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ABSTRACT

On March 23, 2010, Congress passed the Patient Protection and Affordable Care Act (ACA) to increase value of care, improve clinical outcomes, decrease health care costs, and increase affordability in health care access. The purpose of the study attempts to examine the moderating effects of patient enablement impacting barriers, low socio-economic status, and unmet basic needs, toward health care access in uninsured populations post ACA. Only certain aspects of patient enablement in self-management of an individual's health care goals have been conducted with uninsured populations with barriers toward health care access.

The research design was a quantitative, exploratory, cross-sectional study. The study participants were from a convenient sample of patients at the Presbyterian Medical Care Mission. Data was collected through a survey completed by 122 participants from March 20 through March 28, 2018. The Patient Enablement Instrument was used to gather survey data. The primary outcome measure was the effect of patient enablement, moderating variable, on the correlation between low socio-economics status and unmet basic needs, independent variables, on health care access, dependent variable.

The primary outcome of the study was gathered by using a binomial logistic regression analysis to determine the association between the dependent, independent, and moderating variables. The results show that patient's enablement buffers only the relationship between unemployed and primary care access ($b = -1.596$, $Wald = 4.438$,

$p = .035$, $OR = .203$). None of the other predictors included in this model were statistically significant. The sample characteristics receiving primary care services at Presbyterian Medical Care Mission were predominantly white (50.0%), single (39.2%), female (62.0%), average age of 49 years old (11.210%), and a high school graduate (40.0%).

This study concludes that a likely explanation of the findings reflects the population being studied. Future research is needed to further the study of patient enablement impact on health care access. It was determined that further studies, preferably longitudinal studies, are required to better determine the association of the variables to assist with future implications in practice to assist with assessment of access-to-care barriers and high out-of-pocket costs for already low-income, underserved populations.

An Exploration of Barriers to Health Care Access among Uninsured Patients:
Using the Moderating Effect of Patients' Enablement

A Thesis

Presented to

The Faculty of the Graduate School

Abilene Christian University

In Partial Fulfillment

Of the Requirements for the Degree

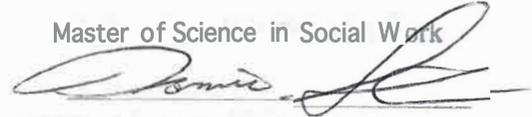
Master of Science in Social Work

Enedelia L. Jessup

May 2018

This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Council of Abilene Christian University in partial fulfillment of the requirements for the degree

Master of Science in Social Work



Assistant Provost of Graduate Programs

Date

6/11/10

Thesis Committee



Dr. Kyeonghee Jang, Chair



Debra Burchett



Dr. Tom Winter

I dedicate my thesis to my loving husband, Scott, and my children, Alejandra and Wade.

Love, love you lots. Also, this is in memory of my loving grandmother, Ofelia V. Laabs.

My life could have steered in so many negative, bad ways but through her love and generous, gracious heart, I always knew what right and godly was.

“Reckless Love” recorded by Cory Asbury

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It is through God's grace I chose Abilene Christian University.

TABLE OF CONTENTS

LIST OF TABLES	iv
LIST OF FIGURES	v
I. INTRODUCTION	1
II. LITERATURE REVIEW	3
The Patient Protection and Affordable Care Act of 2010.....	3
Undocumented Immigrants.....	3
Health Care Costs	7
Post-Affordable Care Act	9
Socioeconomic Status	10
Income.....	10
Education.....	11
Employment.....	12
Basic Needs.....	13
Empowerment Theory of Patient Engagement.....	14
Conclusion of Literature Review	16
III. METHODOLOGY	18
Purpose.....	18
Research Design.....	18
Sample.....	19
Data Collection	20

	Instruments.....	21
	Socio-economic status..	21
	Basic needs.....	21
	Patient enablement instrument.....	22
	Health care access.....	23
	Socio-demographic questionnaire.....	23
	Statistical Analysis.....	24
IV.	FINDINGS.....	25
	Description of Sample.....	25
	Gender.....	25
	Ethnicity.....	25
	Marital Status.....	25
	Education.....	26
	Age.....	26
	Reliability Analyses to Check Internal Consistency of Composite Variables.....	26
	Patient Enablement Instrument (PEI).....	27
	Basic Needs.....	28
	Descriptive Statistics of Major Variables.....	29
	Health Care Access.....	29
	Socio-Demographic.....	30
	Patient Enablement Instrument.....	30
	Basic Needs.....	30
	Hypothesis Testing.....	31

V. DISCUSSION	36
Discussion of Major Findings	36
Implications of Findings	38
Implications for Practice	38
Implications for Policy	39
Implications for Research	40
Limitations of Study and Recommendation for Further Studies	41
Conclusion	42
REFERENCES	43
APPENDIX A: IRB APPROVAL LETTER	54
APPENDIX B: RESEARCH PARTICIPATION REQUEST	55
APPENDIX C: INFORMED CONSENT	56
APPENDIX D: SURVEY OF PATIENT’S ACTIVE ENGAGEMENT	60

LIST OF TABLES

1. Characteristics of the Sample of Patients in a Primary Care Agency.....	26
2. Internal Consistency of Patient’s Enablement Measured by PEI	28
3. Internal Consistency of Basic Needs	29
4. Descriptive Statistics of Major Variables	31
5. Binomial Logistic Regression Analysis for Predictors of Primary Care Access.....	33

LIST OF FIGURES

1. Conceptual model of moderating effect of patient engagement	17
2. Results of testing a revised model	34

CHAPTER I

INTRODUCTION

Health reform is at the forefront of a political and social debate. In 2010, the Patient Protection Affordable Care Act (ACA) initiated a new health system reform, which shifted toward patient-centered medical homes and accountable care organizations (Kominski, Nonzee, & Sorensen, 2017). Patient engagement is pivotal in health reform to ensure and promote cost-effective health care outcomes. For this study, a literature review was done to examine the effects of low socio-economic status and unmet basic needs on health care access, as well as analyze how these risk factors are impacted by patient engagement affect health care access.

Health care costs affecting basic needs as well as low socioeconomic status seem to be prime factors in uninsured populations. Uncompensated care represents a major fiscal problem for many hospitals and health providers as it leads to hospitals cutting costs on various levels of care (Anderson, 2014; Blumberg, Buettgens, Feder, & Holahan, 2012; Coustasse, Lorden, Nemarugommula, & Singh, 2009). This causes a snowball effect of high health care costs affecting direct patient care, which in turn affects health care access to consumers. Various research studies have been conducted referencing the importance of patient engagement in an individual's self-management of their own health care goals (Hibbard & Cunningham, 2008; Hibbard & Greene, 2013; Martin, Williams, Haskard, & DiMatteo, 2005; Napoles et al., 2017). However, only certain aspects of the

studies have been conducted with uninsured populations with barriers toward health care access.

Patient engagement is important in the new era of adherence and accountability toward self-managed care. After an extensive literature review, barriers toward access to care were studied, and it was hypothesized low socio-economic status as well as unmet basic needs will have a negative effect on health care access. Patient engagement was hypothesized to have a positive total effect on health care access. Further, patient engagement would buffer the negative effect of barrier 1 (low socio-economic status) and barrier 2 (unmet basic needs) on health care access.

The purpose of the study attempted to examine the moderating effects of patient engagement impacting barriers, low socio-economic status, and basic needs, toward health care access in uninsured populations. The study was conducted at Presbyterian Medical Care Mission (PMCM), in Abilene, Texas. The medical clinic is a 501(c)(3) private, independent, nonprofit corporation. The clinic provides affordable health care access for the working poor unable to afford health care. The mission of the clinic is for uninsured adults to establish a medical home for their primary medical care needs. The clinic wants the uninsured population to engage in their health care needs and avoid delayed medical care due to lack of insurance coverage that could exacerbate health conditions. This research question will be addressed in this study: Is an uninsured patient's level of engagement in self-care management affected by low socio-economic status and barriers impacting health care access? This study could potentially increase direct state or federal funding to medical nonprofit providers who offer low-cost services to uninsured populations due to an increase in indigent health care needs.

CHAPTER II

LITERATURE REVIEW

A literature review was done to explore the current challenging context of uninsured populations, various barriers to their health care access including socioeconomic factors (income, education, and employment), and the role of patient engagement in addressing those challenges.

The Patient Protection and Affordable Care Act of 2010

On March 23, 2010, Congress passed the Patient Protection and Affordable Care Act (ACA) in which millions of Americans gained health care access. The goals of the ACA were to increase value of care, improve clinical outcomes, decrease health care costs, and affordability. The delivery system of care shifted focus toward patient-centered coordinated care and disease prevention. ACA improved access to preventable services by removing cost as a barrier. Access to primary care physicians and medical homes in communities promoted prevention (Kominski, Nonzee, & Sorensen, 2017). Although ACA affected all Americans, a significant population of noncitizens was excluded.

Undocumented Immigrants

Mexican-American populations have the poorest access to care and the lowest use of health services of all Hispanic subgroups (De Heer et al., 2013). Lack of public and private health insurance reduces their chances of early detection of disease and of timely

treatment of their chronic and acute medical conditions. Access to health care and financial stress increase due to continued poor health and lack of financial resources (Schoen, Doty, Collins, & Holmgren, 2005). Immigrant populations have higher out-of-pocket expenses in health care costs due to not having health insurance. Due to the economic barrier, uninsured populations are less likely to receive preventive health care measures, thereby complicating health conditions. Undocumented immigrants who come to the United States often seek low-paying service jobs with no available health insurance coverage. In a study by Coustasse, Lorden, Nemarugommula, and Singh, Texas has the highest uninsured rate at 24.6% in uncompensated care cost (UCC) out of states that participated in the study per the U.S. Census Bureau in 2006. In health care, UCC is composed of patients who are uninsured, indigent, and in immigrant populations at a cost of \$934 million to hospitals (2009). Uncompensated care cost means health care services rendered by a health care provider with no financial reimbursement by an insurance or patient privately paying for health care received. When hospitals have excessive unpaid medical bills due to undocumented immigrants, the hospital is forced to reduce staff, increase health care rates, and cut back services rendered to patients (Anderson, 2014; Coustasse, Lorden, Nemarugommula, & Singh, 2009). Continued increase of UCC has an adverse consequence for insured populations. In a study by Stone, Boursaw, Bettez, Larzelere Marley, and Waitzkin, health care costs for uninsured populations increased in rural counties, and the insured population and medical settings were adversely affected by the quality of service rendered as well as access to care, leading to unmet health care needs for that community (2015).

The Affordable Care Act only extends health care coverage to U.S. citizens. Undocumented immigrants are excluded from health care reform. This disparity in health care is affecting more than 11 million undocumented immigrants in the U.S. (Wallace, Torres, Sadegh-Nobari, & Pourat, 2013). Immigration health care costs have grown in Texas hospitals due to an increase of undocumented immigrants, costing the state \$934 million in uncompensated care costs in only 23 Texas hospitals (Coustasse, Lorden, Nemarugommula, & Singh, 2009). In the same study, the implications affecting health care services due to continued increase in undocumented immigrants lead to hospital revenue loss, had led to hospitals reducing staff, increased rates, and reduced health care services (2009). Undocumented immigrants have the poorest access to preventive care; therefore, they have increased chronic illnesses due to unmet health care needs, which increases health care costs.

Hispanic populations are the largest minority group in the U.S. They are also diagnosed with the highest incidence of metabolic syndrome, which is a risk factor for stroke, diabetes, and heart disease as well as other chronic and acute cardiac diagnoses. All of these are extensive and chronically expensive health care illnesses. Health care access is limited due to financial, structural, and cognitive barriers (De Heer et al., 2013). In a study conducted by Portes, Fernández-Kelly, and Light, immigrants' health worsened with extended length of residence in the USA due to physical activity and eating habits changing (2012). Immigrants' barriers to health care access include a lack of information and access to services, which results in use of a trauma centers instead of under-utilized free clinics. There are also cultural/linguistic barriers due to a lack of English fluency. Fear is also a factor due to deportation; therefore, many postpone nonemergent needs

towards more emergent care, partially due to fear of high costs (Portes, Fernández-Kelly, & Light, 2012).

Reimbursement of indigent care requires proof of identification in the form of a government-issued driver's license or identification card as well as proof of income, which are both difficult questions for undocumented immigrants to answer; therefore, they choose to forego medical care. Preventive health care is least expensive in overall health care costs as opposed to the costs of treating acute care diagnosis that was left untreated causing chronic conditions requiring long-term medical treatment. (Portes, Fernández-Kelly, & Light, 2012). In a study conducted by Hearst, Ramirez, and Gany, young immigrants' health indicators tend to have a higher prevalence of binge drinking, cigarette use, and serious mental illness (2010). Screening for prevention and early intervention seems to be difficult for young immigrants due to barriers with health care costs, not understanding enrollment forms, and fear of immigration status, leading toward chronic diseases with diabetes, coronary heart disease, and hypertension (Hearst, Ramirez, & Gany, 2010).

According to Wallace, Torres, Sadegh-Nobari, and Pourat, undocumented immigrants are primarily young adults in working families with low incomes and low rates of health insurance (2013). Due to the coverage gap caused by the ACA, uninsured undocumented immigrants are more likely to use the emergency room for non-urgent health care needs. Low-income populations in the coverage gap have a loss of health insurance due to unemployment and/or loss of employer-based coverage (Pigoga et al., 2015). Low socio-economic status and poverty in the immigrant household are immediate social needs in which young children in the household choose to work instead of

finishing their education or extending their education past high school. Education is not at the forefront of immediate needs in low-income households. Sixty percent of undocumented immigrants complete high school, compared with 92% of U.S.-born young adults (Raymond-Flesch, Siemons, Pourat, Jacobs, & Brindis, 2014).

Immigration status can bring on mental health stress, causing depression and poor health, often exacerbated by emotional eating, which develops or can develop into unhealthy eating habits. In an impoverished household, fast food is important due to working schedules and loss of wages for lunchtime as well as fast food often being the least expensive food option. Immigrants also tend to have unhealthy coping mechanisms leading to substance abuse (Raymond-Flesch, Siemons, Pourat, Jacobs, & Brindis, 2014). Immediate basic needs, such as paying for rent or food, seem to be prioritized above paying for health insurance among low-income immigrants. Intergenerational lack of health care options and access are also a factor in immigrant households due to mistrust in health care providers. Latinos have the highest uninsured rates of any ethnic or racial group in the U.S. despite recent health insurance expansion reform (Batlle, Goldman, Logroño, & Diaz, 2016). Health care access becomes a vicious cycle initiated by a lack of access in uninsured populations.

Health Care Costs

In a study conducted by Hoffman & Paradise (2008), more than 90% of the uninsured cite cost as the main barrier to getting care. Lack of insurance, low income, and having no usual source of care all increase the likelihood of missing or delaying needed care because of cost, and evidence suggests that their effects are cumulative (Hoffman & Paradise, 2008). In a study by Freeman, Aiken, Blendon, and Corey, chronic, neglected

health problems are more expensive to address than preventive treatment of the same condition, even though preventive and early treatment would have been less costly (1990).

Uninsured does not necessarily mean unemployed or unable to work; 80% of uninsured are full- or part-time employees. Some employers offer insurance, but with health care costs and insurance premiums rising, it is becoming more difficult for employers to offer insurance (Coustasse, Lorden, Nemarugommula, & Singh, 2009). Employers' private insurances tend to require more cost to workers due to higher deductibles, higher patient cost sharing, and more restricted scope of benefits; therefore, employees that have a higher out-of-pocket expense tend to forego insurance if take-home pay is affected (Schoen, Doty, Collins, & Holmgren, 2005). Out-of-pocket health care costs have grown due to increased medical expenses. The prevalence of not seeking preventive health care due to fear of cost compounds this dilemma. Silverman notes, "The affordability of health insurance is a key contributor to the rising number of uninsured and creates ever-greater instability for those who still retain health insurance coverage" (2008, p. 3). The stress of not having insurance and being in high financial debt compounds the problem, causing more stress. A greater out-of-pocket expense puts low-income individuals at risk of paying for medical costs over basic needs (Schoen, Collins, Kriss, & Doty, 2008).

In the same study by Silverman (2008), increased morbidity and mortality were linked to lack of health insurance. Uninsured individuals who do not have access to preventive, cost-effective, or affordable care increase use of in-hospital stays. Lack of primary care and insurance due to low income increases delaying needed care because of

cost (Hoffman & Paradise, 2008). Primary care is essential to good health. Increased access to primary health care services improves total patient health. Overall health care costs delay in obtaining prescriptions and preventive care and low socioeconomic status (SES) remain critical barriers to obtaining care.

Post-Affordable Care Act

In the study “The Affordable Care Act’s Impacts on Access to Insurance and Health Care for Low-Income Populations” (Kominski, Nonzee, & Sorensen, 2017), after ACA was implemented on March 23, 2010, health care access increased to underserved populations in the form of Medicaid extensions. Health care access became affordable, which means that preventive health care measures were available to low-income individuals. The study reported some unintended barriers to access: There are fewer providers in network to marketplace plans, which limits access more than pre-ACA. There are high-deductible plans for low-income individuals, which affect the affordability. This means there is a high percent of employment checks paying for insurance from an already low-income employment check. This is an unfortunate situation causing low-income individuals to opt out of paying for employer insurance, causing them to be uninsured. In June 2012, the Supreme Court ruled Medicaid expansion is optional, and some states opted not to extend Medicaid coverage in their states. For low-income individuals, barriers to access and affordability can prohibit routine engagement with health care providers and the health care system (Kominski, Nonzee, & Sorensen, 2017).

Health reform law will exclude undocumented immigrants from health insurance causing safety-net hospitals financial pressures. Providers will be left with

uncompensated health care costs. This will affect 11 million undocumented immigrants through the United States. Undocumented immigrants will not be allowed to purchase insurance through the exchanges and will be excluded from the Medicaid expansions (Wallace, Torres, Sadegh-Nobari, & Pourat, 2013). This is a significant barrier with high out-of-pocket costs for an already low-income, underserved population.

Post-ACA, young adults ages 19 to 26 will be allowed to remain on parents' insurance as dependents (Busch, Golberstein, & Meara, 2014). This is significant because this allowed young adults to resume on preventive health care measures and decreased out-of-pocket health care costs. This extension only benefits young adults whose parents already have insurance for their households.

Socioeconomic Status

Fiscella, Goodwin, and Stange studied the effect of low SES on physician visits, associating lower patient SES with avoidable or preventable hospitalizations, hospital readmissions, delivery of less preventive care, and lower quality care (2002).

Socioeconomic disparities in health care demonstrate the impact of SES on access to care. Vulnerable populations use the emergency department (ED) as a primary care provider with non-emergency ED visits (Wilkin, Cohen, & Tannebaum, 2012). SES is pivotal in understanding the health disparities of uninsured individuals. Income and education are important to assess in a patient's engagement because of the relationship between SES and mortality (Sorlie, Backlund, & Keller, 1995).

Income. Vulnerable populations are at greater risk for poor health status with lack of health care access and generally include racial and ethnic minorities, low SES populations, and those without adequate potential access to care (Shi & Stevens, 2005).

In the Kullgren et al. study (2010), lower-income families were defined as having incomes that were less than 300% of the federal poverty level. In the same study, it was discovered that lower-income families with at least \$500 in annualized out-of-pocket expenditures had a high-deductible health plan (HDHP), and due to a high deductible out-of-pocket expense, individuals forego medical care. Further, low-income families were more likely than higher-income families to delay or forego health care services owing to cost. (Kullgren et al., 2010). Poverty and health seem to be interwoven relating to risk factors in low-income families. Adding to the health disparity, low-wage workers are far less likely than higher-wage workers to have access to job-based coverage, so low income is often synonymous with uninsured populations. Health insurance is unaffordable in the low-income population, and more than 90% of the uninsured cite cost as the main barrier to getting care health care needs addressed (Kullgren, et al., 2010). There are bigger implications to being poor and not having insurance. Poor children are four times as likely, and near-poor children are three times as likely, to have unmet health care needs as children from higher-income families (Hoffman & Paradise, 2008). When children have unmet health care needs, their attendance at school suffers. It is important to address health disparities as a whole but most importantly, through encouragement and motivation, to move toward positive outcomes in education for children within low-income populations. In a study conducted by Holtyn, DeFulio, and Silverman, positive outcomes toward education appear to increase income through better paying jobs for educated, degreed adults as well as gaining insurance through an employer (2015).

Education. In a study by Holtyn, DeFulio, and Silverman, education was shown to be strongly correlated with employment earnings and status. Educated individuals earn

higher wages and experience less unemployment than their less-educated counterparts (2015). Higher education predicted lower uninsured individuals according to Stone, Boursaw, Bettez, Larzelere Marley, and Waitzkin (2015). Education does have an impact on motivation toward patient engagement and initiative toward future self-management tasks. In a study by Fiscella, Goodwin, and Stange (2002), when a patient's education is lower, a physician's consultation time is extended on immediate health needs as opposed to preventive "talk" in assessing patient's health knowledge.

Education has a domino effect on income and health behaviors as well as future occupation. Education directly affects financial earnings due to earning increase with educational level, as annual earnings range from \$18,900 for high school dropouts to \$25,900 for high school graduates; \$45,400 for college graduates; and \$99,300 for workers with professional degrees (Day & Newsburger, 2002). Sorlie, Backlund, and Keller conducted the National Longitudinal Mortality Study in which least educated and poor individuals require more health services both in prevention and treatment (1995). According to Sorlie, Backlund, and Keller, income and education affect an individual's mortality (1995). In talking about health care disparity and mortality, Wilkinson noted about health disparity, "a double injustice: life is short where its quality is poor" (1986, p. 949). It is important to realize healthy habits and behaviors through education build confidence, knowledge, and empowerment in self-care. Health care reform was put into law to reduce health care disparities associated with SES and to address quality of life.

Employment. Employment is a huge predictor to whether an individual will have high or low income. Legerski states, "Low-income workers are more likely to be uninsured since they are less likely to be offered job-based coverage and are less able to

afford the cost of private health insurance premiums” (2012, p. 643). Worker productivity is a double-edged sword because if individuals are too sick to work, then their productivity at work suffers. Low-wage workers do not have the opportunity to access job-based health care coverage, yet they are worked more rigorously and physically than higher-wage workers. In the Batlle, Goldman, Logroño, and Diaz study, while conducting a focus group, participants commented on how health and being healthy enables work and work efficiency (2016). If one is unemployed, one does not have insurance; therefore, one does not have access to adequate treatment or preventive health care. Unemployed individuals suffer from economic and social implications of being unemployed (Sorlie, Backlund, & Keller, 1995).

Basic Needs

A greater out-of-pocket expense for health care puts low-income individuals at greater risk of paying for medical costs over basic needs (Schoen, Collins, Kriss, & Doty, 2008). The delivery of coordinated medical care is complicated by basic needs. Nonmedical life circumstances affect a patient’s ability to adhere to and engage in medical goals. Unmet psychosocial needs tend to affect physical and functional health, thereby increasing health care costs due to poor access to health care (Kushel, Gupta, Gee, & Haas, 2006). High-need, high-cost patients tend to have higher inpatient acute care use with preventable outpatient needs. These patients tend to have a limited ability to self-care compounded by their basic needs such as housing, food, and lack of personal support (Blumenthal, Chernof, Fulmer, Lumpkin, & Selberg, 2016; Gallo & Matthews, 2003; Muennig, Franks, Jia, Lubetkin, & Gold, 2005). Low SES and income inequality have a negative impact on basic needs, negatively affecting health care outcomes (Asadi-

Lari, Tamburini, & Gray, 2004, Di Domenico & Fournier, 2014; Shi & Stevens, 2005). In a study by Aamar, Lamson, and Smith (2015), a holistic approach to patient-centered care positively impacted health care outcomes. The study focused on treating biological, psychological, social, and spiritual needs of a patient in treatment interventions. A strengths perspective was used in assessing a patient's health care needs in treating chronic diabetes (Aamar, Lamson, & Smith, 2015).

Empowerment Theory of Patient Engagement

The study attempts to explore how an uninsured patient's engagement in self-care can affect barriers to his or her health care access. The framework used in this study addresses the hypothesis developed during literature review and empowerment theory. An assessment of self-efficacy is whether the patient has the capability and capacity of care, which is an important tool to patient-centered health care (Wallerstein, 2002). Empowerment theory suggests that patients' engagement helps in coping with various challenges. The research conceptual framework based on empowerment theory illustrates how this theory has been applied to answer the research question in this study and develop the following hypotheses based on the literature review.

To implement better approaches of addressing the challenges and problems that uninsured patients face, an empowerment theory has been applied. Patient-centered care (PCC) is at the forefront of health care reform. PCC refers to building a rapport with primary health care provider to enable positive therapeutic outcomes with goals of treatment toward self-management. This approach can be considered an application of an empowerment theory that empowerment motivates people to take the necessary steps to improve their health in a self-directed manner by enabling responsibility and readiness

for change (Bann, Sirois, & Walsh, 2010). Akeel and Mundy (2015) identify three functional elements to empowerment theory: access to care, patient involvement, and self-management. Self-management through empowerment will maximize health and wellness, decrease dependence on health care services, and utilize cost-effective resources to improve health care outcomes (McAllister, Dunn, Payne, Davies, & Todd, 2012). Zimmerman engages the applied framework of empowerment theory in terms of wellness, competence, and strengths as well as identifying capabilities within self to assess readiness for change all of which are important tools toward self-care (Perkins & Zimmerman, 1995).

As coordinated care shifts focus on patient-centered care, patient enablement and engagement in self-care becomes more evident. Care management of social, medical, and behavioral health needs of a patient impacts health outcome; therefore, skills, knowledge, and motivation to participate in self-care are important (Napoles et al., 2017). Through the ACA, patients are consumers of health, which influences quality and costs of health care (Hibbard, Stockard, Mahoney, & Tusler, 2004). Patient engagement results in a behavior to manage their own health toward a positive health outcome. "Patient enablement can be defined as the extent to which a patient is capable of understanding and coping with his or her health illness" (Hudon, Fortin, Rossignol, Bernier, & Poitras, 2011, p. 1). Howie et al. (1998) developed the Patient Enablement Instrument (PEI) to measure a patient's experience post-consultation to help determine a patient's empowerment and their ability to cope with illness to enable better health care outcomes. PEI is helpful in measuring quality of service and experience in consultation due to

‘enablement’ as a primary care outcome. The concept of enablement draws on the importance of patient centeredness and empowerment (Howie et al., 1998).

Conclusion of Literature Review and Conceptual Model

SES and basic needs can have a negative impact on health care access. Health care access is defined as an established “health care home,” meaning they have established care with a health care provider, by Brown et al. (2003). Patient enablement has been studied to show positive effects on health care access (Howie et al., 1998; Hudon, Fortin, Rossignol, Bernier, & Poitras, 2011; Napoles et al., 2017), but there is limited research on uninsured, indigent populations. Health care professionals would benefit from understanding the importance of an established health care home toward self-management of health care needs.

The conceptual model formulated from literature reviews can be examined in Figure 1. The model shows SES and basic needs have an impact on health care access. After an extensive literature review, the following hypotheses were developed:

- Hypothesis 1: Barrier 1 (low socio-economic status) will have a negative total effect on health care access.
- Hypothesis 2: Barrier 2 (basic needs not met) will have a negative total effect on health care access.
- Hypothesis 3: Patient engagement will have a positive total effect on health care access.
- Hypothesis 4: Patient engagement will buffer the negative effect of barrier 1 (low socio-economic status) on health care access.

- Hypothesis 5: Patient engagement will buffer the negative effect of barrier 2 (basic needs not met) on health care access.

The purpose of this study is to use empirical data for testing these hypotheses included in the research conceptual model that illustrates the moderating effect of patient enablement between barriers to health care access and actual health care access among uninsured populations. From this conceptual model composed through literature reviews, a methodology of the research was developed.

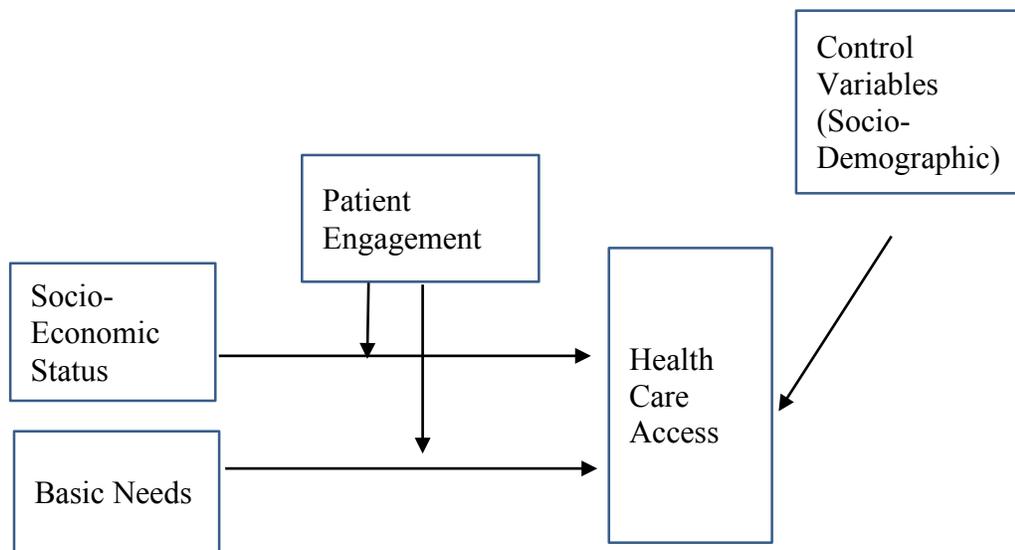


Figure 1. Conceptual model of moderating effect of patient engagement.

CHAPTER III
METHODOLOGY

Purpose

The purpose of the study attempts to examine the moderating effects of patient engagement impacting barriers, low socio-economic status and basic needs, toward health care access in uninsured populations. The study will help determine whether patient engagement will have a positive impact on health care access regardless of low socio-economic status and level of basic needs.

Research Design

Quantitative, survey research design was conducted to test the research model. Data was collected at a PMCM in Abilene, Texas. The sample will include active patients and new patients post-initial intake. The criteria of participants of this survey study include adults, both male or female, 18 to 64 years of age, of any race/ethnicity, uninsured, U.S.-born or born out of the country, of any marital status, of any level of education, of any level of employment or unemployment, and an income of less than 200% of the federal poverty level, according to the 2018 Household Income Poverty Guidelines. This study will use a convenience sampling because the survey will be implemented only among patients who come to the clinic during the data collection period. The research is designed to understand a problem and the factors which could be associated with the problem. Various hypotheses were developed based on literature

review. Due to the nature of this cross-sectional study using a convenient sample, this study needs to be considered as exploratory rather than explanatory.

The proposed research was submitted to the Abilene Christian University (ACU) Institutional Review Board (IRB) for review. The ACU IRB approval letter is found in Appendix A.

Sample

The participants of this study are a sample of convenience currently receiving care and newly eligible patients for outpatient primary medical care at PMCM. The sample will consist of 122 adults, male or female, 18 to 64 years of age, of any race/ethnicity, uninsured, US or born out of the country, of any marital status, of any level of education, of any level of employment or unemployment, and an income of less than 200% of the federal poverty level, according to the 2018 Household Income Poverty Guidelines.

If participants choose to take part in this study, they are welcome to discontinue participation at any time without interference in care or loss of services of any kind at the clinic. Upon arriving and signing in for an existing appointment, patients are invited to participate in the study. Those who volunteer to participate are taken to a private room that is close to the waiting room to receive survey information. The room is air conditioned, quiet, and well lit, with a table for writing, three comfortable chairs, two accessible doors, and four white walls with no windows. Survey participation information includes a Research Participation Request Form found in Appendix B. This form provides a brief overview of the study emphasizing that participation in the survey is voluntary and will not have any impact on access or services at PMCM.

An Informed Consent Form (found in Appendix C) will also be provided to participants. After signing, a copy of the consent form will be provided to the participant. A Survey of Patient's Active Engagement (found in Appendix D) will include questions pertaining to health care access, a patient enablement instrument, sociodemographic questions, and questions regarding basic needs. The primary investigator involved in the research study will be conducting initial survey orientation with participants and the staff at PMCM. The information gathered will not identify a survey participant and will not be traced back to any participants. As surveys are completed, completed surveys will be placed in a secure, locked cabinet in primary investigator's locked office located at the medical clinic. Upon completion of the study and data collection, primary investigator will shred all data collected in surveys in a Health Information Portability and Accountability Act (HIPAA) compliant shredder.

Data Collection

The survey will be conducted through March 2018 at a medical clinic in Abilene, Texas. This organization is a 501(c)(3) private, independent, nonprofit corporation open Monday through Friday from 8 a.m. to 5 p.m. The clinic provides access to affordable primary medical and dental care to low-income and uninsured adults in the community. The mission of the clinic is for uninsured adults to establish a medical home for their primary medical care needs. The clinic wants the uninsured population to engage in their health care needs and to avoid delayed medical care due to lack of insurance coverage that could exacerbate health conditions. The clinic has one full-time physician and one full-time and one part-time nurse practitioner and four volunteer physician specialists: endocrinologist, nephrologist, orthopedist, and neurosurgeon.

Other services available include: diabetic education, nutrition counseling, physical therapy, pulmonary screening, counseling services, prescription program, and dental care (one full-time dentist and two dental assistants). The criteria to qualify for services include: adult, male or female, 18 to 64 years of age, of any race/ethnicity, uninsured, US or foreign born, any marital status, any level of education, any level of employment or unemployment, and an income of less than 200% of the federal poverty level, according to the 2018 Household Income Poverty Guidelines.

Instruments

Data collection will involve a survey that includes questions measuring the independent and dependent variables: socio-economic status, basic needs, patient enablement, health care access, as well as control variables within sociodemographic information.

Socio-economic status. Socio-economic measures were based on the Intake Assessment Form developed by PMCM. The form addresses income, education, and employment questions pertaining to proof of income eligibility, which is required by the medical clinic. Questions include: level of education reached, employment status, household income, and number of persons in household.

Basic needs. Basic needs of the participants will be measured using 10 questions for which participants answer 1=*not at all concerned* to 5=*extremely concerned*.

Questions address topics such as the following:

- Job opportunities
- Access to education
- Access to affordable health care

- Access to healthy food choices
- Opportunities for walking, biking, or bus
- Cost of transportation
- Paying for utilities
- Paying the rent/making house payments
- Heat during winter
- Air conditioning during summer

The highest score of 50 would indicate an extreme concern for basic needs, whereas the lowest score of 10 would indicate a low concern for basic needs.

Patient enablement instrument. Howie et al. (1998) developed the Patient Enablement Instrument (PEI) to measure a patient's experience post consultation to help determine a patient's empowerment and their ability to cope with illness to enable better health care outcomes. PEI is helpful in measuring quality of service and experience in consultation due to 'enablement' as a primary care outcome. The concept of enablement draws on the importance of patient centeredness and empowerment. The instrument consists of six questions with four levels of responses ranging from *much better* to *not applicable* at two points per answer, with a minimum score of 0 to a maximum score of 12. The six questions measure whether a patient is capable of managing his or her own health care needs after a consultation with a primary care physician. The patient is asked about ability to cope with life, understanding illness, ability to cope with illness, ability to keep healthy, confidence about health, and ability to help self.

Health care access. According to Brown et al., health care access was identified as established care with a health care provider (2003). Health care access measures include:

- During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?
- Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare or Indian Health Services?
- Do you have one person you think of as your personal doctor or health care provider?
- Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?
- About how long has it been since you last visited a doctor for a routine checkup, a routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition?
- What is your health status, and does Presbyterian Medical Care Mission provide your health care needs?

Socio-demographic questionnaire. Socio-demographic measures were based on the Intake Assessment Form developed by PMCM. The form addresses age, gender, ethnicity, marital status, living arrangements, type of housing, location of residence, and location of birth.

Statistical Analysis

Descriptive analyses will be conducted to summarize characteristics of the sample (e.g., gender, marital status, age, ethnicity, country of birth, employment status, education level completed, number in household, household income, and health status). A multiple regression analysis will be performed to test the hypotheses included in the conceptual model: a moderating effect of patient engagement between barriers to health care access (socio-economic status and basic needs) on the dependent variable (health care access). When a moderating effect was found statistically significant, this effect will be examined graphically using the process macro that Hayes (2017) developed testing a moderating model.

CHAPTER IV

FINDINGS

Description of Sample

A total of 122 surveys were analyzed and used for the remainder of this study. Participants were uninsured patients at PMCM who actively receive primary health care services. A total of 151 did not consent to participate.

Gender

As seen in Table 1, of the 122 participants, the descriptive statistics showed that 46 male patients accounted for 38.0% of the total, with 75 female patients comprising 62.0%, which is obviously higher.

Ethnicity

The largest ethnic group consisted of 59 Non-Hispanic, White patients, which accounted for 50.0% of the total; with 49 Hispanic patients comprising 41.5% as the second largest ethnic group; followed by Non-Hispanic, African American ($n=7$, 5.9%), Non-Hispanic, American Indian ($n=2$, 2.7%), and Non-Hispanic other ethnicity ($n=1$, .8%).

Marital Status

In terms of marital status, the majority of the respondents were single, comprising 39.2% of the total respondent pool, with 47 patients, followed by married ($n=34$, 28.3%), divorced ($n=29$, 24.2%), and separated ($n=10$, 8.3%).

Education

Of the participants in the study, the majority of the respondents were high school graduates, comprising 40.0% of the total respondent pool, with 48 patients; followed by 26 respondents indicating no high school (21.7%); 25 participants who attended college (20.8%); and 21 respondents who indicated GED (17.5%).

Age

The median age between the required age group of 19-64 was 49.14, accounting for 11.210% of the total. Table 1 shows the detailed information of the participants' demographic background.

Table 1

Characteristics of the Sample of Patients in a Primary Care Agency (N =122)

Variable	Category	N	%
	Range	M	SD
Gender	Male	46	38.0
	Female	75	62.0
Ethnicity	NH, White	59	50.0
	NH, African American	7	5.9
	NH, American Indian	2	1.7
	NH, Other	1	.8
	Hispanic (Any)	49	41.5
Marital Status	Married	34	28.3
	Single	47	39.2
	Divorced	29	24.2
	Separated	10	8.3
Education	No High School	26	21.7
	High School graduate	48	40.0
	GED	21	17.5
	College	25	20.8
Age	19~64	49.14	11.210

Reliability Analyses to Check Internal Consistency of Composite Variables

A series of preliminary analyses were performed to check the internal consistency of composite variables. Cronbach's alpha is a widely-used tool for assessing

the reliability of a scale. This value refers to “the extent that correlations among items in a domain vary, there is some error connected with the average correlation found in any particular sampling of items” (Nunnally, 1978, p. 206). Nunnally (1978) argued the alpha level of equal to or higher than .60 should be considered to be indicative of minimally adequate internal consistency. This analysis was not conducted for the dependent variable (i.e., Health Care Access) because its indicators were measured in different scales and each indicator does not necessarily measure a common construct. However, the sum of Access 2 and Access 5 was used to measure the total challenge in these indicators.

Patient Enablement Instrument (PEI)

As noted in Table 2, the subscale of patient enablement exhibited high internal consistency ($\alpha = 0.927$). Therefore, the scores on the six items were summed to generate a composite value to measure patient enablement as Howie et al. (1998) suggested. It is important to note variable PEI5 “confident about your health” scored the highest, with item mean 2.07. It was followed by PEI3 “able to cope with your illness,” with item mean 2.02; PEI2 “able to understand your illness,” with item mean 2.00; PEI1 “able to cope with life” and PEI4 “able to keep yourself healthy,” each with item mean 1.95; and PEI6 “able to help yourself” with the lowest, item mean 1.93.

Table 2

Internal Consistency of Patient's Enablement Measured by PEI (N= 122)

Variable	α	Item Mean	α Without
Total	0.927		
PEI1 "able to cope with life"		1.95	.919
PEI2 "able to understand your illness"		2.00	.919
PEI3 "able to cope with your illness"		2.02	.908
PEI4 "able to keep yourself healthy"		1.95	.906
PEI5 "confident about your health"		2.07	.914
PEI6 "able to help yourself"		1.93	.914

Basic Needs

As noted in Table 3, the subscale of basic needs exhibited high internal consistency ($\alpha = 0.903$). Therefore, the scores on the 10 items were summed to generate a composite value to measure basic needs. It is important to note variable BasicNeeds3 "Access to affordable health care" scored the highest, item mean 3.31. It was followed by BasicNeeds7 "Paying for utilities", item mean 2.88, BasicNeeds8 "Paying the rent", item mean 2.46, with BasicNeeds1 "Job opportunities", item mean 2.36, followed by BasicNeeds10 "Air conditioning during summer", item mean 2.31, BasicNeeds9 "Heat during winter", item mean 2.29, BasicNeeds4 "Access to healthy food choices", item mean 2.25, BasicNeeds6 "Cost of transportation", item mean 2.22, BasicNeeds5 "Opportunities for walking, biking, or bus", item mean 2.06; whereas, BasicNeeds2 "Access to education" scored the lowest, item mean 1.59.

Table 3

Internal Consistency of Basic Needs

Variable	α	Item Mean	α Without
Total	0.903		
BasicNeeds1 “Job opportunities”		2.36	.898
BasicNeeds2 “Access to education”		1.59	.908
BasicNeeds3 “Access to affordable health care”		3.31	.905
BasicNeeds4 “Access to healthy food choices”		2.25	.894
BasicNeeds5 “Opportunities for walking, biking, or bus”		2.06	.897
BasicNeeds6 “Cost of transportation”		2.22	.886
BasicNeeds7 “Paying for utilities”		2.88	.882
BasicNeeds8 “Paying the rent”		2.46	.888
BasicNeeds9 “Heat during winter”		2.29	.887
BasicNeeds10 “Air conditioning during summer”		2.31	.888

Descriptive Statistics of Major Variables**Health Care Access**

According to Brown et al. health care access was identified as established care with a health care provider (2003). As seen in Table 4 *Descriptive Statistics of Major Variables*, health care access was measured using five survey items. The sum of these items was used to measure health care access: Access1 “Unfunctional days” range from 0-50, Access2 “Health care coverage”, Access3 “Primary care access”, Access4 “Not seen a doctor due to cost” are items with yes or no responses; whereas, Access5 “Last visit for routine checkup” ranged from within the past year to more than 5 years. It is important to note, respondents rated variable Access3 “Primary Care Access” at the highest rate the Yes rate with the mean sum of 74 with a standard deviation of 62.7%. Access 4 “Not seen a doctor due to cost” was also significant with the Yes rate with a mean sum of 60 with a standard deviation of 51.7%.

Socio-Demographic

Socio-demographic measures were based on the Intake Assessment Form, which was developed by PMCM. The form addresses age, gender, ethnicity, marital status, education, employment, living arrangements, type of housing, and location of residence. As seen in Table 4 *Descriptive Statistics of Major Variables (N=122)*, variables for “Employed” and “Living Challenge (either homeless or risk to homeless)” where respondents answered yes, or no were rated. In both, No, was rated highest with a sum mean of (n=62, 50.8%) for employed and a sum mean of (n=111, 93.3%). Respondents were asked, “Where were you born?” with open-ended response sum mean of (n=13, 10.7%).

Patient Enablement Instrument

Patient Enablement Instrument consists of six questions with four levels of responses. The sum of these items were used to measure the level of patient enablement: ranging from much better, better, same or less, and not applicable. Each response is two points per answer, with a minimum score of 0 to a maximum score of 12 (Howie, et al., 1998). Data on patients’ enablement mean in the sample can be seen in Table 4. The mean of the patient’s enablement sum was 2.02 with a standard deviation of 0.68%.

Basic Needs

Basic needs were measured using 10 survey items. The sums of these items were used to measure level of unmet basic needs: 1 (not at all concerned), 2 (slightly concerned), 3 (somewhat concerned), 4 (moderately concerned), and 5 (extremely concerned). The highest score of 50 would indicate an extreme concern for basic needs, whereas the lowest score of 10 would indicate a low concern for basic needs. Data on

basic needs mean in the sample can be seen in Table 4. The mean of the basic needs sum was 2.46 with a standard deviation of 1.11%.

Table 4

Descriptive Statistics of Major Variables (N=122)

Variables	Category Range	<i>N</i> <i>Mean</i>	<i>%</i> <i>SD</i>
Access1: Unfunctional days	0-50	17.41	11.88
Access2: Health care coverage	No	112	95.7
	Yes	5	4.3
Access3: Primary Care Access	No	44	37.3
	Yes	74	62.7
Access4: Not see a doctor due to cost	No	56	48.3
	Yes	60	51.7
Access5: Last visit for routine checkup	Within past year	76	68.5
	Within past 2 years	16	14.4
	Within past 5 years	6	5.4
	5 or more years ago	13	11.7
Patient's enablement (mean)	1~3.50	2.02	0.68
Basic needs concerns (mean)	1~4.80	2.46	1.11
Employed	No	62	50.8
	Yes	60	49.2
Living Challenge ^a	No	111	93.3
	Yes	8	6.7
Immigrant	No	109	89.3
	Yes	13	10.7

Note. ^a Living Challenge (either homeless or risk to homeless); All continuous variable are normally distributed.

Hypothesis Testing

The proposed model includes demographic information (gender and age), risk factors (education, employment, house income, and basic needs met), protective factors (patient enablement) and the interaction terms between the risk factors and protective factors. A multiple linear regression analysis was conducted to test the hypotheses.

- Hypothesis 1: Barrier 1 (socio-economic status) will have a negative total effect on health care access.

- Hypothesis 2: Barrier 2 (basic needs) will have a negative total effect on health care access.
- Hypothesis 3: Patient engagement will have a positive total effect on health care access.
- Hypothesis 4: Patient engagement will buffer the negative effect of barrier 1 (socio-economic status) on health care access.
- Hypothesis 5: Patient engagement will buffer the negative effect of barrier 2 (basic needs) on health care access.

This proposed model did not significantly statistically explain the variance of the health care access, which was measured by the sum of 5 answers to the related questions. The results indicate that the overall regression model was not statistically significant ($R^2 = .169$, Adjusted $R^2 = .072$, $F = 1.670$, $p = .084$).

A careful contemplation of the results suggests that using a sum score of health care access may not appropriate because each question addresses the different aspect of health care access and measure the indicator in different scales. A theoretical contemplation of the indicators suggests that the 3rd question in the scale (i.e., Do you have one person you think of as your personal doctor or health care provider?) appears to represent the concept of having primary care access. A new dichotomous dependent variable (PrimaryCareYes) was created by combining the positive answers (72 for “Yes, only one” and $n=2$ for “More than one”).

The following research hypotheses were tested using this new dependent variable.

- Hypothesis 1: Barrier 1 (socio-economic status) will have a negative total effect on primary care access.

- Hypothesis 2: Barrier 2 (basic needs) will have a negative total effect on primary care access.
- Hypothesis 3: Patient engagement will have a positive total effect on primary care access.
- Hypothesis 4: Patient engagement will buffer the negative effect of barrier 1 (socio-economic status) on primary care access.
- Hypothesis 5: Patient engagement will buffer the negative effect of barrier 2 (basic needs) on primary care access.

A logistic regression was performed to find predictors on the likelihood of having primary care access. Table # and Figure # demonstrate the results of this revised model.

Table 5

Binomial Logistic Regression Analysis for Predictors of Primary Care Access (N = 97)

Predictor	Model 1		Model 2	
	Wald	OR	Wald	OR
Female (1/0)	.037	1.101	.597	1.519
Age	4.555*	1.048	3.450	1.045
No high school (1/0)	2.605	.397	1.811	16.589
Unemployed (1/0)	.770	.661	3.133	16.288
House income	.623	.757	.011	1.130
Basic needs	.633	.834	.373	1.627
Patient's enablement (PEI)	.000	1.001	1.628	8.864
No high school by PEI			3.398	.167
Unemployed by PEI			4.438*	.203
House income by PEI			.050	.877
Basic needs by PEI			.852	.707
Constant			1.515	.010

$\chi^2 (11, N=97) = 16.022$; Nagelkerke $R^2 = .209$; * $p < .05$, ** $p < .01$, *** $p < .001$

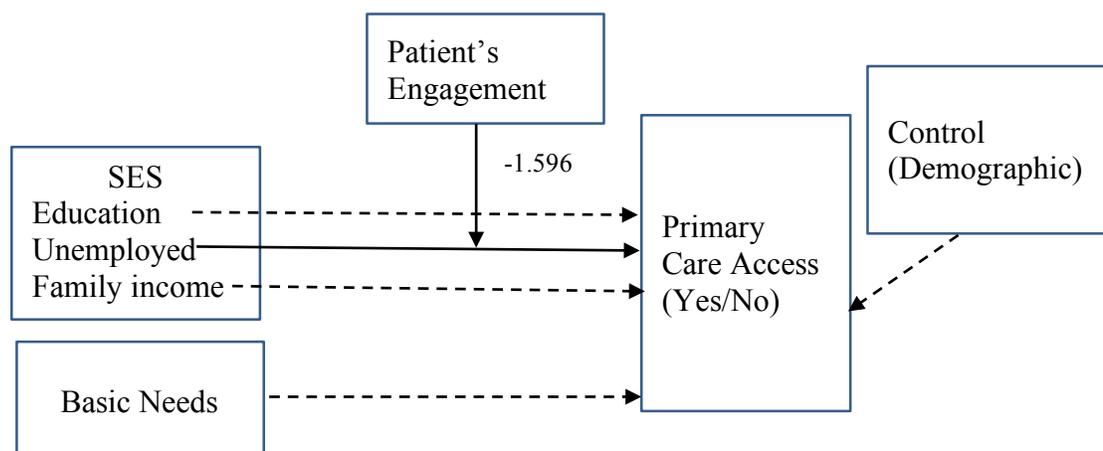


Figure 2. Results of testing a revised model

Due to the missing data, only 97 cases were included in the analysis. Model 1 presents the results of testing the effect of predictors before the inclusion of interaction terms (Hypotheses 1 through 3). Model 2 presents the results after the inclusion (Hypotheses 4 and 5).

The Hosmer-Lemeshow test explores whether the predicted probabilities are the same as the observed probabilities. An overall goodness of fit of the model is indicated by insignificant chi-square values. This model produced an insignificant difference between the observed and predicted probabilities, $\chi^2(8, N = 97) = 7.043, p = .532$. The result indicates an overall good model fit.

The model fit also is assessed using the Cox & Snell R Square (15.2%) and the Nagelkerke R Square (20.9%) which adjusts the Cox & Snell so that it ranges from 0 to 1. The results indicate that Model2 explained roughly 20.9% of the variance in the dependent variable. This interpretation should be used with caution because they do not explain the amount of variation accounted for by the model as does the R-square in

multiple regression (Hosmer and Lemeshow, 2000). Another model fit, the model chi-square value, was not statistically significant: $\chi^2(11, N = 97) = 16.022, p = .140$. This value shows the difference between the null model and the current model (full model or Model 2) value. It implies that the addition of the independent variables (i.e., interaction terms) did not improve the predictive power of the model. A possible reason can be due to the change in significant factors. Age was a significant factor in Model 1 (OR = 1.048; i.e., older patients are more likely to have primary care access), but its effect becomes insignificant when interaction effects are taken into consideration.

Model 2 presents more detailed information about the predictors. The results show that patients' enablement buffers only for the relationship between unemployed and primary care access ($b = -1.596$, Wald = 4.438, $p = .035$, OR = .203). The interaction term effect cannot be presented visually because the current version of Process Macro (version 3) does not allow a dichotomous dependent variable. However, the reflection of the coefficients of factors associated with the significant interaction effect can be interpreted as following: if PEI mean increases by 1 unit, the effect of Unemployed decreases by 1.596 units. In previous step that excludes the interaction term, the effect of unemployment on DV was negative ($b = -.414$) or detrimental. By adding the interaction term (Unemployment by PEI mean), its coefficient of the main effect became positive ($b = 2.790$). It suggests the patient enablement buffers the effect of unemployment on health care access. None of other predictors included in this model was statistically significant.

CHAPTER V

DISCUSSION

For this study, research was conducted to examine the effect of low socio-economic status and basic needs on health care access, as well as analyze how these risk factors are impacted by patient engagement affect health care access. Various research studies have been conducted referencing the importance of patient engagement in an individual's self-management of their own health care goals (Hibbard & Cunningham, 2008; Hibbard & Greene, 2013; Martin, Williams, Haskard, & DiMatteo, 2005; Napoles et al., 2017). However, only certain aspects of the studies have been conducted with uninsured populations with barriers toward health care access. The purpose of the study attempts to explore the moderating effects of patient engagement impacting barriers, low socio-economic status and unmet basic needs, toward health care access in uninsured populations.

Discussion of Major Findings

After conducting research, survey, and data collection, findings show the initial linear regression model did not significantly statistically explain the variance of health care access. Since the proposed model was not significant, a new dichotomous dependent variable (PrimaryCareYes) was used based on the third question in the scale. The results show that patient's enablement buffers only the relationship between unemployed and

primary care access ($b = -1.596$, Wald = 4.438, $p = .035$, OR = .203). It suggests that patient enablement was a positive effect on unemployment.

The findings could be the result of the patient population studied at the medical clinic. Patients seek medical treatment at the clinic due to uninsured and low-income. Results for unemployed ($n=62$, 50.8%) and employed ($n=60$, 49.2%) were not significantly different. Unemployed patients could be more engaged in self-care in an effort to get well enough to return to work. This finding is supported by the literature. In a study by Deci and Ryan (2000), the concept of needs was discussed to understand self-determination in human behavior. In early “needs” theory, Hull (1943) linked physiological primary needs (e.g., food, water) and the environment systems in an analysis to understanding intrinsically motivated behavior and extrinsic motivations. *Principles of Behavior* (1943), associated primary needs and conditions in the environment toward a stimulus-response. There are various studies linking primary needs, in this case the need to work, with motivated behavior, in this case engagement in self-care through health care access.

As shown in Figure 2, the relationship between unemployment and primary care access is moderately affected by patient’s enablement (-1.596). A possibility of the finding could be related to uninsured, low-income patients seeking medical care and their need for community resources (Matthews, Gallo, & Taylor, 2010). In a study regarding socioeconomic context affecting physical well-being, Di Domenico and Fournier indicate individuals who have needs met have few health symptoms (2014).

Unemployed individuals could have a higher need of health care access due to chronic illnesses. An individual’s chronic care diagnoses could be the reason for their

unemployment. In a study where psychosocial factors are linked to low SES and poor health, the health effects of low SES could lead to disability (Matthews, Gallo, & Taylor, 2010). An individual being unemployed could also correlate with the ability to having the time to be more engaged in health care access and self-care goals. Time for self-care seems to be an issue for individuals who work, especially for low-income individuals who have two jobs and are managing a family.

Although patient's enablement did not moderate the relationship between other factors (e.g., education, family income, etc.), this could be because the sample size is too small ($N = 97$) for a moderating model. There are different alternative explanations for not supporting the interaction effect that has been hypothesized based on literature review: 1) lack of statistical power or 2) no buffering effect. Cohen (1985) argues that it is difficult to find an interaction effect because the same direction effects are divided into two sources: the main effect and the interaction. Having considered the sample size ($N = [248]$) and the size of the t -value ($= [0.672]$), the researcher would not attribute this result to the statistical power. Rather, it is concluded that the data found the interaction effect insignificant.

Implications of Findings

Implications for Practice

Implications for practitioners as they review the findings of this study and apply in practice could generate a more comprehensive, holistic approach to health care needs. In this approach, immediate basic needs and patient level of engagement could be assessed to enable patients toward positive health care outcomes. Using a strengths-based and systems approach in completing a biopsychosocial assessment would allow

practitioners to engage patients in holistic plan of care toward self-care goals. Care management of social, medical, and behavioral health needs of a patient impacts health outcome; therefore, skills, knowledge, and motivation to participate in self-care are important (Napoles et al., 2017). As referenced previously, the 2015 study by Amar, Lamson, and Smith, demonstrated that a holistic approach to patient-centered care positively impacted health care outcomes.

In this study, the findings suggest motivational interviewing (MI) would be beneficial to use in assessing an individual's level of patient enablement to evaluate level of engagement and empowerment toward change. For practitioners, using MI is imperative to assess and determine an individual's willingness to change. In a Deci and Ryan study, research was reviewed to determine the relation between self-determination theory and MI (2012). In their study, health-behavior change was evident when individuals were autonomously motivated and were therefore engaged and driven toward positive behavioral outcomes. MI is a patient-centered approach in which the practitioner is non-judgmental, supportive, and promotes self-determination as well as accountability toward self-care (Deci & Ryan, 2012).

Implications for Policy

As a result of this study, health care staff in primary care health clinics would benefit from continued education regarding motivational interviewing techniques. To promote health-behavior change, health care providers should be able to engage in change talk. MI focuses on the amount of change talk and the quality of the change talk (Deci & Ryan, 2012). MI techniques are an effective tool toward positive health care outcomes.

Patient-provider relationship and communication are crucial toward patient engagement and empowerment. To reduce health disparities, clinicians must have an understanding of how to promote patient engagement (Alegria et al., 2014). The rapport and ease of communication would assist the clinical staff in understanding the patient's psychosocial concerns that might impede health-behavior change; therefore, patient-provider rapport is paramount in shared decision-making toward treatment goals (Jie Chen, Mullins, Novak, & Thomas, 2016; Nygardh, Malm, Wikby, & Ahlstrom, 2012; Sandman et al., 2012). Providers should be proactive in building patient knowledge and confidence as well as empowering patients toward positive health-behavior outcomes (Ludman et al., 2013). Ease of communication allows for treatment goals to be planned and discussed, which would allow for preventive measures to be discussed and patient to self-determine treatment.

Implications for Research

Further studies should be done to analyze the relationships of the variables in a longitudinal study. This study was completed in one visit post consultation with the medical staff. It would be interesting to see the level of enablement in patients with follow-up appointments. Data could be collected in an initial new patient visit and subsequent visits thereafter to determine level of engagement in self-care. In a study by Lynch, Kaplan, & Shema, the cumulative impact of sustained economic hardship had a holistic effect on individuals within low income populations (1997). This hardship could affect engagement in self-care.

Extensive research should also be done to determine the extent in which patient enablement is affected by chronic illness versus newly diagnosed illness (e.g., cancer,

diabetes, etc.). Studies should analyze the potential level of enablement in patients with chronic illness and whether mental health affects self-care treatment as well as analyze level of enablement post consultation of newly diagnosed illness.

Limitations of Study and Recommendation for Further Studies

There were several limitations of this study that must be considered when appraising the findings. First, the sampling method was not randomized. It was a sample of convenience currently receiving care and newly eligible patients for outpatient primary medical care at PMCM. The eligibility requirement for services at the medical clinic: strictly uninsured and low-income of less than 200% of the federal poverty level, according to the 2018 Household Income Poverty Guidelines.

Secondly, the participation was voluntary; therefore, the survey was completed by participants willing to complete it. Respondents' self-report to survey compromised the accuracy of the responses. Regardless of the Research Participation Request Form stating service delivery at medical clinic will not be compromised, it is possible the participants did not respond truthfully to survey out of fear of harming service delivery.

Timing was a third limitation. The timing of the survey was strictly done after the consultation with the physician or nurse practitioners. By the time the patient was asked to participate in the survey they could have become impatient and were rushed to leave. This situation could have also affected who had the time to complete a survey and who did not. It could be possible that unemployed participants would have more time to work on a survey due to employed participants would be rushed to get back to work. During the time of the survey, the primary care physician called in due to illness, so his patients

were rescheduled with nurse practitioners or rescheduled out. This unforeseen situation could also affect the findings of the survey.

Conclusion

This research study sought to better understand the effect of low SES and basic needs on health care access, as well as analyze how these risk factors are impacted by patient engagement affect health care access. The primary outcome of the study was gathered by using a binomial logistic regression analysis to determine the association between the dependent, independent, and moderating variables. The results show that patients' enablement buffers only the relationship between unemployed and primary care access ($b = -1.596$, $Wald = 4.438$, $p = .035$, $OR = .203$). None of the other predictors included in this model was statistically significant; however, it is likely that the findings reflect the population being studied. Future research is needed to further the study of the impact of patient enablement on health care access. It was determined that further studies, preferably longitudinal studies, are required to better determine the association of the variables to assist practices with assessment of access-to-care barriers and high out-of-pocket costs for already low-income, underserved population.

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APPENDIX A

IRB Approval Letter

ABILENE CHRISTIAN UNIVERSITY
Educating Students for Christian Service and Leadership Throughout the World
Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-674-2885



March 20, 2018

Enedelia Jessup

Department of Social Work

ACU Box 27866

Dear Enedelia,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled
**The Effect of Low Socio-Economic Status on Patient Enablement: Exploring the Factors of Uninsured Populations with
Barriers to Healthcare Access**

(IRB# 18-016)is exempt from review under Federal Policy for the Protection of Human Subjects.

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable.

I wish you well with your work.

Sincerely,

Megan Roth

Megan Roth, Ph.D.
Director of Research and Sponsored Programs

APPENDIX B

Research Participation Request

Dear Presbyterian Medical Care Mission Participant,

During the month of March 2018, a graduate student from Abilene Christian University (ACU), School of Social Work, will be conducting a study to explore whether patient enablement is affected by barriers to health care access due to low socio-economic status. A trained research facilitator will be distributing a survey while you wait to be seen for your appointment.

You are welcomed to participate in this study. Your participation would require completing brief surveys and a questionnaire in private. We ask that you complete them to the best of your abilities. The questionnaire is requesting demographic information such as gender, marital status, age, ethnicity, country of birth, employment status, education level completed, number in household, household income, and health status. The surveys are a Basic Needs Survey and a Patient Enablement Instrument Survey. The information gathered will not identify you and cannot be traced back to you.

Your participation in the study is completely voluntary and will not have any impact on your access or services at Presbyterian Medical Care Mission. If you choose to take part in this study, you are welcomed to discontinue participation at any time without interference in care or loss of services of any kind.

I hope you will agree to participate in this research, as it has the potential to provide valuable knowledge to helping professionals who work closely with similar populations. If you agree to participate, please sign and date two copies of the attached consent form, keeping one copy for your records, and one for study records. After your written consent is provided, a trained research facilitator will provide you with the research survey, demographic, and basic needs questionnaire. Thank you for your time.

Sincerely,

Enedelia L. Jessup (EJ), Graduate Student
Abilene Christian University
School of Social Work

APPENDIX C

Informed Consent

Title of Study: The Effect of Low Socio-Economic Status on Patient Enablement:
Exploring the Factors of Uninsured Populations with Barriers to Healthcare Access

You may be eligible to take part in a research study. This form provides important information about that study, including the risks and benefits to you, the potential participant. Please read this form carefully and ask any questions that you may have regarding the procedures, your involvement, and any risks or benefits you may experience. You may also wish to discuss your participation with other people, such as your family doctor or a family member. Also, please note that your participation is entirely voluntary. You may decline to participate or withdraw from the study at any time and for any reason without any penalty or loss of benefits to which you are otherwise entitled. Please contact the PI (Principal Investigator) if you have any questions or concerns regarding this study or if at any time you wish to withdraw. This contact information may be found at the end of this section.

Purpose and Procedures

You are invited to participate in this study that will help determine patient engagement in self-care. You will be asked to rate a survey pertaining to health care access, patient enablement, socio-demographics and basic needs. This research is designed to determine if patient's in low socioeconomic status have difficulty accessing health care, therefore

have lower participation in self-care. The PI, a social work graduate student, will conduct the research.

If selected for participation, you will be asked to complete a one-time survey over the course of spring 2018 semester. The survey is expected to take [10-15 minutes].

Once you consent to participation in the study, you will be asked to participate in the following procedures:

- No identifying information will be disclosed or used. You will be anonymous and all information will be de-identified.

Risks and Discomforts

The primary risk with this study is a breach of confidentiality, which is a minimal risk.

The researchers have taken steps to minimize the risks associated with this study. You will not be asked for your name or other identifying information to further protect your identity. However, if you experience any problems, you may contact the PI or faculty adviser in the social work department.

Some of the survey questions may cause mild to severe emotional distress. If anxious or depressive symptoms increase please seek assistance from a qualified medical profession.

You may contact the ACU Medical and Counseling Care Center at 325-674-2625 or fill out the intake form at

http://joanna/TitaniumWeb/Initial.aspx?ClickedButtonText=Counseling+Intake&WebMenuId=2040&CTC=U_WC_2YJ0UTW4V&CaseNoteType=2067&WcSeq=1

Potential Benefits

There are potential benefits to participating in this study. Such benefits may include a better understanding of health care access for uninsured populations. The researcher cannot guarantee that you will experience any personal benefits from participating in this study. However, the researcher hopes that the information learned from this study will help future uninsured patients access health care and achieve self-care goals.

Provisions for Confidentiality

Information collected about you will be handled in a confidential manner in accordance with the law. Some identifiable data may have to be shared with individuals outside of the study team, such as members of the ACU Institutional Review Board. Aside from these required disclosures, your confidentiality will be protected by de-identifying the survey. Also, password protected documents and data will be stored in a secure location.

Contact

If you have any questions, concerns, or comments, you may contact the Principal

Investigator of this study. The Principal Investigator is:

Enedelia L. Jessup, MSSW Candidate
1-325-668-8651
elj16a@acu.edu
ACU Box 27866, Abilene, TX, 79699

If you are unable to reach the Principal Investigator or wish to speak to someone other than the Principal Investigator, you may contact the faculty supervisor:

Kyeonghee Jang, PhD, LMSW
325-674-6428
khj15a@acu.edu
ACU Box 27866, Abilene, TX 79699

If you have concerns about this study or general questions about your rights as a research participant, you may contact ACU's Chair of the Institutional Review Board and Director of the Office of Research and Sponsored Programs, Megan Roth, Ph.D. Dr. Roth may be reached at

(325) 674-2885
megan.roth@acu.edu
320 Hardin Administration Bldg, ACU Box 29103
Abilene, TX 79699

Consent Signature/Date:

APPENDIX D

Survey of Patient's Active Engagement

HEALTH CARE ACCESS

The questions in this scale ask you about health care access. In each case, you will be asked to indicate whether health care was accessible to your needs. For each question choose from the following:

1. During the past 30 days, for about **how many days** did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?
 ____ Number of days
 None
 Don't know / Not sure

2. Do you **have any kind of health care coverage**, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare or Indian Health Services?
 Yes
 No
 Don't know / Not sure

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

4. Was there a time in the past 12 months when you **needed to see a doctor but could not because of cost**?
 Yes
 No
 Don't know / Not sure

5. About how long has it been since you last visited a doctor for a **routine checkup**? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition
- o Within past year (anytime less than 12 months ago)
 - o Within past 2 years (1 year but less than 2 years ago)
 - o Within past 5 years (2 years but less than 5 years ago)
 - o 5 or more years ago
 - o Don't know / Not sure
 - o Never

PATIENT ENABLEMENT INSTRUMENT (PEI) SURVEY

The questions in this scale ask you about how you feel and what you think about your illness after your visit with her health care provider. In each case, you will be asked to indicate to what degree you feel confident in knowing about your illness and what you think about your illness. For each question choose from the following:

The Patient Enablement Instrument (PEI)

As a result of your visit to the doctor today, do you feel you are . . .	MUCH BETTER	BETTER	SAME OR LESS	NOT APPLICABLE
able to cope with life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
able to understand your illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
able to cope with your illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
able to keep yourself healthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	MUCH BETTER	BETTER	SAME OR LESS	NOT APPLICABLE
confident about your health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
able to help yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SOCIODEMOGRAPHIC QUESTIONNAIRE

6. What is your age? _____

7. GENDER:

- Male
- Female
- I prefer not to answer

Please specify your ethnicity:

1. Are you Hispanic, Latino, or Spanish origin?

- Yes
- No, not of Hispanic, Latino, or Spanish origin
- I prefer not to answer

2. With which of the following do you identify? (Mark all that apply)

- White
- Black, African American, or Negro
- American Indian or Alaskan Native
- Asian
- Pacific Islander
- Other Race Specify: _____
- I prefer not to answer

8. MARITAL STATUS:

- Married
- Single
- Divorced
- Separated

9. EDUCATION:

- No High School
- High School graduate
- GED
- College

10. What is your employment status?

- Work from home
- Work outside of home
- Student
- Unemployed

11. What is your household income?

- <\$15,000
- \$15,00 - \$24,999
- \$25,000 - \$34,999
- \$35,000 - \$49,999

12. NUMBER OF PERSONS IN HOUSEHOLD:

- 1
- 2
- 3
- 4 or more

13. What are your living arrangements?

- Homeowner
- Renter
- Live with family or with friend
- Currently homeless
- At risk of homelessness

14. What type of housing do you live in?

- Single-family home
- Duplex or townhouse
- Apartment building
- Mobile home
- Other

15. HEALTH STATUS

- Poor
- Fair
- Good
- Excellent

16. Does Presbyterian Medical Care Mission provide your healthcare needs?

- Yes
- No

17. Where do you live? (Town and County):

18. Where were you born? _____

BASIC NEEDS

The questions in this scale ask you about your basic everyday needs. In each case, you will be asked to indicate to what degree you feel your basic needs are being met. For each question choose from the following:

How much are you concerned in the following situations **during the past year?**

	1	2	3	4	5
	Not at all concerned	Slightly concerned	Somewhat concerned	Moderately concerned	Extremely concerned
Job opportunities					
Access to education					
Access to affordable health care					
Access to healthy food choices					
Opportunities for walking, biking, or bus					
Cost of transportation					
Paying for utilities					
Paying the rent/making house payments					
Heat during winter					
AC during summer					