Fall 2012

Impact of Social Marketing on Nurse Practitioners' Acceptance of Clinical Video Telehealth for Elderly Patients in Rural Mississippi

Teresa Lynn Langley
University of Southern Mississippi

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IMPACT OF SOCIAL MARKETING ON NURSE PRACTITIONERS’
ACCEPTANCE OF CLINICAL VIDEO TELEHEALTH FOR
ELDERLY PATIENTS IN RURAL MISSISSIPPI

by

Teresa Lynn Langley

A Capstone Project
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Nursing Practice

Approved:

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Director

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December 2012
The University of Southern Mississippi

IMPACT OF SOCIAL MARKETING ON NURSE PRACTITIONERS’ ACCEPTANCE OF CLINICAL VIDEO TELEHEALTH FOR ELDERLY PATIENTS IN RURAL MISSISSIPPI

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Teresa Lynn Langley

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ABSTRACT

IMPACT OF SOCIAL MARKETING ON NURSE PRACTITIONERS’ ACCEPTANCE OF CLINICAL VIDEO TELEHEALTH FOR ELDERLY PATIENTS IN RURAL MISSISSIPPI

by Teresa Lynn Langley

December 2012

Elderly patients 65 years and older who have chronic illness and disabilities living in rural Mississippi have increased difficulty in obtaining timely cost-effective healthcare services from nurse practitioners. The purpose of the capstone project was to utilize social marketing strategies for promoting nurse practitioners’ acceptance of clinical video telehealth (CVT) in improving healthcare access for rural elderly patients in Mississippi. Clinical video telehealth is an innovative way to provide healthcare services to populations in need by reducing barriers to healthcare, such as distances, time, and transportation, and financial resources. However, providing healthcare through the use of technology has not always been well received by nurse practitioners due to concerns related to the lack of human touch, confidence in the reliability of CVT, knowledge of new technology, and provider workload reimbursement challenges.

Lee and Kotler’s (2011) principles and techniques of social marketing were used as the framework to promote Mississippi nurse practitioners’ acceptance of new technology for providing healthcare services in rural Mississippi. Additionally, using the American Association of Colleges of Nursing’s (AACN) (2006) Doctoral of Nursing Practice (DNP) Essentials II and IV supported this capstone social marketing telehealth project through technology system redesigns of healthcare.
Twelve Mississippi nurse practitioners participated in a focus group survey and CVT educational event. A focus group post-survey was utilized to collect descriptive data regarding nurse practitioners’ perceptions and acceptance of CVT. Data were obtained through five open-ended questions with additional comment section to identify concerns and barriers for acceptance of CVT.

The slogan 3 Rs (right service to the right person at the right time and place) was the social marketing campaign platform. Increasing nurse practitioners’ knowledge of new technology through social marketing can be instrumental in changing behavior and increasing acceptance of CVT for improving access to rural elderly as well as being a virtual connection for physician and peer review process.
The University of Southern Mississippi

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Director

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Dean of the Graduate School

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ACKNOWLEDGMENTS

The writer would like to thank the capstone chair, Dr. Karen Rich, and committee member, Dr. Patsy Anderson, for their expert advice and support throughout the duration of this project. I also would like to thank Dr. Janie Butts and Dr. Anita Boykins for their ability to motivate and inspire me to achieve my goals. Additionally, special thanks to Dr. Amal Mitra for his devotion in conveying his knowledge and love of statistics to help me complete this project.
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<td>NP</td>
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<td></td>
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CHAPTER I
INTRODUCTION
Problem Statement

Chronically ill and disabled Mississippians aged 65 years and older often have difficulty in obtaining timely and cost-effective healthcare services. In 2010 the United States Census Bureau reported that 385,481 persons aged 65 years and older reside in Mississippi. Of these individuals, 14.5% had a chronic disability, which is higher than the national average of 9.5%. In addition to high chronic disability rates, Logue (2011) expounded on the additional problem of a 20.2% poverty rate in Mississippi, which is higher than the national average of 13.5%. Mississippi is a rural state covering 46,907 square miles, and 54% of its residents live in rural areas. The combination of age, chronic illness and disabilities, poverty, and rurality limits the ability of elderly patients to obtain traditional healthcare.

Drainoni et al. (2006) found that barriers to traditional healthcare are compounded for elderly and disabled populations. These barriers include (a) distance to healthcare facilities, (b) lack of affordable transportation, (c) lack of primary care providers in easily accessible locations, and (d) a lack of financial means to obtain appropriate and timely healthcare interventions. The lack of access to timely healthcare interventions has resulted in increased emergency department visits, hospitalizations, and long-term nursing home placement. The Institute of Medicine (1993) reported that these barriers must be removed to improve the healthcare status of the aging population. New technology, such as clinical video telehealth (CVT), can provide timely access to healthcare services (Libby et al., 2008) and a solution to limited healthcare access for an elderly population.
Nurse practitioners are advanced practice nurses who mainly provide primary care services to patients in rural and underserved areas (Hooker, 2006). Mississippi nurse practitioners are licensed in the state of Mississippi and may diagnose, treat, and manage medical conditions within a collaborative or consultative affiliation with a licensed physician or dentist (Brown, 2010). In addition, Brown (2010) provided detailed information about legal requirements for nurse practitioners in Mississippi that impact access to healthcare for rural patients. One such requirement is that there must be no more than 20 miles between a nurse practitioner and the collaborative physician.

Of the 180,233 nurse practitioners in the United States, only 2,781 are providing healthcare services in Mississippi (Pearson, 2012). Additionally, Pearson provided a rating for each state on a scale of A to F (highest to lowest) in regard to patient access to nurse practitioner care. Mississippi was rated a C- for patient access to nurse practitioner care. Implementation of CVT for improving access to healthcare for elderly patients also may help endorse nurse practitioners’ role in the changing healthcare environment. However, according to Varghese and Phillips (2009), utilization of this new technology has not been widely accepted or utilized by nurse practitioners in providing care for rural elderly patients.

The following case describes an actual patient situation in a nurse practitioner’s practice setting. This case helps demonstrate the effectiveness of CVT as a model for providing healthcare services and improving access for the elderly population.

A 72-year-old male who suffers from chronic obstructive pulmonary disorder (COPD) is on continuous long-term oxygen therapy (LTOT), lives alone in rural Mississippi, and is 40 miles from a primary care provider and 100 miles from a hospital.
He has had repeated emergency department visits (10 visits during 2009) with three hospitalizations during the same time period due to his COPD exacerbations. He is unable to drive, and there is no public transportation in his area, thus he must utilize an ambulance service for transportation to the hospital.

The patient now has CVT, which is a type of telecommunication that involves different types of monitoring, such as a face-to-face video monitoring and delayed \textit{stored forward} information with an alert home monitoring system. During a routine review of the patient’s daily report, the nurse noted a decrease in oxygen saturation and a response of \textit{increased shortness of breath with increased cough}. The patient was contacted via phone and offered the opportunity for a face-to-face interaction with a nurse practitioner (NP).

A virtual connection was made by use of the telecommunication device, face-to-face video monitor. Using this peripheral device in his home that was connected to the telecommunication device, the patient’s vital signs were noted along with his heart sounds, breath sounds, pulse oxygen saturation, and weight. Due to this interactive video monitoring, it was observed that he had diminished breath sounds bilaterally with rhonchi noted in his left lower lung, wheezes noted bilaterally that cleared with cough, a 90\% pulse oxygen saturation while on 2 liters of oxygen, and sputum consisting of productive green mucus without any hemoptysis. Based on health information provided via the telecommunication device, the NP was aware that the patient had a current influenza and pneumonia vaccine. He reported increased shortness of breath, and his dyspnea score of 4 was 2 points higher than his last score.

Using a virtual connection, the NP implemented timely interventions consisting of a patient assessment and reassuring the patient about his condition. The patient was
informed of his clinical situation, and education was provided on measures to ensure
safety during this episode of illness. Antibiotics, steroids, and cough medication were
sent to his home with instructions on use. The next day he reported improvement in
symptoms.

In this situation, there was no need for an emergency department visit or
hospitalization, which resulted in an approximate savings of $14,000. This figure was
obtained from the patient’s usual hospital and was based on the average cost of one
emergency department visit and hospitalization for a patient with COPD exacerbation.
This one intervention improved the patient’s access to timely and therapeutic
interventions resulting in improved health status.

Purpose of the Project

The purpose of this capstone project was to increase the knowledge and
acceptance of CVT among Mississippi nurse practitioners’ through the use of social
marketing strategies. In this project, social marketing strategies included education and
active promotion of the product to encourage change in nurse practitioners’ behavior.
The aim was to have nurse practitioners embrace the new technology for improving
access to healthcare services for elderly rural patients. Based on Mississippi’s rurality,
poverty, and lack of healthcare providers in underserved areas, the need is imminent in
Mississippi to change how healthcare services are provided. It is critical for nurse
practitioners to be aware of new telehealth programs and promote the use of telehealth
in their current practice setting as a solution for meeting the challenges of elderly,
chronically-ill patients living in rural Mississippi.
Framework

Social marketing is a well-defined marketing discipline and served as the framework for this capstone project to improve access to healthcare for Mississippi rural elderly patients by encouraging acceptance of new technology by nurse practitioners. Social marketing focuses on influencing a “target audience to voluntarily accept, reject, modify, or abandon a behavior for the benefit of individuals, groups, or society as a whole” (Kotler, Roberto, & Lee, 2002, p. 5). Social marketing applies principles and techniques to implement individual behavior changes for the good of a society as a whole. The process follows 10 steps: identifying the problem, obtaining a detailed description of the situation, reviewing strengths and weaknesses in the environment, identifying target audience, establishing objectives and goals, identifying benefits and competition, creating a firm position, developing marketing strategies, and developing a plan for monitoring and reporting outcomes. A clear model to visualize the social marketing process is by reviewing the 10 steps involved with the hands of the clock moving based on the progress of the process (see Appendix A, Social Marketing 10-hour Clock).

Social Marketing Process

*Step 1.* The background history is discussed under the literature review, and the problem was identified as lack of healthcare access for elderly patients in rural Mississippi. The campaign focus was to increase nurse practitioners’ knowledge level of CVT in order to influence nurse practitioners’ behavior in accepting CVT as a viable method to improve timely, quicker, and cost-effective healthcare access for elderly rural patients.
Step 2. A SWOT (strengths, weaknesses, opportunities, and threats) analysis was used to identify the present situation within the state for strengths, weaknesses, opportunities, and threats of the environment (see Appendix B). The purpose of a SWOT analysis is to determine key issues of an organization and facilitate a strategic approach for implementation of a project (Pearce, 2007).

Strengths for implementing the project were (a) resources, (b) transformational champion for telehealth, (c) potential opportunities for funding from the Office of Rural Health, and (d) identification of key stakeholders who support the new technology. Weaknesses for the project were (a) lack of Information Technology (IT) support within the state, (b) lack of bandwidth coverage, (c) cost of the CVT devices, and (d) lack of training and buy-in by nurse practitioners. Opportunities will be potential for the following: (a) increased nurse practitioners’ use of CVT in rural practice setting which could improve patient access to timely healthcare and increase patient satisfaction, patient enrollment, patient satisfaction, and timely interventions; (b) decrease of emergency department visits and hospitalization; (c) decrease of inpatient healthcare costs; and (d) increase in funding by using new technology through grants and Medicare reimbursement.

In numerous studies (Alston, 2009; Darkins et al., 2008; Hopp, Hogan, Woodbridge, & Lowery, 2007; Marineau, 2007) evidence has supported that telehealth can be cost-effective for chronic disease management as well as demonstrating customer satisfaction. Telehealth is a proactive service that can be incorporated into healthcare management for chronic diseases and preventive care screening. Threats are (a) space for new technology, (b) access to needed equipment to adapt the provider
units, and (c) the acceptance of new technology by providers and patients, especially the older vulnerable population.

Understanding the powerbase within the state of Mississippi is important for making changes to improve healthcare. The dynamic of power that exists when there is an unequal relationship between two people or groups of people or organizations and when one or the other is dependent can make a difference in how change is approached. Examples of potential power problems within Mississippi are funding from Congress to state officials. Additionally, congressmen, state officials, and federal officials have various types of power and are an important consideration when attempting to implement change. Identifying stakeholders who have influence over information, assigned tasks, resources, equipment, and attitudes of others is essential for the social marketing campaign leader when establishing strategies, plans, and goals.

A gap analysis was completed to facilitate an action plan. A gap analysis is used to develop a perspective of how effectively the programs are operating from several viewpoints (Mears, 1995). After identifying the difference in the expectations of patients, top leadership and management personnel, and team members, solutions can be determined to close the gaps. A solution could be CVT to address the need to improve patient care delivery for rural elderly patients who lack access to healthcare. An innovative approach will be taken by Mississippi nurse practitioners to use new technology in providing healthcare services for elderly patients who have chronic illnesses or disabilities that need additional monitoring and/or clinical assessment and healthcare interventions.

Step 3. The three steps to identify target audiences include segmentation of the market, evaluation of segments, and choosing one for targeting. The purpose of this
project was reviewed in research studies and noted that telehealth has been successfully used in healthcare management mainly by physicians since the early 1970s. Even though telehealth has been touted as a cost-effective method to improve quicker and easier access to healthcare services, this new technology is not always accepted by nursing staff. The perception of technologically proficiency is analogous with lack of caring, such as being cold and impersonal during patient contact (Locsin, 2005). This lack of human touch has been an essential factor in nurses’ non-acceptance of telehealth. Literature is lacking on perception of nurse practitioners and the use of CVT. Identifying sponsors and key stakeholders is a critical process in ensuring the successful implementation of a project. According to Bryson (2003), key stakeholders include anyone who has a vested interest in the success of the program. Identifying sponsors and key stakeholders is a critical process in ensuring successful implementation of the process within a community or state. Stakeholders associated with the social marketing telehealth project include doctoral of nursing (DNP) student clinical champion for CVT, vendor, vendors such as Americantelecare (ATI) that provide CVT equipment, Mississippi nurse practitioners, elderly patients in rural Mississippi, Mississippi Nurses Association (MNA), Mississippi State Board of Nursing, payer sources such as Medicare (federal and state), and private insurance. Maignan, Ferrell, and Ferrell (2005) discussed the importance of identifying stakeholders’ values and norms in order to implement a successful marketing strategic campaign. The values and expected outcomes of the key stakeholders associated with the project are listed in Table 1.
<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Values</th>
<th>Expected outcome(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNP student clinical telehealth champion</td>
<td>Promote quality of care for elderly underserved patients in rural Mississippi.</td>
<td>Increase knowledge of telehealth. Promote the use of CVT to improve healthcare access.</td>
</tr>
<tr>
<td>Vendors for CVT, i.e., Americantelecare (ATI)</td>
<td>Improve access and quality of care through CVT.</td>
<td>Increase market for CVT devices. Increase sales of CVT.</td>
</tr>
<tr>
<td>Elderly patients in Mississippi</td>
<td>Easy access to timely and cost-effective healthcare.</td>
<td>Reduce travel for healthcare. Improve access to healthcare provider. Reduce cost of healthcare services.</td>
</tr>
<tr>
<td>Mississippi nurse practitioners</td>
<td>Provide quality, cost-effective healthcare services for rural elderly patients.</td>
<td>Improve timely access to healthcare services for patients. Improve time management for patients with chronic illnesses and disabilities. Improve reimbursement for services provided.</td>
</tr>
<tr>
<td>Mississippi Nurses Association (MNA)</td>
<td>Promote the autonomy of nurse practitioners in Mississippi.</td>
<td>Nurse practitioners provide quality healthcare to rural elderly patients.</td>
</tr>
<tr>
<td>Mississippi State Board of Nursing</td>
<td>Increase the ability of nurse practitioners to provide care to under-served areas within the laws of Mississippi which govern nurse practitioners’ practice.</td>
<td>Improve the ability of nurse practitioners to have a collaborative practice with a physician over the 20-mile limit.</td>
</tr>
</tbody>
</table>
Step 4. The social marketing component of Step 4 includes the objectives that identify the behavior that needs to be changed, knowledge level that is needed, and the belief that nurse practitioners need to make the necessary change. The objective of this social marketing evidence-based project was to provide education and reoccurring information to nurse practitioners on the use of CVT to change healthcare delivery methods for providing healthcare services for elderly rural patients. Changing nurse practitioners’ beliefs to facilitate using CVT could be more efficient and cost-effective healthcare service than usual healthcare and would help reduce nurse practitioner and patient travel time, promote ability to connect for peer or supervisor review, increase reimbursement for care, and reduce patients’ adverse outcomes. Consequently, healthcare services would be more timely and beneficial than usual face-to-face home or clinic visits. The projected outcomes for this project were the following: (a) increase nurse practitioners’ knowledge and awareness of new technology (CVT); (b) increase nurse practitioners’ interest in obtaining CVT for their respective clinical practice; and (c) begin dialogue with MNA board members, physicians, and policymakers in using CVT as a component for preceptor oversight. In social marketing there are three objectives that must be identified in order to make changes. These objectives include
behavior, knowledge, and belief. Table 2 defines and relates to the chosen target audience.

Table 2

*Objectives Defining and Relating to Target Audience of the Social Marketing Project*

<table>
<thead>
<tr>
<th>Objectives for social marketing</th>
<th>Target audience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behavior</strong></td>
<td>Nurse practitioners need to integrate the use of CVT into their clinical practice for providing healthcare service for Mississippi rural elderly patients.</td>
</tr>
<tr>
<td><strong>Knowledge</strong></td>
<td>Nurse practitioners need to increase their knowledge base on technology associated with the CVT.</td>
</tr>
<tr>
<td><strong>Belief</strong></td>
<td>Nurse practitioners will accept that they can improve timely and easier access to healthcare for elderly veterans in rural Mississippi through integration of CVT into their clinical practice setting.</td>
</tr>
<tr>
<td><strong>Goal</strong></td>
<td>Mississippi nurse practitioners will integrate the use of CVT in providing care to rural elderly patients.</td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td>Increase the number of nurse practitioners who receive education on the use of CVT.</td>
</tr>
<tr>
<td></td>
<td>Increase the number of nurse practitioners who implement CVT into their practice setting.</td>
</tr>
<tr>
<td></td>
<td>Identify nurse practitioners who would benefit from physician/peer reviews through the use of CVT in rural areas.</td>
</tr>
</tbody>
</table>

Step 5. Identification of barriers, benefits, and competition for the social marketing capstone project assisted with the overall implementation and evaluation plan. Jennett, Gagnon, and Brandstadt (2005) reported that healthcare staffs’ resistance to accept new technology was responsible for over half of technology-driven practice
failures. Additionally, McGonigle and Mastrian (2009) discussed the importance of nursing knowledge and competencies in use of technology with the assurance of data confidentiality and integrity. Without enhanced knowledge and assurance of reliable data, nurse practitioners will not be receptive to a different method of healthcare delivery. Lawton (2010) related concerns from other healthcare professionals regarding liability in the event something happens to the patient during a virtual visit. Locsin (2005) focused on the barriers of establishing caring behavior without human touch.

If change is made and new behaviors adopted, then the benefits would improve the most effective and easiest access to healthcare for elderly rural patients, decrease travel time for nurse practitioners and patients, and increase reimbursement. Sevean, Dampier, Spadoni, Strickland, and Pilatzke (2008) narrated that benefits using telehealth in rural areas reduced cost of travel, lost wages, and lost time and enhanced support of family, patients, and other healthcare professionals. According to nurse practitioners’ personal statements regarding the use of CVT, the main competing alternative behaviors were as follows:

1. Nurse practitioners prefer face-to-face and hands-on usual care.
2. Nurse practitioners have a high comfort level in doing what they have always done.
3. Nurse practitioners have received satisfaction (praise/appreciation) from personal patient contact.
4. Individuals do not want to change what is “working.”

In order to make changes using social marketing, the individual must believe that the behavior outweighs the cost. Second, the individual must have a personal self-efficacy with the willingness to perform the behavior. Believing in one’s self and
knowing how to implement new technology are vital components in adopting new technology (Bandura, 2001). In addition, Ibrahim and Leong (2012) reported that using a “technology acceptance model (TAM) theory” (p. 1) has been successfully utilized in organizations to identify and gain acceptance of new innovative technology, especially in healthcare. According to Lee and Kotler (2011), the need to influence a specific audience behavior to help society as well as the specific audience themselves change for the good of society is the ultimate goal for social marketing.

**Step 6.** A position statement was vital to the success of the social marketing project. The position statement included the target audience, desired behavior, and the barriers or benefits of the project. Further, the position of the capstone project social marketing project was that nurse practitioners will see that using CVT is an efficient, cost-effective healthcare service that will reduce patient and practitioner travel time, increase reimbursement for care, improve access to care, and reduce patients’ adverse outcomes. Consequently, healthcare services will be more timely and beneficial than traditional face-to-face and hands-on visits.

**Step 7.** As detailed by Lee and Kotler (2011), in order to develop successful marketing strategies, one must clearly describe the product, price, place, and promotional strategies. These are called the 4 Ps and were the center of the social marketing campaign (see Appendix C). The first of the 4 Ps defined by Kotler and Lee (2008) was “a product is anything that can be offered to a market to satisfy a want or need” (p. 205). The core product must identify the main perceived benefit of the target audience, which is that nurse practitioners will desire to improve timely, easier, and more cost-effective access to healthcare for elderly patients in rural Mississippi. The actual product offered must be real goods or services. In the social marketing project,
the product was to accept the use of CVT to improve healthcare for elderly rural patients and also be a link to physician/peer review process for nurse practitioners. Strategies to sponsor the product were CVT educational programs for nurse practitioners and an active promotional campaign including brochures, posters, campaign buttons, and news releases. The change to support the project through social marketing is to make improvement in how care is provided to rural elderly patients, using a non-usual virtual visit versus usual face-to-face and hands-on visit. See Table 3 for identifying product of social marketing.

Table 3

Identification of Products of the Social Marketing Project

<table>
<thead>
<tr>
<th>Core product (benefits)</th>
<th>Actual product (desired behavior)</th>
<th>Augmented product (tangible objects and services)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse practitioners desire to improve timely and easier access to healthcare for elderly patients in rural Mississippi.</td>
<td>Integrate CVT into nurse practitioners’ clinical practice.</td>
<td>CVT educational program promotional activities</td>
</tr>
</tbody>
</table>

The second component or “2P” of Step 7 is price. Completing a cost-benefit analysis was helpful in building a strong social marketing campaign. Existing service consisted of primary care clinics, emergency, specialists, and home visits to provide healthcare services for elderly patients living in rural Mississippi. CVT is a technology which is a face-to-face virtual telehealth connection that allows the nurse practitioner to hear and see the patient. With the CVT’s peripheral devices, the nurse practitioner can listen to heart/breath sounds, monitor pulse oxygen saturation level and blood pressure
results, obtain weight values, and identify any skin breaks. CVT visits are reimbursed by Medicare as a usual visit with a nurse practitioner within the state in which the nurse practitioner practices. Types of costs include monetary (goods and services) and nonmonetary (time, effort, and psychological and physical discomfort) of the target audience that either adopts a behavior to change or rejects the behavior. Table 4 highlights the type of cost and examples of barriers in adopting change.

Table 4

**Type of Cost and Examples of Barriers in Adopting Change in Social Marketing Project**

<table>
<thead>
<tr>
<th>Type of cost</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary: Tangible objects</td>
<td>CVT device</td>
</tr>
<tr>
<td>Monetary: Services</td>
<td>CVT educational classes</td>
</tr>
<tr>
<td>Nonmonetary: Time, effort</td>
<td>Travel time reduced for patient and staff</td>
</tr>
<tr>
<td>Nonmonetary: Time, effort</td>
<td>Learning how to use the CVT device</td>
</tr>
<tr>
<td>Nonmonetary: Psychological</td>
<td>Lack of caring such as human touch with virtual visit</td>
</tr>
<tr>
<td>Nonmonetary: Physical discomfort</td>
<td>Uncomfortable being on television</td>
</tr>
</tbody>
</table>

Integration of CVT into the usual or traditional clinical practice of nurse practitioners can increase Medicare reimbursement and decrease the global burden of healthcare costs by timely interventions to reduce emergency department visits and/or hospitalizations. Hopp et al. (2006) reported improved outcomes for patients enrolled in home telehealth with reduced outpatient visits. Additionally, CVT could improve patient and professional staff’s satisfaction with healthcare services.
Educational programs on CVT monitoring are critical factors for the acceptance of new technology. Furthermore, a marketing campaign is necessary to keep the target audience motivated to make changes. Promotion of the values and beliefs of nurse practitioners that quality and timely healthcare is available could benefit rural elderly patients. Developing a virtual connection relationship between physicians would allow for increased peer review support in rural areas.

The third “P” in social marketing is the place where activities will be implemented. The social marketing strategies took place within rural Mississippi through the use of educational brochures, news reports on educational television, healthcare conferences, and posters in hospitals and clinics. The first event was a focus group event at a local restaurant with dinner for nurse practitioners.

The last 4P in social marketing is actually the end product for the social marketing 4Ps process. In order for the message to be well perceived by the target audience (nurse practitioners), a campaign theme was needed. Development of a theme or a catchy phrase was important for acceptance and motivation of the audience. The theme for this social marketing campaign was the 3 Rs (right time, right place, and right service) of CVT to help promote a positive view of new technology and was used on campaign buttons, posters, and newsletters (see Appendix D).

The place and promotion were established in progression with the promotional tool being the last and most important in ensuring that the target audience recognized the message. CVT was the action product that would improve access to healthcare services for nurse practitioners. Strategies to sponsor the product were CVT educational programs for nurse practitioners and an active promotional campaign including brochures, posters, campaign buttons, and news releases. The change to
support the project through social marketing was to improve how care is provided to rural elderly patients, using a non-usual virtual visit versus usual face-to-face and hands-on visit.

*Step 8.* The evaluation of the social marketing project allowed opportunities to identify short-term as well as long-term outcomes. The purpose of this evaluation was to determine if CVT educational programs and active promotion of CVT for nurse practitioners would increase their acceptance of this technology to provide healthcare services for elderly patients in rural Mississippi. This project was undertaken to improve quicker and timely access to healthcare services for elderly rural veterans to reduce adverse outcomes, such as hospitalizations, emergency department visits, and nursing home placement. Also, evaluation of this project will help provide guidance in determining the use, if any, of CVT in the nurse practitioner and physician/peer review process.

*Step 9.* A budget plan to support the social marketing project was necessary to support time and material for the campaign. Items included in the budget plan were product, price, place, promotion, and evaluation-related costs.

*Step 10.* The implementation plan consisted of a working document that demonstrated what, who, when, and how much. The implementation plan represented one- to 3-year activities with short- and long-term outcomes (see Table 5).
Table 5

*Implementation Plan of the Social Marketing Project*

<table>
<thead>
<tr>
<th>Input</th>
<th>Activities</th>
<th>Output</th>
<th>Short-term outcomes</th>
<th>Long-term outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal funding</td>
<td>Focus on perception of telehealth readiness of nurse practitioner to accept new technology.</td>
<td>Nurse practitioners are informed about CVT.</td>
<td>Acceptance of nurse practitioners in using CVT versus usual home or clinic visits for elderly patients in rural Mississippi.</td>
<td>Improve quicker, timely, cost-effective access to healthcare services by elderly rural patients reducing adverse outcomes.</td>
</tr>
</tbody>
</table>

Additionally, using the American Association of Colleges of Nursing’s (AACN) (2006) Doctoral of Nursing Practice (DNP) Essentials as the framework which supported this capstone social marketing telehealth project were DNP Essentials II and IV: “Organizational and systems leadership for quality improvement and system thinking” (p. 9) to extend and assess new approaches for care that will help manage present and potential requirements for patient population. In addition, the DNP Essential IV addresses “Information systems/technology and patient care technology for the improvement and transformation of healthcare” (p. 12). These Essentials promote advocacy in health by the ability to “facilitate organization-wide changes in practice delivery” and “communicate and evaluate accuracy, timeliness and appropriateness of healthcare consumer information” (Chism, 2010, pp. 16-17) (see Appendix E).
Assumptions

A key assumption for the social marketing capstone project was nurse practitioners are not using CVT in their practice and that nurse practitioners currently do not perceive that CVT is an option for providing care to Mississippi elderly rural patients. It was also assumed that nurse practitioners’ lack of knowledge of new technology and their beliefs about hands-on care impacts the acceptance of CVT. Another assumption was that social marketing strategies would change nurse practitioners’ acceptance of promoting the use of CVT in their practice for providing healthcare services and as a possible physician/peer review oversight option.
CHAPTER II

REVIEW OF LITERATURE

An extensive literature search was conducted using databank, such as Cumulative Index to Nursing and Allied Health Literature (CINAHL), Cochrane Library, National Library of Medicine, MEDLINE, Google Scholar, and other government agencies including the Veterans Health Administration (VHA), VHA Office of Quality and Performance, Health Services Research and Development Service, Agency of Healthcare and Quality (AHRQ), Academic Search, and VHA Office of Quality and Performance. Articles were reviewed from June 1989 until June 2012. A review of 573 articles and 59 abstracts was conducted with 43 articles included in this literature summary which assisted with the focus on telehealth in home-based, rural clinics, and hospitals and nurse practitioners’ care using technology. The search strategy consisted of keyword terms telehealth, home telehealth, clinical video telehealth, distance health care; nurse practitioner practice in rural health care; chronic disease management; elder care; healthcare in Mississippi; caring and telehealth, access to care, and nontraditional health care. Excluded were articles addressing telehealth and children.

The literature search was conducted to address issues related to telehealth and perception on use of telehealth by clinical professionals with focus on nurses and nurse practitioners. The findings were limited to nurse practitioners and use of telehealth as more articles have been published regarding telehealth and other disciplines. Due to the broad scope of the literature review, sources were cited under three sections: (a) need for healthcare redesign, (b) review of telehealth and CVT, and (c) barriers to acceptance of telehealth.
Need for Healthcare System Redesign

It is estimated that over 20% of the world population consists of older adults (Kang et al., 2010), and a majority of these older adults have a disability or chronic disease. Furthermore, statistics in epidemiology demonstrate the changing patterns of population growth and health in the United States from shorter life expectancy and acute illness to longer life expectancy and chronic disease management. According to Merrill (2010), it is estimated that chronic disease will be related to increase of deaths and the need for chronic disease management which will attribute to the burden of healthcare worldwide. Adding to the burden of the rising reports of chronic diseases, Grindel (2005) reported that 72% of people in the United States were displeased with the management of their chronic disease by healthcare providers. Palmer and Patterson (2010) reported that due to the aging population and complex healthcare needs new processes for disease prevention, risk assessments, and health promotion need to be implemented. Farquhar, Kurtzman, and Thomas (2010) reported also that in America healthcare cost $4,887 per person. President Obama (2009) cited in his address at the Healthcare Summit that the increasing cost of healthcare could cause millions of Americans to lose their homes due to foreclosure. The increasing costs of healthcare and lack of reimbursement for healthcare services demonstrate the need of advocating for the elderly person with chronic illness and disabilities. The lack of quality healthcare was brought to the forefront when the Institute of Medicine (1999) reported the global problem of medical errors with a majority related to fragmented care and loss of confidence in the healthcare profession. The Institute of Medicine (2001) recommended that “health care organizations and professional groups promote health care that is safe, effective, client-centered, timely, efficient, and equitable” (p. 6).
Additionally, recommendations by the Institute of Medicine (2001) stated that care must be a “continuous healing relationships” (p. 3) and healthcare systems need processes redesigned based on use of technology services to provide care that is timely and accessible. Additionally, elderly patients with chronic debilitating diseases have the poorest health outcomes and the highest utilization of healthcare services than most other population groups. Moreover, the United States has the poorest health outcomes for any rich country. This disparity of wealth and poor health is because the nation’s resources are shared across different groups with vulnerable populations receiving limited healthcare services (Bezruchka, 2009). The Institute of Medicine’s (2002) report expounded on this unequal treatment stating that clinical decisions are based on stereotyping and discriminating for the socioeconomically and vulnerable population groups. In addition, individuals who receive less than equal treatment for chronic disease management have worse outcomes. As reported by Barr (2008), health disparities occur when a person does not receive the same care as another person based on age and/or other factors.

Wynveen (2009) reported overall that Mississippi is the least healthy state and ranks highest for obesity and cardiovascular deaths and infant mortality. Also, Pearson et al. (2003) reported that the highest death rate for heart disease in the United States was men living in rural Mississippi with a rate of at “1,102 per 100,000” men (p. 646). The requirement for making changes in chronic disease management was discussed by Nash, Reifsnyder, Fabius, and Pracilio (2011). Nash et al. reported that almost half of the United States population was identified with one or more chronic diseases and the burden of chronic diseases was rising without sufficient allocation of resources to meet these rising needs. Furthermore, Greenville, a rural city in Mississippi has a poverty
rate of 29.5%, the highest poverty rate in the nation (Boston, 2008), indicating that elderly patients in this area have the highest need for easier access to healthcare services.

The lack of quality healthcare was brought to the forefront when the Institute of Medicine (1999) reported the global problem of medical errors with a majority related to fragmented care and loss of confidence in the healthcare profession. The Institute of Medicine (2001) recommended that “health care organizations and professional groups promote health care that is safe, effective, client-centered, timely, efficient, and equitable” (p. 6). Also, recommendations by the Institute of Medicine (2001) stated that care must be “continuous healing relationships” (p. 3) and healthcare systems need processes redesigned based on use of technology services to provide care that is timely and accessible. This trend directly impacts the need for changes from the traditional healthcare system to nontraditional means of providing healthcare, such as telehealth.

Review of Telehealth and Clinical Video Telehealth

*Telehealth* has been defined by many sources; however, the term remains ambiguous due to rapidly changing healthcare technology services. The American Telemedicine Association’s (2009) definition makes little distinction between *telemedicine* and *telehealth*, citing that healthcare is delivered in remote areas with both using electronic devices to improve patients’ health status outcomes. *Mosby’s Medical Dictionary* (2009) cites that telehealth is the ability to provide healthcare services, implement medical research, and promote education for patients as well as healthcare professionals through telecommunication across distances. Other sources that referred to the definition of *telehealth* included the American College of Nurse Practitioners (1996) and the American Nurses Association (1997) which describe telehealth as the
utilization of technology devices to provide nursing interventions for patients who have barriers in obtaining healthcare services, thus reducing healthcare costs and improving patient outcome. The telehealth definition cited under federal guidelines for Medicare (42 CFR 410.78) as the “use of telecommunications and information technology to provide access to health assessment, diagnosis, intervention, consultation, supervision and information across distance” is helpful in increasing awareness of the definition of telehealth by making determination for service reimbursement. Foster (2010), Marineau (2005), and Sunyoung, Mathiassen, and Robey (2007) support these definitions as well as agreeing that there is still confusion over the term telehealth. One of the issues raised regarding telehealth has been that multiple services are provided through telecommunication devices. Some of these are telecardiology, teledermatology, telepsychiatry, telepractice, teleneurology, telenursing, teleradiology, telerehabilitation, teleaudiology, teledentistry, and telemedicine. Some of these terms have been used interchangeably with telehealth but are not inclusive and have increased confusion with telehealth. However, the definition intent of telehealth is not providing care within a hospital or long-term health facility (i.e., nursing home). Clarifying the definition of telehealth to only include CVT for this social marketing project will help to guide strategies for implementation and utilize the following defining attributes:

1. CVT provides virtual connection through telecommunication devices to healthcare professionals and elderly rural patients.

2. CVT offers the opportunity for this telecommunication virtual connection to be instrumental in applying timely therapeutic interventions for health status improvement in elderly rural patients.
3. Timely therapeutic interventions help elderly chronically ill patients in specific locations achieve improvement in their health status, thus reducing the global cost of healthcare.

4. CVT services by the use of telecommunication devices can reduce disparity in health for the elderly rural patients in Mississippi.

5. CVT is a system that allows real-time healthcare interactions and can be implemented across distance between a healthcare provider and patients.

The use of telehealth in the home is an effort to improve quality of care, reduce the cost of limiting emergency department visits and hospitalizations, and length of stay in hospital (Marineau, 2007). According to Lopez, Avery, Krupinski, Lazarus, and Weinstein (2005), telehomecare improved access to healthcare through a video connection, resulting in quicker and earlier interventions. A study by Foster (2010) in South Africa demonstrated the use of telehealth for preventive care screening and education on healthcare issues and demonstrated improved access to care.

The goals of the social marketing evidence-based telehealth project will support nurse practitioners in the role to embrace the use of CVT monitoring which will (a) improve access to healthcare, (b) provide timely healthcare interventions to reduce the need for emergency department visits and hospitalizations, (c) reduce cost of healthcare for this elderly population, (d) provide evidence that supports resource allocation, and (e) offer opportunity for possible use in the physician/peer review process. Telehealth is a system that allows real-time healthcare interactions and can be implemented across distance between a healthcare provider and patients. However, according to Baker and Bufka (2011), there has been limited guidance for healthcare professionals to implement new technology for providing healthcare services.
Barriers to Utilization of Telehealth

Kang et al. (2010) expounded on the difficulties providers face in using emerging healthcare technology for elderly patients, such as potential information overload and credibility of the equipment. Savenstedt, Sandman, and Zingmark (2006) reported that healthcare professionals have conflicting ideas about use of communication technology applications for elderly patients with the most concerns associated with ethical issues.

In a study by Lillibridge and Hanna (2008), patients were evaluated using CVT and reported that the lack of physical contact with human contact could be a limitation for adoption of this technology. Botsis and Hartvigsen (2008) postulated that elderly patients with chronic diseases and healthcare professionals were satisfied with telehealth services. However, there is need for increased education and confidence in the healthcare provider’s ability to provide care and to ensure healthcare providers that telehealth will not completely replace home visits. Reed (2005) cited that historically telehealth has been used primarily by physicians; however, advanced practice nurses can have a positive impact on patient outcomes. Nevertheless, barriers need to be addressed for successful transition into the nurse practitioner’s clinical practice.

IOM’s (2003) Committee on the Health Professions Education stated that persons who deliver healthcare should be knowledgeable in delivery of patient-centered care through interdisciplinary teams, using quality improvement techniques and innovations in technology to establish evidence-based practice for the goal of improved patient outcome. Holtz and Nazione (2009) reviewed different theories, surveys, and focus groups to investigate the lack of acceptance by hospice nurses for adopting telehealth in their practice. The findings from this study indicated that telehealth
acceptance could be due to lack of leadership and wrong alignment of technology within a hospice setting. Cho, Mathiassen, and Gallivan (2008) further expanded on the benefits of telehealth to improve access to healthcare and reported on challenges to take initial telehealth innovative program from adoption to diffusion of telehealth across organizations, rural areas, and communities. Perception of technology by users in an organization impacts the adoption and acceptance of the proposed technology. Hopp et al. (2007) cited that providers who managed diabetic care through a telehealth device had concerns with the reliability of the technology and workload issues. Hopp et al. (2007) identified the need to establish clear guidelines for patients who were qualified to use telehealth technology. Also, Hebert, Korabek, and Scott (2006) reported on the significance of research that has demonstrated the effectiveness of home telehealth and the need to transfer research into the practice setting. Pols and Willems (2011) discussed that telecare may be advocated and has promised to improve healthcare, be cost-effective, and help retain healthcare professionals. However, more work needs to be done to involve all participants (patients, family member, and healthcare providers) in the development and implementation of telecare programs. If individuals involved with the product (telecare) lack understanding of the technology, subsequently telecare technology will not be accepted, and expectations and/or promises will not be fulfilled. Moreover, Korzep (2010) summarized that all clinical professionals will not embrace new technology for healthcare, especially for the elderly, and that human touch is felt to be critical in providing the care patients need. Whitten, Doolittle, and Hellmich (2001) reported that nurses’ acceptance of telehealth is critical to the implementation and sustainability of telehealth. According to Naylor and Kurtzman (2010), nurse practitioners are the major group of advanced practice nurses delivering primary care in
the United States and with the increase of elderly and chronically ill patients the need for nurse practitioners services will escalate. Additionally, according to Pearson (2012), there are a total of 180,283 nurse practitioners in the United States with 2,781 nurse practitioners in the state of Mississippi. Thus, it is critical for nurse practitioners to be aware of new telehealth programs and promote the use of telehealth into their current practice setting as a solution for meeting the challenges of elderly chronically-ill patients living in rural areas. The findings related to nurses’ and healthcare providers’ lack of acceptance of new technology suggest that social marketing strategies for adoption of telehealth by nurse practitioners are needed to help ensure that the population of elderly rural chronically ill patients receive access to quality and timely healthcare. Telehealth has improved the outcome of vulnerable populations as reported by Darkins et al. (2008) for veterans who have daily connection to telehealth through telecommunication devices. A reduction in bed days of care, hospitalizations, and emergency department visits with improved health outcomes was noted in this patient population. Moreover, a study by Luptak et al. (2010) discussed how this type of telehealth intervention affected 3.5 million older veterans living in rural areas and improved patient outcome by earlier interventions, thereby reducing hospitalizations and emergency department visits. Achieving goals for the proposed evidence-based telehealth project by demonstrating improved access to healthcare and timely interventions and reducing emergency department visits and hospitalizations in rural elderly patients with chronic illness can be attributed to a successful social marketing campaign.
CHAPTER III

PROJECT DESIGN

Description of Project

This capstone social marketing project was approved by The University of Southern Mississippi’s Institutional Review Board (IRB) to inform nurse practitioners of new technology which can benefit elderly patients 65 years and older in rural Mississippi (see Appendix F). Lee and Kotler’s (2011) principles and techniques of social marketing strategies were used to provide key information regarding changes in the way healthcare services can be provided to rural elderly patients. New technology, such as CVT, can improve quicker and timely access to healthcare services for elderly rural patients and minimize adverse outcomes, such as hospitalization, emergency department visits, and nursing home placement. A focus group survey and discussion technique were used to collect descriptive data. The focus group discussed CVT and access to healthcare for rural elderly patients. The discussion was held during dinner at a local restaurant. According to McLafferty (2004), focus group interviews/discussion is a useful tool to collect data for understanding attitudes and opinions of individuals. Using focus group information provides opportunities to identify what is needed to implement change within an organization. Also, focus groups supply valuable information on what a target population values which helps to develop a strong marketing campaign for the product.

During the discussion the educational program on CVT with an actual working monitor was presented to the group. The focus group discussion continued after the educational event. A focus group post-survey was given to all participants requesting information to specific questions about CVT and the nurse practitioners’ opinions.
Focus group discussion technique was utilized to determine nurse practitioners’ perception of CVT for providing healthcare services for rural elderly patients. The event occurred within a 2-hour time period before and after the CVT educational event.

The nurse practitioner population for the capstone social marketing project was a random sample of Mississippi nurse practitioners who provide healthcare services to patients 65 years and older living in rural areas.

The sample size for the focus group was limited to 12 nurse practitioners who provide healthcare in central Mississippi. Each nurse practitioner accepted the invitation to attend a focus group and educational event that was sent by the chairperson of the Central Mississippi Nurse Practitioner Special Interest Group to nurse practitioners in central Mississippi. The event was held at a local restaurant in Jackson, MS, with the DNP student hosting a dinner for the participants. The time of the event was from 6:00 p.m. to 8:00 p.m. on July 26, 2012. Participants were asked to provide only unrecognizable personal data. Demographic data collected included age, sex, years of experience as a nurse and nurse practitioner, and years of experience with telehealth. A focus group post-survey was utilized to collect descriptive data.

The small sample size of 12 nurse practitioners supported the intent of the project by limiting the number of participants in the focus group, thus allowing for dialogue in an open forum that improves the chance of obtaining useful information. Liamputtong (2011) reported that using a homogeneous group creates an environment for more fluid discussion and promotes sharing of pertinent information. The participants were offered an opportunity to be involved in the focus group which was entirely voluntary. As the DNP student with telehealth clinical expertise, the capstone author served as the moderator for the focus group. Informed consent was implied by
the acceptance and attendance by the nurse practitioner at the CVT focus group
discussion and educational event. Information regarding the capstone project
expectations was sent with the invitation and participants who attended implied
informed consent.

The purpose of the focus group was to involve participants in discussion of new
technology, such as CVT, in providing healthcare services for rural elderly patients.
The discussion for the focus group was only open-ended statements. This type of
informational data was used to promote social marketing for implementing CVT within
the rural nurse practitioner practice setting. These statements included the following:

1. Please provide your opinion on how effective you think clinical video
telehealth (CVT) will be for delivery of healthcare services to rural patients
65 years and older.
2. Please discuss any barriers that you feel would impact the use of CVT for
providing healthcare services for elderly rural patients.
3. Please provide your opinion on the acceptance of using CVT by elderly
patients and nurse practitioners.
4. Please discuss the caring nurse-patient interaction with CVT versus usual
hands-on care. This type of descriptive data will be used to promote social
marketing for implementing CVT in rural nurse practitioner practice settings
in Mississippi.

Results

All 12 of the nurse practitioners who accepted the invitation to attend were
present. The focus group discussion was held in a private dining area of a local
Jackson, MS, restaurant. The forum for the focus group discussion met all the
requirements for obtaining useful information. The moderator appropriately asked probing questions such as the following: Can you give me some examples of what you mean? And would you care to explain in more detail your thoughts on that matter?

However, the dramatics of the group made discussion easy as one idea flowed into another. The educational event was well received, and the hands-on demonstration was critical to the success of the social marketing educational event. Handouts regarding CVT were given with a special writing board for each participant’s office to help remember CVTs. Table 6 demonstrates the demographic data of participants.

Table 6

*Demographic Data of Participants in the CVT Focus Group*

<table>
<thead>
<tr>
<th>Demographics</th>
<th>n</th>
<th>%</th>
<th>Range</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
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<td>Male</td>
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<td></td>
<td></td>
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<tr>
<td>Female</td>
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<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
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<td>40-51</td>
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<td>52-61</td>
<td>5</td>
<td>0.42</td>
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<td></td>
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</tr>
<tr>
<td>62-71+</td>
<td>2</td>
<td>0.17</td>
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<td></td>
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<tr>
<td><strong>Practice setting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>12</td>
<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Years of experience as a nurse | 13-47 | 28.50 | 9.26 |
| Years of experience as a nurse practitioner | 8-38 | 16.50 | 7.44 |
| Years of experience with telehealth | 0-1 | 2.24 | 0.45 |

*Note. N = 12.*
Limitations

One limitation of the study was that the focus group participants were females and did not represent all nurse practitioners. Another limitation was that only one focus group was utilized in the project. While the sample size was small, all participants supported the focus group method. Also, the demographic data lacked participants’ ethnic status, which limited the ability of the focus group to represent all nurse practitioners in Mississippi.

Discussion of Successes

The focus group was an informal and nonthreatening method to gain information regarding products and/or new services. All nurse practitioners in the focus group participated in the discussion and were able to offer valuable insight into the acceptance of CVT in the care of rural elderly patients. Also, information was obtained on the perception of nurse practitioners on the use of CVT for physician/peer review supervision. There is limited research on nurse practitioners and the use of CVT. However, the nurse practitioners in the focus group did not support the literature findings regarding telehealth and caring and telehealth may not be accepted for elderly care. Of the 12 nurse practitioners, 83% believed that a CVT interaction would allow a caring nurse/patient interaction. Additionally, 100% of the nurse practitioners believed that CVT is effective for delivering healthcare services to patients 65 years and older in rural Mississippi. However, only 83% believed that nurse practitioners in Mississippi would use CVT. These findings were discussed in more detail under the section for comments, concerns, and barriers. Lack of knowledge of CVT was noted on 8 out of 20 reported concerns/barriers (see Appendix G).
CHAPTER IV
SUMMARY

Applications

New educational programs for telehealth at universities and schools of nursing should be established, and nurse practitioner graduates should be proficient in telehealth upon graduation. Special telehealth educational events should be established with nurse practitioners having a specific competence in telehealth. The University of Mississippi Medical Center (UMMC) currently has a TelEmergency Program which has evolved since 2003 to improve cost-effective healthcare services to rural emergency departments (“TelEmergency Program,” 2012). Nurse practitioners are specially trained to work in rural hospitals under the supervision of UMMC emergency physicians to improve healthcare access through a telemedicine video link. However, this program is not focused on CVT use in rural health clinics or in the patient’s home.

Social marketing to promote telehealth will need to continue with posters and brochures, called the 3Rs for CVT. Improving acceptance of CVT for use in a nurse practitioner’s practice setting would benefit the health and well-being of patients as follows: (a) improving access to healthcare for rural patients; (b) reducing adverse outcome by decreasing hospitalizations, emergency department visits, and nursing home placements; (c) decreasing the burden of travel on the patient and nurse practitioner; (d) improving access to physician, peer, and specialist consultative services; and (e) reducing the global cost of healthcare in general.

Summary and Conclusions

Social marketing is a valid framework for use in nursing as well as other healthcare disciplines to help change behavior and beliefs of individuals in order to
implement new processes and programs for improvement of a society. The social marketing campaign used to promote nurse practitioners’ acceptance of CVT for elderly patients in rural Mississippi was effective, and this model could be replicated for other nurse practitioners. New technology, such as CVT, has been demonstrated as a viable tool for improving access to elderly rural patients as well as being a virtual connection for physician and peer review process. Implementing new processes for improved access to healthcare and timely intervention related to chronic disease management has been identified as one of the top priorities for healthcare reform. Based on the need to change the way healthcare is provided, the DNP graduates are in unique positions to be influential in implementing programs with advanced technology.

This capstone project does not address all issues related to the problems and solutions in healthcare but does recognize the benefit of telehealth and the need to involve key stakeholders in new endeavors. It is crucial that a new system be adopted for change to support elderly vulnerable populations which will help reduce the global burden of healthcare. Using the framework of social marketing to change behavior and foster nurse practitioners’ acceptance of CVT will support the good of society as a whole. Significant benefits can occur by implementing changes in healthcare, especially in the world of technology. Additionally, DNP graduates implementing new processes for improved access to healthcare and timely intervention related to chronic disease management have been identified as one of the top priorities for healthcare reform.

Plans for Disseminating the Project

The social marketing campaign utilized in the capstone project can be continued by implementing additional focus group discussions and educational events. The
brochures and posters developed for the project, The 3 Rs for CVT (the right place, right person, and right time handout), will be used at other nurse practitioner educational events. Additionally, this writer plans to speak at upcoming state and national nurse practitioner events. Also, as a clinical champion for CVT, this writer is currently in discussion with the Mississippi Board of Nursing regarding using CVT to improve physician supervision and/or peer review process by use of CVT. Obtaining buy-in by Mississippi’s healthcare leaders and regulators could help change the 15-mile requirement for nurse practitioner and physician supervision. Changing the 15-mile requirement for nurse practitioners and physician supervision in rural clinics could help change Pearson’s (2012) report for Mississippi in access to healthcare from a C- to an A. Furthermore, I am in the process of writing proposals for the Office of Rural Health and Indian Health Service to obtain funding to improve healthcare access for elderly patients in rural Mississippi through the use of CVT. Utilization of social marketing techniques and processes to help make changes in how healthcare services can be provided by nurse practitioners is a role for DNP graduates to influence and change behavior for improving the overall healthcare system in Mississippi.
APPENDIX A

SOCIAL MARKETING: THE 10-HOUR CLOCK

- Budget
- Evaluation
- 4 Ps of Marketing
- Position Statement
- Implementation Plan
- Problem, History, Situation
- Target Market
- Objectives and Goals
- Barriers and Competition
- Evaluation
- Budget
APPENDIX B

SWOT ANALYSIS

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
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<tbody>
<tr>
<td>• Strong committed nurse practitioners</td>
<td>• Cost of CVT monitors.</td>
</tr>
<tr>
<td>• Champion for Telehealth.</td>
<td>• Information Technology (IT) supports.</td>
</tr>
<tr>
<td>• Patients identified that need additional support.</td>
<td>• Staff with expertise in equipment management.</td>
</tr>
<tr>
<td>• Improve access to healthcare by timely interventions.</td>
<td>• Lack of training on CVT.</td>
</tr>
<tr>
<td>• Nurse practitioners ability to provide services in 82 counties in Mississippi.</td>
<td></td>
</tr>
<tr>
<td>• Funding from Office of Rural Health (ORH) for innovative projects.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities</td>
<td>Threats</td>
</tr>
<tr>
<td>• Large patient volume.</td>
<td>• Outside partnership for secure lines.</td>
</tr>
<tr>
<td>• Increase of Medicare funding.</td>
<td>• Acceptance of new technology.</td>
</tr>
<tr>
<td>• Rural Catchment area.</td>
<td>• Broadband width in Mississippi.</td>
</tr>
<tr>
<td>• IOM and Hospital Quality Performance Measures include an increase for CVT interactions.</td>
<td>• Nurse practitioner practice limitations.</td>
</tr>
<tr>
<td>• Outreach to rural underserved areas, 50% increase in market share.</td>
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</table>
APPENDIX C

FRAMEWORK FOR SOCIAL MARKETING: THE FOUR Ps

PRODUCT > PRICE > PLACE > PROMOTION

**Product**
- NPs will have knowledge and accept clinical video telehealth as effective as home or clinic visits for providing healthcare access to elderly rural patients.

**Price**
- 1) NP will reduce home or clinic visits for healthcare services. 2) NP could benefit by increasing reimbursement thru Medicare. 3) NP could obtain rural health grants to implement telehealth program.

**Place**
- Central Mississippi Nurse Practitioner Special Interest Group (SIG)

**Promotion**
- 1) Educational program for NPs. 2) Campaign material for CVT called the Three (3) Rs of CVT for Improving Health Care for Elderly Rural Patients
- *Right time*   *Right place*   *Right service*
APPENDIX D

PROMOTIONAL BROCHURE

THE 3 Rs of CVT
Right Time, Right Place, and Right Service
Improving Health Care for Elderly Rural Patients

Choose the 3 Rs of CVT
to Improve Access to Healthcare
## APPENDIX E

**ESSENTIALS OF DOCTORAL EDUCATION FOR ADVANCED NURSING PRACTICE**

<table>
<thead>
<tr>
<th>Essentials of Doctoral Education for Advanced Nursing Practice (AACN, 2006)</th>
<th>Relates to Capstone Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential I: Scientific Underpinnings for Practice</td>
<td>The project expands the discipline of nursing by promoting an understanding of how to change practice behavior for nurse practitioner to improve the overall good of a specific population.</td>
</tr>
<tr>
<td>Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking.</td>
<td>The project extends and assesses new approaches for care that will help manage present and potential requirements for specific patient population.</td>
</tr>
<tr>
<td>Essential III: Clinical scholarship and analytical methods for evidence-based practice</td>
<td>The project provides the opportunity to critically appraise and evaluate literature to support implementing evidence based patient-centered care strategies for improvement in healthcare outcomes.</td>
</tr>
<tr>
<td>Essential IV: Information systems/technology and patient care technology</td>
<td>The project promotes the DNP graduate to design and implement programs associated with new technology for improving timely and easier access to healthcare services.</td>
</tr>
<tr>
<td>Essential V: Healthcare Policy for Advocacy in Health Care</td>
<td>The project involves the DNP graduate in committees, boards and interdisciplinary team groups at the local, state and national level as an expertise in policy issues associated with new healthcare technology.</td>
</tr>
<tr>
<td>Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes</td>
<td>The project fosters the DNP graduate role as a consultant in the role of Telehealth Clinical Champion at the local and national level.</td>
</tr>
<tr>
<td>Essential VII: Clinical Prevention and Population Health for Improving the Nation’s Health</td>
<td>The project advances the DNP graduate role in improving chronic disease management and reduces potential for adverse outcomes based on providing access to healthcare services for populations in rural areas.</td>
</tr>
<tr>
<td>Essential VIII: Advanced Nursing Practice</td>
<td>The project allows the advancement of nursing practice by promoting the DNP graduate as a mentor for other healthcare professionals in the use of new technology.</td>
</tr>
</tbody>
</table>
APPENDIX F

THE UNIVERSITY OF MISSISSIPPI INSTITUTIONAL REVIEW BOARD APPROVAL

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 21, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.

If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 12071005
PROJECT TITLE: Impact of Social Marketing on Nurse Practitioners’ Acceptance of using Clinical Video Telehealth for Elderly Patients in Rural Mississippi
PROJECT TYPE: New Project
RESEARCHER(S): Teresa Lynn Langley
COLLEGE/DIVISION: College of Health
DEPARTMENT: Nursing
FUNDING AGENCY: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF PROJECT APPROVAL: 07/19/2012 to 07/18/2013

Lawrence A. Hosman, Ph.D.
Institutional Review Board Chair
## APPENDIX G

### CLINICAL VIDEO TELEHEALTH (CVT)

#### FOCUS GROUP SURVEY RESULTS

<table>
<thead>
<tr>
<th>Questions</th>
<th>n</th>
<th>Yes %</th>
<th>No %</th>
<th>Unsure %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Before this presentation about clinical video telehealth (CVT), did you have specific knowledge of CVT technology and how this technology is used in patient care?</td>
<td>12</td>
<td>0.50</td>
<td>0.50</td>
<td>0.00</td>
</tr>
<tr>
<td>2. Do you believe that clinical video telehealth (CVT) is effective for delivering healthcare services to patients 65 years and older in rural Mississippi?</td>
<td>12</td>
<td>100.0</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>3. In the near future, do you believe more nurse practitioners in Mississippi will use CVT for patient care?</td>
<td>12</td>
<td>0.83</td>
<td>0.00</td>
<td>0.16</td>
</tr>
<tr>
<td>4. In the near future, do you believe more physicians in Mississippi will use CVT for patient care?</td>
<td>12</td>
<td>0.83</td>
<td>0.00</td>
<td>0.16</td>
</tr>
<tr>
<td>5. In the near future, do you believe that a significant number of rural elderly patients in Mississippi will accept CVT care in their homes?</td>
<td>12</td>
<td>100.0</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>6. In the near future, do you believe that CVT will be accepted as a form of peer review and physician supervision for nurse practitioners in Mississippi?</td>
<td>12</td>
<td>0.92</td>
<td>0.00</td>
<td>0.08</td>
</tr>
<tr>
<td>7. Does CVT interaction allow for a caring nurse/patient interactions?</td>
<td>12</td>
<td>0.83</td>
<td>0.00</td>
<td>0.16</td>
</tr>
</tbody>
</table>

Additional information was obtained from the following. Please share other thoughts, comments, or concerns about nurse practitioners’ use of CVT in caring for rural elderly patients in Mississippi. For example, can you identify barriers to using CVT?

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<tr>
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<th>Concerns</th>
<th>Barriers</th>
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<td>CVT has unlimited potential, a major portion of patient care can be done by using CVT.</td>
<td>There is a learning curve to develop a level of comfort in using CVT.</td>
<td>Lack of information, knowledge and learning behaviors especially in the elderly.</td>
</tr>
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<td>Enjoyed networking and sharing of a variety of ideas. I think the ideas generated in groups will enhance the future of CVT monitoring</td>
<td>Reimbursement rates. Lack of uniformity in phone lines (DSL, dial up)</td>
<td>Lack of knowledge, lack of trust of having monitors in the home especially in elderly population and vulnerable groups.</td>
</tr>
<tr>
<td>This type of care can be reassuring to patient/family/caregiver, allows close monitoring.</td>
<td>My concern of using CVT has been lessened and will be easier to use this new technology.</td>
<td>People need to see the device (CVT unit) and have more information.</td>
</tr>
<tr>
<td>CVT is patient centered and will improve access to care.</td>
<td>More education is needed to sell idea.</td>
<td>Lack of knowledge on simple things such as how you turn the camera off.</td>
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<td>Barriers</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Ongoing marketing is needed to change cultural perception.</td>
<td>More education is needed for physician buy-in for use as preceptor and peer review.</td>
<td>New technology, unfamiliarity, not hands on.</td>
</tr>
<tr>
<td>Must be able to show outcome data.</td>
<td>Must be buy-in of all shareholders (i.e. patients, providers, community agencies, etc.)</td>
<td>Fear of new technology and monitoring by providers.</td>
</tr>
<tr>
<td>Helpful in decreasing office, hospital visits.</td>
<td>May not be “hands on” care but can be “brain on” or “courtesy on” to provide personal care.</td>
<td>Rural phone systems.</td>
</tr>
<tr>
<td>Improves medication reconciliation.</td>
<td>Patients’ fear of new technology and camera will be on “spying on them”.</td>
<td>Provider’s feelings of NOT providing therapeutic touch to patients.</td>
</tr>
<tr>
<td>CVT can be used to guide patient’s continuity of care.</td>
<td>Phone companies must update of patient may need broadband in the future.</td>
<td>Poor quality of phone lines.</td>
</tr>
<tr>
<td>Excellent presentation to make NPs more aware of benefits of CVT while exploring disadvantages and making them feel better about the high technology.</td>
<td>Rural patients may actually perceive this as too much.</td>
<td>Lack of information and knowledge of CVT. Need more education to sell the idea.</td>
</tr>
</tbody>
</table>
REFERENCES


*TelEmergency Program at the University of Mississippi Medical Center.* (2012). Retrieved from www.umc.edu/teleemergency

