PERCEIVED KNOWLEDGE AND PERCEPTIONS OF PALLIATIVE CARE AMONG ADVANCED PRACTICE CARDIAC PROVIDERS

A Scholarly Project

Presented to the

Faculty of Liberty University

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Nursing Practice

By

Jordan Arnol Vance BSN, RN, CCRN

August 2017

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Abstract

Providers of healthcare have continued to focus on addressing patients' chronic health outcomes. When understanding how to manage chronic disease, there remains many opportunities in facilitation of better management. With such a wide range of individuals who suffer with a chronic condition, better management to address this population is essential. Palliative care aids in accomplishing this task. It was seen that there was a lack of education in relation to palliative care, with perceptions that continued to be a barrier to the utilization of the service. Due to the lack in education, the strongest barrier to palliative care service utilization was the misunderstanding of the service. The project assessed an educational intervention provided to nurse practitioners and physician assistants that led to a change in knowledge and a change in perception of palliative care. The project developed understanding related to increasing palliative care knowledge and changing perceptions of advance practice cardiac providers.

Keywords: palliative care, knowledge deficit, change in perceptions, providers, readmissions

PERCEIVED KNOWLEDGE AND PERCEPTIONS OF PALLIATIVE CARE AMONG ADVANCED PRACTICE CARDIAC PROVIDERS

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List of Abbreviations

Advanced practice providers (APP)

American College of Cardiology Fellowship (ACCF)

Center for Medicaid and Medicare Services (CMS)

Center to Advance Palliative Care (CAPC)

Chronic obstructive pulmonary disease (COPD)

Collaborative IRB Training Initiative (CITI)

Dissemination and implementation (D&I)

Doctors of osteopathic medicine (DO)

Emergency Department (ED)

Evidence-based practice (EBP)

Institutional Review Board (IRB)

Medical doctors (MD)

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Palliative care is a valuable resource when utilized effectively and when it is appropriate. The utilization of palliative care aids in addressing many concerns related to chronic disease management. Palliative care aids in creating solutions for concerns related to readmissions, cost, and better healthcare utilization.

One of the major concerns related to chronic cardiac disease are opportunities to decrease readmissions. There are specific populations that are affected with life-threatening chronic diseases that are burdensome to patients and healthcare resources. The Center for Medicaid and Medicare Services (CMS) specifically targets diagnoses that utilize the most healthcare resources. Currently, the diagnoses under scrutiny are myocardial infarction, heart failure and chronic obstructive pulmonary disease, pneumonia, and stroke (Medicare.gov, 2017). Some of the most significant issues relate to decreasing healthcare utilization, readmissions, and costs. Providers have a knowledge deficit that results in misconceptions and underutilization of palliative care services (Jablonski, 2008). The evidence-based project provided education to providers on the benefits of palliative care, as it related to chronic disease management to change perceptions and knowledge relating to palliative care.

Background

Burden of Chronic Disease

Epidemiology. Chronic disease is a significant burden to the United States healthcare system. In 2012, it was estimated that about 17 million people, or about 50% of the population, had a diagnosis of a chronic disease (Centers for Disease Control, 2016). It is estimated that 7 of the top 10 causes of deaths were related to chronic disease (2016). Specifically, 48% of deaths relating to chronic disease were associated with heart disease and cancer (2016). In the review of the literature, it was noted that there was no data that supported isolation of specific death related to only cardiac disease. This was a gap found in the research.

Economic burden. Chronic disease continues to cause a fiscal burden that not only affects individual patient experience, but also healthcare organizations. In 2010, 86% of all healthcare was directed toward individuals with one or more chronic health conditions (Centers for Disease Control, 2016). The total cost of heart disease and stroke was $315.4 billion, with $193.4 billion focused on direct medical costs, not including nursing home services (2016). Cancer care in 2010 cost an estimated $157 billion (2016). In 2012, those who were diagnosed with diabetes had a cost of $245 billion, with $176 billion specific to direct medical costs and $60 billion in decreased productivity (2016). Obesity and arthritis related conditions cost an estimated $275 billion, with $81 billion focused on direct medical cost for those with arthritis related conditions (2016).

30-day readmission population. The CMS track the readmissions of individuals who suffer from burdensome chronic diseases (Medicare.gov, 2017). For individuals that experience chronic obstructive pulmonary disease (COPD), the national average rate of 30-day readmissions is 20% with the local Central Virginia hospital ranking no different than the national average (2017). Individuals who experience a myocardial infarction have a 30-day readmission rate nationally of 16.8% with the local hospital ranking no different than the national average (2017). The national heart failure readmission rate is 21.9% with the local hospital having no difference than the national average in this area as well (2017).

Palliative Care

Palliative care is an evidence-based healthcare service that aims to improve symptoms and quality of life for patients who have chronic life-threatening illnesses and their family (Center to Advance Palliative Care, 2014). The World Health Organization (2015) defines palliative care as "an approach that improves the quality of life of patients (adults and children) and their families who are facing problems associated with life-threatening illness" (para. 1). Improving the lives of the patients can be accomplished by "prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial, and spiritual" (2015, para. 2). Palliative care services improve health outcomes including decreasing length of hospital stay, emergency room visits, and 30-day readmissions (Center to Advance Palliative Care, 2014).

History. Palliative care has origins that date back to the 1950s in the United Kingdom (UK), with a very clear connection to hospice care (Clark, 2007). The first individual associated and regarded as the founder of palliative care was Cecily Saunders, who worked as a nurse in the UK (2007). Saunders had begun much of the conversation of symptom treatment and addressing the patient, instead of their imminent death or their disease process. In the late 1980s, palliative medicine was established as a subspecialty of general medicine in the UK (2007). This is where much of the recognition of palliative care as a separate specialty began. Following this period, palliative care slowly began making its way to the United States.

In the United States, the shift in understanding hospice versus palliative care occurred in the 1990s with greater focus addressing the differentiation of the specialty

(Clark, 2007). Many organizations, originally focusing solely on hospice care, began to change their name to address the two very different fields of patient care (2007). The subspecialty of palliative medicine was expected to come to similar recognition as experienced in the UK by 2008 in the United States (2007). Because of the close relation and development of palliative care from hospice care, this is one of the main points of confusion for providers, patients, and families. Since the distinction has been made between palliative care and hospice care, it is important to understand that palliative care initiation is essential and important at any stage of chronic disease or serious illness (Strand, Kamdar, & Carey, 2013).

Appropriate referrals. It is important to understand what criteria is needed to be met and when palliative care services should be initiated. Practice guidelines have suggested that all individuals who suffer from a serious life threatening illness should be considered for palliative care (National Consensus Project for Quality Palliative Care, 2013). The guidelines go on to mention that patients of all ages with a wide range of diagnostic categories living with a persistent or recurring medical condition that adversely affects their daily functioning or will predictably reduce life expectancy are individuals that are appropriate for palliative care services (2013).

Early referrals. Early palliative care referrals decrease intensive care unit and emergency department visits (Amano et al., 2015). Patients with cancer referred to palliative care at least three months before their deaths made 29% fewer visits to the emergency department (ED), had 33% fewer hospital admissions, and were 14% less likely to die in the hospital (Wilmont, 2014). Furthermore, an early referral to palliative care services reduces hospital stay.

Early referrals have shown to aid both the family and the patient in goal setting and treatment decisions. When this is completed early, expectations are clear to the family as well as to providers (Barton, 2014). Often, individuals who are dealing with a life-threatening illness do not want to spend their last days within a hospital. Fifty-eight percent of patients wished to die at their current place of residence (Capel, Gazi, & Finlay, 2011). Initiation of the process of palliative care early can allow individuals to achieve their goals and give them a sense of control of their chronic disease or palliative symptom management process. In understanding the data, the use of palliative care early within the disease process will aid in better health outcomes and increased patient autonomy of life decisions. Early referrals to palliative care services will provide a way to manage a patient's health and will foster a greater sense of control in their chronic cardiac disease management.

Palliative Care Benefits

Hospital readmissions. Hospital readmission continues to be a significant burden to healthcare systems. Palliative care initiation upon hospital admission for individuals who experience a chronic disease results in a significant decrease in future readmissions when palliative care is utilized (Tangeman, Rudra, Kerr, & Grant, 2014). When these services are utilized within the home setting, the individual will be less likely to experience another 30-day hospital readmission (O'Connor, Moyer, Behta & Casarett, 2015). When inpatient palliative care services were initiated, the rate of readmission decreased by 15% (2015). It is understood that with initiation of in-patient palliative care there was a decreased amount of hospital readmissions with only 1.1% of individuals being readmitted (Tangeman et al., 2014). It is suggested that the causality of this relationship is based upon the important goal discussion between the patient and palliative care team (O'Connor et al., 2015). This shows that with the inclusion of palliative care, 30-day readmissions were decreased as well as potential improvement in patient-centered outcomes (Ranganathan, Dougherty, Waite & Casarett, 2013). These results are significant and can alter current healthcare trends. The utilization of this vital healthcare resource not only addresses financial concerns, but also supports the importance of goal setting and the quality of life for individuals who suffer from chronic health conditions.

Reduced cost. The initiation of palliative care during an admission has shown to greatly decrease the length of stay for individuals and, therefore, led to a decrease in healthcare cost (Fermia et al., 2016). It was suggested that the inclusion of palliative care is associated with significantly lower levels of Medicare spending by the American College of Cardiology Fellowship/American Heart Association (ACCF/AHA) and is a Class I (Level of Evidence B) recommendation (Yancy et al., 2013). When in-patient palliative care was initiated there was an average cost reduction of 13%, and it was found that if palliative care was initiated early with in the ED there was a cost savings of $9,600 to $11,600 (Fermia et al., 2016; May et al., 2015; Tangeman et al., 2014). When palliative care referrals were completed, there was a reduction between 14% to 24% in the cost of hospital stay (May et al., 2015). Palliative care service initiation reduces cost by 38% due to a decrease in emergency room visits as well as hospitalizations (Enguidanos, Vesper, & Lorenz, 2012).

Understanding the early utilization of palliative care within the chronic disease process will aid in better health outcomes and increased patient autonomy of life decisions. Early referrals to this service will provide a way to manage the patient's health and will support them in increasing their quality of life. Unfortunately, there are several barriers that limit the utilization of palliative care in the management of chronic disease.

Palliative Care Underutilization

The underutilization of palliative care can be directly related to lack of understanding of what palliative care is by care providers. In addition, the provider's misconception that palliative services should be used solely by the primary provider or attending provider also leads to the underutilization of palliative care (Ouimet Perrin & Kazanowski, 2015). It was understood, according to Alpert et al. (2016), that 67% of cardiovascular physicians believed that advanced directive management was in the hands of the cardiologist. In this same study, 87% of providers reported at least some knowledge in relation to palliative care with only 12% stating they had extensive knowledge in palliative care (2016). Interestingly, 58% of the providers were interested in more palliative care education (2016). Education is still lacking regarding the training of non-palliative specialty providers delivering proper management of individuals with life-limiting illnesses (Szekendi, Vaughn, Lal, Ouchi, & Williams, 2016).

Due to the lack of education in the use of palliative care, there is a distinct decrease in the individuals who are offered palliative care services. This was indicated by Szekendi et al. (2016) when they were researching the utilization of palliative care services in 33 hospitals within the United States. It was found that 60.9% received neither a palliative care referral or palliative care service, even when they were deemed appropriate (2016). This shows that palliative care service is underutilized and there is need for more education to decrease the gap in knowledge among by providers.

The Center to Advance Palliative Care (CAPC) released a report in 2015 highlighting the ranking of how well each state was providing adequate palliative care services. The report had a goal to provide "an analysis of whether seriously ill patients in the United States are receiving equitable access to palliative care services in hospitals" (2015, p. 1). Virginia scored a B, on an A-D rating scale, which shows that there is room for improvement (2015). The letter score is associated with a percentage of palliative care inclusion within the state. The total score percentage is correlated to a letter grade (2015). A total score percentage of 21%-60% correlates to a D, 41%-50% correlates to a C, 61%-80% correlates to a B, and > 80% correlates to an A (2015). The total score received from this report was a 76.9 %, which proved there is still underutilization of palliative care services within healthcare systems within the state of Virginia (2015).

Providers are noted to have a lack of understanding on when to refer an individual to palliative care. In a study completed by Brickner, Scannell, Marquet, and Ackerson (2004), it was acknowledged that there was a lack of knowledge exhibited by providers on the proper referral resources offered. Often providers face challenges that prevent appropriate palliative referrals due to lack of knowledge (Friedman, Harwood, & Shields, 2002). Therefore, development of a specific educational intervention tool to address the lack of knowledge will be beneficial. In another study, it was clearly articulated that there still seems to be a major deficit in knowledge among providers in how to provide appropriate end of life care and symptom management (Iversen & Sessanna, 2012). Navarro-Leahy and Harrison (2015) showed the importance of incorporation of a tool that will aid providers in the palliative care referral process. This project will support provider education regarding the use of palliative care in the management of chronic disease. Realizing the positive effect on patients and the healthcare system at large will foster greater utilization of palliative care services.

Significance

Better utilization of palliative care services aids in helping patients live with less symptoms and with better quality of life (Hart, 2014). Educating providers will change the way in which palliative care is perceived and will increase utilization of the palliative care services. The significance of this project is displayed through a statement by Hart: "Both clinicians and patients need to be educated about the integrative and comprehensive approach of palliative care services to understand that the field is not merely about helping people die" (2014, p. 32). Therefore, palliative care education for providers is important to change perceptions and improve provider knowledge base.

Problem Statement

Palliative care services are underutilized in the management of chronic cardiac disease due to provider misperceptions and lack of knowledge about the specialty (Aldridge et al., 2016; Hart, 2014).

Purpose

The project implemented and evaluated a provider educational intervention that was aimed at improving the knowledge and perceptions of palliative care services among advanced practice cardiology providers in their management of chronic disease patients.

Clinical Question

Will cardiac advanced practice providers have improved knowledge and perceptions of palliative care services after an educational intervention is implemented?

Literature Review

A search of Ovid, CINAHL Plus, PUBMED, JAMA, MEDLINE and Academic Search was completed. The keywords and phrases used for the search were palliative care, knowledge deficit, change in perceptions, providers, readmissions, and provider education. All articles gathered were within the English language and were primarily full text articles with abstracts utilized as well.

Study Identification

The publications' date ranges for the search was 2002 to 2017. Fifty-nine article abstracts were reviewed for relevance. Primary and secondary sources were included. Certain articles were excluded if not deemed appropriate after thorough review. Nineteen sources were utilized for the literature review.

Misunderstanding of Palliative Care Services

Palliative care has continued to be erroneously equated with hospice care (Jablonski, 2008). The two forms of patient care derive from the same goal of providing comfort and providing holistic care, but hospice care is specifically limited to those nearing death (2008). The two services have worked together to coordinate care and provide continuity of care as a patient's disease progresses; however, initiation of hospice is generally more appropriate when the patient is expected to die within six months (2008). Palliative care should be involved to help manage the patient's chronic disease symptoms up until end of life. Due to a lack of providers understanding and their perceptions of palliative care services, consultations to palliative care services do not take place (Kavalieratos et al., 2014).

Not only is there confusion over the term of what palliative care is, there is also misunderstanding related to the role of palliative care and the service they provide. A study completed by van Kleffens, van Baarsen, Hoekman, and van Leeuwen (2004) revealed that there were varied views on palliative care services and more communication was warranted to alleviate the misunderstanding of what different providers saw or thought in relation to palliative care. There continues to be a disconnect among providers for various reasons as to why palliative care services should be rendered (Atwood, Hoffmann, Yan, & Lee, 2014). With the role of palliative care in managing chronic disease still confusing many care providers, specific focus and education to clarify the role was warranted.

It was understood that the goals of palliative care can be ideally applied throughout any portion of a serious illness, which can aid in improving quality of life, help at minimizing invasive interventions, and could ultimately have a positive effect on mortality (Strand et al., 2013). It was also noted that barriers often restrict patients from receiving appropriate referrals to palliative care services.

Barriers

There are many barriers to receiving palliative care in the setting of chronic disease management. Often the barriers originate from the lack of provider knowledge regarding palliative care services. In a study completed by Aldridge et al. (2016) one of the greatest barriers in patients receiving palliative care in the United States was lack of education to care providers. Better education of palliative care aids in providing higher use of the palliative care services (2016). It is clearly articulated that in relation to education there continues to be a lack of training for medical providers on proper use of palliative care services (2016). There also continues to be a lack of understanding among providers between palliative care and end of life care or hospice, which can cause some confusion when referring to palliative care services (2016). The name palliative care itself can raise some barriers causing some providers to not utilize the service (Brännström, Forssell, & Pettersson, 2011; Hui et al., 2015;). Even among healthcare providers, there continues to be confusion over the true definition of palliative care (Ullgren, Kirkpatrick, Kilpeläinen, & Sharp, 2017).

In an article by Ouimet Perrin and Kazanowski (2015), it stated that there are six barriers identified that need to be overcome to allow for proper palliative care consultations. The first barrier is the misunderstanding that palliative care is only appropriate when close to death (Ouimet Perrin & Kazanowski, 2015). However, palliative care can provide time to develop goals and better understand the patient's perceptions of living with a chronic disease (Ouimet Perrin & Kazanowski, 2015). Another notable barrier involves the initiation of palliative care. Palliative care services are often perceived by providers as undermining life (Ouimet Perrin & Kazanowski, 2015). This barrier was addressed with emphasis that the service can focus on symptom management and allow for better outcomes for the population (Ouimet Perrin & Kazanowski, 2015). The idea that a palliative care specialist is not needed to administer palliative care services was another major barrier. While this was true, it is important to remember that the specialist team has more time to focus on the patient's symptom management (Ouimet Perrin & Kazanowski, 2015). Having a designated palliative care provider allows for more appropriate management of the patient's symptoms. Confusion and the difficulties some find in placing the palliative care referral remained a barrier in implementation of palliative care services (Ouimet Perrin & Kazanowski, 2015). Lacking cultural competence and poor communication was associated with the underutilization of palliative care (Ouimet Perrin & Kazanowski, 2015). Families and patients have a lack of understanding related to the cost of life saving techniques. It is unclear to them that initiation of life saving measures can many times cause more harm than good for the family member. Open communication between the family, patient, nurse,, and provider easily addresses this barrier (Ouimet Perrin & Kazanowski, 2015).

In a study done by Brickner et al. (2004), data concluded many times that providers do not have a good understanding of how to best utilize palliative care as it could be a cost saving measure when this form of management is initiated. Education of providers can be done that will aid them in better understanding the appropriate times and instances when palliative care is needed. Finally, it is understood that use of this knowledge of these barriers to educate providers can aid in developing a broader understanding of better utilization of the valid and useful service (Friedman et al., 2002). As stated, there were many barriers that reduce the utilization of palliative care. To increase the utilization of palliative care services, healthcare provider education must be considered.

Provider Education

It has been confirmed that healthcare providers lack an understanding of palliative care; therefore, there is a lack of utilization of this service in clients with chronic disease. A study completed by Navarro-Leahy and Harrison (2015) showed the use of a tool and education has aided in providing more appropriate and timely referrals. This is also supported by a study completed by Welch (2016) where it was found that utilization of an educational intervention increased attitudes of providers relating to hospice by 33.4%. This increase showed the value of using education as an intervention to create knowledge change. Educational interventions allow for changes in knowledge and perception; therefore, making them effective to aid provider education (Doblecki-Lewis et al., 2016). Focused learning sessions can create a positive impact on a provider's decision making and their understanding of the concepts of palliative care (Thomson, Maskrey & Vlaev, 2017). The use of this form of an educational tool dramatically increased providers' understanding and increased use of palliative care services, especially when done in a structured presentation format (Berenson, Rahman, Hirth, Rupp, & Sarpong, 2015).

Utilization of an educational intervention has been proven beneficial for the study and aided providers in developing a better understanding of what palliative care is and how it adds to the purposes of the healthcare team. Many times, providers are unaware of the need of palliative care, but also the scope in which it functions, so creating awareness via provider education supports a change in knowledge and attitude towards palliative care (Butola, 2014).

Synthesis

The literature suggests a connection between the early initiation of palliative care services and better patient outcomes, specifically related to healthcare utilization and costs (Fermia et al., 2016; O'Connor et al., 2015; Tangeman et al., 2014). There are misconceptions among providers regarding palliative care services that leads to underutilization (Atwood et al., 2014; Kavalieratos et al., 2014; van Kleffens et al., 2004). Educational interventions improve provider knowledge and practice (Doblecki-Lewis et al., 2016; Navarro-Leahy & Harrison, 2015; Thomson et al., 2017).

Conceptual Framework

The Iowa Model is the conceptual framework that was used for this scholarly project. Permission has been granted for use of this model by the University of Iowa Department of Nursing (see Appendix D). This model was used to provide insight in support of evidence-based practice (EBP). The use of the Iowa Model works to ensure competency, retention, and timely completion and implementation of research into science using a leadership approach (Lloyd, D'Errico & Bristol, 2016). The Iowa Model outlines essential tasks and behaviors that must be completed and met for the development and completion of the scholarly project. There are seven key components that need to be addressed for successful completion of an evidence-based project that will be addressed in the following sections (Titler et al., 2001).

Trigger

The knowledge deficit among healthcare providers regarding the use of palliative care in the setting of chronic disease was a trigger for the scholarly project. As discussed, there are many barriers in provider's education, which is why education of the service and provider's perceptions are important. This issue was apparent when Ullgren et al. (2017) found that many healthcare professionals had misconceptions of palliative care, which hindered patients from receiving important care and support.

Purpose

The purpose of the project was to educate healthcare providers who manage chronic disease on what palliative care was and what constitutes the appropriate use of the service. The education supported a better understanding of the goal of palliative care, and how it could further benefit the healthcare organization at large. This aided in helping providers understand the goal of palliative care, while at the same time understand the ways in which were beneficial, not only physically, but financially for the organization.

Organization Priority

It is important for an evidence-based project to be a priority for the organization (Titler et al., 2001). Organizational priority will support the success of the project. If there is not significant support from the organization, additional triggers should be addressed (2001). The mission and values of the organization of choice for this project supports the proposed project. The mission and values of the local hospital system addresses “using evidence based practice to provide excellent patient care and for creating and maintaining an environment of excellence in nursing practice” (Centra Health, 2017, para. 3). This statement supports that if there can be an improvement in patient care and support, developing best practice based on research is a priority for the organization.

Team

The team involved with this project consisted of the project leader, the statistician, and the committee members of the project. This was a budget neutral project, with finances only being used for education and testing purposes.

Pilot

The project pilot addressed a knowledge deficit of providers in relation to the use of palliative care services in the management of chronic disease. The goal was to address the knowledge deficit among chronic disease care providers. The pilot assessed the knowledge level and perception of providers, and further supported the initiation of an education intervention for providers. The educational intervention highlighted the importance of early referrals in support of improved patient outcomes, as well as addressed fiscal benefits.

Evaluate the Evidence

Information included within the literature review addressed varying topics that aided in development of the project. One of the biggest concerns derived from the literature review were barriers that providers had initiating referrals, as well as their perception of what palliative care is and what it can accomplish.

Evaluate the Outcomes

Evaluation of the education was completed by assessment of knowledge by use of a post test. This assessment gauged change in perception and knowledge as well as the provider's likelihood of use the of service in the future.

The goal of the project was not one-sided; there continues to be great strain on healthcare systems as readmission rates continue to be a struggle and a concern. Implementing and utilizing palliative care services earlier in diagnosis can be one way of addressing this growing concern. Utilizing and using resources to the greatest capacity is where much of the attention should be focused. This project addressed underutilization and valuable education that could change the way in which the local hospital practices in dealing with their chronic medical conditions.

Methodology

Project Description

The project is an EBP supporting the initiation of an education intervention among chronic disease providers in an outpatient cardiology clinic. A pilot study assessing the provider’s knowledge base and perceptions was completed to better appreciate the educational need of the providers. This project is underpinned by the Iowa Model of EBP to promote a quality framework.

Measurable Outcomes

1. After the completion of a devised educational intervention, cardiology advanced practice providers will demonstrate an increase in knowledge as well as the perceptions of palliative care as evidenced by an increase in the knowledge and change in perceptions scores included on the Palliative Care Education Questionnaire.
2. After completion of the educational intervention, there will be an increase in the likelihood that the cardiology advanced practice providers will consult palliative care for future patients as evidenced by a provider increase in the likelihood of placing a palliative care consult.

Population

Advanced Practice Cardiology Providers

Advanced practice providers (APP) are intricate parts of the healthcare team. This role was chosen because 36.5% of palliative care consults were initiated by nurse practitioners or physician assistants within the cardiology practice (Centra Health, 2016). This was less than their physician counterparts in the cardiology practice which were at 63.5% (2016). Therefore, the advanced practice provider role was chosen for the population of focus for the pilot.

The interventional education tool was administered during one of their monthly APP meetings. Those included in the pilot were individuals present at the meeting and those that consented to be included in the pilot. The term advanced practice provider directly correlates to nurse practitioners and physician assistants. No medical doctors (MD) or doctors of osteopathic medicine (DO) were included within the pilot. Support was given from the cardiology office APP supervisor (see Appendix C).

Setting

The cardiology office within Lynchburg, VA was chosen for various reasons that will be discussed. The practice manages outpatient as well as inpatient needs, and has a range of involvement in chronic disease management, specifically cardiac. It was seen that out of 1094 palliative care consults for 2015 that were completed, there were 197 patients that were consulted with a cardiac diagnosis (Centra Health, 2016). Of the patients, 18.7% were diagnosed with a cardiac diagnosis, with only 6% of those patients being consulted to palliative care by a cardiac provider (2016). The rest of the consults initiated were from non-cardiology providers. This showed the need for palliative care education within the cardiology clinic. The cardiology practice was the only cardiology practice within Lynchburg. The providers of this practice managed outpatient as well as inpatient needs. Because of their range of involvement of chronic disease management, specifically cardiac, this practice was chosen.

Tools

Palliative Care Service Questionnaire

The Palliative Care Service Questionnaire was used to assess provider’s knowledge and perceptions of palliative care. This tool is a 12-question Likert-type questionnaire aimed at exploring provider knowledge and perceptions of palliative care services and the self-reported likelihood that the provider will place a palliative care consult. The scoring of the palliative care questionnaire ranges from 1 to 5 with reverse coding being utilized on appropriate questions. The questionnaire included five items: strongly agree, agree, neutral, disagree and strongly disagree. Scoring for the questions was based on desirability of the outcome of the question. Knowledge questions of the questionnaire were labeled K1-K5 with these questions utilizing reverse coding with the higher value indicating a more desirable outcome. Perception questions were labeled as P1-P6 and they were not reverse coded except for question P4. Finally, likelihood of referral service was labeled as RS and was also reverse coded so that a higher numerical value correlated to a more desirable outcome.

The questionnaire that was used was not validated, as it was created from a template provided by the palliative care team. This is an understood limitation of the tool. Reliability of the tool was validated by experts relating to palliative care as it is a modified version of a current tool being used. The tool was reviewed for content by members of the palliative care team as well as the project committee chair. Permission was given for use of this tool as a template; this was given from the palliative care team at the local hospital system (see Appendix E).

Intervention

The team leader implemented an evidence-based provider education intervention. Specifically, the intervention defined the role of palliative care in the management of chronic cardiac disease, appropriate utilization of palliative care services, outcomes associated with palliative care referrals, as well as ways to overcome barriers or correct perceptions relating to palliative care. The intervention took place during one advanced practice provider cardiology meeting. The educational intervention was an oral

PowerPoint presentation. There was a pretest prior to the education intervention and a posttest following the educational intervention.

Data Collection

A questionnaire designed to assess cardiology APP knowledge, perceptions, and self-reported likelihood of placing a palliative care consult was administered before and after the educational intervention in a pretest and posttest format. Data collected had no provider identifiers, was stored on a password protected computer, and will be destroyed after three years.

Ethical Considerations

The leader for the project completed the Collaborative IRB Training Initiative (CITI) training to ensure the protection of human subjects was included within the project. The APPs were notified that their participation was optional and that it would not affect their employment conditions. Human Resources had given approval to have research completed (see Appendix G). Upon committee approval, the project was submitted to the institution of record’s Institutional Review Board (IRB). This evidence-based project met criteria for IRB exemption; once an exemption letter was provided by the institution of records IRB it was then submitted to the local hospitals nursing research council and IRB.

Project Phases

Preparation

In preparation of this pilot, a trigger was identified using the Iowa Model as a framework. The trigger aligned with organizational priorities and was further shaped with team development. The team for the project consisted of the investigator and the doctoral committee. An in-depth literature review was completed which showed the barriers that existed for palliative care. The project proposal was completed by June 2017 and was presented to the institution of records IRB. Following approval from the institution of records IRB, the project was submitted to the local hospital systems IRB and was also approved.

Implementation

- Implementation took place during one sitting within the cardiology office APP meeting that was scheduled on July 19, 2017
- Palliative Care Questionnaire distributed at APP meeting
- Educational intervention PowerPoint presentation was completed
- Questionnaire redistributed to assess knowledge and perception change
- Final data collection after educational intervention

Evaluation

- Evaluation was completed using SPSS for analyzation of data
- Evaluation showed that the educational intervention was appropriate to develop a practice change
- Data will be distributed to the palliative care team to aid in better education of providers in understanding palliative care

Feasibility Analysis

A feasibility analysis was completed. Examination of resources, personnel, technology, and budget has been examined. A cost-benefit analysis was completed to further support the education intervention.

Resources

- Personal Computer
- PowerPoint Software
- SPSS Software
- Printing

Personnel

- Project leader
- Editor
- Committee members
- Cardiac APPs

Budget

The project remained budget neutral and all accrued cost was handled and managed by the project leader. Expense for the project included pre- and posttest questionnaire printing and services used for data analysis and editing. The time to complete the education was approximately an hour. It took 6 hours for analysis of data. All time was taken away from personal work. A registered nurse, as part of the resource team, has a general pay anywhere from $34-$36 an hour, so the number of hours completed on this project will be calculated to understand a better insight of budget. The time to defend the proposal, as well as to go through the institution of records IRB and the local hospitals IRB for the project, was calculated. No other expenses are expected for this project completion budget (see Appendix F).

Cost Versus Benefit Analysis

A cost-benefit analysis was completed to better understand the fiscal impact of the utilization of palliative care service in the chronic disease patients managed by cardiovascular APPs. The cost in development and implementation of this project was minimal.

Evaluation

Design and Methodology

The pilot project was designed as a quasi-experimental one-group pretest posttest design. Cardiology APPs were educated via a PowerPoint presentation. The presentation addressed many of the concerns and barriers providers have in initiating palliative care services. The educational intervention was piloted to address whether education increased knowledge and perceptions of providers.

Sampling

The population included APP cardiology providers (N = 11) at a Central Virginia clinic. A convenience sample of 11 APPs who attended the APP meeting and participated in the educational intervention was included.

Instrumentation

SPSS software was utilized to run statistical data. This helped to analyze data derived from the pretest posttest Palliative Care Questionnaire.

Data Collection

The APPs who attended the meeting were asked to complete a pretest. The pretest questionnaire was distributed during the meeting, prior to the educational intervention. After the educational intervention, a posttest questionnaire was distributed immediately following the educational intervention. After completion, the posttest questionnaire was collected by the project leader. Data analysis was completed once all data had been collected.

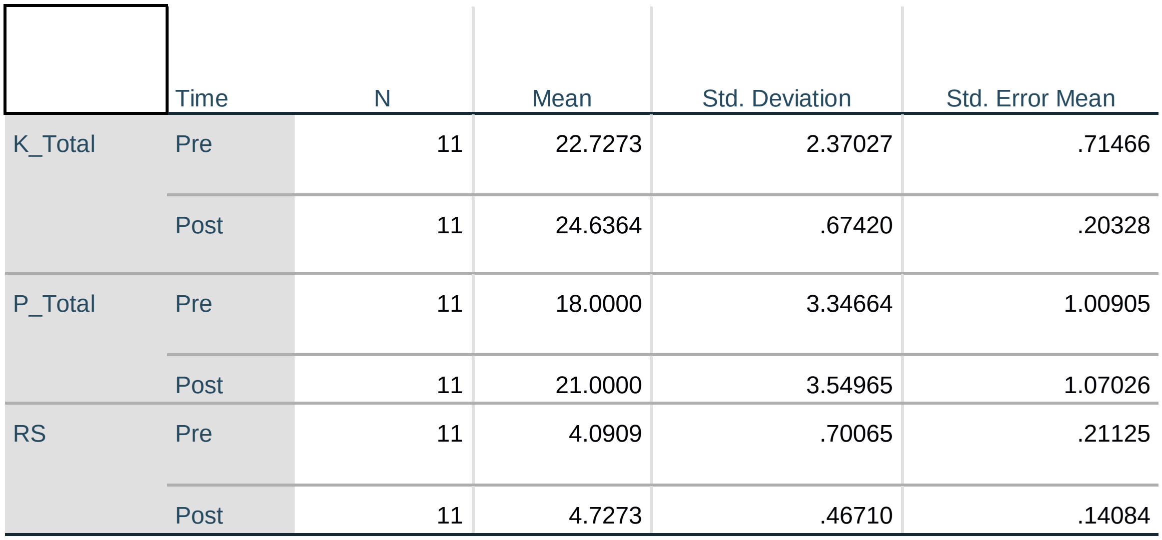
Analysis

Statistical analysis included descriptive and inferential statistics of data collected from pre- and post-education questionnaires. The pretest and posttest design compared results pre- and post-educational intervention. Use of descriptive analyzation discussed the answers specifically selected for each scale on the questionnaire. This allowed the project leader to understand more numerically the score for each level of the scale. Also, data was analyzed inferentially. This aided the researcher in understanding the level of change in knowledge, perception, and likelihood for referral of the pre- and post-educational intervention as well the statistical significance of the project data.

Variables. The independent variable for the project was the educational intervention. The dependent variables were the APPs' knowledge, perceptions, and likelihood to refer to palliative care.

Results

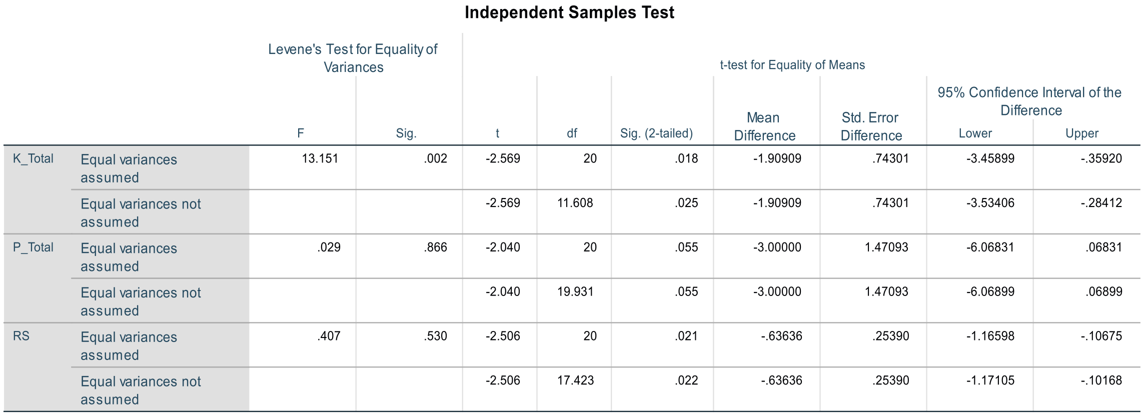
Descriptive statistics. Descriptive statistical analysis explored pretest and posttest understanding of knowledge, perceptions, and self-reported likelihood of place a palliative care consult. Discussion will follow addressing pretest and posttest descriptive results (see Figure 1).



	Time	N	Mean	Std. Deviation	Std. Error Mean
K_Total	Pre	11	22.7273	2.37027	.71466
	Post	11	24.6364	.67420	.20328
P_Total	Pre	11	18.0000	3.34664	1.00905
	Post	11	21.0000	3.54965	1.07026
RS	Pre	11	4.0909	.70065	.21125
	Post	11	4.7273	.46710	.14084

Figure 1. Group descriptive statistics.

Inferential statistics. Analyzation of data was completed using the independent sample *t* test. The independent *t* test was utilized because there was no identifier utilized to match pre- and post-test scores to maintain confidentiality. The ordinal data was utilized in relaying data within SPSS. The outcomes measured were a change in knowledge, a change in perception, and a change in the likelihood for referral to palliative care services. The data was analyzed to show a change in pre-and post-test results and to understand clinical significance (see Figure 2).



Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
K_Total	Equal variances assumed	13.151	.002	-2.569	20	.018	-1.90909	.74301	-3.45899	-.35920
	Equal variances not assumed			-2.569	11.608	.025	-1.90909	.74301	-3.53406	-.28412
P_Total	Equal variances assumed	.029	.866	-2.040	20	.055	-3.00000	1.47093	-6.06831	.06831
	Equal variances not assumed			-2.040	19.931	.055	-3.00000	1.47093	-6.06899	.06899
RS	Equal variances assumed	.407	.530	-2.506	20	.021	-.63636	.25390	-1.16598	-.10675
	Equal variances not assumed			-2.506	17.423	.022	-.63636	.25390	-1.17105	-.10168

Figure 2. Independent sample *t* test inferential statistics.

Objective 1: Improve provider knowledge.

Descriptive data. Examining pretest questionnaire results indicated the initial mean result for knowledge of palliative care was 22.7273 with a standard deviation for 2.3027 overall as a group. Posttest group data received from the questionnaire indicated a mean perception score of 24.6364 and a standard deviation of .67420. The knowledge total had a theoretical range of 5 to 25. Posttest averages relating to all the knowledge related questions showed to be slightly higher post-education. However, the differentiation between pre- and post-education remained less than one and suggests that individuals already strongly agreed with many of the questions within the knowledge section. The was a mean score increase from pre- to post-knowledge of 1.909.

The greatest knowledge increase was related to patient care cost reduction, so it could be inferred that this is where there was the greatest lack of knowledge relating to palliative care. According to the pretest questionnaire, there were five individuals who answered strongly agree, two individuals who answered agree, and four individuals who answered that they were neutral on understanding palliative care and patient care cost reduction. Following education, the posttest showed that 10 individuals answered strongly agree and one individual answered the question as agree. There was a mean total increase of 0.818 from the pre- to post-test questionnaire which showed more providers answered strongly agree to this question. Based on the increase of individuals who answered strongly agree, it can be understood that there was a change in thought following the educational intervention.

Inferential data. Increasing provider knowledge was one of the goals for this project and the results from the independent *t* test did show that there was some clinical significance related to an increase in provider knowledge between the pre- and post-test. The knowledge total variable showed t (11.608) = -2.569, p = .025. This was shown to be clinically and statistically significant.

Objective 2: Improve provider perception.

Descriptive data. The group perception mean total was calculated at 18.000 with a standard deviation of 3.34664. Group perception posttest scores revealed a mean score of 21.000 with a standard deviation of 3.54965. The perception total had a theoretical range of 6 to 30. Perception mean scores appeared to be slightly higher than knowledge scores with a change of the mean knowledge score of 3.0 from pretest to posttest. This shows that based on responses completed by the participants there was numerical increase on the perception of palliative care.

The question that showed the greatest mean increase relating to the perception of palliative care addressed whether the provider believed that palliative care was only appropriate near death. Pretest questionnaire results showed that two individuals answered that they agreed with the statement, three individuals were neutral, five individuals disagreed, and one individual strongly disagreed. Posttest questionnaire results showed that no individuals agreed with the statement; only one individual remained neutral, five individuals agreed, and five individuals now strongly disagreed with the statement. There was a mean change of 0.909 showing that more individuals strongly disagreed that palliative care is only appropriate near death. Because of this, it can be understood that there was a change in the understanding of when palliative care should be initiated following the educational intervention.

Inferential data. Examination of the data in understanding change of perception proved to have no statistical significance between the pre- and post-test evaluation with scores of t (20) = -2.040, p = .055. This was shown not to be statistically or clinically significant.

Objective 3: Improve provider likelihood of referral.

Descriptive data. Pretest results of likelihood of referral to palliative care showing a mean of 4.0909 and a standard deviation of 0.70065. The likelihood to referral service to palliative care in the posttest evaluation exhibited a mean score of 4.7273 with a standard deviation of 0.46710. The likelihood of using the referral service had a mean score increase of 0.636. In referencing the question of the likelihood of referral to palliative care there were three individuals who answered strongly agree, six to agree, and two that were neutral. Following the education, eight individuals answered strongly agree and three individuals answered agree. The increase in the provider’s likelihood to refer can infer that the educational intervention achieved the goal of increasing providers’ understanding and likelihood to refer patients to palliative care.

Inferential data. In understanding the statistical significance related to the likelihood of referral, there was a statistical significance change between the pre- and post-test with results indicating a score of $t\ (20) = -2.505$, $p = .022$. This was shown to be clinically and statistically significant.

Limitations. Due to lack of provider identifiers as well and the inability to match pre-and post-scores the assumption of independent observation was violated. This study also had a small sample size and was underpowered and as so, statistical significance results should be interpreted with caution. Because of the small sample size, as well to maintain provider confidentially, no provider identifiers were used. Due to these limitations of this study, change in provider's knowledge, perception and likelihood to refer to palliative care cannot be reasonably attributed to the educational intervention alone. However, it can also be understood that it could be attributed to the education. While there are statistical limitations to attributing improved knowledge and likelihood to referral to the educational intervention, there was a clear improvement in mean education scores and improved provider knowledge relating to palliative care.

Dissemination Plan

The dissemination and implementation (D&I) plan is an important way to foster practice change among APPs as well as gain knowledge. The D&I plan will help to decrease the time the project takes from completion to clinical practice. The following will discuss the ways in which the project can effectively and efficiently be communicated to provide future change for individuals suffering from chronic cardiac disease.

Findings from this project can help to develop a change in the practice of many providers and aid in increasing the rate of referrals to palliative care. The intended result would also illustrate that education of providers on appropriate referrals for palliative care was successful. The known education would help in providing knowledge that would continue to aid in palliative care referrals. The finding of this pilot project will be disseminated to the palliative care team upon completion with possible dissemination to other practices in the organization depending on outcome results.

These findings are extremely important, yet a small component for other research. It will highlight the knowledge gap addressing inclusion of focused palliative care education integration addressing the concern. As a result of the aforementioned information, the importance of D&I relating to information is vital to impact and change future practice.

End Users

The end users for this project will be the palliative care team within the local hospital system, providers, and patients. Other end users that might be affected by the project and its outcomes would be chronic disease providers across several subspecialties to include executive leadership within the organization. This can be any physician or APP within the local hospital system.

Dissemination Partners

Upon completion of this project, the following have been identified as dissemination partners. The specific individuals that will be instrumental in the dissemination of the data and research will be the director of the Palliative Care Services at the local hospital system. The individuals within the palliative care team will be essential to the spread of research and will be able to affect a variety of individuals to learn more and be part of the dissemination process.

The nursing educators that are part of the professional development team will also be individuals that will be an important part of the dissemination partners. They have a special interest in making sure that education and research that can affect practice is dispersed to the appropriate individuals and groups to aid in changing practice the creates better patient outcomes. These individuals will all be important and invaluable partners for dissemination of the scholarly work.

Communication

To properly disseminate the evidence based practice pilot project outcomes to individuals derived from this research, the use of a communication method will best aid in linking the research with those that will benefit from it (Agency for Healthcare Research and Quality, 2014). One of the ways that the information can be communicated to the providers within the local hospital system is by using a board displaying the data and having it strategically placed in the cardiology office. This will allow exposure of the data to the providers and will allow them to have access as to why palliative care referrals are beneficial.

Another format for how the data can best be communicated is using provider meetings. Many physician practice groups within the hospital have morning conferences once a week for professional development and education. This would be an optimal time to communicate the data from the research to the providers so they understand the necessity and importance of early consultation of palliative care for individuals who have chronic health conditions. Dissemination of the project will also be done by submission of the scholarly project to the Virginia Henderson Nursing Research Conference. Finally, dissemination of the scholarly project will also be supported by submission of the scholarly project to a peer-reviewed journal.

Implications to Practice

This project is an EBP pilot study that was aimed at improving perceptions and knowledge of palliative care. Education on the role of palliative care can accomplish the task of changing perceptions and knowledge of providers. Chronic disease will continue to be an issue and initiation and proper utilization of the palliative care team is the next step to understanding how to accomplish the task of better disease management. There continues to be a misunderstanding of how palliative care management is beneficial, but with the inclusion of an educational intervention changes in knowledge and perceptions of providers can occur. Because of the continued misunderstanding of palliative care, work between interdisciplinary teams to grow understanding to communicate focus will also be very important. Communication will warrant a more cohesive direction for all providers, nurses and staff among all practices. Initiation and use of this can be utilized for the practice as well as the organization to cause a positive change in actual patient referral rates to palliative care.

The outputs of this project indicated that the use of the educational intervention was beneficial in increasing not only the knowledge of palliative care but also the perception and the likelihood to refer to the service. With change in knowledge and perceptions of palliative care among advanced cardiac providers there will be better chronic disease management and more appropriate services rendered to patients. Inclusion of the education would be suggested to aid in providing focused education to increase provider understanding of palliative care and their services. Inclusion of this education would also be suggested for other groups such as hospitalist and other specialty groups that manage chronic diseases. The future of this project will lead to understanding chronic disease management from not only a provider standpoint, but also to begin understanding patient knowledge, perception, and attitudes of chronic disease.

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Appendix A: Literature Review Matrix

Title of Article	**Authors**	**Journal, Year, Vol. #**	**Summary of Article**	**Significance**	**Level of Evidence**
Education, implementation, and policy barriers to greater integration of palliative care: A literature review.	Aldridge, M. D., Hasselaar, J., Garralda, E., van der Eerden, M., Stevenson, D., McKendrick, K., & ... Meier, D. E.	*Palliative Medicine*, (2016). *30(3), 224-239. doi:10.1177/0269216315606645*	This article addresses the barrier and opportunities within the United states that need to be overcome to aid in better integration of palliative care.	This article is very significant as it addresses barriers and way to overcome the barriers.	V
Attitudes About Palliative Care: A Comparison of Pediatric Critical Care and Oncology Providers	Atwood, M. A., Hoffmann, R. G., Yan, K., & Lee, K. J.	*American Journal of Hospice & Palliative Medicine*, (2014). *31*(6), 665-671. doi:10.1177/1049909113500844	This study addressed oncology and critical care providers understanding of palliative care and it was found that they used palliative care for varying reasons.	This article helped at examining the varying understandings of palliative care among varying providers	III
A brief educational intervention increases providers' human papillomavirus	Berenson, A. B., Rahman, M., Hirth, J. M., Rupp, R. E., & Sarpong, K. O.	*Human Vaccines & Immunotherapeutics*, (2015). *11(6), 1331-1336. doi:10.1080/21645515.2015.1022691*	This study addressed lack of knowledge of providers relating to HPV vaccination uptake. Educational interventions were shown to improve	This article aided in recognizing the important use of an educational intervention in effectively	VI

vaccine knowledge.			HPV vaccination rates.	educating providers	
Physicians' experiences of palliative care for heart failure patients.	Brännström, M., Forssell, A., & Pettersson, B.	*European Journal of Cardiovascular Nursing: Journal of The Working Group on Cardiovascular Nursing Of The European Society Of Cardiology*, (2011). *10(1), 64-69*	This study addressed the understandings of physicians of palliative care in heart failure patients. This study showed that the physicians needed to work more closely together with the service.	This study was important because it showed the understanding of palliative care from the provider’s perspective. It also showed that when providers are educated, their knowledge can change.	VI
Barriers to Hospice Care and Referrals: Survey of Physicians' Knowledge, Attitudes, and Perceptions in a Health Maintenance Organization.	Brickner, L., Scannell, K., Marquet, S., & Ackerson, L.	*Journal of Palliative Medicine*, (2004). 7(3), 411-418. doi:10.1089/1096621041349518	This study discussed the lack of knowledge provided to physicals on proper referral to hospice. Understanding the need for possible toolkits for better utilization of this service.	This study has great significance because it discusses the importance of a tool to aid in increasing referrals to hospice care.	IV
A study on knowledge, attitude, and practices	Butola, S.	*Progress in Palliative Care*, (2014). *22(5), 272-279. doi:10.1179/1743291X14Y.0000000090*	This study addressed the knowledge and perceptions of palliative care among	This study was important because of its discussion and	VI

regarding palliative care among doctors in Border Security Force.			doctors with results that showed that most doctors are unaware of the need and scope of palliative care.	knowledge relating to provider's lack of understanding of palliative care.	
Knowledge, attitudes, and practices of Florida physicians regarding dengue before and after an educational intervention.	Doblecki-Lewis, S., Chang, A., Jiddou-Yaldoo, R., Tomashek, K. M., Stanek, D., Anil, L., & Lichtenberger, P.	*BMC Medical Education*, (2016). *16124. doi:10.1186/s12909-016-0647-8*	This study addressed the lack of knowledge of providers in relation to dengue treatment. The use of an educational intervention improved among providers.	This study showed that the use of an education intervention can cause an increase in knowledge among providers.	VI
Barriers and enablers to hospice referrals: an expert overview.	Friedman, B., Harwood, M., & Shields, M.	*Journal of Palliative Medicine*, (2002). *5*(1), 73-84 12p.	This article addresses the many barriers associated with physician practices and the obstacles that they face in creating hospice referrals.	This article has great significance because it brings to light some of the many barriers that can limit providers from initiating referrals to palliative and hospice care.	III

Attitudes and Beliefs Toward Supportive and Palliative Care Referral Among Hematologic and Solid Tumor Oncology Specialists.	Hui, D., Minjeong, P., Liu, D., Reddy, A., Dalal, S., & Bruera, E.	*Oncologist*, (2015). *20*(11), 1326-1332. doi:10.1634/theoncologist.2015-0240	This article addressed some of the misconceptions providers had relating to palliative care just because of the term “palliative care”.	This study was beneficially in providing a greater understanding as to why providers do not allow consult palliative care.	VI
Palliative Care: Misconceptions That Limit Access for Patients with Chronic Renal Disease.	Jablonski, A.	*Seminars in Dialysis.* (2008) *pp. 206-209. doi:10.1111/j.1525-139X.2007.00394.x.*	This article discussed the many reasons why palliative care is not consulted to patients with chronic kidney disease.	This article helped in understanding many of the misconceptions providers have relating to palliative care.	VII
"Not the 'grim reaper service'": an assessment of provider knowledge, attitudes, and perceptions regarding palliative care referral barriers in heart failure.	Kavalieratos, D., Mitchell, E. M., Carey, T. S., Dev, S., Biddle, A. K., Reeve, B. B., & ... Weinberger, M. (2014).	*Journal of The American Heart Association*, (2014). *3*(1), e000544.	This study discovered that palliative care is at suboptimal use due to a lack of understanding of the service, and limited knowledge of providers.	This study helped by illustrating that lack of knowledge and understanding of palliative care was a major barrier in the initiation of consults.	VI

Evaluating Prognostication Tools to Aid in Hospice Referral, Certification & Recertification Narratives of Patients Afflicted with Pulmonary Arterial Hypertension (SA545-D).	Navarro-Leahy, A., & Harrison, K.	*Journal of Pain & Symptom Management*, (2015) *49*(2), 405-406. doi:10.1016/j.jpainsymman.2014.11.180	This study addressed tools utilized in referring patients to hospice showing that the REVEAL tool was the highest effective.	This study was significant because it showed that the use of a tool that aided in referrals to hospice were beneficial and increased referrals.	III
End-of-Life Care. Overcoming Barriers to Palliative Care Consultation.	Ouimet Perrin, K., & Kazanowski, M.	*Critical Care Nurse*, (2015). *35*(5), 44-52. doi:10.4037/ccn2015357	This article addressed many barriers and ways in which to overcome barriers to effective palliative care integration.	This article was helpful as it aided in providing ways in which providers can be educated to overcome barriers to palliative care consults.	VII
Top 10 things palliative care clinicians wished everyone knew about palliative care.	Strand, J. J., Kamdar, M. M., & Carey, E. C.	*Mayo Clinic Proceedings*, (2013). *88(8), 859-865. doi:10.1016/j.mayocp.2013.05.020*	This article discusses the changing role of palliative care as well as many of the misconceptions of palliative care.	This article was beneficial because it addressed various misconceptions of palliative	VII

				care as well as presented discussion related to earlier palliative care referrals.	
Making Decisions Better: an evaluation of an educational intervention.	Thomson, C. L., Maskrey, N., & Vlaev, I.	*Journal of Evaluation in Clinical Practice,* (2017). *23(2), 251-256. doi:10.1111/jep.12555*	This study discussed the use of educational interventions to increase decision making in clinical practice. It was understood that the use of the education intervention improved clinical decision making.	This study concluded that the use of an educational intervention aided at improving knowledge growth.	VI
Working in silos? – Head & Neck cancer patients during and after treatment with or without early palliative care referral.	Ullgren, H., Kirkpatrick, L., Kilpeläinen, S., & Sharp, L.	*European Journal of Oncology Nursing,* (2017). *2656-62. doi:10.1016/j.ejon.2016.12.003*	This study addressed increasing communication between the palliative care team and other providers for better patient management. It was discovered there needed to be greater integration of care between providers.	This study was beneficial because it discussed the importance of better integration of providers with palliative care.	VI

Clarifying the term 'palliative' in clinical oncology.	van Kleffens, T., van Baarsen, B., Hoekman, K., & van Leeuwen, E.	*European Journal of Cancer Care,* (2004). *13(3), 263-271*	This study aided in understanding that there is a need for clear communication and discussion among the patient and provider on what their palliative care treatment is and how it will be delivered.	This study was beneficial because it discussed the importance of understanding the term palliative care and how it was planned to be carried out in patient treatment	VI
Improve Providers' Attitudes and Increase Providers' Knowledge of Hospice Referral for Heart Failure Patients Through an Educational Intervention.	Welch, N. R.	*Heart & Lung,* (2016). *45(4), 375. doi:10.1016/j.hrtlng.2016.05.011*	This abstract addressed improving provider's attitudes and increasing their knowledge relating to hospice using an educational intervention. With the inclusion of an educational intervention, provider's hospice referrals increased.	This abstract was beneficial because of the correlation it made discussing improvement of provider's knowledge and increase of referrals post an educational intervention.	VI
Palliative Care Patients Fare Better with Earlier Referrals.	Wilmont, S. S.	*American Journal of Nursing,* (2014). *114(11), 17. doi: 10.1097/01.NAJ.0000456415.41409.13*	This article aided in discussing the importance of earlier referrals to palliative care. It suggested that earlier referrals	This article aided in supporting the understanding that earlier referrals were	VII

			improved patient’s outcomes.	beneficial in increasing patient outcomes.	

Appendix B: CITI Training

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 1 OF 2
COURSEWORK REQUIREMENTS*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** [redacted]
- **Email:**
- **Institution Affiliation:**
- **Institution Unit:**

- **Curriculum Group:** Human subject - Basic
- **Course Learner Group:** Nursing
- **Stage:** Stage 1 - Basic Course
- **Description:** This course is appropriate for students doing class projects that qualify as "No More Than Minimal Risk" human subjects research.

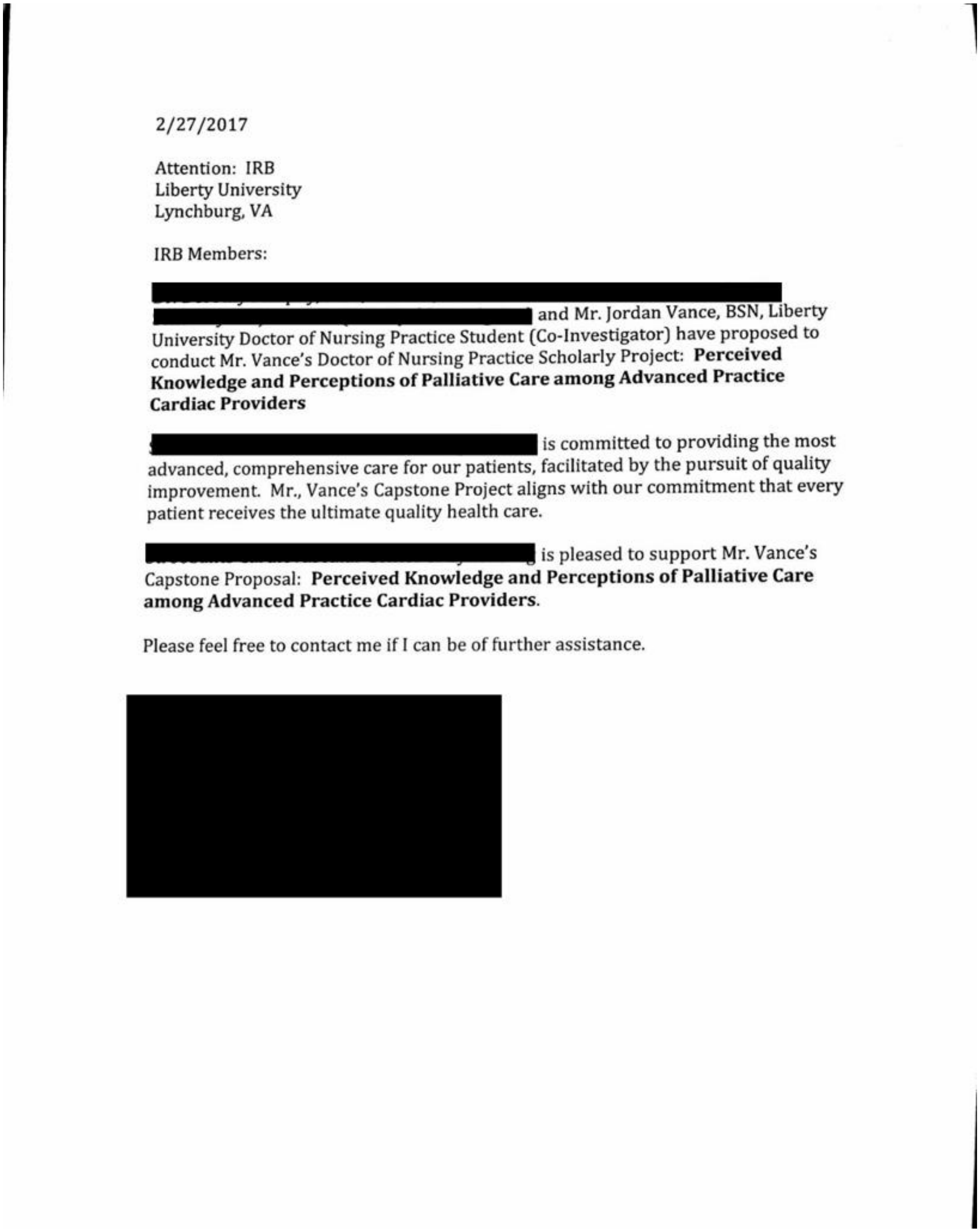
- **Report ID:** 14229556
- **Completion Date:** 20-Sep-2016
- **Expiration Date:** 20-Sep-2019
- **Minimum Passing:** 80
- **Reported Score*:** 95

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED	SCORE
Unanticipated Problems and Reporting Requirements in Social and Behavioral Research (ID: 14928)	04-Oct-2014	5/5 (100%)
[redacted]	04-Oct-2014	No Quiz
Belmont Report and CITI Course Introduction (ID: 1127)	04-Oct-2014	3/3 (100%)
Students in Research (ID: 1321)	20-Sep-2016	5/5 (100%)
History and Ethical Principles - SBE (ID: 490)	04-Oct-2014	5/5 (100%)
Defining Research with Human Subjects - SBE (ID: 491)	15-Jun-2015	5/5 (100%)
The Federal Regulations - SBE (ID: 502)	15-Jun-2015	5/5 (100%)
Assessing Risk - SBE (ID: 503)	15-Jun-2015	5/5 (100%)
Informed Consent - SBE (ID: 504)	15-Jun-2015	5/5 (100%)
Privacy and Confidentiality - SBE (ID: 505)	15-Jun-2015	5/5 (100%)
Records-Based Research (ID: 5)	20-Sep-2016	3/3 (100%)
Populations in Research Requiring Additional Considerations and/or Protections (ID: 16680)	20-Sep-2016	5/5 (100%)
Vulnerable Subjects - Research Involving Prisoners (ID: 8)	20-Sep-2016	4/4 (100%)
Vulnerable Subjects - Research Involving Children (ID: 9)	20-Sep-2016	3/3 (100%)
Vulnerable Subjects - Research Involving Pregnant Women, Human Fetuses, and Neonates (ID: 10)	20-Sep-2016	3/3 (100%)
Research and HIPAA Privacy Protections (ID: 14)	20-Sep-2016	3/5 (60%)
Vulnerable Subjects - Research Involving Workers/Employees (ID: 483)	20-Sep-2016	4/4 (100%)
Conflicts of Interest in Research Involving Human Subjects (ID: 488)	20-Sep-2016	5/5 (100%)
Cultural Competence in Research (ID: 15166)	20-Sep-2016	3/5 (60%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

[redacted]

Appendix C: Letter of Support from Advanced Practice Provider Supervisor



2/27/2017

Attention: IRB
Liberty University
Lynchburg, VA

IRB Members:

[redacted] and Mr. Jordan Vance, BSN, Liberty University Doctor of Nursing Practice Student (Co-Investigator) have proposed to conduct Mr. Vance's Doctor of Nursing Practice Scholarly Project: **Perceived Knowledge and Perceptions of Palliative Care among Advanced Practice Cardiac Providers**

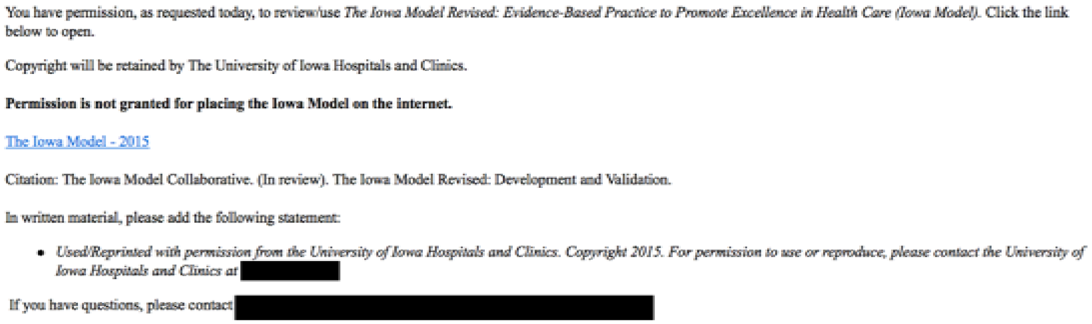
[redacted] is committed to providing the most advanced, comprehensive care for our patients, facilitated by the pursuit of quality improvement. Mr., Vance's Capstone Project aligns with our commitment that every patient receives the ultimate quality health care.

[redacted] is pleased to support Mr. Vance's Capstone Proposal: **Perceived Knowledge and Perceptions of Palliative Care among Advanced Practice Cardiac Providers.**

Please feel free to contact me if I can be of further assistance.

[redacted]

Appendix D: Letter of Permission for Use of Iowa Model as Conceptual Framework for Project



You have permission, as requested today, to review/use *The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care (Iowa Model).* Click the link below to open.

Copyright will be retained by The University of Iowa Hospitals and Clinics.

Permission is not granted for placing the Iowa Model on the internet.

The Iowa Model - 2015

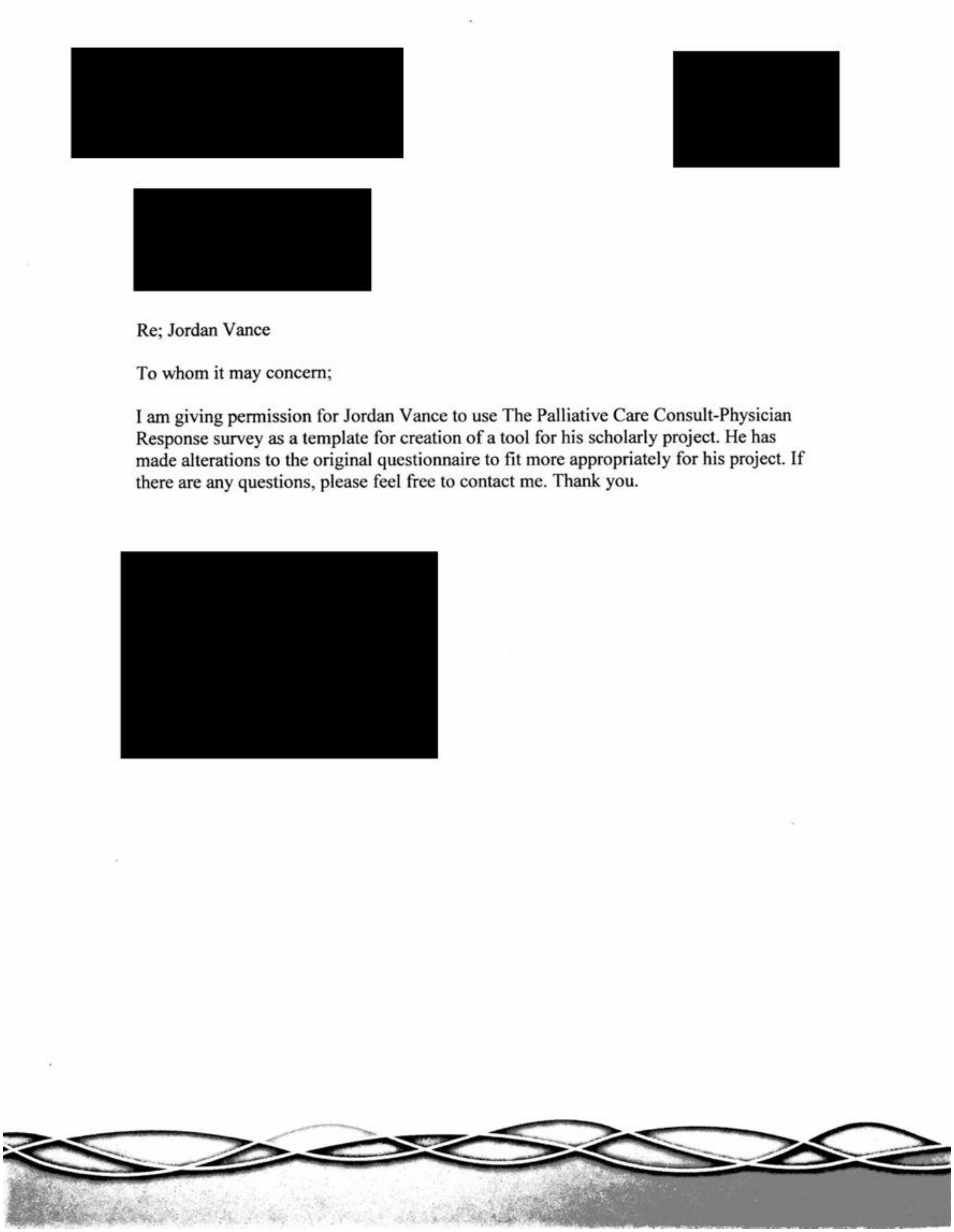
Citation: The Iowa Model Collaborative. (In review). The Iowa Model Revised: Development and Validation.

In written material, please add the following statement:

- *Used/Reprinted with permission from the University of Iowa Hospitals and Clinics. Copyright 2015. For permission to use or reproduce, please contact the University of Iowa Hospitals and Clinics at* [redacted]

If you have questions, please contact [redacted]

Appendix E: Letter of Release of Palliative Care Survey Template from Palliative Care Team



[redacted]

[redacted]

[redacted]

Re; Jordan Vance

To whom it may concern;

I am giving permission for Jordan Vance to use The Palliative Care Consult-Physician Response survey as a template for creation of a tool for his scholarly project. He has made alterations to the original questionnaire to fit more appropriately for his project. If there are any questions, please feel free to contact me. Thank you.

[redacted]

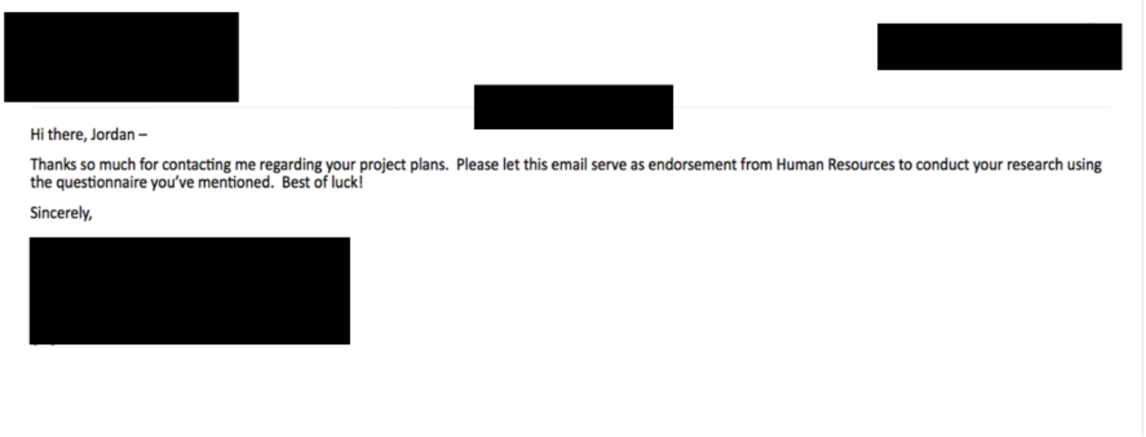
Appendix F: Budget Calculation

Calculation of Project Budget

Expected hours completed working on Project: 300 hours

36.56 * 300 = 10,968 dollars

Appendix G: Letter of Approval/Support from HR for DNP Project



[redacted]

[redacted]

[redacted]

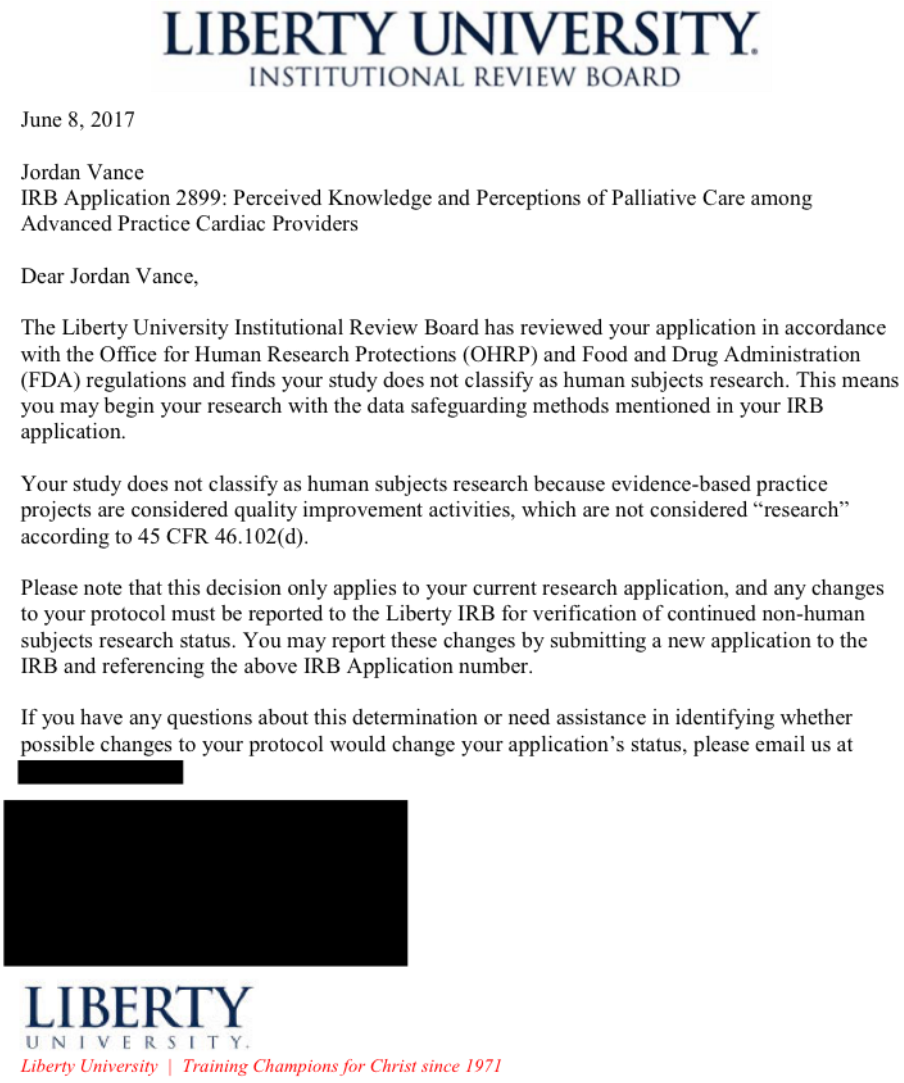
Hi there, Jordan –

Thanks so much for contacting me regarding your project plans. Please let this email serve as endorsement from Human Resources to conduct your research using the questionnaire you've mentioned. Best of luck!

Sincerely,

[redacted]

Appendix H: Liberty University IRB Exemption Form



LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

June 8, 2017

Jordan Vance
IRB Application 2899: Perceived Knowledge and Perceptions of Palliative Care among Advanced Practice Cardiac Providers

Dear Jordan Vance,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Your study does not classify as human subjects research because evidence-based practice projects are considered quality improvement activities, which are not considered "research" according to 45 CFR 46.102(d).

Please note that this decision only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued non-human subjects research status. You may report these changes by submitting a new application to the IRB and referencing the above IRB Application number.

If you have any questions about this determination or need assistance in identifying whether possible changes to your protocol would change your application's status, please email us at [redacted]

[redacted]

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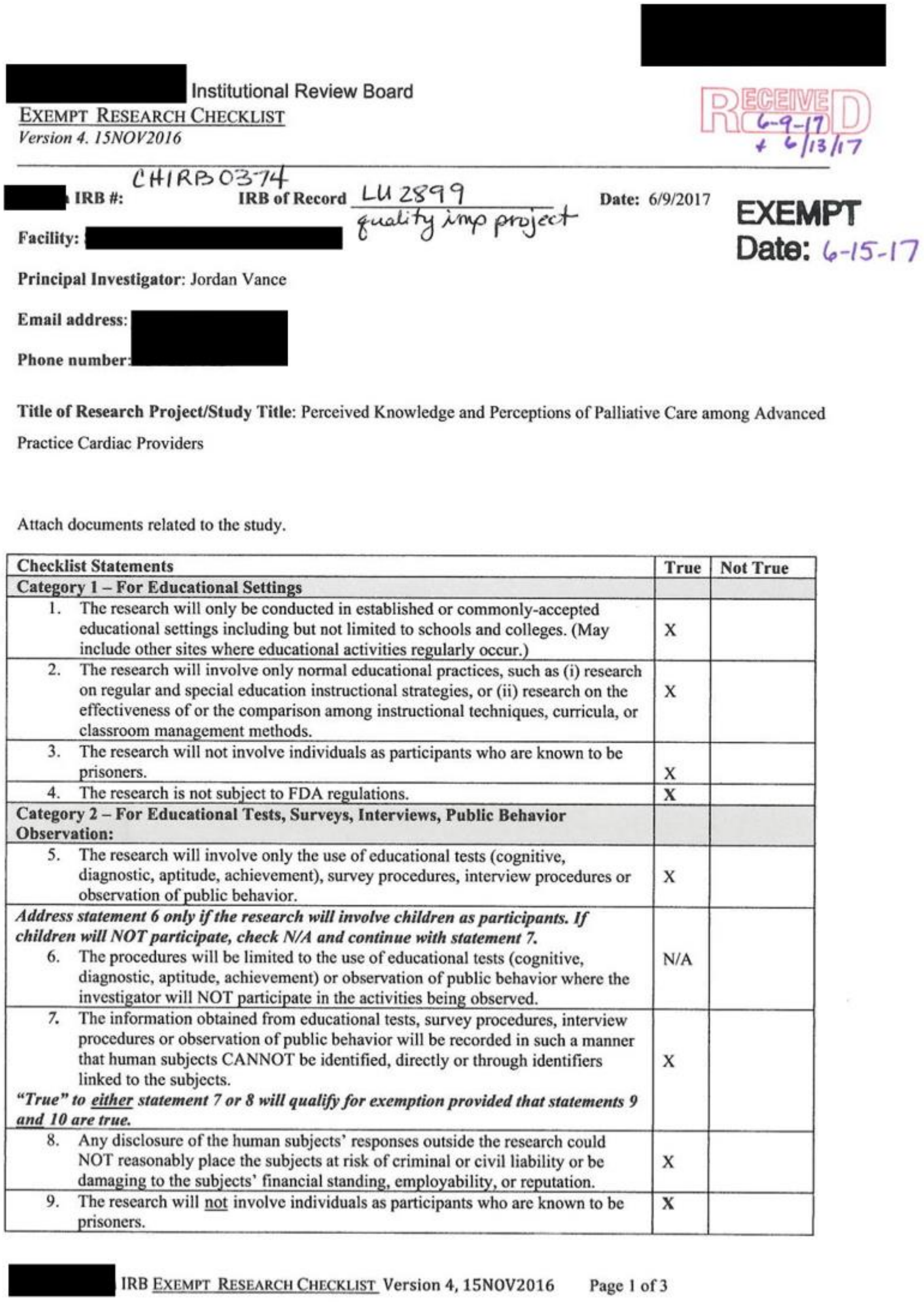
UNIVERSITY.
Liberty University | Training Champions for Christ since 1971

Appendix I: Hospital IRB Exemption Form



[redacted]

[redacted] Institutional Review Board
EXEMPT RESEARCH CHECKLIST
Version 4. 15NOV2016

RECEIVED 6-9-17 + 6/13/17

[redacted] IRB #: CHIRB0374 IRB of Record LU 2899 quality imp project Date: 6/9/2017

EXEMPT
Date: 6-15-17

Facility: [redacted]

Principal Investigator: Jordan Vance

Email address: [redacted]

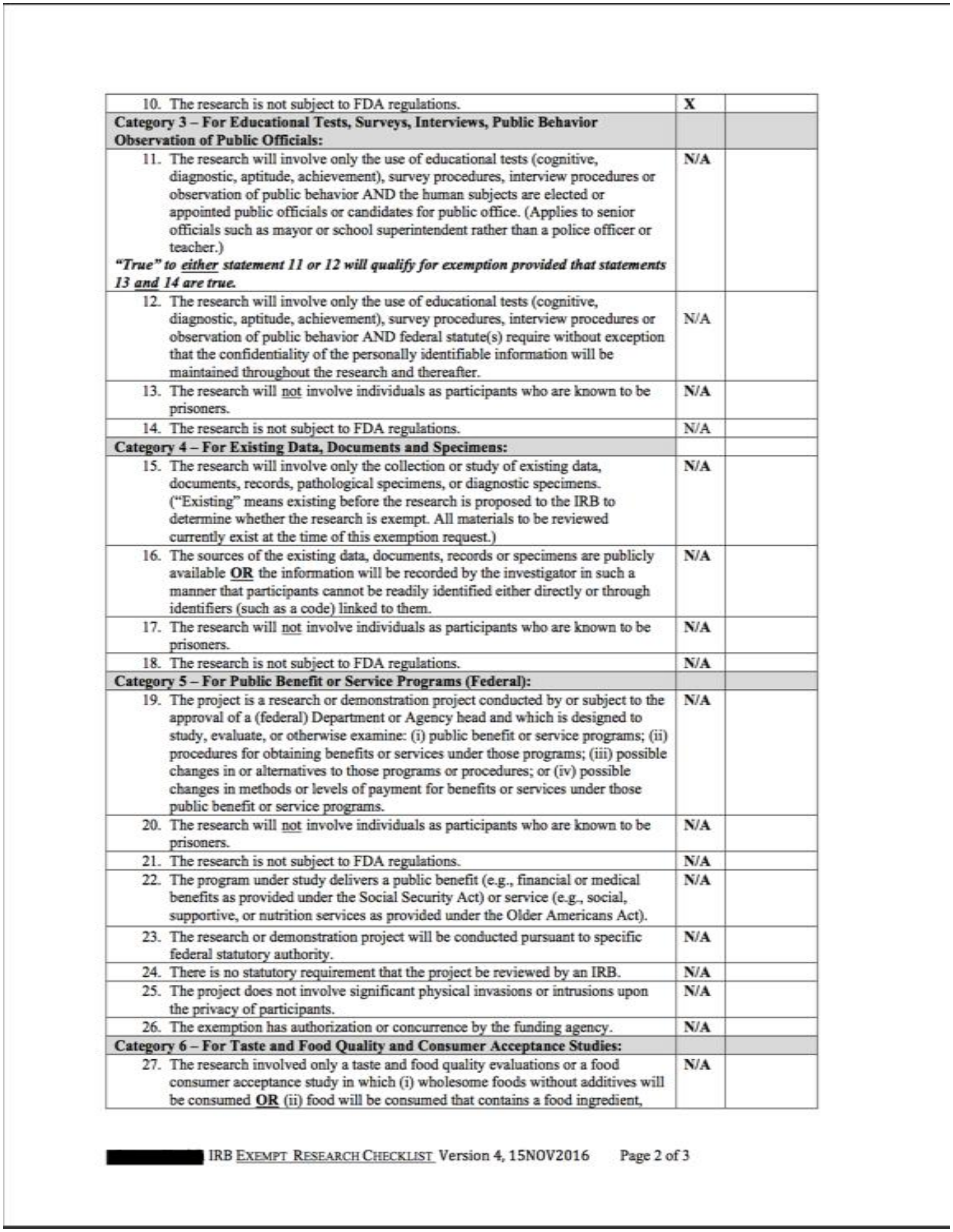
Phone number:

Title of Research Project/Study Title: Perceived Knowledge and Perceptions of Palliative Care among Advanced Practice Cardiac Providers

Attach documents related to the study.

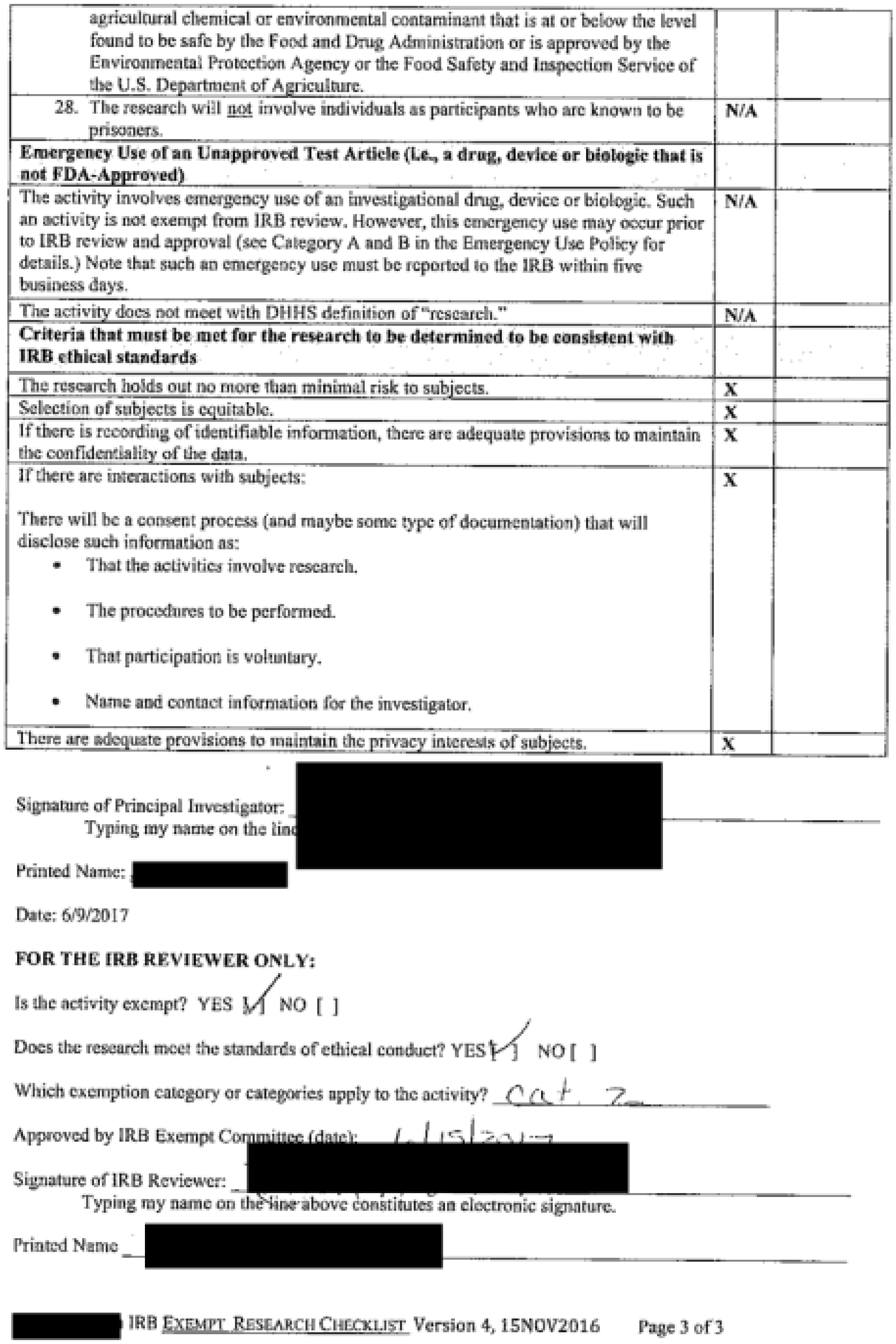
Checklist Statements	True	Not True
Category 1 – For Educational Settings		
1. The research will only be conducted in established or commonly-accepted educational settings including but not limited to schools and colleges. (May include other sites where educational activities regularly occur.)	X	
2. The research will involve only normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.	X	
3. The research will not involve individuals as participants who are known to be prisoners.	X	
4. The research is not subject to FDA regulations.	X	
Category 2 – For Educational Tests, Surveys, Interviews, Public Behavior Observation:		
5. The research will involve only the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior.	X	
Address statement 6 only if the research will involve children as participants. If children will NOT participate, check N/A and continue with statement 7. 6. The procedures will be limited to the use of educational tests (cognitive, diagnostic, aptitude, achievement) or observation of public behavior where the investigator will NOT participate in the activities being observed.	N/A	
7. The information obtained from educational tests, survey procedures, interview procedures or observation of public behavior will be recorded in such a manner that human subjects CANNOT be identified, directly or through identifiers linked to the subjects. ***"True" to either statement 7 or 8 will qualify for exemption provided that statements 9 and 10 are true.***	X	
8. Any disclosure of the human subjects' responses outside the research could NOT reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.	X	
9. The research will not involve individuals as participants who are known to be prisoners.	X	

[redacted] IRB EXEMPT RESEARCH CHECKLIST Version 4, 15NOV2016 Page 1 of 3



10. The research is not subject to FDA regulations.	**X**	
Category 3 – For Educational Tests, Surveys, Interviews, Public Behavior Observation of Public Officials:		
11. The research will involve only the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior AND the human subjects are elected or appointed public officials or candidates for public office. (Applies to senior officials such as mayor or school superintendent rather than a police officer or teacher.) ***"True" to <u>either</u> statement 11 or 12 will qualify for exemption provided that statements 13 <u>and</u> 14 are true.***	**N/A**	
12. The research will involve only the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior AND federal statute(s) require without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.	N/A	
13. The research will <u>not</u> involve individuals as participants who are known to be prisoners.	**N/A**	
14. The research is not subject to FDA regulations.	N/A	
Category 4 – For Existing Data, Documents and Specimens:		
15. The research will involve only the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens. ("Existing" means existing before the research is proposed to the IRB to determine whether the research is exempt. All materials to be reviewed currently exist at the time of this exemption request.)	**N/A**	
16. The sources of the existing data, documents, records or specimens are publicly available **<u>OR</u>** the information will be recorded by the investigator in such a manner that participants cannot be readily identified either directly or through identifiers (such as a code) linked to them.	**N/A**	
17. The research will <u>not</u> involve individuals as participants who are known to be prisoners.	**N/A**	
18. The research is not subject to FDA regulations.	**N/A**	
Category 5 – For Public Benefit or Service Programs (Federal):		
19. The project is a research or demonstration project conducted by or subject to the approval of a (federal) Department or Agency head and which is designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those public benefit or service programs.	**N/A**	
20. The research will <u>not</u> involve individuals as participants who are known to be prisoners.	**N/A**	
21. The research is not subject to FDA regulations.	**N/A**	
22. The program under study delivers a public benefit (e.g., financial or medical benefits as provided under the Social Security Act) or service (e.g., social, supportive, or nutrition services as provided under the Older Americans Act).	**N/A**	
23. The research or demonstration project will be conducted pursuant to specific federal statutory authority.	**N/A**	
24. There is no statutory requirement that the project be reviewed by an IRB.	**N/A**	
25. The project does not involve significant physical invasions or intrusions upon the privacy of participants.	**N/A**	
26. The exemption has authorization or concurrence by the funding agency.	**N/A**	
Category 6 – For Taste and Food Quality and Consumer Acceptance Studies:		
27. The research involved only a taste and food quality evaluations or a food consumer acceptance study in which (i) wholesome foods without additives will be consumed **<u>OR</u>** (ii) food will be consumed that contains a food ingredient,	**N/A**	

[redacted] IRB <u>EXEMPT RESEARCH CHECKLIST</u> Version 4, 15NOV2016 Page 2 of 3



agricultural chemical or environmental contaminant that is at or below the level found to be safe by the Food and Drug Administration or is approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.		
28. The research will not involve individuals as participants who are known to be prisoners.	N/A	
Emergency Use of an Unapproved Test Article (i.e., a drug, device or biologic that is not FDA-Approved)		
The activity involves emergency use of an investigational drug, device or biologic. Such an activity is not exempt from IRB review. However, this emergency use may occur prior to IRB review and approval (see Category A and B in the Emergency Use Policy for details.) Note that such an emergency use must be reported to the IRB within five business days.	N/A	
The activity does not meet with DHHS definition of "research."	N/A	
Criteria that must be met for the research to be determined to be consistent with IRB ethical standards		
The research holds out no more than minimal risk to subjects.	X	
Selection of subjects is equitable.	X	
If there is recording of identifiable information, there are adequate provisions to maintain the confidentiality of the data.	X	
If there are interactions with subjects: There will be a consent process (and maybe some type of documentation) that will disclose such information as: • That the activities involve research. • The procedures to be performed. • That participation is voluntary. • Name and contact information for the investigator.	X	
There are adequate provisions to maintain the privacy interests of subjects.	X	

Signature of Principal Investigator: [redacted]
Typing my name on the lin

Printed Name: [redacted]

Date: 6/9/2017

FOR THE IRB REVIEWER ONLY:

Is the activity exempt? YES [✓] NO [ ]

Does the research meet the standards of ethical conduct? YES [✓] NO [ ]

Which exemption category or categories apply to the activity? Cat. 2

Approved by IRB Exempt Committee (date): 6/15/2017

Signature of IRB Reviewer: [redacted]
Typing my name on the line above constitutes an electronic signature.

Printed Name [redacted]

[redacted] IRB EXEMPT RESEARCH CHECKLIST Version 4, 15NOV2016 Page 3 of 3