approximately 72% of Michigan adults population participants in Michigan Behavior Risk Factor Survey (MiBRFS) that reported having an annual physical preventive exam in the past year (MiBRFS, 2015). Approximately 30% of immigrants' who participated in this study reported receiving flu vaccines last year, while the HRA reported that 22% of Michigan participants received a flu vaccine last year.

Internal-Individual (intention):

This study found health care beliefs has no association with the utilization of annual physical preventive exams among adult immigrants. This study could not confirm the literature that indicated there is a significant association between immigrants' participation in preventive health care services and perceived benefits and effectiveness (Doyle, Lennox, & Bell, 2013). This study shows that immigrants are aware of the need for preventive services, the related risks, and they are being told the importance of preventive health care services.

This study shows that the majority of participants (80%) are moderately or extremely able to communicate in English, and the ability to communicate in English was not significantly associated with the utilization of annual physical preventive exams. This could not confirm the Choi study (2013) where participants shared feelings of fear and reluctance in using health care services, aggravated by their lack of English proficiency. The majority of participants in this study did not need the language services that were available. However, about 7% of the participants in this study reported not knowing about the availability of language services.

The literature also shows health characteristics of migrant populations vary according to their countries or regions of origin (Kennedy, Kidd, McDonald, & Biddle, 2015). According to this study, Latin immigrants are 86% less likely to utilize annual physical preventive exam. Immigrants from other countries including Africa, Asia, Europe, and Canada did not show any correlation with the utilizing annual physical preventive exam. This study confirmed the literature that immigrant's utilization of

preventive health services vary according to their country of origin, and health providers need to increase their knowledge and understanding according to immigrants' country of origin (Jil et al., 2015).

The ACA aimed to improve access to annual physical preventive exams with no copayments. Yet young adults had the lowest rate of utilizing annual physical preventive exams (Collins, Robertson, Garber, & Doty, 2012). This study shows that those who are 18-54 years old are more likely to go more than a year without the utilization of an annual physical preventive exam than those of older age. This study of immigrant participants confirmed the MiBRFS general population report that the frequency of utilizing the annual physical preventive exam increases with age (MiBRFS, 2015). This is an indication of the need to develop guidelines for 18-54 years of age to increase the delivery of annual physical preventive exam.

The literature shows that newcomers to the United States need to learn the health care system in general, specifically about utilization of annual physical preventive exams (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010). This study shows that immigrants' utilization of the annual physical preventive exam has some correlation to the immigrants' length of stay and no correlation with the immigrants' legal status. Many newcomers get help from organizations and community members to help them adjust to their new life and introduce them to the health care system so they are not affected by the lack of knowledge about the health care system (Portes & Fernández-Kelly, 2015). The researchers also showed that participants living in the United States for more than 5 years are more likely to receive an annual physical preventive exam than newcomers.

The Selvillano study (2014) showed no association with low socioeconomic status, low income, and the type of occupation with the utilization of annual physical preventive exam. The CDC showed that having health insurance or a higher income was associated with higher rates of receiving preventive healthcare services, affirming findings of previous studies (CDC, 2012). This study shows that middle-class participants with an income of $35,000 to $49,000 were less likely to utilize the annual physical preventive exam. This study also shows that self-employed participants were less likely to utilize the annual physical preventive exam. Middle class individuals cannot get subsidies for health insurance and the deductible can be hard to afford (Manchikanti, Helm, Benyamin, & Hirsch, 2017). This study confirmed that the ACA hasn't worked well for the working and middle class who receive much less support, particularly those who earn more than 400% of the federal poverty level (Manchikanti, Helm, Benyamin, & Hirsch, 2017). This study was not able to confirm that gender, marital status, legal status, and education level has no correlation with utilizing the annual physical preventive exam utilization.

External-Individual (Behaviors):

The literature show that initially immigrants tend to have better health than native-born residents, but with increased time in the host country, immigrants' health status approaches that of native-born residents (Acevedo-Garcia et al., 2010). Sewali et al. (2015) stated that health decline in the host country is due to change in diets, less physical activity, and more exposure to alcohol and cigarettes. About 15% of the participants in this study reported fair or poor general health compared to 2016 HRA that

reported an estimated 27% of Michigan's adult population health was either fair or poor (HRA, 2016). The MiBRFS defined poor physical and mental health as 14 or more days within the past 30 days in which the adult respondents rated their physical and mental health as not good (Fussman, 2015). The MBRFS also estimated about 13% of Michigan adults reported poor physical health, and 13% reported poor mental health. Only 8% of participants in this study reported poor physical or mental health. Even though 53% of immigrants reported tension, anxiety or depression, compared to 47% of HRA Michigan participants (HRA, 2017), general health status, anxiety, and depression had no effect on annual physical preventive exam utilization in this study. However, immigrants suffering from worry and stress are less likely to receive annual physical preventive exams.

This study estimated that 19% of immigrants smoke cigarettes, 20% smoke tobacco using a narghile, hookah or water pipe, and 29% reported they had at least one drink in the past 30 days. The MiBRFS (2015) estimated about 21% of Michigan adults reported that they currently smoke cigarettes on a regular basis, 4% of Michigan adults reported that they smoked tobacco using a hookah on one or more days out of the previous month, and 57% of Michigan adults reported some form of alcohol consumption within the past month. Even though immigrants smoked fewer cigarettes, they smoked narghile, hookah or water pipes much more because it is part of many immigrants' culture and tradition. Many immigrants view smoking narghile, hookah or water pipes as enjoyable social and family activity (Alzyoud et al., 2014), and they also perceive it as less harmful than cigarettes (Nakkash, Khalil, Afifi, 2011).

In the study I also investigated the immigrants' health behaviors including exercise and nutrition to assess frequency as an important component of healthy lifestyle. The results of this study show no association between health status, health behaviors, and nutrition with the annual physical preventive exam. Immigrants exercise less than the general Michigan population participants in HRB. About 36% of immigrant participants in this study reported exercising every day or 3-6 days a week, compared to 52.1% of Michigan participants in HRB 2016 report. However, 69% of both immigrants participating in this study and the Michigan population participants in HRB reported eating healthy. The literature indicated that immigrants with better acculturation who arrived in the United States at a young age were more likely to exercise (Evenson, Sarmiento & Ayala, 2004). Maintaining a healthy lifestyle such as diet and exercising can reduce or prevent chronic diseases, leading to productive, healthy and satisfied lives, and reduced health care cost (USDHHS, 2010). However, this study indicated that immigrants who reported worries and stress were less likely to utilize the annual physical preventive exam. This study also confirmed literature that stated immigration and relocation from the home country add stress and presents barriers to using preventive health care services when the immigrant arrives in the host country (Lum & Vanderaa, 2009).

Interior-Collective (Culture):

The literature shows that social support influences immigrants' behaviors, including their healthcare utilization levels (Knight, Rodgers, Reade, Mark, & Hall, 2016). This study found that having social support, including family, friends and

immigrant communities in their new home was not significant in the utilization of annual physical preventive exam utilization. This finding did not confirm the literature that indicated social support from family, friends, and the immigrants' community who share a similar background, are important and provide education and assistance to preventive health care (Knight, Rodgers, Reade, Mark, & Hall, 2016). Having social support did not positively or negatively influence the utilization of annual physical preventive exam. That could be explained by the availability of immigration organizations available to provide programs and resources helping immigrants integrate into American civic society.

This study has also shown no significance in the utilization of annual physical preventive exam with people who travel to their home country for medical attention. This finding was not consistent with the literature that showed immigrants tend to use trips to their country of origin for their different type of health care needs, including preventive health visits, because of the high medical costs in the host country and knowledge of their county health care system and language (Choi, 2013).

Exterior-Collective (System):

This study evaluated the healthcare system including, the availability of health coverage and primary physicians, access to healthcare services, quality of health services, interpretation services, and cultural competency. This study, like Martinez, Ward, and Adams (2015) study, indicated that healthcare access is directly related to preventive healthcare services. Healthcare access is directly related to utilization of primary healthcare and preventive healthcare services and reducing emergency health care facility

visits (Martinez, Ward, Adams, 2015). Even though the ACA attempted to limit the administrative complexity and insufficient access to primary care (Kocher, Emanuel, & DeParle, 2010), immigrant participants reported difficulty accessing the healthcare system and about 26% reported utilizing emergency room and urgent care services and not their primary physicians when needing medical care. The difficulty of accessing the healthcare system was a major barrier to utilizing the annual physical preventive exam.

The literature indicated that language barrier prevented immigrants from understanding their diagnoses and asking questions, leaving them feeling a lack of support and alienation from the health system in general (Maleku & Aguirre, 2014). Health care providers are required by law to provide interpretation service for limited English speaking populations to ensure equal health care treatment (42 U.S.C. §2000d, 1964). This study shows that the majority of participants did not need language services because they understand and speak English very well. Therefore, interpretation service and language ability were not a barrier to the utilization of annual physical preventive exam utilization.

This study shows that people with positive cultural competency experience are 29% more likely to seek annual physical preventive exam. Culturally competent health care that goes well beyond language delivers the highest quality of care by being compassionate, supportive, and understanding of a patients' condition, regardless of race, ethnicity, cultural background, or English proficiency (Maleku & Aguirre, 2014). Providing culturally and linguistically sensitive service to immigrant patients can improve access and quality of health care and health outcomes (Healthy People 2020,

n.d.). Through the understanding of patients' unique beliefs and perceptions of health, the health system can achieve its goals and reduce barriers to annual physical preventive exams and increase preventive annual care examination (USDHHS, 2010).

Limitations of the Study

Several limitations are present to this study:

1. This study was limited to English-speaking immigrants. It is likely this study is missing immigrants who speak other languages and lack fluency in English. The inclusion of this missing population could have added more information on barriers and options for recommendations addressing access to health care and interpreter services.
2. This study may not apply to other preventive health care services like cancer screening, obesity screening, and mental health counseling. This study was limited to annual physical preventive exam utilization.
3. Michigan immigrant residents in this survey are quite broadly defined, which might obscure state-by-state or local-level variation in access to health care on either side of the border. Barriers to health care for immigrants may vary across local and state contexts given differences in political and social climates.
4. Snowball sampling was the most feasible approach for recruiting participants in this study; it likely contributed to the fact that most of our participants are from Asia, lived in the U.S. longer than 5 years, and are U.S. citizens.

5. Immigrants are growing nervous after two rounds of President Trump's immigration orders, which has created uncertainty and left many hesitant to participate in the study. Repeating this study in better political circumstances might increase the number of participants from different immigrant communities and improve the result.
6. ACA mandates that all insurance plans cover certain health conditions and services, such as free annual physical preventive exams, prescription drug costs, mental health counseling and women's health services. Trump care enables states to wave requirements set by ACA. Waving the free annual physical preventive exam will change the base in this study.

Recommendations

This survey study can be translated into many languages and used for future research to include all immigrants regardless of their ability to speak English. Including other non-English speaking immigrants could reveal more information on barriers. It would be interesting to find out whether there are differences in results and outputs if this study was repeated with other immigrants living in different states other than Michigan. Changing recruitment method from snowball to another like using a business, list services, school, or agency might improve variation of the participants. The survey questions could also be used as a future line of research that applies to other preventive health care services like cancer screening, obesity screening and mental health counseling. It could also include American born citizens and go beyond the border of Michigan State to other states.

This survey study should be repeated after the implementation of a new health care plan and the stabilization of immigration law. Some participants in this study expressed and shared feelings of fear and reluctance to participate in this survey until a more systematic and fair congress in place to make fair laws. Additional research is needed to determine the effect of implementation of new health policies on the immigrant utilization of annual physical preventive exam.

Implications

This study can be used as a force for social change by promoting healthy behaviors and encouraging immigrants to use annual physical preventive exams to reduce the occurrence of chronic conditions and increase life satisfaction in the immigrants' communities. Ken Wilber's IOS was used to organize and understand helpful information about potential barriers to annual physical preventive exam utilization for adult immigrants in Michigan. Wilber's IOS offers comprehensive knowledge by addressing human diversity, the values of all cultures, systematic issues, and it honors individual development (Wilber, 2004). This study provided insight into the relationships between the individual and collective barriers and the utilization of annual physical preventive exam. This study summarizes the importance of annual physical preventive exam services, the quality of a health care system and its cultural competency, and broadly addresses the needed policies and/or programs. These results are worth considering when planning interventions to enhance annual physical preventive exam participation among immigrants.

This study shows that cultural competence of health care providers was one of the barriers to the utilization of annual physical preventive exam. Health care professionals and programs directors need to understand the essence of health care cultural competence beyond language. The result of this study shows health care providers need to accept heterogeneity as new normality in the health care system and address the needs of all members of a society. Health care providers need to respond to immigrant patients' needs with culturally sensitive services in order to provide satisfactory, high-quality services. Training of health providers is needed to better understand the needs of immigrant patients and change attitudes towards other cultures, philosophies, and expectations of immigrants, which will improve health competence.

To improve access to preventive health care services and annual physical preventive exams this study suggests allowing all immigrant residents to have access to a limited network of state-funded health plans regardless of the length of stay in the U.S., and provide insurance to all workers regardless of full time or part time work status. This study also shows that immigrants are having difficulty accessing health care systems. This survey study found that 25% of immigrants do not have a primary care physician, and 42% utilize emergency rooms and urgent care when seeking medical attention. The ACA put millions of dollars into preventive and primary care services for all eligible residents regardless of their origin (Warner, 2012). The ACA aimed to provide annual physical preventive exam for all immigrants, however, 26% of immigrants find scheduling preventive appointments with a primary care physician not at all easy, causing unwanted delays in obtaining annual physical preventive exams. This demonstrated a

limited capacity and higher demand for primary care physicians accepting new patients, and providing preventive services. This study recommends adding primary care physicians and primary care practitioners, as well as international medical graduates to the health care workforce to solve the crisis of limited primary care physicians available to provide annual care including the annual physical preventive exam. In the study, I also recommended shifting some of the preventive care services like immunizations, health education (smoking, diet, and physical activity), and pap smear, from primary physicians to non-clinicians, nurses and medical assistants to improve access to health care services and increase the primary physician's capacity. The results of this study provided much-needed insight into the growing immigrant populations' beliefs, social support, health status, and a better understanding of their health care experiences. The information can be used to enhance the existing literature on the subject, assist immigrant-provider communication and bridge knowledge gaps that prevent immigrants from utilizing preventive health care services.

Conclusion

The purpose of this study is to further understand individual, cultural, and systematic factors that might act as barriers to the utilization of free preventive annual physical preventive exams among adult immigrants in Michigan. The IOS model examines four aspects to provide the most comprehensive and clear assessment of the problem and address why immigrant utilization of annual physical preventive exams is less for Michigan citizens and how it can be changed and improved. The study results indicated that language is not an obstacle immigrant's face, like most literature suggests.

Immigrants deal with challenges and barriers that revolve around difficulty accessing health care and the cultural competency of the health care provider. Other barriers include worry and stress, self-employment, age, and income. Immigrants who are stressed and worried, self-employed, middle class, did not receive culturally sensitive services, had difficulty accessing health care systems, and are less likely to utilize annual physical preventive exams.

Given the current health care policy, these barriers will continue to impact immigrants' health. I recommend increasing the knowledge of health care providers about the immigrants' culture, and the need for better health care access including increasing the number of primary health care providers to improve preventive annual physical exam utilization. In addition, in the future, more comprehensive and qualitative studies are necessary to improve our understanding of annual physical preventive exam utilization patterns among Michigan adults.

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Appendix A: Survey Questions

Preventive Health Care Services Survey Questions

You are eligible to take this survey because you are an adult who emigrated from a different country, and live in Michigan. Please take a few minutes to fill out this Ph.D. research survey regarding your health, social support, and the health care system interactions and perceptions.

Demographics:
Please tell me about yourself and your current employment situation.

1. What is your age: --- years

2. What is your sex?
   a. Male
   b. Female

3. Country of Origin: -----

4. How long have you lived in the United States?
   Number of years: ---

5. Legal status:
   a. U.S. citizen
   b. Green card holder
   c. Visa holder
   d. Undocumented
   e. Don't know/not sure

6. Marital status:
   a. Married
   b. Divorced
   c. Widowed
   d. Separated
   e. Single, never been married

7. What is the highest grade in school you completed?
   a. Never attended school or only attended kindergarten
   b. Grades 1 through 8 (elementary)
   c. Grades 9 through 11 (some high school)
   d. Grade 12 or GED (high school graduate)
   e. College - 1 year to 3 years (some college or technical school)
   f. College - 4 years or more (college graduate)

8. Are you currently?
   a. Employed for wages
   b. Self-employed
   c. Out of work for 1 year or more
   d. Out of work for less than 1 year
   e. A homemaker
   f. A student
   g. Retired
   h. Unable to work

9. What is your annual household income from all sources? $------/year

10. How many children less than 18 years of age live in your household?
    -----Number of children

11. How well do you communicate in English?
   a. Not able to communicate
   b. Slightly able to communicate
   c. Somewhat able to communicate
   d. Moderately able to communicate
   e. Extremely able to communicate

Preventive health care beliefs:

Preventive health care is visiting your doctor when you are healthy to screen for diseases such as blood pressure or diabetes, or to have an annual check-up. Now I would like to ask you about your preventive health care beliefs.

12. How important to you are preventive health care visits?
   a. Extremely important
   b. Moderately important
   c. Neutral
   d. Slightly important
   e. Not at all important

13. Does your current employer allow you to leave work during your work hours to attend preventive health care appointments?
   a. Yes
   b. No
   c. Don't know/Not sure

Health Status:
The next questions are about your health.

14. In general, how would you rate your health?
    a. Excellent
    b. Very good
    c. Good
    d. Fair
    e. Poor

15. Compared to when you first moved to the United States, is your health now:
    a. Much better
    b. Somewhat better
    c. About the same
    d. Somewhat worse
    e. Much worse
    f. Don't know/not sure

16. In the last 30 days, how often have you felt tense, anxious or depressed?
    a. Almost everyday
    b. Sometimes
    c. Rarely
    d. Never

17. Compared to when you first moved to the United States, is your stress level now:
    a. Much better
    b. Somewhat better
    c. About the same
    d. Somewhat worse
    e. Much worse
    f. Don't know/not sure

18. How often in the past 12 months would you say you were worried or stressed?
    a. Always
    b. Usually
    c. Sometimes
    d. Rarely
    e. Never

19. Do you use drugs or medications (other than exactly as prescribed for you) which affect your mood or help you to relax?
    a. Almost everyday
    b. Sometimes
    c. Rarely
    d. Never

20. During the past 30 days, for about how many days did poor physical or mental health keep you from performing your usual activities, such as self-care, work, or recreation?
    a. Number of days _____

21. Do you use traditional treatments such as services of a traditional healer, acupuncture, and Chinese medicine as an alternative to the health care system?
    a. Yes
    b. No
    c. Don't know/Not sure

22. Do you currently smoke cigarettes?
    a. Every day
    b. Some days
    c. Not at all

23. How many days during the past 30 days did you smoke tobacco using a narghile, hookah, or water pipe?

    a. --- Number of days

24. Has your doctor or other health professional ever asked you if you were a smoker?
    a. Yes
    b. No
    c. Don't know/Not sure

25. Has your doctor or other health professional ever advised you of, or referred you to, a program or other resources available to help you stop smoking?
    a. Yes
    b. No
    c. Don't know/Not sure

26. Are you aware of any local programs or services that are available to help you quit smoking, such as telephone quit lines, local health clinic services, and cessation classes?
    1. Yes
    2. No
    3. Don't know / Not sure

27. During the past 30 days, how many days per week or per month do you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage, or liquor?
    a. – Days in past 30 days

28. In the past 7 days, how often did you exercise for at least 20 minutes in a day? *(Exercise includes walking, jogging, weights, a sport or playing with your kids around the house or being outside and moving around).*
    a. Everyday
    b. 3-6 days
    c. 1-2 days
    d. 0 days

29. In the last 7 days, how often did you eat 3 or more serving of fruits or vegetables in a day? *(Each time you ate a fruit of vegetable count as one serving, it can be fresh, frozen, canned, cooked or mixed with other food).*
    a. Every day
    b. 3-6 days
    c. 1-2 days
    d. 0 days

Social support:

The next objective of this study is to see the level of support you receive from family, friends, and community members in the time of need. The support can include emotional and financial support like searching for employment, housing, health care, or transportation.

30. Do you have family in Michigan?
    a. Yes
    b. No

31. Do you have friends in Michigan?
    a. Yes
    b. No

32. How often do you get the social and emotional support you need from your family?
    a. Always
    b. Usually
    c. Sometimes
    d. Rarely
    e. Never

33. How often do you get the social and emotional support you need from your friends?

a. Always
b. Usually
c. Sometimes
d. Rarely
e. Never

34. How much support do you think you would get from family or friends if they knew you were trying to make some changes?
a. Yes, I think family or friends would help me.
b. I think I would have some support
c. No, I don't think family of friends would help me.

35. In general, how satisfied are you with the support you get from family, friends, and community?
a. Very satisfied
b. Satisfied
c. Neutral
d. Dissatisfied
e. Very dissatisfied

36. When you need medical care do you receive all care in the United States, or do you travel to receive care in the country or region where you were born?
a. Yes
b. No
c. Don't know/not sure

Health care system:
The next questions are about the health care system and services you have received.

37. Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare or Medicaid?
a. Yes
b. No
c. Don't know

38. Do you have one person you think of as your personal doctor or health care provider?
a. Yes, only one
b. More than one
c. No
d. Don't know/Not sure

39. Has a doctor, nurse, or other health professional EVER told you that you had any chronic health condition, such as heart, diabetes, or cancer?
a. Yes

b. No
c. Don't know/Not sure

40. When you are sick and need medical attention, do you go to:
a. Emergency room
b. Primary doctor
c. Urgent care
d. Don't know

41. Was there a time in the past 12 months when you needed to see a doctor but could not because of cost or other access issue?
a. Yes
b. No
c. Don't know / Not sure

42. A checkup is a visit to a doctor's office that is NOT for a specific problem. How long has it been since your last checkup?
a. Within the last year
b. Between 1-3 years
c. More than 3 years

43. Overall, how easy do you find it to schedule preventive appointments?
1. Extremely easy
2. Very easy
3. Moderately easy
4. Slightly easy
5. Not at all easy

44. In the past 12 months, has your doctor, nurse, or other health professional checked you for blood pressure, cholesterol and diabetes?
a. Yes
b. No
c. Don't know/not sure

45. During the past 12 months, have you had either a flu shot, or a flu vaccine that was sprayed in your nose?
a. Yes
b. No
c. Don't know

46. How would you rate the care you received during your last visit to your doctor?
a. Excellent
b. Very good
c. Good

d. Fair
e. Poor

47. How would you evaluate the doctor or other care provider's attitude and knowledge about your culture?
a. Excellent
b. Very good
c. Good
d. Fair
e. Poor

48. When you visit your doctor, do you use the language services so you can understand what they are telling you?
a. Yes
b. I don't know if there are language services available / I have never been offered language services
c. There are no language services available
d. I do not need language services, I understand and speak English

That is all the questions I have for you. Everyone's answers will be combined to help us provide information about the barriers to preventive health care services for adult immigrants in the state of Michigan. Thank you for your time and cooperation.