SUSTAINABILITY OF COLLABORATIVE EDUCATIONAL ENDEAVOR IN PORT-AU-PRINCE, HAITI

by

Janice Annette Rorabeck

A DNP Project Submitted to the Faculty of the

COLLEGE OF NURSING

In Partial Fulfillment of the Requirements
For the Degree of

DOCTOR OF NURSING PRACTICE

In the Graduate College

THE UNIVERSITY OF ARIZONA

2 0 1 7

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the DNP Project Committee, we certify that we have read the DNP Project prepared by Janice Annette Rorabeck entitled "Sustainability of Collaborative Educational Endeavor in Port-au-Prince, Haiti" and recommend that it be accepted as fulfilling the DNP Project requirement for the Degree of Doctor of Nursing Practice.

_____ Date: January 3, 2017
Ted S. Rigney, PhD, ANP, ACNP-BC, FAANP

_____ Date: January 3, 2017
Mary Davis Doyle, PhD, RN, CPHQ

_____ Date: January 3, 2017
Kate Sheppard, PhD, RN, FNP, PMHNP-BC, FAANP

Final approval and acceptance of this DNP Project is contingent upon the candidate's submission of the final copies of the DNP Project to the Graduate College.

I hereby certify that I have read this DNP Project prepared under my direction and recommend that it be accepted as fulfilling the DNP Project requirement.

_____ Date: January 3, 2017
DNP Project Director: Ted S. Rigney, PhD, ANP, ACNP-BC, FAANP

STATEMENT BY AUTHOR

This DNP Project has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

SIGNED: __Janice Annette Rorabeck_____

ACKNOWLEDGMENTS

I would like to acknowledge my amazing committee: Dr. Doyle, Dr. Sheppard, and Dr. Rigney. Their insight and guidance, provided though this incredible journey, made the path easier to follow. Their transfer of knowledge will guide me throughout my practice. Dr. Rigney, you have gone above and beyond as my committee chair. Your kindness and the means you educate through are profound. I would also like to acknowledge my colleagues I have met along this crossing. The friendships that blossomed will never be forgotten. Further, the preceptors and educators that took the time to teach me the ways, have molded the practitioner I am to be.

DEDICATION

This DNP Project is dedicated to the amazing individuals that provide care to those suffering from illness at St. Luke's Hospital in Haiti. Their desire and devotion to provide quality care has been inspirational. The beauty and light they exuberate is moving. Father Rick Frechette has inspired me to view life, love, education, and patient care through a different lens. He has a unique ability to see the positive and loveliness of human beings and provide compassion and comfort. I would also like to dedicate this project to my wonderful parents, Mark and Janet Rorabeck. Without their undying support and uplifting, this feat may not have been possible. Further, I would like to dedicate to all my friends and family that have provided support and belief in myself when I wavered.

TABLE OF CONTENTS

TABLE OF CONTENTS – *Continued*

LIST OF TABLES

ABSTRACT

Objective: The purpose of this DNP Project was to investigate factors that influence the sustainability of a prior nursing physical assessment education intervention with intensive care unit (ICU) nurses working at Saint Luke's Hospital in Haiti.

Methods: A qualitative design, utilizing focus group interviews and direct observation was used. Two focus group interviews were held at St. Luke's Hospital. Participants were identified via purposeful sampling, with the aid of key informants, to include Haitian nursing and medical administration, ICU staff nurses, and physicians that participated in the prior nursing education intervention. An interpreter was present during the interviews. The interviews were audio taped, allowing verbatim translation and transcription into English. The transcription was analyzed to identify themes regarding factors that influenced the sustainability of the prior nursing physical assessment education.

Findings: The majority of themes identified in the nursing focus group interview were mirrored in the physician focus group interview and aligned with current literature. These included staffing, nursing knowledge regarding physical assessments, and continuing education. The nursing focus group indicated that ongoing communication and collaboration were factors influencing sustainability. In the physician focus group, the theme of interdisciplinary integration also emerged.

Conclusion: There is limited literature discussing the factors that influence sustainability of nursing education in developing countries. A program evaluation to examine these factors for the prior nursing education at St. Luke's Hospital had not been conducted. Findings indicate that there are numerous factors that influenced the sustainability of the prior nursing physical

assessment education intervention. Although these findings are not transferable to other settings or populations, understanding means to increase sustainability may be influential in future nursing education endeavors with St. Luke's Hospital in Haiti.

CHAPTER I: INTRODUCTION

Background

Nurses practicing in the Intensive Care Unit (ICU) are at the forefront of recognizing clinical deterioration of patients, through comprehensive physical assessments, to avert serious unfavorable patient events (Douglas et al., 2014). Inadequate comprehensive physical assessments have been shown to contribute to suboptimal care of acutely ill patients (Douglas et al., 2014; Massey, Aitken, & Chaboyer, 2009; Odell, Victor, & Oliver, 2009). The role of the ICU nurse, in regards to completing physical assessments, varies depending on nation of residence, education, and interprofessional culture of practice. Historically, ICU nurses at Saint Luke's Hospital in Port-au-Prince, Haiti, did not complete comprehensive physical assessments or utilize stethoscopes. The nurses' role was to obtain vital signs and document these in the patient's paper medical record. ICU nurses in developing countries are faced with unique challenges to strive for their goals of quality patient care within time, resources, and educational constraints (Lutz et al., 2014).

A prior collaborative educational endeavor, with this student as a member of the team, was undertaken to implement an ICU nursing staff development program to enhance nurses' ability to complete comprehensive physical assessments at St. Luke's Hospital's ICU in Port-au-Prince, Haiti. A unique approach was undertaken to incorporate an embedded assessment of practices, education via train-the-trainer techniques, and collaborative development of curriculum guided by the local nursing and medical administration (Lutz et al., 2014). An embedded assessment involved foreign educators being immersed in the local practice and health

care culture by working alongside Haitian nurses and meeting with Haitian nursing administration to further understand the intricacies of everyday care delivery.

Tracer methodology provides a means to evaluate health care organization processes. Individualized tracer observations allow assessment of processes or procedures implemented within the organization's system by following a specific patient's experience, conversing with staff that provided the care, and review of clinical documentation. This process provides and understanding of the organization's decision making process and understanding of interprofessional communication (Joint Commission, 2011). In the prior endeavor, tracer observations, which followed patients from triage to the area of admittance, were utilized to systematically understand the care delivery system and collaboratively define areas for improvement.

Curriculum was comprised of lectures, case studies, and just in time training to encompass comprehensive physical assessments, including: neurological examinations with level of consciousness and pupillary response checks; auscultation of heart tones and review of telemetry, and palpation of pulses; auscultation of lung sounds; auscultation of bowel sounds; and review of the integumentary. Just in time training allows for immediate application of knowledge received; this educational methodology was utilized during the prior innovation. An electrocardiogram lesson with cardiovascular assessment skills was being held when a patient in supraventricular tachycardia was admitted. The participants then went to the patient's bedside and were questioned regarding the telemetry, patient's assessment, and applicable interventions.

This endeavor included return demonstration and direct observation post education and concluded with satisfaction surveys after 12 months, which indicated both nursing and

administration were pleased with the initiative (Lutz et al., 2014). Direct observation illustrated application of intervention. The vast majority of nurses were observed completing physical assessments, utilizing the collaboratively developed charting tool created, and communicating with providers regarding the patient's assessment. Return trips to Haiti have shown a unique interprofessional culture change with enhanced communication among medicine and nursing, and an increase in comprehensive nursing patient assessments. However, complete nursing patient assessments are not performed on each patient during each shift and with changes in the patient's status. Further, the majority of nurses are not using the charting tool to its entirety. Despite literature discussing the term sustainability, there is a gap in long-term evaluation of sustainability of global nursing educational endeavors in resource-limited environments (Dieleman, Gerretsen, & van der Wilt, 2009; Leffers & Mitchell, 2010).

Purpose and Aims

Sustainability of nursing physical assessment educational interventions at St. Luke's hospital has not previously been examined. The purpose of this DNP Project was to examine factors that influence the sustainability of the prior nursing physical assessment education endeavor for ICU nurses working at St. Luke's Hospital in Haiti. This program evaluation project seeks to determine if the previously delivered educational innovation has been sustained and the barriers and facilitators to the innovation. The aims of this program evaluation project were:

1. Perform a comprehensive, rigorous review of all literature pertaining to continuing global nursing education program evaluation.

2. Evaluate current ICU nursing physical assessment practices to determine if interventions have been sustained through direct observation.
3. Identify knowledge, perceptions and beliefs of the ICU nurses, physicians, and administrators at St. Luke's Hospital, in regards to the barriers and facilitators to completing nursing comprehensive assessments, appropriate documentation, and communication to providers regarding each patient admitted to the ICU.

Conceptual Framework

Multiple factors influence the implementation of change; a systematic application of theoretical assumptions is useful in the evaluation of quality-improvement innovations (Grol, Bosch, Hulscher, Eccles, & Wessing, 2007). A multitude of interacting, influential factors potentially effect the innovative implementation and may be enhanced through theoretical underpinnings (Grol et al., 2007). The Conceptual Framework for Partnership and Sustainability in Global Health Nursing emerged through grounded theory methodology to encompass the themes of "engagement, mutual goal setting, cultural bridging, collaboration, capacity building, leadership, partnership, ownership, and sustainability" (Leffers & Mitchell, 2010, p. 91).

The aforementioned theoretical framework encompasses the key concepts of the purpose of this program evaluation project. In a resource-limited global health education innovation, as the interventions previously instilled in the collaborative education endeavor in Port-au-Prince, a partnership between researchers, educators, and stakeholders is fundamental to the success and sustainability of the intervention. Nurse partner factors include: "cultural perspective, personal attributes, personal expectations," and "knowledge of host country" (Leffers & Mitchell, 2010, p. 95). Host partner factors include: "expectations of other, impact of social, economic,

environment, and political status of host country wants/needs" (Leffers & Mitchell, 2010, p. 95). Nurse and host partner factors embody elements and formulate a partnership through cultural bridging, mutual empowerment, and collaboration to mutually set goals. These interrelated elements are interacting simultaneously (Leffers & Mitchell, 2010).

After the formation of a partnership the sustainability of the interventions, through analysis of program factor inputs and processes, influence the outcomes of the innovation. Program factor inputs include: design and implementation through a needs assessment; available resources within the organizational setting; and the socioeconomic and political environment. Processes involve: collaboration, leadership, adaptation, and continual assessment (Leffers & Mitchell, 2010). Sustainable interventions ensure program activities continue with further innovations, host country ownership, and improved health outcomes (Leffers & Mitchell, 2010). The Conceptual Framework for Partnership and Sustainability in Global Health Nursing will aid in the investigation of factors that influence the sustainability of the prior nursing physical assessment education endeavor with ICU nurses working at St. Luke's Hospital in Haiti.

The Conceptual Framework for Partnership and Sustainability in Global Health Nursing provides a substantiated theoretical foundation for this program evaluation. With knowledge that terminology definition may be subjective, certain concepts need to be defined. These fundamental concepts include: global health education innovation and partnership; nursing education in Haiti; limited resources; sustainability.

Global Health Education Innovation and Partnership

Global health education innovation encompasses bidirectional knowledge transfer between health care providers throughout the world. Throughout the innovation a partnership is

imperative to reach the common goal of enhanced physical assessments and associated patient outcomes. Partnership is defined as a "reciprocal and interactional collaboration between the researcher and the community" (Crist & Escandon-Dominguez, 2003, p. 266).

Nursing Education in Haiti

Faculté des Sciences Infirmières de l'Université Épiscopale is the only baccalaureate nursing school in Haiti (Lev, Lindgren, Pearson, & Alcindor, 2013). Educational level varies widely among nurses, with the majority of education being received in trade schools. These highly intelligent, extremely motivated, and compassionate nurses strive to provide optimal patient care without solid conceptual, pathophysiological, or pharmacological underpinnings.

Limited Resources

Developing countries lack the industrialization and resources readily taken for granted in developed countries. A resource-limited environment stretches far beyond a lack of technological advances. It encompasses a lack of basic resources such as clean water, sanitation techniques, reliable electricity, basic supplies, medications, equipment, and lack of reliable transportation. Further, each resource utilized must be weighed with the need and benefit versus use. A continual questioning of one's self as to whether or not the use of the resource will alter a patient's outcome is crucial to sustaining health care within this environment.

Sustainability

The definition of sustainability in the context of this project is adopted from the World Health Organization, as cited by Leffers and Mitchell (2010, p. 92): "the ability of a project to continue to function effectively, for the foreseeable future, with high treatment coverage,

integrated into available health care services, with strong community ownership using resources mobilized by the community and government."

CHAPTER II: LITERATURE REVIEW

To evaluate literature regarding the sustainability of nursing education in developing countries a thorough literature review was conducted in conjunction with the University of Arizona's College of Nursing librarian. An electronic search was conducted in several online databases: PubMed, CINAHL, EMBASE, Web of Science, and Dissertation Abstracts. It was determined that the term "Sustainability" yielded scant results and the term "Program Evaluation" was utilized to examine barriers and facilitators to sustaining a program. The terms originally utilized to complete this literature search included a combination of "Education, Nursing, Continuing" AND "Program Evaluation" AND "Developing Countries" OR "Haiti." These searches yielded 55 articles, 15 were obtained for further review. The other articles were excluded as the article's purpose was not a program evaluation of a nursing education endeavor or the authors did not discuss specific barriers and facilitators to sustaining nursing education.

Due to limited results, further searches within these electronic databases was expanded to "Education, Nursing, Continuing" AND "Developing Countries" OR "Haiti." "Program Evaluation" was excluded in an attempt to capture all relative continued nursing education in developing countries or Haiti. These searches yielded 125 results, 32 were obtained for further review. A limited exclusion criterion was set in an attempt to capture all relevant literature. Articles were excluded only if they were not in the English language. An ancestral review was also conducted for pertinent articles. Of the 47 articles reviewed more in depth, articles were included if the article's purpose was a program evaluation of a nursing education endeavor or if the authors discussed specific barriers and facilitators to sustaining nursing education.

A separate literature review in each of the aforementioned electronic databases was conducted to examine continued nursing education in developed countries to determine if knowledge from research conducted within developed countries could be extrapolated or translated to sustainability of continued nursing education in developing countries. The terms utilized consisted originally of "Education, Nursing, Continuing" AND "Program Evaluation" AND "Developed Countries." In each electronic database this yielded zero results. The search was conducted again; "Developed Countries" was excluded in an attempt to encompass all evaluations of continued nursing education programs. The only database that had substantial results was PubMed, which initially yielded 1,722 results. Exclusion criteria of English language and articles published within the last five years was set to narrow the search to the most recent literature. This yielded 113 results, with one article obtained for a more in depth analysis. The other articles were excluded, as they were not in the English language or did not discuss a program evaluation of a nursing education endeavor or factors influencing sustainability of nursing education. An ancestral review was also conducted for pertinent articles.

The comprehensive review of literature did not focus on specialty of nursing, population, or modality of education. From the combined searches a total of 48 articles were reviewed in depth. The 10 articles obtained for the synthesis of literature were either a program evaluation of a nursing education endeavor or discussed barriers or facilitators to sustaining nursing education. Articles were excluded if they were not in the English language or did not directly evaluate or discuss sustainability of nursing education.

Synthesis of Literature

The components of communication, collaborative partnerships, education, and outcome evaluation are fundamental to sustaining an innovation (Sheldon et al., 2013; Suchdey, 2007). Clark et al. (2015) expanded on components to create a sustainable educational program. These include: stakeholder involvement in the planning process; targeting the program to ensure nursing participation; basing course content on local context; inclusion of communication, leadership, and skills; utilization of multifaceted learning modalities such as clinical simulations, cascade training, and intraprofessional socialization; addressing resource constraints and incorporating these into schedule-specific education days; evaluating and monitoring outcomes through structured observations and testable measures; and establishment of partnerships and establishing appropriate resources (Clark et al., 2015).

Nurses in developing countries desire to continue to add to their knowledge base and foster a higher level of education and practice through continued education (Katz & Hendel, 1998; McClure et al., 2007; Williams et al., 2003). This enthusiasm and motivation, and striving to provide quality care to their patients may fuel the ability to sustain an educational endeavor through the desire to perform with best practices. Participant's respective country of residence may impact the educational results and their sustainability (Katz & Hendel, 1998; McClure et al., 2007). Countries differ by educational resources, cultural influences, environmental challenges, and political influences. Imbalanced support for the education and attempts of innovation implementation during uncertain political times are threats to sustainability (Edwards & Roelofs, 2006).

McClure et al. (2007) evaluated the effectiveness of the Essential Newborn Care (ENC) course provided by the World Health Organization (WHO) that aimed to improve the knowledge and essential skills of nurse midwives in developing countries. The authors found an overall need for continued refresher courses, and training of nurses in all areas to ensure the same guidelines are being adhered to and consistency in care is being provided was cited as nursing concerns (McClure et al., 2007). Volunteer educators possess the unique ability to provide training during short-term service trips, as long as the educational priorities are collaboratively set, baseline knowledge regarding culture, customs, and language is gathered, and a pre-trip preparation is thoroughly conducted (Sheldon et al., 2013). Subsequent educational missions to the same location strengthens the sustainability of the innovation as it compounds efforts and illustrates the researchers' commitment to the host country, thus yielding greater effects (Suchdey et al., 2007). Building collaborative, reciprocal partnerships through culturally sensitive methods can aid in sustaining the relationship (Crist & Escandon-Dominguez, 2003; Sheldon et al., 2013) and foster innovation acceptance (Clark et al., 2015; Edwards & Roelofs, 2006). To evaluate effectiveness, continual communication amongst host country partners and researchers is pertinent to foster sustainable change and provide knowledge for further innovation (Sheldon et al., 2013; Suchdey et al., 2007).

Nursing practice may be improved and patient care enhanced, at a reasonable cost, through the integration of subspecialty nursing into local schools in developing countries that offer scholarships (Williams et al., 2003). Effective, financially frugal methods to deliver continued education can be achieved via focus on educating teachers and students, to enhance sustainability of the education (Williams et al., 2003). Other programs that focus on training a

nurse educator have been shown to be cost effective (Day et al., 2011) and can lead to a "ripple effect", where new knowledge is integrated into practice (Williams et al., 2003). Establishing a local champion and providing education through train-the-trainer techniques can enhance this effect to support ongoing program efforts (Edwards & Roelofs, 2006; Suchdey et al., 2007). Adapting program innovation to existing environments, sufficient resources and funding, and clinical leadership can increase the sustainability of the innovation (Bradley, Webster, Baker, Schlesinger, & Inouye, 2005).

Literature Strengths, Weaknesses and Gaps

Review of literature regarding the sustainability of continued nursing education, despite geographical location of the education innovation, has shed light on some common themes regarding the barriers and facilitators to sustaining continued nursing educational innovation. Themes of continual communication, collaborative partnerships, resource allocation, local champions, and provision of an evaluation through continuous presence have emerged as factors influencing sustainability. These emerged despite the country the research was conducted in, indicating this knowledge could be transferred to the research location of interest, Port-au-Prince, Haiti, and impact the innovation adaptation or further research.

The majority of the literature reviewed did not specifically address the barriers and facilitators to sustaining a continued nursing education program. Although sustainability is often discussed in the literature, few articles directly evaluate influential factors. Further, the majority of the articles that discussed sustainability completed through program evaluation were conducted over a short period of time. Countries vary by political, environmental, economical, and cultural influences that may singularly or additively effect sustainability of continued

nursing education. Thus, factors influencing sustainability of a continued nursing education innovation in one country may not be generalizable to other geographical regions.

Conclusion

Limited research has been conducted to determine the sustainability of nursing educational endeavors in developing countries (Leffers & Mitchell, 2010). Despite multiple comprehensive literature reviews, limited literature was located regarding evaluation of the barriers and facilitators to sustaining continued nursing education programs. The continual theme of need for research regarding the sustainability of nursing educational endeavors emerged throughout this search.

CHAPTER III: METHODS

Project Design

The purpose of this DNP Project was to investigate factors that influence the sustainability of a prior nursing physical assessment education endeavor with Haitian ICU nurses working at St. Luke's Hospital in Port-au-Prince, Haiti. Qualitative research designs provide a fluid, holistic, immersive means to strive for understanding of a whole phenomenon (Polit & Beck, 2012). A qualitative design, utilizing focus groups and observation, provides a rich set of findings that place emphasis on meaning over measurement (Redmond & Curtis, 2009). This program evaluation used a qualitative design through the lens of focus groups.

Setting

This DNP Project was conducted in the six-bed ICU at St. Luke's Hospital in Port-au-Prince, Haiti.

Participants

Focus group participants were selected via purposeful sampling to include Haitian nursing and medical administration, Haitian ICU staff nurses, and Haitian physicians that participated in the prior nursing education intervention. Two key informants, from nursing administration, were utilized to aid in identifying possible participants. These health care providers in the ICU were personally approached as potential participants and provided with a project disclaimer (Appendix B).

Data Collection

To investigate the sustainability of the prior nursing education intervention in Haiti, this investigator traveled to Haiti in order to evaluate current nursing physical assessment practices

through direct observation of nursing physical assessments and to identify knowledge, perceptions, and beliefs of participants regarding the factors influencing sustainability of nursing physical assessment education via focus group interviews with participants. ICU nurses that had received the physical assessment education could not be directly observed in the ICU due to current organizational reconstruction with movement of the ICU to a new building. Three nurses in the Emergency Department (ED) were observed during the admission of three separate patients, as ICU nurses cross cover in the ED. Two of the three nurses observed had participated in the previous, collaborate physical assessment education intervention. These observations provided insight as to whether or not nurses were completing comprehensive physical assessment for each patient admitted.

Prior to the focus group discussions, a description of the DNP Project was supplied to prospective respondents to enable them to make an informed and voluntary decision to participate in the survey. Respect for persons was honored through treating all respondents as autonomous agents (United States Department of Health and Human Services [USDHHS], 1979). Voluntary respondents, who met the inclusion criterion of having participated in the prior nursing education, participated in the focus group discussions without maltreatment, degradation, consequence, and were free from monetary or other forms of compensation.

Voluntary participants were treated equally and followed the same outlined approach to ensure justice. After voluntary commitment to the DNP Project, two focus group interviews consisting of approximately five participants each were held. Conducting at least two interviews helps to minimize the uncertainty of emergent themes being related to individual participant oddities (Halcomb, Gholizadeh, DiGiacomo, Phillips, & Davidson, 2007). Focus group

interviews provide a useful tool to engage "culturally and linguistically diverse populations" (Halcomb et al., 2007, p. 1000). Groups of this size facilitate open discussion without limiting members from sharing insight, opinion, or beliefs during the interview (Halcomb et al., 2007). One focus group consisted of nurses and nursing administration and another group was physicians and physician administration.

The cultural competence of the investigator and interview questions impacts the success of focus groups (Halcomb et al., 2007). This investigator served as the interviewer as a relationship had been established and fostered with the participants. This familiarity with participants and cultural diversity promotes a feeling of ease among participants and fosters an open dialogue (Polit & Beck, 2012) regarding views on barriers and facilitators to the sustainability of the prior educational intervention.

An unstructured interview design was utilized, as this method provides an interactional and colloquial means to investigate a phenomenon where it is unclear as to what is known or not known (Polit & Beck, 2012). Aligning with the unstructured interview approach, broadly constructed questions were asked starting generally and progressing to specific in nature, with the aim of promoting deep and rich conversation (Redmond & Curtis, 2009). This approach identified knowledge, perceptions, and beliefs of participants regarding the factors influencing sustainability of the previous nursing physical assessment education intervention.

A translator who was fluent in Creole, French, and English, provided by St. Luke's Hospital, was utilized during the focus group interviews in order to translate the discussion between participants and this investigator. The majority of the ICU nurses speak Creole, while the majority of the physicians are fluent in English and French. The focus groups were held in St.

Luke's ICU lounge. Placing a sign on the lounge door, notifying other staff that the discussion is in process, ensured privacy. This venue offered a neutral, non-threatening, socially acceptable setting where the participants would normally congregate; thus facilitating open and honest discussion (Halcomb et al., 2007; Polit & Beck, 2012). Each interview was audiotaped to provide data for analysis.

Prior to holding each nursing focus group interview, demographic data including participant's age, gender, years in practice, and other physical assessment education or training was gathered via the means of a survey. The survey was in English and consisted of three sections (Appendix C). A hospital-provided interpreter was available for participants when completing the survey. The first section of the survey addressed demographics regarding the respondent's age, years in practice, and prior physical assessment education or training. The second section of the survey was one question that addressed respondent's satisfaction with the prior nursing educational intervention through the use of a Likert-type item. The third section of the survey consisted of one open-ended question to allow respondents the ability to expand upon prior responses in order to increase knowledge regarding the respondent's previous education regarding physical assessments.

Data Analysis

Microsoft Excel for Mac version 14.6 was used to evaluate study sample characteristics and survey responses to the Likert scale. Frequencies and percentages were analyzed. Responses to participants' prior nursing physical assessment education that were not written in English were translated into English using a third party translator.

After concluding the interviews, the audiotape was translated by a third party translator who was fluent is Creole, French, and English. This provided data for a verbatim transcription for theme analysis (Halcomb et al., 2007). Interview discussions were thoughtfully reviewed and analyzed to identify themes or patterns in the respondents' replies (Rouen, 2014). There are potential cultural influences that may need to be considered in identification of themes or patterns in respondent's replies.

This investigator had sole access to the transcription and independently reviewed and analyzed the qualitative data in order to identify themes or patterns that aligned with literature or were emergent. Themes identified from preliminary analysis of the transcription were organized across the horizontal axis of a grid with the vertical axis providing specific examples of the theme from each participatory group (Halcomb et al., 2007). Themes identified regarding influences on sustaining nursing education were further compared to those identified in the comprehensive literature review: Continual communication, collaborative partnerships, resource allocation, local champions, and provision of an evaluation through continuous presence.

Resources and Budget

A relationship had already been established with the key stakeholders at St. Luke Hospital. Resources utilized were computer, paper, pencil, and audio recorder. The following costs were accrued in conduction of the focus group discussions: Travel cost to Haiti, housing costs while in Haiti, and cost of transcription of focus group discussion data.

CHAPTER IV: FINDINGS

Sustainability of the nursing physical assessment educational endeavor at St. Luke's Hospital had not previously been examined. The purpose of this DNP Project was to examine the factors that influence the sustainability of the prior nursing physical assessment education endeavor for ICU nurses working at St. Luke's Hospital in Haiti. The project aims were: perform a comprehensive literature review pertaining to continuing global nursing education program evaluation; determine current ICU nursing physical assessment practice evaluation via direct observation; and identify knowledge, perceptions, and beliefs of ICU nurses, physicians, and administrators at St. Luke's Hospital, in regards to the factors influencing sustainability of nursing physical assessment education.

Aim 1. Literature Review

A comprehensive literature review was conducted to analyze literature regarding sustainability of nursing education. A total of 10 articles were examined in-depth, as shown in Appendix A. Articles were included if the article's purpose was a program evaluation of a nursing education intervention or if the authors discussed factors influencing sustainability of nursing education in developing countries. Articles were excluded if they were not in the English language, did not discuss a program evaluation of a nursing education intervention, or did not address factors influencing sustainability of nursing education. Themes emerging, that may influence sustainability of nursing education, in the literature synthesis consisted of continued education, local champions, continual communication, collaboration among nurse and host partners, available resources, and evaluation of interventions through continuous presence.

Aim 2. Direct Observation

Three nurses were observed during admission of patients in ED. Two of the three nurses had received the prior physical assessment education intervention. The two nurses that had received the physical assessment education completed focused physical assessments based on the patient's chief complaint. For example, a patient was admitted with respiratory distress and the nurse was observed auscultating lung sounds. The nurse that had not received the physical assessment education did not conduct a focused or a comprehensive physical assessment. She was observed taking the patient's vital signs and documenting them in the patient's chart. A comprehensive nursing physical assessments was not conducted by any of the nurses observed.

Aim 3. Focus Group Interviews

Sample Demographic Characteristics

A total of two focus group interviews were held. One focus group consisted of five nurses and one nurse administrator. The second focus group consisted of four physicians, with one physician being the medical administrator. Table 1 displays the demographic characteristics of the two focus groups. The majority of participants (60%) were between the ages of 31-40 years old. Participants were mainly female (80%). Almost half of the participants reported 6-10 years of practice (40%), with 11-15 years and 16-20 years of practice equally reported (20%).

TABLE 1. *Focus Group Interview Participant Demographic Characteristics*

Variable	Number (N)	Percentage (%)
Age Range (years)		
20-30	1	10
31-40	6	60
41-50	3	30
51-60	0	0
61-70	0	0

TABLE 1. – *Continued*

Variable	Number (N)	Percentage (%)
Gender		
Male	2	20
Female	8	80
Years in Practice		
0-5	1	10
6-10	4	40
11-15	2	20
16-20	2	20
21+	1	10

Satisfaction with Prior Nursing Physical Assessment Education

The participants were also questioned regarding their satisfaction with the prior nursing educational endeavor through the use of a Likert-type item (Appendix C) to determine if the participants were initially satisfied with the education. Participants reported a high level of satisfaction with the prior nursing education intervention, with 50% selecting "Somewhat Satisfied" and 50% selecting "Very Satisfied" (Table 2).

TABLE 2. *Satisfaction with Prior Nursing Physical Assessment Education*

Satisfaction Level	Number (N)	Percentage (%)
Very Dissatisfied	0	0
Somewhat Dissatisfied	0	0
Neutral	0	0
Somewhat Satisfied	5	50
Very Satisfied	5	50

Prior Nursing Physical Assessment Education

Participants of the nursing focus group interview were asked to describe prior nursing education, specifically physical assessment education. Physicians involved in the focus group interview were not required to answer this question, as it pertained to nursing education. The quoted responses are displayed in Table 3 below. The majority of respondents indicated they

received education regarding nursing physical assessments during their career at St. Luke's Hospital.

TABLE 3. *Prior Nursing Physical Assessment Education*

	Respondent 1	**Respondent 2**	**Respondent 3**	**Respondent 4**	**Respondent 5**	**Respondent 6**
Please describe your prior nursing education, specifically physical assessment education or training.	"Every experience I have makes me learn many things. My experience at St Luke's taught me a lot of things. It made me understand the patients and their pain. Even more so thanks to the education session we've had. It was really good for me."	"During my whole career as a nurse at the hospital, I have given the best of me. Back then I was really young. All those years taught me how to love and appreciate people. And I learned a lot from the hospital."	"At Luke's we learn a lot of things. Several training sessions."	"It was good. [Illegible] Cardiac reanimation. [Illegible] on diabetes. [Illegible]. Really good."	"I feel very satisfied. I learned a lot of things."	"During those years spent at St. Luke's, I have learned a lot, lots of experiences, and I gained more knowledge."

Themes of Factors Influencing Sustainability

In the nursing focus group interview multiple themes emerged regarding factors that influenced the sustainability of the prior nursing physical assessment education. These themes, as shown in Table 4, were: staffing and time, current knowledge base, continuity of education, continued communication, and available resources. The physician focus group mirrored many of these themes, such as nursing to patient ratio, current nursing knowledge base, continuity of nursing education, integration of multidisciplinary team, and available resources.

TABLE 4. *Themes of Factors Influencing Sustainability of Education*

Focus Group	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5
Nurses	Staffing/time	Current knowledge base	Continuity of education	Communication/collaboration	Resources
Physicians	Staffing/time	Current knowledge base	Continuity of education	Integration of multidisciplinary team	Resources

Staffing. The theme of staffing, with high nurse to patient ratios, emerged in both the nursing and the physician focus group interviews. Both groups expressed desire for nursing to continue to complete comprehensive physical assessments. However due to time constraints, inflicted by undesirable staffing ratios, this cannot be consistently completed. A physician interviewee noted that it is the "staffing, not the time. If they have the time, then they do it." Another physician interviewee echoed this concern in his statement, "The greater barrier … is just staffing. They don't have that because they have too many patients in their responsibility." The barrier of staffing for nurses to be able to complete physical assessments was apparent in the nurse interviewee's statement, "you can have training, but if you don't have time to do what you're supposed to do." Head nodding was observed by all participants during the discussion of staffing and time limitations posing a barrier to completing comprehensive physical assessments.

Knowledge base. The nurses' knowledge base regarding physical assessments and meaning of abnormal findings was a theme in both focus groups. The groups discussed the need for a solid foundation in nursing capability to complete physical assessments that are accurate. The open-ended statement, included in the survey, administered prior to the focus group interviews to assess the participants prior nursing education in regards to physical assessments

indicated that the majority of the nursing education on comprehensive patient assessments was received via on-site training (Table 3). One interviewee stated:

> "Beyond the tools, you need to have the knowledge in order to run neurological, physical and exams and look at how the heart is working, the lungs and such. You need to be knowledgeable. That's why the first thing is about what you have in your head."

The desire to build a solid knowledge base and provide quality patient care was evident throughout the interviews. One interviewee stated, "Offer more education…So we're more knowledgeable about how to assess them." The theme of continued nursing education as a factor in influencing sustainability of nursing education was echoed by all interviewees.

Continuity of education. The theme of need for consistent, collaborative, continuity of education emerged in both group discussions. Again, head nodding was observed during the discussion of continued education as a facilitator to sustaining comprehensive physical assessment education. A physician interviewee stated:

> "I think…to do the training and it becomes a habit, and they get so used to it. The good thing will be to keep on doing those continuous trainings and then let them have it imprinted in their mind. So they could do it automatically."

This desire for continued education was also profound in the nursing focus group discussion. All nurses expressed desire for continued education. Some suggestions regarding avenues for the nursing staff to continue their physical assessment education included electronic uploading of education materials or use of a resource book to allow for continued education of new staff or provide a review to existing staff. One interviewee suggested:

> "To take what you receive and put them on a computer, on a laptop or in a book, in a notebook or such…since the volunteers can't come all the time to do it for us… if we had a file somewhere, we could always review it from time to time."

Communication and collaboration. The theme of continued communication and collaboration in nursing educational endeavors emerged as a factor influencing the sustainability of the education. All participants expressed desire for further volunteer led nursing education trips and continued collaboration. One interviewee stated:

> "We'd like to come back and help us through the training…when you have the practical aspect, when you have someone doing the training with you, when you get used to it, when you get the training, it's easier for you to assess the patient."

Multidisciplinary integration. A theme that emerged in the physician focus group was the desire to uplift nursing staff and further integrate nursing as an invaluable facet in the delivery of patient care through an interdisciplinary team approach. This integration was discussed as a facilitator to nurses completing comprehensive patient assessments and increasing the sustainability of nursing education. One physician interviewee made the following powerful statement:

> "...back then, we thought that the…usually the habit was a nurse is supposed to be, just took the vital signs and everything. But what we learned from all those continuous training, is that the nurse is a part, an important part of the patient, of the care. And the nurse, with an efficient care, just lightens the work of the doctor. The nurse is supposed to…do a quick mental and general assessment, but also do the quick exam and just have a first diagnosis. I think this is what the patient has and act according to that, and then

> discuss with the doctors and do everything that we have, all of us, all the teams to give a quick and efficient care to the patient."

The physician focus group continued to discuss the desire for "harmony" and "integration of the nurses in the full care of the patient" as "nurses are closer to the patient than doctors." The physicians stated, they have "…started to see some results. Because sometimes, nurses will help us to make some diagnosis, and if they miss something, and the nurse tells us." The group discussed that fostering a practice change can be difficult and the belief that interdisciplinary integration would aid in combatting any resistance to change.

Resources. The influence of a resource-limited environment was apparent in both focus group interviews as a barrier to sustaining the prior nursing education. The interview participants cited need for resources such as monitors, automatic blood pressure cuffs, stethoscopes, pulse oximeters, and glucometers. A physician interviewee stated, "There are some barriers with equipment." A nurse interviewee mirrored this in her statement: "We don't have enough supplies. We have stethoscopes, but we don't have the other supplies."

CHAPTER V: DISCUSSION

There is limited literature regarding program evaluation of nursing education to examine the intricacies of factors influencing sustainability. Coupling this with the challenges of nursing practice in a developing country, such as Haiti, illustrates the importance for this DNP Project. The findings of the limited direct observation and themes that emerged during the focus group discussions illuminate factors that have affected the sustainability of the prior collaborative nursing physical assessment education intervention.

The direct observation of nursing physical assessments during ED admissions revealed that the previous education impacted the nursing practice of nurses at St. Luke's Hospital in Haiti. Prior to the intervention, nurses did not utilize stethoscopes to assess their patients. However, it was not fully sustained, as nurses that received the physical assessment education did not complete comprehensive physical assessments. Numerous factors can influence sustainability of nursing education in Haiti. During the focus group discussions the themes of nursing to patient ratio, nursing knowledge regarding physical assessment, continuity of education, continuing education and communication, resource allocation, and multidisciplinary integration emerged.

A high patient to nurse patient ratio poses a barrier to completing comprehensive physical assessments. In lieu of the fact that the ICU at St. Luke's Hospital was currently not in use due to organizational reconstruction, posed a limitation to observing current ICU nursing physical assessment practice. However, during both focus group discussions the theme of staffing and time emerged as a barrier to nursing completing physical assessments. The desire for nursing to have continued education and have the adequate time to complete physical assessments was

echoed. As the organization expands, an increase in staffing through hiring more nurses and continued, collaborative education the sustainability of education could be enhanced.

The formulation of collaborative, mutual partnerships can aid in sustaining relationships (Crist & Escandon-Dominguez, 2003; Sheldon et al., 2013). The application of the Conceptual Framework for Partnership and Sustainability in Global Health Nursing where nurse and host partner factors incorporate such fundamentals may increase the sustainability of nursing education (Leffers & Mitchell, 2010) in Haiti. Continued communication and collaboration could be accomplished via virtual communication, frequent updates, and continued educational trips. The concepts of establishing a nursing educator as a local champion may increase the sustainability of nursing education (Day et al., 2011). This train-the-trainer approach would allow St. Luke's Hospital to continue nursing physical education for nurses in the ICU and disseminate this training to all nurses throughout the organization. Utilizing a tangible or electronic resource for education on physical assessments could aid the local champion in not only continued nursing education, but also in education of new nursing staff. This establishes for the host country a plan to oversee continued education (Edwards & Roelofs, 2006).

The desire of the physicians to address potential resistance to practice change via integration of nursing into all aspects of patient care, may influence further the sustainability of nursing education endeavors. To achieve a change within the organization, the innovation must be embedded into daily practice (Bradley et al., 2005). Organizational support, continued communication, and education could enrich nursing education sustainability (Edwards & Roelofs, 2006). Having a continual presence and communication, with ongoing program evaluations, would provide a means to aid in change practice (Bradley et al., 2005) and influence

nursing's ability to complete comprehensive physical assessments for patients in the ICU. Discovering the factors that contribute to a successful nursing continuing education program, best development and implementation process, and these effects on nurses' motivation and integration can aid in cementing the innovation into practice (Clark et al., 2005).

The ability of nurses to perform comprehensive physical assessments of their patients is challenging when the basic equipment is unavailable. McClure et al. (2007) also found that the lack of basic resources was a barrier to being able to adhere to common best practice guidelines. Ensuring the resources are available for ICU nurses at St. Luke's Hospital are able to complete physical assessments would increase the sustainability of nursing physical assessment education.

Limitations

Limitations to this program evaluation were sample characteristics, environment of focus group interviews, and translation. The sample characteristics included a particular medical facility in Port-au-Prince, Haiti. Thus, the findings are not transferable to other countries or medical facilities in developing countries. Further, medical and nursing administration participated in the interviews. This may have restricted open discussion among the groups. During the day of the focus group interviews, the hospital was busy and due to staffing, it was difficult for individuals to participate in the interviews. Despite this challenge, data saturation was achieved as no new themes emerged. The hospital's current expansion to a new building hindered the observation of nurses' assessment practice, which had received the prior physical assessment education, in the ICU. Another limitation was translation services used during the focus groups. In review of the transcriptions, it became apparent that the discussion was not

always translated precisely. However, these discrepancies were minor in nature and saturation of themes makes it unlikely to have influenced the findings.

The participants' voice resonated throughout the findings and themes and this researcher utilized reflexivity strategies with self-reflection regarding the unique background, value system, and a social and professional identity (Polit & Beck, 2012). Although this enhanced the integrity and aided in the objectivity of the findings, confirmability was not fully achieved. This researcher had sole access to the transcriptions from the focus group discussions. Other independent persons did not review the transcriptions to provide congruency among emergent themes. The authenticity of the findings does convey the feeling tone of the participants in regards to their practice. Method triangulation, through direct observation and focus group interviews, aided in development of a comprehensive understanding of the factors influencing the sustainability of the prior comprehensive assessment education intervention. The findings and emergent themes would have ascertained a higher level of confirmability and commitment to verification, if two or more independent individuals had analyzed the transcripts or if peer debriefing would have occurred to confirm the themes found in this project.

Despite this, these findings are credible and dependable. The project was carried out in a way that enhances the believability in the findings. The findings aligned with prior literature. Steps were taken to ensure the credibility. These included having a third party member translate and transcribe the discussions, as well as comparing the factors influencing sustainability of continued nursing education with other literature. Thoroughness was exhibited as the adequacy of the data was confirmed in saturation. Some member checking occurred during the discussions as this researcher reiterated her understanding of the responses to questions to receive

clarification. Further member checking could be achieved via dissemination of the project findings to the participants. Both credibility and dependability could be further established in future inquiry to determine if similar findings would emerge if the focus group interviews were conducted as a nursing physical assessment education program evaluation with similar participants in the same or similar context.

Conclusion

Despite limitations in developing countries, nurses strive to provide high quality, efficient patient care. The ability of an ICU nurse to perform a comprehensive physical assessment of their patient may affect time to treatment and overall patient outcomes. The factors influencing sustainability of nursing education in developing countries have not been well established. Despite many program implementations for nursing education in developing countries, few program evaluations have been completed.

This DNP Project concluded a program evaluation, via focus group interviews and direct observation of sustainability of the previous intervention, to determine factors influencing sustainability of a prior nursing physical assessment education innovation for Haitian ICU nurses in Port-au-Prince, Haiti. The themes uncovered during the focus group interviews aligned with prior literature regarding the need for adequate staffing, continued education, communication, collaboration, and appropriate resources to sustain nursing education. An emergent theme, particular to this DNP Project, was the need for multidisciplinary integration of nurses into a cohesive team approach to provide comprehensive patient care. The analysis of themes that affect nursing education sustainability, provides information for further nursing educational endeavors at St. Luke's Hospital.

Understanding the factors that influence sustainability of nursing education at St. Luke's Hospital in Port-au-Prince, Haiti, built upon the Conceptual Framework for Partnership and Sustainability in Global Health Nursing, will be instrumental in sustaining further, collaborative endeavors and fostering practice change. This may occur thru dissemination of these findings to the participants and presentation during the first Haitian medical conference, held in Haiti this year. Future projects, examining the factors influencing sustainability of continued nursing education with ICU nurses at St. Luke's Hospital, might enhance the trustworthiness of the qualitative research and provide a framework to continue with the essential means of education to ensure comprehensive physical assessments of each patient in the ICU to ensure a decrease time in recognition of deterioration and perhaps increase quality patient outcomes.

APPENDIX A:

LITERATURE RESEARCH TABLES

Author/Date	Topic/Focus/Question	Concept Theoretical Model	Paradigm/Method	Context/Setting/Sample	Findings	Future Research
Bradley et al., 2005	To explore factors that affect the sustainability in the dissemination of an evidenced-based, innovative program, Hospital Elder Life Program (HELP), seeking to improve hospitalized elderly care.	Diffusion of innovation theory; Organization-al change theory	A longitudinal, qualitative study that occurred over three years (11/2000-11/2003). Data regarding the innovation implement was collected every six months via in-depth, telephone interviews with hospital staff Qualitative study design using in-depth, open-ended interviews (45 minutes to one hour long) to examine potential mechanisms underlying complex themes/patterns of change within the organization. Asked to describe barriers and facilitators to implementing HELP; how barriers were addressed; perception regarding these in reference to sustaining the program. Interviews - audiotaped, independently transcribed; all approved by the Yale School of Medicine.	Included 13 hospitals, United States (US) – 11; Non US - 2 Interviews n=102; nurses (36%), physicians (19%), HELP coordinators (19%), administrators (16%), and volunteer coordinators or directors (10%) Snowball method of sampling - Participants (nurses, physicians, administrators, and HELP coordinators) Hospitals were followed for varying time periods, ranging from six to 30 months. HELP implementation- Medical (n=7) Medical/Surgical (n=2) Geriatric (n=2) Surgical (n=2)	Staff in the eight hospitals that sustained HELP for at least 12 months of observation perceived benefits: reduced delirium, reduced restraints, increased patient care satisfaction, increased knowledge of elderly care, enhanced communication amongst the healthcare team. Factors found to ensure sustainability: -Presence of clinical leadership -Adaption of program to fit environment -Sufficient resources and financial funding	Longer duration for sustainability of HELP Variable follow-up times; thus limiting the evaluation of sustainability of diffusion of HELP over a set period. Embedding innovation into routine practice is a crucial stage in organizational change. Need for ongoing commitment and presence to sustain a clinical program.
Clark et al., 2015	To highlight nursing continuing education can enhance healthcare delivery and the nursing workforce in low-resource settings. Provides an example within one healthcare organization in Haiti of how nursing continuing education is	The concept for Beyond Expert Program - Benner's theory, as adapted from Dreyfus Model of Skill Acquisition. Supports 5 stages from novice to expert	Haitian case study provides: setting background and description of organization, program development, and description of BEP. <u>Haitian Context:</u>	At the time of the article, the program implementation was incomplete with the first cohort of nurses having not completed the program. The program was to be implemented in Haiti.	Discussion of BEP and its relationship to the following eight components: 1. Stakeholder involvement 2. Targeting program to nurse participant	Research on the implementation and program evaluation of nursing continuing education in a resource limited

	currently supported.	throughout their career to advance through both experiential and clinical experience. Each module aligned with Benner's: Novice – block 1; Advanced Beginner – block 2; Competent – block 3; and Proficient – block 4. Progressive learning structure	-MSPP reports 6.4 doctors, nurses, and midwives per 10,000 population; 23 deemed sufficient by the WHO - MSSP recognizes 35 schools: including four state schools. -Prior to 2014 – lack of standardized curriculum resulting in variation of education. -Insufficient nursing workforce -Variability in training and practice ability -Unable to meet population needs <u>ZL and Hôpital Universitaire de Mirebalais (HUM):</u> -Largest nongovernment healthcare providers in Haiti, - HUM is to provide advanced health care services (i.e., an ICU). -No critical care training for nurses exists -A comprehensive continuing education program to: 1. Address the new learning needs 2. Address educational gaps 3. Uniform knowledge base 4. Provide foundation for ongoing professional development activities.	No specific discussion regarding exact location. Cohorts were to consist of 6-12 nurses. Each block: 56–72 hours of instructional time over 7–9 weeks of continuing education days.	to level of care and environment 3. Course content based on local context-being developed by the HUM/ZL nursing team 4. Including diverse range of nursing topics-content to include aspects of communication, leadership, as well as skill related 5. Using participatory teaching methods-clinical simulations, cascade training approach, intraprofessional socialization. 6. Addressing time and scheduling constraints - specific education days incorporated into schedule 7. Evaluating and monitoring outcomes-structured observation along with pre and post tests 8. Establish partnerships-ZL has many existing partners that are establishing resources for BEP. Commitment and support for nursing continuing education at	country. Further research needs: 1. Factors that contribute to a successful nursing continuing education program 2. Best practices for program development and implementation, and 3. Effects of programs on nurse retention, motivation, professionalism, and performance

			BEP: The aim of the BEP was to provide guidance form novice to proficient nursing professionals. Limited literature with nursing-specific evaluation of continuing education for nurses in developing countries.		both a national and institutional level is crucial in facilitating BEP development. Unable to compare BEP as their literature search found no other descriptions of comprehensive nursing continuing education programs in a developing country.	
Crist et al., 2003	To examine and describe successful methods to establish community partnerships to expand equity of services for the elderly.	Critical social theory - leading to a collaborative, empowering process for the community and researchers.	Identifying community partners: culture brokers, community guides, leaders to establish community advisory council Recruiting partners: unfolding process of reciprocal invitations Retention of partners and sustainable relationships: planning council meetings, participation in the community and reciprocating involvement in the community	A community of Mexican American elders and their caregivers on the south side of Tucson. Partners were also individuals representing the community.	Two years of collaborative empowerment, supporting success and significance of community partnership Community development and community partnered research to sustain partnership include: -reciprocity -invitation responses -community partner direction -culturally competent methods	Further research could utilize this methodology to establish culturally sensitive, collaborative partnerships, to aid in sustaining further innovations.
Day et al., 2011	To examine the effectiveness of a nurse educator in the pediatric oncology unit through continuing education, competency, and cost of implementation and sustaining.	Theoretical model not clearly stated.	Outcome measures assessed: -rate of new hire completion of a pediatric oncology nursing education -rate of chemotherapy competency -rate of central-venous line care competency -continuing education hours -cost in comparison to three other education models used in developing	Guatemalan staff nurses in the pediatric oncology unit from 1/2007-9/2009. N=49 (94% female, n=46)	Full-time nurse educator positively impacts pediatric oncology nursing education outcomes Sustainable model for providing initial and ongoing pediatric oncology education to nurses in Guatemala.	Further research to have an appointed nurse educator to continue staff education could aid in sustaining an innovation. A quantitative evaluation of patient outcomes

			countries Five days of theoretical presentations with five days of clinical training. Weekly continued education		Head nurse responsible for educating staff. Education limited by time constraints; specialized nursing training not conceptualized as high priority Annual direct cost of $244 per nurse was less than other models Each of the 49 nurses had an individual education record that included documentation of the education provided and copies of the scored evaluation tests Key factors to success: -educator solely dedicated to staff education -clinical training without requirement to complete direct patient care at the same time -Education of educator -resources -ongoing support	such as nurse-dependent clinical outcomes (nosocomial infection rates and central venous line and chemotherapy complications). Examination of long-term clinical outcomes
Edwards et al., 2006	The Canada-China Yunnan Maternal Child Health Project sought to: -improve quality, accessibility -develop and support dynamic relationships -increase the relevance and receptiveness of continuing education for maternal and child health care trainers and	Theoretical model not specified.	Three major interventions: -Training health workers in participatory and community-based approaches and clinical skills -Provide basic equipment through developing a model comprehensive referral system	Yunan province: 10 countries with proportions of ethnic minority populations. Participants included: -established maternal and child health workers -new and in-service village doctors -traditional village midwives -township health centers doctors	Over 4,000 participants received training 30% decline in maternal, infant, and under-five mortality rates Disseminated project innovations throughout the province, into other	Maintaining longer-termed innovations enhances the sustainability of international health endeavors influenced adoption: -good fit between

	trainees regarding the needs of this population.		-Introducing participatory monitoring and evaluation methods Assessed factors relevant to phases of sustainability: -Initial organizational uptake -Routinization -Long-term health system expansion	-county maternal and child health hospital doctors -provincial health staff.	donor-funded initiatives, and integrated into national health projects by local partners. <u>Threats to sustainability</u> -Uneven support for training -Introducing innovation in unstable political time <u>Supports for sustainability</u> -Developing strong, transparent partnerships -Managed planned transition points -Local champions	core project elements and the existing health system -developing adequate organizational supports -creating a plan for the host country to oversee continuing efforts Future research should address the threats and supports to sustainability of consider structure in place to ensure long-term change. Current realities and competing priorities should be examined prior and during the innovation implementation.
Katz & Hendel, 1998	Describe an ongoing evaluation and follow-up process of two international pediatric courses in Israel, for nurses from developing countries.	Theoretical model not clearly stated. Philosophy of the program: -Holistic, dynamic process involved in professional nursing of children and families - nurses' knowledge of growth and development, physiology, special	<u>Program</u>: Two, eight week courses including a theoretical section, clinical experiences, and educational field trips, which totaled eight hours per day five days a week were held. Various teaching strategies, audiovisual materials, and current literature were utilized. <u>Evaluation</u>: A formative process and summative	Pediatric nursing education held in Israel for staff nurses, charge nurses, supervisors, and nursing educators. Nurses form the Pacific Ocean, Africa, Asia, South and Central America, and Eastern Europe attended: N=53 % Female=94 Age range=23 to 48 years Retrospective questionnaires mailed to all participants; response received from 30	Majority believed course increased their knowledge. However, only 69% (N=21) stated course increased chance for professional advancement. Majority viewed their role as a pediatric patient advocate; with families being an important component. However, mixed responses of	Future research not explicitly stated. Discussion of the following: Participants requesting further education on nursing procedures and programs to prevent child abuse.

		considerations, and acquisition of pediatric nursing skills and procedures affect how care is provided. Belief that evaluation is a relevant activity for nurses in order to determine merit or quality of a product, service, or phenomenon.	outcome evaluation were completed with the purpose to: -Measure achievement of stated goals -Evaluate relevance of contents studied in regards to current practice -Determine fulfillment of participant expectations -Conduct a retrospective evaluation of the contribution to practice after a year of implementation Three stages of evaluation: 1. Continuous-during the course with structured individual interviews, class discussions, and written midterm examination 2. Final evaluation-written examination, class discussion, and completion of questionnaire from the Foreign Ministry to assess international course regarding curriculum, social activities, living conditions, and possible implications on future practice 3. One year retrospective-investigator developed questionnaire mailed to participants of both pediatric courses: -same questionnaire as in final evaluation -twelve closed		needs of chronically disabled or ill children. High reports of use of knowledge in their respective countries with increased involvement in teaching and attempt to make work place changes. Similar results in evaluation one year post implementation as to initial responses; with a report of nurses feeling they had gained slightly more now in retrospect. High desire to increase knowledge coupled with motivation and enthusiasm to impact change in pediatric nurses in the participants' perspective country of resident impacted results and sustained these at the one year evaluation.	Culturally and religiously based beliefs regarding chronically ill or physically disabled children may have influenced.

			statements relating to attitudes and beliefs regarding pediatric nursing -six open questions regarding the use of the knowledge obtained from the course; along with structural and policy changes made in their work place			
McClure et al., 2007	To evaluate the effectiveness of the Essential Newborn Care (ENC) course provided by the World Health Organization (WHO) that aimed to improve the knowledge and essential skills of nurse midwives in developing countries.	The use of the Integrated Management of Pregnancy and Childbirth (IMPAC) and Integrated Management of Childhood Illness (IMIC) strategies, which are evidenced-based guideline were utilized to provide a structure for the ENC course. An assessment was developed to analyze the ENC course on health care providers' knowledge and skills. This assessment tool was piloted in two different settings in Zambia.	A multidisciplinary group of physicians, nurses and WHO trainers reviewed the course, developed a 22-item written evaluation and an 18-item performance evaluation. -Evaluations from the ENC course ensured content validity. The performance evaluation included instructor observed evaluation of the trainees using a mannequin.	ENC course was administered to 114 nurse midwives in first-level delivery clinics in Lusaka and Ndola, Zambia. First phase of training utilized trainer of trainers model: 15 trainers then trained an additional 99 clinical nurses. Each trainer held 5-day training sessions with didactic and hands-on sessions. Six month post training a 34-item questionnaire was administered to determine the trainees' perceptions of the effectiveness of the course; addressing both barriers and facilitators to implementation of guidelines.	Total of 114 written evaluations obtained. Overall, good internal consistency reliability was demonstrated. Most improved areas: -special needs -resuscitation A six month evaluation showed 98% of respondents still perceived improvement in their knowledge and skills from the training they received. The overall need for continued refresher courses, and training of nurses in all areas to ensure the same guidelines are being adhered to and a consistency in care was being provided was citied as nursing concerns. Further, lack of basic requirements such as the resources of gloves or	Further evaluation of training programs in resource-limited settings should occur to evaluate effective implementation methods. Further methods that require fewer resources with shorter training periods should be researched. A more in depth evaluation of the program and its sustainability should occur through further research to determine effects of the course on infant mortality and morbidity.

					clean water was a theme as a primary barrier to adhering to practice guidelines. Lusaka had low staffing levels and material shortages that could have impacted the sustainability of the guideline implementation.	
Sheldon et al., 2013	To develop an oncology nursing education program in Honduras, through the following objectives: 1. Perform needs assessment, including resources and environment 2. Assess the education and safety needs 3. Develop nursing cancer education 4. Plan and conduct cancer nursing education conferences 5. Survey conference participants 6. 6. Share results with local and global partners for future oncology nursing education in Honduras.	Conceptual Framework for Partnership and Sustainability in Global Health Nursing Requires the understanding of key components and the engagement processes in order to develop global partnerships. <u>Key Components:</u> -partner factors -engagement processes -identifying a champion <u>Factors Contributing to Success:</u> -bidirectional listening and learning -equal collaboration in decision making -building on the community's culture, assets, and needs. Collaboration success based upon:	Two year program development years: resulting in site assessment, curriculum development, and delivery of two oncology-nursing conferences. Teams 1 and 2 were coordinated by ASCO, ICC, and HVO and traveled to Teguicigalpa for one-week trips in 2011 and 2012. Data obtained from site assessments and evaluations from the nurses who attended the conferences Voluntary participation A written overview was provided to the nurses attending the conference in order to recruit.	Team 1: preliminary assessment of the oncology sites at the two public hospitals in Tegucigalpa: Hospital San Felipe and Hospital Escuela. Approximately 100 nurses attended conferences held in Honduras. Survey for a response rate of 67 %. Mean age= 42 years (SD, 9) Mean years in nursing=15.8 Mean years in oncology nursing=9.85 (SD, 8.5)	The site assessment : -information regarding resources (nursing roles, medications, equipment, and staffing). Honduras oncology nurses and USA collaborated in developing conference content with input from the local oncologists and the Ministry of Health. Round table discussion with stakeholders including nurse managers from Hospital Escuela and Hospital San Felipe, the director of medical oncology, representatives from the Ministry of Health, and the director of the Breast Cancer Society concluded the conference. Team 1 post conference evaluation allowed for a content analyses of responses provided	Replication of Team 1 evaluation survey to assess the needs of oncology nurses in other low-income countries. Further volunteer educator efforts to build upon this work. Longitudinal research into increasing the oncology nursing work force. Further research on nursing and participant perspectives Long-term relationship to incorporate core concepts local baccalaureate school of nursing and the nurse

		-understanding the local host's current practice patterns -identifying gaps in knowledge limitations and resources. First step is to assess hosts; expectations and goals			guidance of further education participants wanted and need for further education. This allowed alternations to the conference held by Team 2. Several general cancer-related topics identified for future conferences: management of advanced cancer, psychosocial issues of cancer treatment, specific common diagnoses unique to Honduras, new therapies, and cancer in special populations. Volunteer educators can provide training during short term service trips, but need to: -collaboratively set educational priorities -prepare prior to establish baseline knowledge about the culture, customs and language -Pre-trip preparation through a reputable organization To evaluate the effectiveness of the programs, create sustainable changes and provide information for future initiatives ongoing collaborative communication is key.	educators at the public hospitals programs. Research into the provision of education/training for non-specialized health professionals, nurses, primary care physicians and the subsequent effects. Research into the use of e-learning and webinars as a means to provide and sustain education in developing countries.

					To develop sustainable relationships, the needs of the host community are of the highest importance Partnership must be respectful, clear role identification and process for implementation.	
Suchdey et al., 2007	To examine and discuss the principles that developed from the Children's Health International Medical Project of Seattle (CHIMPS) work with a rural community in El Salvador to provide assistance to primary health interventions there and provide collaborative, sustainable medical care.	Theoretical model not specified.	1-week outreach trips during intern vacation to Los Abelines, a community in rural El Salvador, and collaborates with a local nongovernmental organization (NGO) to support ongoing public health interventions throughout the year. 1-month electives in El Salvador to work on specific projects with the NGO. In this way, although our presence in-country is short-term, our collaboration with the community of Los Abelines is not. The seven principles have been constructed to guide further work.	The CHIMPs consists of residents, faculty, nurses, medical students, and other health professionals.	The 7 principles developed as a result of this work: -mission -collaboration -education -service -teamwork -sustainability -evaluation Partnership with government agency, or other local organization, determines the type and extent of work that can be done. Sustainability involves multiple trips to a single location to allow efforts to be built upon. Shows commitment to an ongoing relationship and allows for a greater effect. Working within existing systems through train-the-trainer techniques Periodic evaluation allows measurement of	Short-term medical trips pose challenges to sustain intervention. Logistical planning, financial support, skilled personnel, and institutional support for practitioners is required for international endeavors. Further researcher employing the seven principles to assess sustainability of innovation through collaboration, education, and evaluation in varying countries.

					project's effects and refining its design and implementation.	
Williams et al., 2003	To describe three nursing education susbspeciality models that have been established and evaluated over five years. The goal is to assess the lack of education and how this impacts implementation of education models within the international pediatric oncology partnership programs in Latin America and Morocco.	Theoretical model not clearly stated. Discusses how partnerships amongst professional organizations to adopt training initiatives. Elements of previously implemented course were adopted: Nicaraguan-American Nursing Collaboration (NANC) project began with a 5-week course for Nicaraguan nurses at Duquesne University to assess health care necessities and provide relative training interventions.	The models used: 1. 1-2-week short series of classes or lectures at medical centers, with additional key nurse training 2. 12 weeks of expanded classes involving didactic and clinical training 3. 12-week courses in theory and clinical practice to nurses at regional residential: -train-the-trainer techniques -cost-effectiveness of models was evaluated on testing, retention, nurses' participation and commitment, and involvement of institution, "ripple effect" (knowledge transfer with implementation of education)	First five years of the training programs – 150 nurses education. Fifteen nurses were trained in 2001 in Morocco. El Salvador residential program - trained 76 nurses from 12 countries (Chile, Columbia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Peru, and Venezuela). Trainers had to sign a 5-year employment contract with their hospitals in order to participate.	Difficulties encountered in: -Morocco: scheduling and time constraints as trainees' had to also provide nursing care while educating staff -El Salvador: time away from work and family leading to income loss -Evaluations positive and instrumental in making program improvements. Inadequate planning caused majority of problems encountered: Poor scheduled and lesson planning that did not take cultural considerations into account. Subsequent experience suggests that 12 weeks of combined didactic and clinical education is adequate to develop confidence and basic core skills. Long programs require more time and money to undertake. Stability, teaching staff and aid development, and integration of program into nursing education can be	A longitudinal study of the effectiveness of Model 3 to evaluate the time and income required. Nursing practice and patient care outcomes can be cost effectively affected by programs that offer scholarships and integrate subspecialty nursing into local schools in developing countries. Further programs that concentrate on education teachers and students may alter the sustainability of the endeavor and establish effective, efficient methods for continuing nursing education.

					achieved through a residential school programs. This model facilitates professional networking and a "ripple effect."	

BEP=Beyond Expert Program; MSPP=Haitian Ministry of Health; WHO=World Health Organization; CNO=Chief Nursing Officer; ASCO= American Society of Clinical Oncology; ICC= International Cancer Corps; HVO= Health Volunteers Oversea

APPENDIX B:

PROJECT DISCLAIMER

Project Disclaimer

My name is Janice Rorabeck and I am a graduate student completing my DNP Project for completion of my Doctor of Nursing Practice degree at the University of Arizona. The purpose of this DNP Project is to determine if the previously delivered educational intervention of teaching nurses to complete comprehensive physical assessments has been sustained and what are the barriers and facilitators regarding the sustainability of the educational intervention.

If you choose to participate in this project, you will be asked a series of demographic questions prior to participating in the interview. Then you will participate in an unstructured focus group interview regarding your perceptions and beliefs on intensive care unit (ICU) nurses completing physical assessments and the barriers and facilitators to completing physical assessments. The interview will consist of five questions and will take place in the ICU lounge at St. Luke's Hospital. A hospital provided translator that is fluent in Creo, French, and English will be available to translate between participants and this student. Each interview will be audiotaped and then transcribed by an individual that is fluent in Creo, French, and English to allow for data analysis. There are no direct risks or benefits to participants in this project.

If you choose to participate in the project, you may discontinue participation at any time without penalty. In addition, you may skip any questions that you choose not to answer. You will not be giving up any personal or legal rights by participating in this project. The Institutional Review Board at the University of Arizona responsible for human subjects research at the University of Arizona reviewed this project and approved it in accordance with applicable state and federal regulations as well as University policies that protect the rights of participants in scientific studies. If you have any project-related questions, concerns, or complaints and wish to

contact someone who is not part of this team, you may contact the University of Arizona Human Subjects Protection Program at 520-626-6721 or online at http://rgw.arizona.edu/compliance/human-subjects-protection-program.

For questions, concerns, or complaints about the study, you may contact the Principal Investigator Janice Rorabeck at 602-541-0278 or by email at jrorabeck@email.arizona.edu. By agreeing to participate in this interview, you agree to have your responses used for the purpose of this program evaluation project.

APPENDIX C:

FOCUS GROUP DEMOGRAPHICS CHARACTERISTICS, SURVEY AND INTERVIEW QUESTIONS

Focus Group Demographic Characteristics, Survey, and Interview Questions

Part 1: Demographic Characteristics

Age Range:

20-30
31-40
41-50
51-60
61-70

Gender:

Male
Female

Years in Practice:

0-5
6-10
11-15
16-20
21+

Part 2: Satisfaction with Prior Nursing Physical Assessment Education

How satisfied were you with the prior nursing physical assessment educational endeavor?

Very Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Very Satisfied
1	2	3	4	5

Part 3: Prior Physical Assessment Education

Please describe your prior nursing education, specifically physical assessment education or training.

Part 4: Focus Group Interview Discussion Questions:

1. What role, if any, do you feel ICU nurses have in completing comprehensive patient assessments?
2. What is the current standard of care regarding ICU nurses completing comprehensive patient assessments?
3. With what frequency do ICU nurses complete comprehensive assessments?
4. What do nurses, physicians, or administrators perceive as barriers to completing comprehensive patient assessments?
5. What do nurses, physicians, or administrators perceive as facilitators to completing comprehensive patient assessments?

APPENDIX D:

FOCUS GROUP THEME ANALYSIS

Focus Group Theme Analysis Grid

Focus Group	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5

REFERENCES

Bradley, E. H., Webster, T. R., Baker, D., Schlesinger, M., & Inouye, S. K. (2005). After adoption: sustaining the innovation a case study of disseminating the hospital elder life program. *Journal of the American Geriatrics Society, 53*(9), 1455–1461. doi:10.1111/j.1532-5415.2005.53451.x

Clark, M., Julmisse, M., Marcelin, N., Merry, L., Tuck, J., & Gagnon, A. J. (2015). Strengthening healthcare delivery in Haiti through nursing continuing education. *International Nursing Review*, 62(1), 54–63. doi:10.1111/inr.12165

Crist, J. D. & Escandon-Dominguez, S. (2003). Identifying and recruiting Mexican American partners and sustaining community partnerships. *Journal of Transcultural Nursing, 14*(3), 266–271. doi:10.1177/1043659603014003013

Day, S. W., Garcia, J., Antillon, F., Wilimas, J. A., McKeon, L. M., Carty, R. M., … Howard, S. C. (2011). A sustainable model for pediatric oncology nursing education in low-income countries. *Pediatric Blood & Cancer, 58*(2), 163–166. doi:10.1002/pbc.24007

Dieleman, M., Gerretsen, B., & van der Wilt, G. J. (2009). Human resource management interventions to improve health workers' performance in low and middle income countries: a realist review. *Health Research Policy and Systems*, *7*(7), 1-13. doi:10.1186/1478-4505-7-7

Douglas, C., Osborne, S., Reid, C., Batch, M., Hollingdrake, O., & Gardner, G. (2014). What factors influence nurses' assessment practices? Development of the barriers to nurses' use of physical assessment scale. *Journal of Advanced Nursing*, *70*(11), 2683-2694. doi: 10.1111/jan.12408

Edwards, N. C. & Roelofs, S. M. (2006). Sustainability: the elusive dimension of international health projects. *Canadian Journal of Public Health/Revue Canadienne de Santée Publique*, 45-49. Retrieved from http://www.jstor.org/stable/41994677

Grol, R. P. T. M., Bosch, M. C., Hulscher, M. E. J. L., Eccles, M. P., & Wessing, M. (2007). Planning and studying improvement in patient care: the use of theoretical perspectives. *Milbank Quarterly, 85*(1), 93–138. doi:10.1111/j.1468-0009.2007.00478.x

Halcomb, E. J., Gholizadeh, L., DiGiacomo, M., Phillips, J., & Davidson, P. M. (2007). Literature review: considerations in undertaking focus group research with culturally and linguistically diverse groups. *Journal of Clinical Nursing, 16*(6), 1000-1011. doi:10.1111/j.1365-2702.2006.01760.x

Joint Commission. (2011). Joint Commission Top Standards Compliance Issues for 2010. *Joint Commission Perspectives, 31*(5), 1-15.

Katz, S. & Hendel, T. (1998). Integrating ongoing evaluation process for international pediatric nursing courses. *The Journal of Continuing Education (29)*3, 135-141.

Leffers, J. & Mitchell, E. (2010). Conceptual model for partnership and sustainability in global health. *Public Health Nursing, 28*(1), 91–102. doi:10.1111/j.1525-1446.2010.00892.x

Lev, E. L., Lindgren, T. G., Pearson, G. A., & Alcindor, H. (2013). Evolution of a nursing education program delivered to baccalaureate-prepared Haitian nurses. *Nurse Educator, 38*(4), 169-172. doi:10.1097/nne.0b013e318296dce2

Lutz, J., Augustin, M., Patel, C. C., Fenestor, M., Patel, A., Rock, S., ... & Thornton, H. (2014). 314: Implementation of a successful intensive care nursing staff development program in Haiti. *Critical Care Medicine, 42*(12), A1436. doi:10.1097/01.ccm.0000457811.01805.ff

McClure, E. M., Carlo, W. A., Wright, L. L., Chomba, E., Uxa, F., Lincetto, O., & Bann, C. (2007). Evaluation of the educational impact of the WHO Essential Newborn Care course in Zambia. *Acta Paediatrica, 96*(8), 1135–1138. doi:10.1111/j.1651-2227.2007.00392.x

Polit, D. & Beck, C. (2012). *Essentials of nursing research: appraising evidence for nursing practice* (9th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.

Redmond, R. & Curtis, E. (2009). Focus groups: principles and process. *Nurse Researcher, 16*(3), 57-69. doi: 10.7748/nr2009.04.16.3.57.c6946

Rouen, P. (2014). Aligning design, method, and evaluation with the clinical question. In K. Moran, R. Burson, & D. Conrad (Eds.). *The doctor of nursing practice scholarly project: a framework for success* (331-346). Burlington, MA: Jones & Barlett Learning.

Sheldon, L. K., Wise, B., Carlson, J. R., Dowds, C., Sarchet, V., & Sanchez, J. A. (2013). Developing a longitudinal cancer nursing Education program in Honduras. *Journal of Cancer Education, 28(*4), 669–675. doi:10.1007/s13187-013-0497-6

Suchdev, P., Ahrens, K., Click, E., Macklin, L., Evangelista, D., & Graham, E. (2007). A model for sustainable short-term international medical trips. *Ambulatory Pediatrics, 7*(4), 317–320. doi:10.1016/j.ambp.2007.04.003

United States Department of Health and Human Services: Department of Health, Education, and Welfare. (1979). The national commission for the protection of human subjects of biomedical and behavioral research. *The Belmont Report.* Retrieved from http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html#xselect

Williams, J. A., Donahue, N., Chammas, G., Fouladi, M., Bowers, L. J., & Ribeiro, R. C. (2003). Training subspecialty nurses in developing countries: methods, outcome, and cost. *Medical and Pediatric Oncology, 41*(2), 136-140. doi:10.1002/mpo.10242