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Educational Program to Improve Care for the Lesbian, Gay, Bisexual and Transgender (LGBT) Patient

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Abstract

The focus of this capstone project is to explore the impact of registered nurses' bias and lack of knowledge associated with the care of the LGBT patient. A Quasi-experimental design was used to evaluate the cause-and-effect relationship of an educational intervention. This intervention provided LGBT cultural knowledge and provides evidence regarding how homophobia and transphobia among nurses creates and perpetuates disparities among LGBT people. Attitude and knowledge assessment tools were used to collect responses from participant's pre and post intervention. Using parametric and descriptive statistics, the participants' data were analyzed. There were no statistically significant differences between the pre and post intervention scores. Although statistical significance was lacking, clinical significance was inferred by the participants' knowledge gap in their posed questions at the conclusion of the educational intervention. The implementation of similar training sessions, offered in a recurring fashion, will likely be necessary to effectively decrease the healthcare disparities currently being experienced by the LGBT population.

Key words: DNP Capstone Project, Registered Nurses, Homophobia, Disparities

Copyright

Executive Summary

The practice issue for this project was registered nurses (RNs) lack the cultural competence when working with the LGBT population. Their preconceived notions and bias create a barrier to this groups' access to healthcare. The Population-Intervention-Comparison-Outcome (PICO) statement for the project was: (P) RNs, (I) educational intervention, (C) pre-intervention and post-intervention survey, (O) RNs will report a decrease homoprejudice and improved knowledge related to care of LGBT patients.

The purpose of the project was to develop an evidence-based educational intervention to foster culturally competent staff and eliminate heterosexism and homophobia bias of RNs who work at a large university medical center in the southeast United States. The goal of the project was to improve the RNs' knowledge and sway attitudes around the LGBT population. The project's objective was to improve knowledge and reduce reported perceptions of heterosexism and homophobia in RNs through an educational intervention.

The research design was quasi-experimental using a convenience sample of RNs. The participants were administered a pre-knowledge test and pre-attitude measure prior to the educational intervention. Following the intervention, the same knowledge and attitude measures were re-administered at 60-days. Statistical Program for the Social Sciences (SPSS)® was used to preform several parametric statistical tests such as Pearson's, an Analysis of Variance (ANOVA) and descriptive statistics. The findings indicate there were no significant differences between the participants from pre intervention and post intervention. However clinical significance was noted.

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Problem Recognition and Definition

It is well documented that heterosexism and homophobia among healthcare workers play a significant role in the healthcare disparities of the LGBT community. For example, lesbians are at greater risk for heart disease, hypertension and diabetes secondary to obesity, smoking and substance abuse. Many believe that obesity and substance abuse are elevated within this group because of mental health issues, stress of discrimination and homophobia (GLMA, 2006).

Other factors impacting the health of the LGBT community include intimate partner violence and the lack of screenings for cancers, such as breast, cervical, prostate and colon. There are also disparities associated with some diseases, such as HIV/AIDS, hepatitis A & B, and anal cancer in men (GLMA, 2006). Evidence suggests that discrimination and sexism aimed at LGBT people from healthcare providers is more pronounced than for people who are perceived as heterosexual. This is ultimately a reason LGBT individuals are at risk for healthcare disparities.

Problem Statement

Many LGBT individuals have a fear of "coming out" to their healthcare provider and often prefer to conceal their sexual orientation because of a perceived fear of discrimination or concerns that they may not receive adequate and appropriate care (Dinkel, Patzel, McGuire, Rolfs & Purcell, 2007). The aforementioned is the basis for this project's problem statement: *Registered nurses lack the cultural competence of*

working with the LGBT individual/community and preconceived notions and bias creates a barrier to this groups' access to healthcare.

Purpose & Project Question

The main purpose of this project was to develop an educational intervention, based on the latest evidence-based practices (EBP), to develop culturally competent staff and eliminate heterosexism and homophobia bias of RNs who work at a large academic medical center hospital in the southeastern United States. Ultimately, the long-term goal was to improve the overall health and access to healthcare for the LGBT individual/community. The following was the project's focus using the Population-Intervention-Comparison-Outcome (PICO) model (Zaccagnini & White, 2014):

- Population (P): Registered Nurses who treat/interact with LGBT patients at a large academic medical center in the southeastern United States
- Intervention (I): Implement an educational training for Registered Nurses that increases their awareness of heterosexism/homophobia and its impact on the LGBT patient
- Comparison (C): Pre-intervention survey and post-intervention survey at 60 days
- Outcome (O): Registered Nurses will report decreased homoprejudice and improved knowledge related to care of LGBT patients.

The project question was: *will the institution of an evidence-based practice (EBP) educational intervention result in a decrease of reported heterosexism and homophobia and increased knowledge among the hospital's Registered Nurses?*

Project Significance

This project identified gaps in knowledge and research related to LGBT health. Cultural competence with this specific population was also lacking. It was evident there was homophobia and prejudice exhibited by registered nurses and other healthcare professionals. Research supports heterosexism/homophobia of healthcare workers plays a significant role in the healthcare disparities of LGBT persons (Morrison & Dinkel, 2012). Furthermore, LGBT individuals fear "coming out" to their healthcare provider secondary to discrimination (Dinkel, Patzel, McGuire, Rolfs & Purcell, 2007). Without the addition of the LGBT concepts of cultural competence to the curriculum of registered nurses, prejudice and heterosexism will continue and was the basis of this project.

Foundational Theorist

Applying theory to a capstone project is important to explain relationships between concepts and constructs. This capstone proposal utilized three theorists that relate to this project: Knowles's Adult Learning Theory (Knowles, Holten & Swanson, 1998), Kurt Lewin's Change Theory (Lewin, 1935) and Leininger's Culture Care Diversity and Universality Theory (Leininger & McFarland, 2006).

Registered nurses were the target population. By applying andragogy and Knowles's five assumptions of the adult learner, it was hypothesized that the proposed educational intervention would be more successful. The five assumptions of Knowles's Adult Learning Theory are: self-concept, adult learning experience, readiness to learn, orientation to learning and motivation to learn. Considering and applying these

constructs as the educational intervention was being developed, implemented and evaluated, the investigator hoped to ensure the best possible learning experience for the participants (Knowles, Holten & Swanson, 1998) and (Merriam, 2002).

One of the goals of this project is to influence and change the healthcare providers' bias and sexism aimed at the LGBT individual. For this reason, Kurt Lewin's Change Theory was applied. This theory has three concepts: driving forces, restraining forces and equilibrium (Lewin, 1935). Driving forces are those elements that move and cause change. Restraining forces hinder change. Equilibrium is the space in between driving and restraining forces (Sarayreh, Khudair & Barakat, 2013). By studying the aforementioned constructs, one can understand the three principles of the change theory: unfreezing, change and freeze. During the "unfreezing" stage, the participants are preparing for change. The "change" stage is considered the transitioning process and then finally "freezes." In the final stage, "freeze," the change has been accepted (Sarayreh, Khudair & Barakat, 2013)

This project concerned itself with understanding culture and cultural competence. Leininger's Culture Care Diversity and Universality Theory was therefore the foundational theory for this proposal. Leininger's theory considers the importance of culture in explaining a patient's perception of the nursing care being delivered (Leininger & McFarland, 2006). Without building a trusting and respectful relationship between patient and nurse, the patient's progress cannot move forward.

Systematic Review of Literature

The systematic review of the literature began using search engines such as: Academic Search Premier, Cumulative Index to Nursing & Allied Health Literature (CINHL), Cochrane Library and PubMed. The initial terms searched were LGBT cultural competence, healthcare and discrimination. However only a few research articles were found using this approach. The search terms were expanded to include LGBT disparities, discrimination, bias, homophobia, heterosexism, social justice and provider-patient relationships. A theme began to emerge. The vast majority of these studies were qualitative or descriptive studies, with low levels of evidence ranging from V to VII as described by Fineout-Overholt, Mazurek, Stillwell and Williamson (2010). There were two systemic reviews of qualitative/descriptive studies (V), twenty-four qualitative/descriptive studies (VI) and four opinions (VII) (Appendix A). After a review of 100+ papers, spanning from 2000 to 2014, no new themes emerged and it was determined that saturation had been reached.

Albeit, cultural competency is at the forefront of this project, evidence suggests that discrimination and sexism aimed at LGBT individuals by registered nurses and other healthcare providers is more pronounced. This is ultimately the reason LGBT individuals are at risk for healthcare disparities. Given this new information and the more pressing issues of health disparities, the intervention evolved to address homophobia and heterosexism instead of just only cultural competence.

Scope of Evidence

Based on the literature, it is believed that the main cause of LGBT persons being at risk and marginalized is because of their perceived fear of prejudice and homophobia from their healthcare providers. This prevailing theme is what provided the structure for the aforementioned PICO statement.

Review of Evidence

A total of thirty studies comprised the systematic review. The major theme of the review was perceived heterosexism, homophobia and bias of registered nurses and other healthcare providers negatively impact LGBT persons and their families (Morrison & Dinkel, 2012). LGBT people also fear discrimination and even retaliation from their healthcare provider if they were to disclose their sexual orientation (Dinkel, Patzel, McGuire, Rolfs & Purcell, 2007).

This review also demonstrated obvious voids in literature and subsequent research. This void may be secondary to the small population of LGBT individuals, estimated between 4 to 5 % of the total population (Institute of Medicine, 2011). Researchers also have difficulty with participants defining their sexual orientation and gender identity. Sexual attraction, sexual behavior and identity fall within a spectrum and are influenced by social and cultural constructs. This ambiguity between an individual and the labels they use makes it difficult to accurately identify this population (e.g. a man may be married to a women and identify as heterosexual but practices both homosexual and heterosexual behavior) (Institute of Medicine, 2011).

There is also a data collection gap concerning the LGBT population. There are few healthcare organizations and governmental agencies that collect data based on sexual orientation and gender identity. The U.S. Department of Health & Human Services is the authority on the health of the U.S. population and just began collecting LGBT data on their National Health Interview Survey in 2011 (Joint Commission, 2011).

It is evident that LGBT are at greater risk for heart disease, obesity, smoking, substance abuse, mental disorders and certain cancers (GLMA, 2006). The silence in the nursing and medical literature render LGBT people, families and communities invisible and perpetuate health disparities (GLMA, 2012). According to GLMA (2012), less than 1% of published research 2004 – 2008 discussed LGBT issues and was evident based on this systematic review.

Project Plan & Evaluation

Market/Risk Analyses

For this proposal, a Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis was explored. SWOT, is a project planning method that evaluates internal and external elements of a needs assessment (Zaccagnini & White, 2014).

Strengths

The proposed project was the first of its kind as a nursing educational intervention in Charleston, S.C. This project was supported by hospital administration, including the Chief Nursing Officer, who also signed the investigator's "letter of intent"

(Appendix B) and the Chief Diversity Officer. A final strength is the project's expected positive impact on LGBT disparities.

Weaknesses

One of the most significant weaknesses was the global lack of knowledge of LGBT health. This was evident in the literature and published research. The prevalent reluctance of many LGBT individuals to disclose their sexual orientation to their healthcare provider promotes this disparity.

Opportunities

This project had the potential to enhance the hospital's public image within the LGBT community. It sought to improve the LGBT patient healthcare experience and ultimately improve their care. The project could also springboard other LGBT initiatives within the community.

Threats

One of the most significant threats to this project was the current cultural and religious ideology that are common in Southern states. Another threat was the participants' opposition to change.

Driving & Restraining Forces

There were several driving forces influencing this project. The most significant was the investigator's personal connection to the project. An additional driving force was the estimated 160,000+ LGBT individuals who live in SC that could benefit from

this project (U.S. Census, 2014). A final driving force was the fact that the medical center currently lacks an LGBT cultural competency program. This lack of a cultural competency program means that 10,000 employees have little to no education and training in working with the LGBT community.

The current dominant culture (heterosexism, homophobia & transphobia) was possibly the most critical restraining force for this project. Another restraining force was registered nurses willingness to participate in the project.

Needs and Resources

The project required classroom space equipped with computer and digital projector. The project also needed reliable and valid research tools to collect data from the participants. Further needs included computer software, to include a statistical package, and assistance from a statistician.

One of the primary resources, which the researcher had free access to, was the Research Electronic Data Capture (REDCap) system. The study data of the two measurement tools was collected and managed using REDCap electronic data capture tools hosted by the facility. REDCap is a secure, web-based application designed to support data capture for research studies, providing an intuitive interface for validated data entry, an audit trails for tracking data manipulation and export procedures, an automated export procedures for seamless data downloads to common statistical packages and procedures for importing data from external sources (Harris et al., 2009).

Project Team and Stakeholders

The principal investigator, the Doctor of Nursing Practice (DNP) student, led this project. The Chief Diversity Officer and the DNP mentor were members of the project team. Another important part of the team for this project was the organization's Education Roll Out Committee (EROC). This committee helped disseminate information about the project to interested parties throughout the organization. Finally the participants were important to the success of the project. The participants were exclusively registered nurses

The LGBT community was the primary stakeholder followed by registered nurses within the organization. The healthcare organization itself was a stakeholder as well as the community at large. This project had the potential reach beyond coastal South Carolina and throughout the entire state.

Cost-Benefit Analysis

The most significant cost of this project was the investigator's time. It was estimated that three months or 480 hours would be required to complete the project. The investigator's hourly rate was $48.50 X 480 hours equaling $23,280.00. If 100 registered nurses participated and their average hourly salary is $28.50, this would be an additional $2850.00. The Chief Diversity Officer's time of five hours (5 hr. X $72.00) would be $360.00 and the DNP mentor's time of 15 hours (15hrs. X 48.50) is $727.50. This coupled with the expense of hardcopies of handouts and brochures of $300.00; the total cost of the project was estimated to be $27,517.50 (Appendix C). This was "provided in kind" by the facility.

The project's direct benefits were difficult to quantify, as many of the benefits were intangible or soft and it was difficult to place monetary value upon them. Examples of these soft benefits were improved patient satisfaction, the building of trust between the LGBT community and the healthcare organization, the elimination of disparities and improved patient outcomes. Since the facility doesn't collect data specific to the LGBT population, extrapolation was employed. A simple correlation between improved outcomes, such as a 1% reduction in an individuals' weight, blood pressure, glucose and cholesterol can save each individual $93.00/year in medical costs (Surgeon General, 2012). If this project impacted only 0.5% or 800 people of the LGBT population living in South Carolina in the aforementioned scenario, a savings of $74,400.00 could be achieved. Considering these statistics, the benefits of this project would outweigh any incurred costs.

Project Objectives

Mission & Vision

The proposed project objectives were outlined via a mission and vision statement. This project's mission statement was as follows: *the mission is to improve social equality and eliminate disparities for all lesbian, gay, bisexual and transgendered (LGBT) individuals.* This project's vision statement was the product of many revisions and personal reflection. *The vision is to serve as an agent of change in promoting social justice to marginalized groups and continue to close the healthcare disparity gap of the lesbian, gay, bisexual and transgendered (LGBT) community through advocacy and education.*

Process/Outcomes

The project objectives and outcome measures were as follows: to improve knowledge and reduce self-reported perceptions of heterosexism and homophobia in registered nurses through an educational intervention. These outcome measures were determined within 6-month time frame.

- Hypothesize an improvement in documented scores using the *Attitudes Towards Lesbian and Gay Men Scale* measurement tool
- Hypothesize an improvement in knowledge by comparing pre & post LGBT knowledge test

This projects processes and outcomes are outlined in a timetable (Appendix K).

Project Findings and Results

Logic Model

A logic model is a pictorial representation of how a project is organized and the relationships each element has to the others. The model shows a progression from the input to the intended impact (Kellogg, 2004). A logic model begins with the planned work/project and the necessary resources required to complete the project. The planned work/project is divided into resources or inputs and program activities. Resources or inputs are the available assets already in place to begin the project. These include community, organizational, financial and personnel. The program activities are described as what the work/project will do with the available resources. These activities

are methods, tools, skill and actions needed to initiate and complete the project (Kellogg, 2004).

A logic model's intended results are subdivided into three elements: outputs, outcomes and impact. The outputs are a direct result of the activities, the byproduct, from the program activities. The outcomes are more specific. Kellogg (2004) described outcomes as "the specific changes in program participants' behavior, knowledge, skills, status and level of functioning" (p. 2). Outcomes can be considered short-term or long-term. The final step in a logic model is the impact. The impact is the change that occurs within the organization or community as a direct result of the planned project. These impacts can be intentional or unintentional (Kellogg, 2004). The specific factors related to each of these categories may be summarized as:

- **Inputs/Resources:** Registered nurses at a large, academic medical center in the Southeast, diversity taskforce committee, physical classroom space, educational materials, electronic surveys, statistician and Knowles's Learning Theory, Kurt Lewin's Change Theory and Leininger's Culture Care Diversity and Universality Theory
- **Activities:** In-depth epidemiological population assessment of the state, pre-test participants (baseline levels of knowledge & 20-item homophobia scale), educational roll out and post-test at 60 days
- **Outputs:** 50 culturally competent healthcare workers, more diverse healthcare workforce at the academic medical center, improved patient satisfaction among LGBT community and improved LGBT community access to care

- **Outcomes:** Both short and long-term- Culturally competent staff, decrease in heterosexism/bias by dominant culture, remove barriers to care for LGBT community and improve healthcare outcomes for the LGBT community in the state.
- **Impact:** Improved patient care and outcomes for all, reduce marginalization of the LGBT community in the state (Appendix D).

Methodology & Evaluation Plan

A quasi-experimental model was employed for this project. Quasi-experimental design is often used to evaluate cause-and-effect relationships. This methodology is helpful when comparing periodic measures of the same group (Kleinpell, 2013).

The data collected by this project were quantitative. Quantitative data are numerical, which is seen in Likert scales or represented by a 0 or 1 or other numerical subsets. In contrast, qualitative data are often verbal or written accounts of information (Polit, 2010). This project utilized two measurement tools in data collection: an attitude scale and a knowledge test. The attitude scale collected numeric data via a Likert scale and the knowledge test collected either correct or incorrect answers using a nominal scale. The answers were coded, 1 for a correct response and 2 for an incorrect response.

For this project, a review of the independent, dependent and extraneous variables were evaluated. The independent variable is the "intervention," the dependent variable is the "outcome" and the extraneous are the variables that can interfere with independent and dependent variable (Regis, 2014).

For this project, the independent variable (intervention) was the implementation of educational training. The training focused on increasing the registered nurses'

awareness of heterosexism/homophobia and its impact on the LGBT patient/community. The dependent variables (outcome) were: Increasing the number of registered nurses who demonstrated an increase in knowledge of cultural competency, reducing reported homoprejudice and heterosexism among registered nurses and improving the LGBT community's access to healthcare by demolishing barriers to such. The question asked after the intervention, did the registered nurses demonstrate enhanced knowledge of LGBT patient needs with the education (yes/no), was a nominal measure. This was determined by a decrease in homophobia/prejudice scores as measured by the ATLG tool post intervention. As mentioned, extraneous variables interfere or influence the dependent and independent variables. For this project, a dominating conservative culture, preconceived notions, and individual ideologies were the extraneous variables as depicted in a conceptual model (Appendix E).

Population & Sampling

For this project, the population was limited to registered nurses at an academic medical center in the southeastern United States. This organization employs over 10,000 people and over one-third are nurses. Sampling was from voluntary participants within the population and no willing participants were excluded. The primary investigator contacted nursing units throughout the organization, asking to provide an educational in-service related to LGBT cultural competency to their staff.

Setting

The project's setting was confined to classrooms throughout the organization. These classrooms were equipped with digital projectors, desks and chairs and all

provided a comfortable environment. The project was also be implemented within clinics and physician offices, all of which are part of the organization's infrastructure

Protection of Human Subjects

This project was submitted through Regis University's Institutional Review Board (IRB) and was eligible for Exempt review (Appendix F). The project was vetted through the facility's, quality improvement checklist (Appendix G). The facility is an academic, research center where thousands of study proposals are sent through its IRB process, including the College of Nursing DNP program. The influx of DNP projects overloaded the facility IRB, and thus a quality improvement checklist was created to review such projects. The checklist thoroughly examines DNP projects to ensure they meet the quality improvement standard versus an IRB review. The DNPc investigator completed training as it relates to the protection of human subjects (Appendix H).

Potential participants were contacted to determine if they would like to participate in a program evaluation, investigating their attitudes and beliefs towards LGBT individuals. Participants were provided with an outline of the educational intervention and asked to volunteer approximately 90 minutes of time for the evaluation. Participants were asked to re-take the survey 60 days after the intervention. Each participant was provided a project information sheet. Elements of the information sheet included an introduction of the research activities, a description of the possible risks and discomforts, including psychological stress, the benefits of the research and list alternatives, anonymity and confidentiality, disclosure of any compensation, a non-coercive disclaimer and option to withdraw (Regis, 2014).

Measurement Tools & Validity

The measurement tool used in the project was the Attitude Toward Lesbian and Gay Men Scale (ATLG). The ATLG is a 20 question, 5-point Likert scale questionnaire with each question taking 30-60 seconds to complete (Appendix I). The scale is an ordinal measure scored as interval data. This scale and its subscales are consistently correlated with other theoretically relevant constructs. The ATLG scale consistently has shown high level of internal consistency (correlations $r = 0.90$). Permission to use this tool was not required if used for non-for-profit research (Davis, Yarber, Bausermen, Schreer & Davis, 1998).

The knowledge test contained ten multiple-choice questions pertaining to LGBT culture and facts (Appendix J). Each question took 30-60 seconds to complete. The test's validity was formulated from a review of several qualitative studies and vetted through the Chief Diversity Officer of the facility.

Both measurement instruments were tested for reliability using Cronbach's alpha. Cronbach's alpha is used to measure internal consistency of an instrument. The ATLG measurement tool was developed in 1984 and has been used in several research projects. The ATLG alpha levels are typically greater than 0.85 (Davis, Yarber, Bausermen, Schreer & Davis, 1998). The author also performed a Cronbach's alpha on the ATLG with a results of 0.922, or high internal consistency.

The author's knowledge test was analyzed using Cronbach's alpha, resulting in a score of 0.155 or low levels of consistency. This low level of consistency could be due to too few questions, poor inter-relatedness between items or poor correlation between items, meaning some should be revised or discarded.

Threats to Validity

- History: For this project, a concern was the 60-day post-test window. The plan was to administer a pre-test homophobia scale, implement the educational intervention and then re-administer the same homophobia scale at two months. This post 2-month time lapse was important to measure. Since the project was designed to measure and outcome evaluation it was different from an immediate content evaluation as it measured long-term change that persists after the learning experience.
- Maturation: changes in the dependent variable due to a normal developmental process over a set period of time. An example of this could be the time it took to implement the intervention. During the 1.5-hour lecture/intervention, some participants may have become bored and or disinterested.
- Selection: The selection of participants or groups who will receive the intervention. The population (N) was the registered nurses within the medical center. There was concern for self-selection. Those who participated in the intervention but did not complete the follow up post-test scale would impact the sample.
- Experimental mortality: Did participants drop out of the study? This is similar to what is mentioned in the selection threat.
- Testing: Did the pre-test impact post-test scores? The pre-test homophobia scale might have sensitized participants when they completed the posttest scale.

Effect Size

The effect size is the magnitude of the null hypothesis being false. The effect size of this project is 0.232 or small effect. The means, standard deviation and number of subjects were taken from a SPSS calculation of the pre and post knowledge (Figure 1). This was calculated using the below formula:

$$\sqrt{\frac{(63-1)\times 1.28^2+(66-1)\times 1.24^2}{63+66}}=\sqrt{(101.581+99.944)/129}=\sqrt{1.562}$$

$= 1.249$ $d = (6.32 – 6.03)/1.249 = 0.29/1.249 = 0.232$

Coding

In preparation for performing statistical analysis on the collected data, the data were uploaded into an Excel™ spreadsheet. Each individual participant's responses, both pre and post intervention were assigned a row and each variable of interest was assigned a column. These data were collected in aggregate: there was no comparison of each individual's pre and post responses.

The participant demographics were coded numerically, starting with highest educational degree. A participant with an Associates degree was 1, BSN was 2, MSN was 3 and Doctorate was 4. Gender was also coded, 1 for female and 2 for male. The participants' ages were captured as ranges and those ranges were assigned a numerical value. The age range of 20-30 was 1, 31-40 was 2, 41-50 was 3, 51-60 is 4 and 61+ was 5. The last demographic was a question, " In your nursing career, have you knowingly cared for a LGBT patient," yes or no. Yes was coded 1 and no was coded as 2.

The ATLG measurement tool employs a Likert scale. The scale terms and coding were: strongly disagree-1, disagree-2, neither-3, agree-4 and strongly agree 5. Of the twenty-scaled items, seven items were reverse scored and the numerical values are reversed.

The ten-question knowledge test consisted of either true/false or multiple-choice questions. The participants either responded correctly, with a coded value of 1, or incorrectly, with a coded value of 2.

Demographics

The demographic, nominal, data were not analyzed statistically. It was reported with frequency. However REDCap did capture percentages of the participants (Figures 2, 3, 4 and 5).

Objective I

The first objective was to hypothesize an improvement in documented scores using the *Attitudes Towards Lesbian and Gay Men Scale (*ATLG) measurement tool. Participants rated their feelings about each item on a 1-5 scale, with 1 strongly agreeing with the item to 5 strongly disagreeing with the item. A score of 3 is "neither agree nor disagree". The total score on the tool ranged from 20 to 100, with 100 being the most homophobic (Davis, Yarber, Bausermen, Schreer & Davis, 1998). This measurement tool collected the participants' pre-intervention attitudes and again at 60 days post-intervention.

Statistical Test

In determining if the intervention has an effect, an oneway ANOVA was used to analyze and calculate differences in the mean of the ATLG measurement tool of pre and post intervention scores (Figure 6).

To further examine the impact of the educational invention, a Pearson's correlation (*r*) was performed. The Pearson test was used to determine if any relationships exist between the pre intervention participants and the post intervention participants when comparing the ATLG tool. The Pearson's test calculated 40 variables and in turn produced 1600 data points (Figure 7).

Statistical Results

The oneway ANOVA test revealed that 77.5% of the groups that were compared have a $p > 0.05$. Nine of the forty comparisons or 22.5% produced $p < 0.05$.

When comparing the Pearson's correlation between the pre intervention ATLG measurement tool and the post intervention ATLG tool (Figure 7) < 8 % of the 1600 comparable variables indicated statistical significance.

Statistical Findings

This objective hypothesized an improvement in documented scores using the *Attitudes Towards Lesbian and Gay Men Scale (*ATLG) measurement tool. Based on the ANOVA and Pearson's correlation results, there was no statistical difference between the pre intervention participants and the post intervention participants. There were a few areas that indicate *p* values < 0.05 but overall, the intervention did not produce a statistically significant change in the participants attitudes.

Objective II

The second objective hypothesized an improvement in knowledge by comparing pre intervention & post intervention LGBT knowledge test. The knowledge assessment consisted of a set of ten questions which were multiple choice or true or false. The participants either answered the question correctly (1) or incorrectly (2). These data were ordinal. It was assigned a value, and the number of correct answers was the score of the test. There was a logical order and there was a correct answer for each question..

Statistical Test

To determine if the educational intervention had an effect on the participants' knowledge, two nonparametric tests were run simultaneously, the McNemar and Wilcoxon (Polit, 2010). Descriptive statistics also reported.

Statistical Results

The McNemar calculation demonstrated ten pre-intervention test questions and the post-intervention test questions, all with a reported *p* value of >0.05 and the null hypothesis was retained. The Wilcoxon calculated the ten pre-intervention test questions and the post-intervention test questions, with a 9 of the 10 reporting *p* value of > 0.05. The tenth knowledge question comparing the pre and post intervention knowledge scores produced a p value of 0.034 or < 0.05 and null hypothesis was rejected for this question (Figure 8).

Descriptive statistics calculated the differences in the knowledge assessment tool

of the pre intervention participants when compared with the post intervention participants. An average mean score was analyzed. The pre intervention mean score was 60.30 % and the post intervention mean score was 63.17 %. This represents an increase in the average mean score of 4.76%.

Statistical Findings

The objective hypothesized an improvement in knowledge by comparing pre intervention & post intervention LGBT knowledge test. Based on the McNemar and Wilcoxon, there were no statistical differences between the pre intervention knowledge participants and the post intervention knowledge participants. The one exception was the last knowledge question, which asks " In South Carolina a person can be fired from their job solely based on their sexual orientation." The intervention imparted knowledge to the participants in regards to this question.

In comparing the participants mean scores, there was a small increase in the mean scores of 4.76%, albeit not a statistically significant difference but a positive increase in the mean.

Overall Analysis

The project objectives and outcome measures were to improve knowledge and reduce self-reported perceptions of heterosexism and homophobia in healthcare providers through an educational intervention. An initial review of the data simply demonstrates there was no statistical difference in knowledge scores or attitude scores

between pre and post intervention. However there were isolated areas where knowledge was significantly increased.

Statistically, the intervention did not show a significant improvement in decreasing homophobia scores, nor did it show that the educational intervention significantly increased overall knowledge about the LGBT population.

Research Significance vs. Clinical Significance

Albeit there was no statistical significance noted, there was clearly clinical significance observed. This educational intervention was scheduled for 90-minutes, however the sessions often lasted 120 to 150 minutes, secondary to the numerous questions that were posed by the participants. Many of the questions posed demonstrated a significant knowledge gap among registered nurses as it relates to LGB individuals and in particular those who identify as transgender.

The intervention was well received and over 95% of the participants evaluations rated the lecture and the lecturer as "extremely good." After the educational intervention sessions, the researcher received more than five requests from independent, department managers, asking him to provide this education to their staff.

An unexpected outcome of this project was its impact on the organization's application for the "2016 Healthcare Equality Index," sponsored by the Human Rights Campaign (HRC). One of the criteria for this designation is key staff members are trained in LGBT patient-centered care. This project met that requirement and along with other criteria, the organization received this prestigious award in of March 2016.

Limitations, Recommendations & Implications

Limitations

The literature indicates that healthcare provider bias is the main cause of health disparities faced by LGBT individuals. This study only investigated registered nurses and their knowledge and attitudes towards LGBT patients. This research suggests all healthcare providers should be evaluated, to include physicians, advance practice nurses, therapists, and anyone who has direct contact with patient care.

Sample size was another confounding factor that limited the study. A larger population, to include all healthcare providers, may yield more conclusive results as it relates to this PICO. Incorporating different healthcare disciplines with varied educational backgrounds should be considered.

Another limitation of this research is the knowledge assessment tool. For future research this tool should increase the number of questions asked and the questions should be drilled down more to reflect the educational content. One must also consider if the appropriate questions were asked to accurately measure the participants' knowledge. The knowledge assessment tool should be vetted through several people who are experts in LGBT culture and health. This would include LGBT community leaders, LGBT organizations and LGBT individuals themselves.

Recommendations

Given the current state of LGBT inequality, this is a worthwhile and timely project. Implementation of the educational plan should be continued. The ATLGS

instrument has tested validity and is demonstrated in this study. The knowledge test does not share the same validity. This was the first time it was ever formally utilized. In order to improve the validity of the knowledge assessment, recognized leaders and experts in the LGBT community as well as doctorally prepared nurses should critically evaluate the assessment. Each time the questions are judiciously appraised, the reliability of each question will be increased, thus creating a more robust assessment tool. The addition of more appropriate and validated questions to the panel will also increase the overall reliability.

Implication to Practice

The scores on both the ATLGS and the knowledge assessment demonstrate a need for improved awareness of the LGBT culture. From this convenience sample of registered nurses, we were able to determine there are gaps in the knowledge of registered nurses pertaining to the care of the LGBT population. While registered nurses comprise a large portion of the health care team, there are many other professionals who also likely lack the cultural competence needed to care for this population that is largely disenfranchised by the health care system. While beyond the scope of this project, we can report with fair certainty that the lack of cultural competence spans across the healthcare team. Implementing similar training sessions, offered in a recurring fashion, will likely be necessary to effectively decrease the healthcare disparities currently being experienced by the LGBT population.

Summary

The latest research indicates that the disparities faced by the lesbian, gay, bisexual and transgender (LGBT) individuals are a direct result of the registered nurses' and other healthcare provider homophobia, transphobia and cultural bias. This long history of bias and stigmatism has created an unwelcoming environment for the LGBT patient. Educational intervention and cultural sensitivity training is needed for the registered nurse.

This project identified a clear and present need for LGBT training for the registered nurse and other healthcare providers. This intervention hoped to improve the registered nurses knowledge and limit their homophobia and transphobia. The statistical analysis indicated the educational intervention had no effect on the participant's knowledge or attitudes towards LGBT people. However, what was apparent was the significant knowledge gap demonstrated by registered nurses as it relates to the care of the LGBT patient. Healthcare organizations need to include LGBT care and culture into their core orientation and create a diverse and inclusive environment for all patients.

As healthcare costs continue to skyrocket and patient populations continue to diversify, the focus on patient outcomes will continue to be the driving force for reimbursement. Quality improvement and patient-centered care will be paramount for the healthcare organizations survivability. We must change practice and base these changes on the latest evidenced-based research, and the DNP prepared nurse is uniquely qualified to lead such a change.

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Statistics

		PostKTot	KTOT
N	Valid	63	66
	Missing	3	0
Mean		6.32	6.03
Std. Error of Mean		.161	.153
Median		7.00	6.00
Mode		7	6
Std. Deviation		1.280	1.240
Variance		1.640	1.538
Range		6	7
Minimum		3	2
Maximum		9	9

Figure 1. Effect Calculation Data

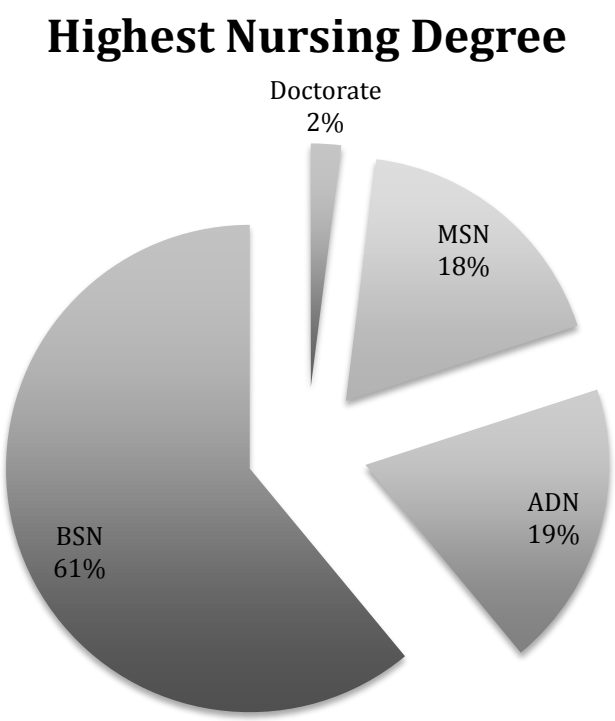


Figure 2. Highest Nursing Degree Held

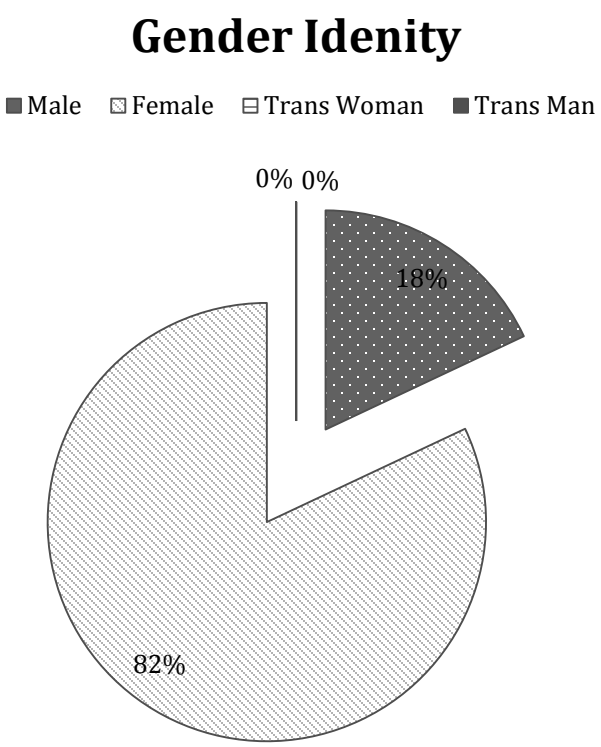


Figure 3. Gender

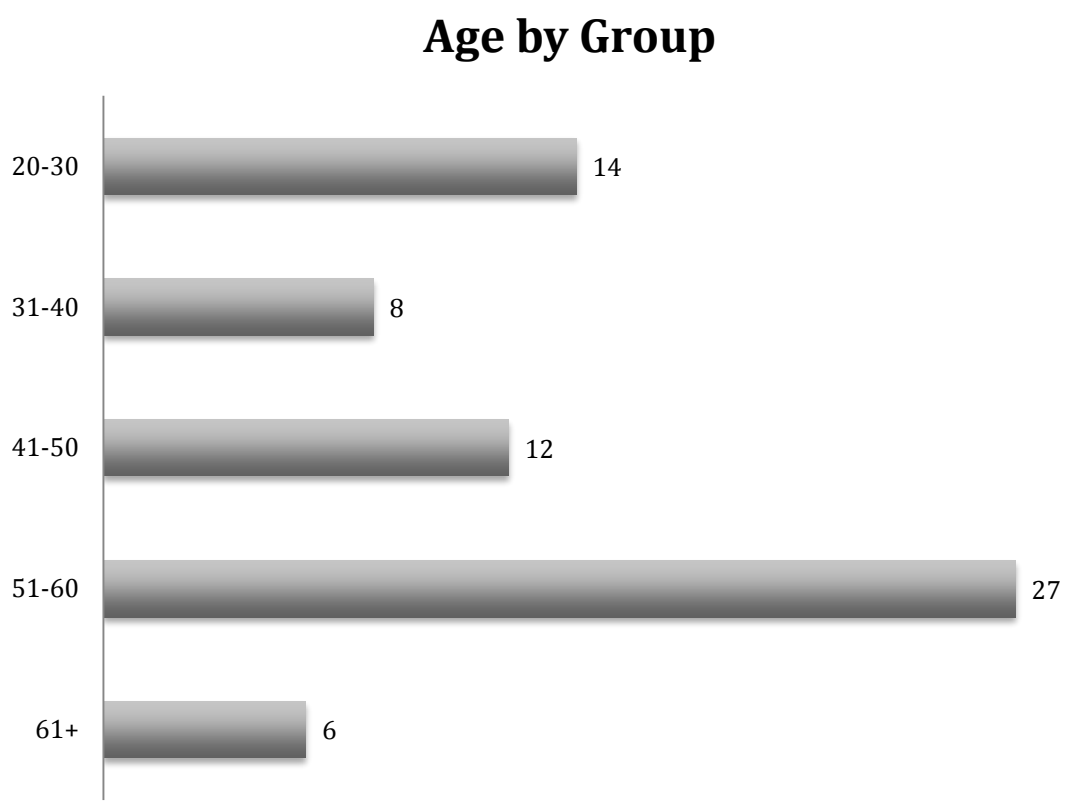


Figure 4. Age Ranges

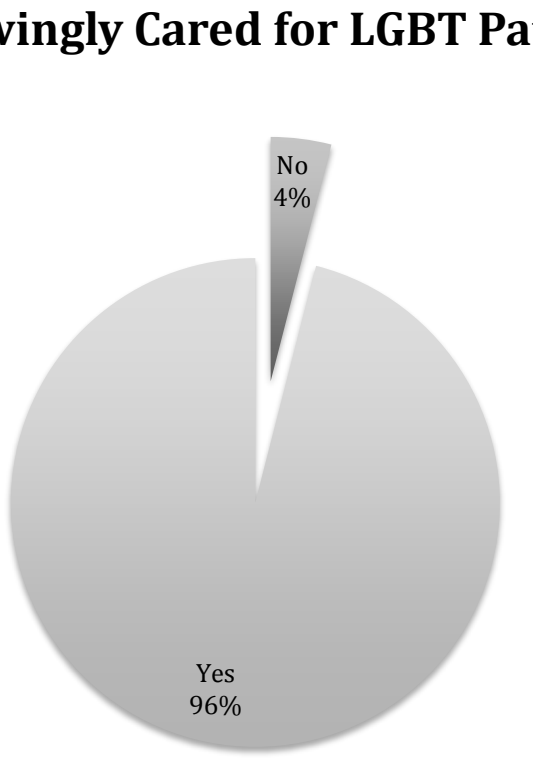


Figure 5. In your nursing career, have you knowingly cared for a LGBT patient?

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
AQ1	Between Groups	5.975	1	5.975	12.938	.001
	Within Groups	29.556	64	.462		
	Total	35.530	65			
AQ2	Between Groups	.122	1	.122	.121	.729
	Within Groups	64.317	64	1.005		
	Total	64.439	65			
AQ3	Between Groups	.566	1	.566	.423	.518
	Within Groups	85.556	64	1.337		
	Total	86.121	65			
AQ4	Between Groups	.035	1	.035	.096	.758
	Within Groups	23.556	64	.368		
	Total	23.591	65			
AQ5	Between Groups	4.390	1	4.390	4.008	.050
	Within Groups	70.095	64	1.095		
	Total	74.485	65			
AQ6	Between Groups	.162	1	.162	1.029	.314
	Within Groups	10.095	64	.158		
	Total	10.258	65			
AQ7	Between Groups	2.685	1	2.685	1.622	.207
	Within Groups	105.937	64	1.655		
	Total	108.621	65			
AQ8	Between Groups	.018	1	.018	.021	.884
	Within Groups	53.937	64	.843		
	Total	53.955	65			
AQ9	Between Groups	.488	1	.488	.493	.485
	Within Groups	63.270	64	.989		
	Total	63.758	65			
AQ10	Between Groups	.122	1	.122	.134	.716
	Within Groups	58.317	64	.911		
	Total	58.439	65			
AQ11	Between Groups	.122	1	.122	.095	.759
	Within Groups	82.317	64	1.286		
	Total	82.439	65			
AQ12	Between Groups	.416	1	.416	.291	.592
	Within Groups	91.524	64	1.430		
	Total	91.939	65			
AQ13	Between Groups	1.804	1	1.804	1.437	.235
	Within Groups	80.317	64	1.255		
	Total	82.121	65			
AQ14	Between Groups	.185	1	.185	.097	.756
	Within Groups	121.270	64	1.895		
	Total	121.455	65			
AQ15	Between Groups	.003	1	.003	.002	.964
	Within Groups	87.937	64	1.374		
	Total	87.939	65			
AQ16	Between Groups	.058	1	.058	.035	.852
	Within Groups	106.381	64	1.662		
	Total	106.439	65			
AQ17	Between Groups	.003	1	.003	.005	.941
	Within Groups	33.937	64	.530		
	Total	33.939	65			
AQ18	Between Groups	.012	1	.012	.012	.915
	Within Groups	63.746	64	.996		
	Total	63.758	65			
AQ19	Between Groups	.104	1	.104	.259	.613
	Within Groups	25.714	64	.402		
	Total	25.818	65			
AQ20	Between Groups	.786	1	.786	.398	.530
	Within Groups	126.381	64	1.975		
	Total	127.167	65			

Figure 6. ANOVA Data Table

PostAQ1	Between Groups	.972	1	.972	8.180	.006
	Within Groups	7.250	61	.119		
	Total	8.222	62			
PostAQ2	Between Groups	2.857	1	2.857	4.150	.046
	Within Groups	42.000	61	.689		
	Total	44.857	62			
PostAQ3	Between Groups	.029	1	.029	.035	.852
	Within Groups	49.400	61	.810		
	Total	49.429	62			
PostAQ4	Between Groups	.537	1	.537	.924	.340
	Within Groups	35.400	61	.580		
	Total	35.937	62			
PostAQ5	Between Groups	.179	1	.179	.149	.701
	Within Groups	73.250	61	1.201		
	Total	73.429	62			
PostAQ6	Between Groups	.229	1	.229	2.536	.116
	Within Groups	5.517	61	.090		
	Total	5.746	62			
PostAQ7	Between Groups	.864	1	.864	.397	.531
	Within Groups	132.850	61	2.178		
	Total	133.714	62			
PostAQ8	Between Groups	3.353	1	3.353	5.124	.027
	Within Groups	39.917	61	.654		
	Total	43.270	62			
PostAQ9	Between Groups	.763	1	.763	2.085	.154
	Within Groups	22.317	61	.366		
	Total	23.079	62			
PostAQ10	Between Groups	1.753	1	1.753	1.128	.292
	Within Groups	94.850	61	1.555		
	Total	96.603	62			
PostAQ11	Between Groups	5.337	1	5.337	6.887	.011
	Within Groups	47.267	61	.775		
	Total	52.603	62			
PostAQ12	Between Groups	7.622	1	7.622	8.026	.006
	Within Groups	57.933	61	.950		
	Total	65.556	62			
PostAQ13	Between Groups	6.146	1	6.146	3.484	.067
	Within Groups	107.600	61	1.764		
	Total	113.746	62			
PostAQ14	Between Groups	3.779	1	3.779	2.823	.098
	Within Groups	81.650	61	1.339		
	Total	85.429	62			
PostAQ15	Between Groups	3.670	1	3.670	9.225	.004
	Within Groups	24.267	61	.398		
	Total	27.937	62			
PostAQ16	Between Groups	1.984	1	1.984	1.963	.166
	Within Groups	61.667	61	1.011		
	Total	63.651	62			
PostAQ17	Between Groups	3.457	1	3.457	5.957	.018
	Within Groups	35.400	61	.580		
	Total	38.857	62			
PostAQ18	Between Groups	.257	1	.257	.277	.600
	Within Groups	56.600	61	.928		
	Total	56.857	62			
postAK19	Between Groups	.064	1	.064	.132	.717
	Within Groups	29.650	61	.486		
	Total	29.714	62			
PostAQ20	Between Groups	.007	1	.007	.005	.944
	Within Groups	88.850	61	1.457		
	Total	88.857	62			

Figure 6. ANOVA Data Table continued

Correlations

		AQ1	AQ2	AQ3	AQ4	AQ5	AQ6	AQ7	AQ8	AQ9	AQ10	AQ11	AQ12	AQ13	AQ14	AQ15
AQ1	Pearson Correlation	1	.124	.089	.196	.540**	.209	.240	.325**	.305*	.411**	.331**	.188	.270*	.248*	.389**
	Sig. (2-tailed)		.322	.476	.114	.000	.093	.053	.008	.013	.001	.007	.130	.028	.045	.001
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ2	Pearson Correlation	.124	1	.364**	.335**	.304*	.361**	.299*	.419**	.331**	.063	.390**	.489**	.474**	.405**	.274*
	Sig. (2-tailed)	.322		.003	.006	.013	.003	.015	.000	.007	.613	.001	.000	.000	.001	.026
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ3	Pearson Correlation	.089	.364**	1	.347**	.405**	.270*	.364**	.375**	.404**	.007	.287*	.399**	.449**	.317**	.523**
	Sig. (2-tailed)	.476	.003		.004	.001	.028	.003	.002	.001	.954	.020	.001	.000	.009	.000
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ4	Pearson Correlation	.196	.335**	.347**	1	.399**	.798**	.136	.445**	.466**	.349**	.387**	.355**	.469**	.423**	.275*
	Sig. (2-tailed)	.114	.006	.004		.001	.000	.278	.000	.000	.004	.001	.003	.000	.000	.025
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ5	Pearson Correlation	.540**	.304*	.405**	.399**	1	.420**	.147	.598**	.572**	.429**	.728**	.383**	.547**	.548**	.518**
	Sig. (2-tailed)	.000	.013	.001	.001		.000	.238	.000	.000	.000	.000	.002	.000	.000	.009
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ6	Pearson Correlation	.209	.361**	.270*	.798**	.420**	1	.174	.516**	.361**	.301*	.423**	.330**	.437**	.407**	.204
	Sig. (2-tailed)	.093	.003	.028	.000	.000		.163	.000	.003	.014	.000	.007	.000	.001	.101
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ7	Pearson Correlation	.240	.299*	.364**	.136	.147	.174	1	.300*	.201	.171	.064	.219	.263*	.214	.469**
	Sig. (2-tailed)	.053	.015	.003	.278	.238	.163		.014	.106	.169	.612	.078	.033	.085	.000
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ8	Pearson Correlation	.325**	.419**	.375**	.445**	.598**	.516**	.300*	1	.671**	.415**	.730**	.642**	.729**	.501**	.522**
	Sig. (2-tailed)	.008	.000	.002	.000	.000	.000	.014		.000	.001	.000	.000	.000	.000	.008
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ9	Pearson Correlation	.305*	.331**	.404**	.466**	.572**	.361**	.201	.671**	1	.543**	.610**	.495**	.681**	.394**	.452**
	Sig. (2-tailed)	.013	.007	.001	.000	.000	.003	.106	.000		.000	.000	.000	.000	.001	.000
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ10	Pearson Correlation	.411**	.063	.007	.349**	.429**	.301*	.171	.415**	.543**	1	.402**	.287*	.460**	.429**	.350**
	Sig. (2-tailed)	.001	.613	.954	.004	.000	.014	.169	.001	.000		.001	.019	.000	.000	.004
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ11	Pearson Correlation	.331**	.390**	.287*	.387**	.728**	.423**	.064	.730**	.610**	.402**	1	.673**	.650**	.548**	.242
	Sig. (2-tailed)	.007	.001	.020	.001	.000	.000	.612	.000	.000	.001		.000	.000	.000	.050
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ12	Pearson Correlation	.188	.489**	.399**	.355**	.383**	.330**	.219	.642**	.495**	.287*	.673**	1	.612**	.453**	.422**
	Sig. (2-tailed)	.130	.000	.001	.003	.002	.007	.078	.000	.000	.019	.000		.000	.000	.000
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ13	Pearson Correlation	.270*	.474**	.449**	.469**	.547**	.437**	.263*	.729**	.681**	.460**	.650**	.612**	1	.545**	.437**
	Sig. (2-tailed)	.028	.000	.000	.000	.000	.000	.033	.000	.000	.000	.000	.000		.000	.000
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ14	Pearson Correlation	.248*	.405**	.317**	.423**	.548**	.407**	.214	.501**	.394**	.429**	.548**	.453**	.545**	1	.443**
	Sig. (2-tailed)	.045	.001	.009	.000	.000	.001	.085	.000	.001	.000	.000	.000	.000		.000
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
AQ15	Pearson Correlation	.389**	.274*	.523**	.275*	.318**	.204	.469**	.322**	.452**	.350**	.242	.422**	.437**	.443**	1
	Sig. (2-tailed)	.001	.026	.000	.025	.009	.101	.000	.008	.000	.004	.050	.000	.000	.000	
	N	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66

Figure 7. Pearson's Correlation Table

PostAQ1	Pearson Correlation	.170	.272*	.335**	.024	.059	.024	.316*	-.042	.054	-.122	-.034	.329**	.035	.014	.197
	Sig. (2-tailed)	.184	.031	.007	.852	.648	.850	.012	.741	.676	.339	.789	.008	.788	.913	.122
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ2	Pearson Correlation	.044	.225	.248	.101	.223	.156	.107	.227	.047	-.008	.193	.374**	.258*	.273*	.010
	Sig. (2-tailed)	.730	.076	.050	.429	.079	.223	.402	.074	.717	.948	.130	.003	.041	.030	.938
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ3	Pearson Correlation	-.108	-.002	.021	-.105	-.126	-.074	.022	-.121	-.071	-.078	-.131	-.041	-.142	-.210	-.065
	Sig. (2-tailed)	.398	.989	.873	.413	.324	.564	.867	.346	.581	.546	.305	.753	.267	.099	.612
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ4	Pearson Correlation	-.136	-.013	.016	-.131	-.080	-.093	.146	-.151	-.007	-.021	-.109	-.025	-.031	-.034	-.089
	Sig. (2-tailed)	.290	.918	.901	.305	.532	.470	.253	.238	.955	.871	.396	.846	.808	.788	.489
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ5	Pearson Correlation	.194	.036	-.013	-.083	-.105	-.110	.222	-.130	.034	.094	-.116	.107	.082	.009	.234
	Sig. (2-tailed)	.128	.782	.922	.520	.414	.393	.080	.309	.794	.462	.364	.405	.524	.944	.065
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ6	Pearson Correlation	-.085	.305*	.281*	-.082	-.099	-.058	.382**	-.094	.022	-.178	-.103	.313*	.004	-.012	.147
	Sig. (2-tailed)	.509	.015	.026	.522	.442	.652	.002	.462	.866	.163	.423	.013	.977	.925	.249
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ7	Pearson Correlation	-.035	.081	.162	.158	.061	-.018	.141	.118	-.046	-.163	-.013	.123	-.022	-.032	-.138
	Sig. (2-tailed)	.787	.528	.204	.215	.633	.888	.271	.357	.719	.203	.921	.336	.867	.804	.279
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ8	Pearson Correlation	-.070	.014	-.007	-.079	-.047	-.005	.071	-.122	.047	.012	-.110	.055	-.066	.090	-.065
	Sig. (2-tailed)	.586	.912	.955	.537	.715	.967	.578	.342	.714	.923	.389	.670	.609	.484	.612
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ9	Pearson Correlation	-.011	.236	.160	-.113	-.063	-.080	.255*	-.129	-.036	-.025	-.072	.156	-.024	-.149	.101
	Sig. (2-tailed)	.931	.062	.210	.379	.625	.535	.044	.312	.781	.847	.577	.222	.852	.243	.431
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ10	Pearson Correlation	.060	.187	-.020	.256*	.066	.145	.076	.126	-.064	.081	.099	.262*	.155	.106	-.094
	Sig. (2-tailed)	.640	.141	.879	.043	.609	.257	.555	.324	.617	.528	.441	.038	.225	.410	.462
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ11	Pearson Correlation	.164	.218	.116	-.071	.021	-.067	.205	-.104	.085	.025	-.088	.240	.065	.140	.124
	Sig. (2-tailed)	.199	.087	.366	.583	.869	.601	.108	.418	.510	.845	.492	.058	.615	.273	.334
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ12	Pearson Correlation	-.030	.091	.047	.009	-.018	.112	.140	-.094	.014	.103	-.131	.091	-.020	.189	-.015
	Sig. (2-tailed)	.815	.477	.712	.947	.891	.384	.272	.464	.914	.422	.307	.480	.877	.139	.908
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ13	Pearson Correlation	.193	-.022	.231	.096	.328**	.101	.063	.227	.219	.274*	.231	.195	.156	.156	-.013
	Sig. (2-tailed)	.130	.866	.069	.455	.009	.431	.622	.074	.084	.029	.069	.125	.222	.221	.920
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ14	Pearson Correlation	.051	-.105	.113	.166	-.025	-.079	.056	-.023	.114	.197	-.008	.185	.053	.241	.024
	Sig. (2-tailed)	.690	.412	.378	.193	.848	.538	.664	.861	.373	.121	.950	.147	.681	.057	.849
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
PostAQ15	Pearson Correlation	.165	.364**	.141	.086	.107	.072	.147	.062	-.032	-.049	.065	.408**	.239	.116	.186
	Sig. (2-tailed)	.197	.003	.271	.505	.402	.573	.250	.629	.803	.705	.612	.001	.059	.366	.145
	N	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63

Figure 7. Pearson's Correlation Table cont.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across KQ1 and PostKQ1 are equally likely.	Related-Samples McNemar Test	.500[1]	Retain the null hypothesis.
2	The median of differences between KQ1 and PostKQ1 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.157	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

[1]Exact significance is displayed for this test.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across KQ2 and PostKQ2 are equally likely.	Related-Samples McNemar Test	.804[1]	Retain the null hypothesis.
2	The median of differences between KQ2 and PostKQ2 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.617	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

[1]Exact significance is displayed for this test.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across KQ3 and PostKQ3 are equally likely.	Related-Samples McNemar Test	.774[1]	Retain the null hypothesis.
2	The median of differences between KQ3 and PostKQ3 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.564	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

[1]Exact significance is displayed for this test.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across KQ4 and PostKQ4 are equally likely.	Related-Samples McNemar Test	.850	Retain the null hypothesis.
2	The median of differences between KQ4 and PostKQ4 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.705	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across KQ5 and PostKQ5 are equally likely.	Related-Samples McNemar Test	1.000[1]	Retain the null hypothesis.
2	The median of differences between KQ5 and PostKQ5 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.841	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

[1]Exact significance is displayed for this test.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across KQ6 and PostKQ6 are equally likely.	Related-Samples McNemar Test	.405[1]	Retain the null hypothesis.
2	The median of differences between KQ6 and PostKQ6 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.297	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

[1]Exact significance is displayed for this test.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across KQ7 and PostKQ7 are equally likely.	Related-Samples McNemar Test	.774[1]	Retain the null hypothesis.
2	The median of differences between KQ7 and PostKQ7 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.564	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

[1]Exact significance is displayed for this test.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across KQ8 and PostKQ8 are equally likely.	Related-Samples McNemar Test	1.000	Retain the null hypothesis.
2	The median of differences between KQ8 and PostKQ8 equals 0.	Related-Samples Wilcoxon Signed Rank Test	1.000	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across KQ9 and PostKQ9 are equally likely.	Related-Samples McNemar Test	.180[1]	Retain the null hypothesis.
2	The median of differences between KQ9 and PostKQ9 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.096	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

[1]Exact significance is displayed for this test.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of different values across KQ10 and postKQ10 are equally likely.	Related-Samples McNemar Test	.052	Retain the null hypothesis.
2	The median of differences between KQ10 and postKQ10 equals 0.	Related-Samples Wilcoxon Signed Rank Test	.034	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Figure 8. McNemar & Wilcoxon Table

Appendix A. *Systematic Review of the Literature*

Type of Evidence	***Level***	***Total***
Systematic review of qualitative/descriptive studies	***V***	***2***
Qualitative/Descriptive studies	***VI***	***24***
Opinion or Consensus	***VII***	***4***
	Total	***30***

Appendix B. *Agency Letter of Support to Complete the Project*

June 10, 2015

Administrator of Clinical Services
Medical University of South Carolina
165 Ashley Ave.
Charleston, SC 29425

RE: Letter of Intent

Dear Dr. Schaffner,

As you know I am completing a Doctor of Nursing Practice (DNP) degree this year. A significant amount of my coursework centers on evidence-based practice (EBP) and the critical appraisal of research. A capstone EBP project is the pinnacle of this degree.

My project is examining marginalized and vulnerable populations, in particular the LGBT community. The project examines the effects of heterosexism and homophobia of healthcare workers and its impact on this population. This project will deliver an educational intervention to the healthcare provider, exploring cultural competency of the LGBT patient and community.

This capstone project will be vetted through the Medical University of South Carolina's Institutional Review Board (IRB) late summer, 2015. The staff's participation will be strictly voluntary and will require consent to participate.

This letter is to inform you of my intent with this project. I would appreciate your signature, representing your notification and endorsement. Please let me know if you have any questions and thank you in advance.

Sincerely,

Tim Brendle, MS, RN, CNOR, NE-BC
Doctoral Student

6/15/15

Marilyn Schaffner, PhD, RN, NEA-BC, CCRN Date
Chief Nursing Officer

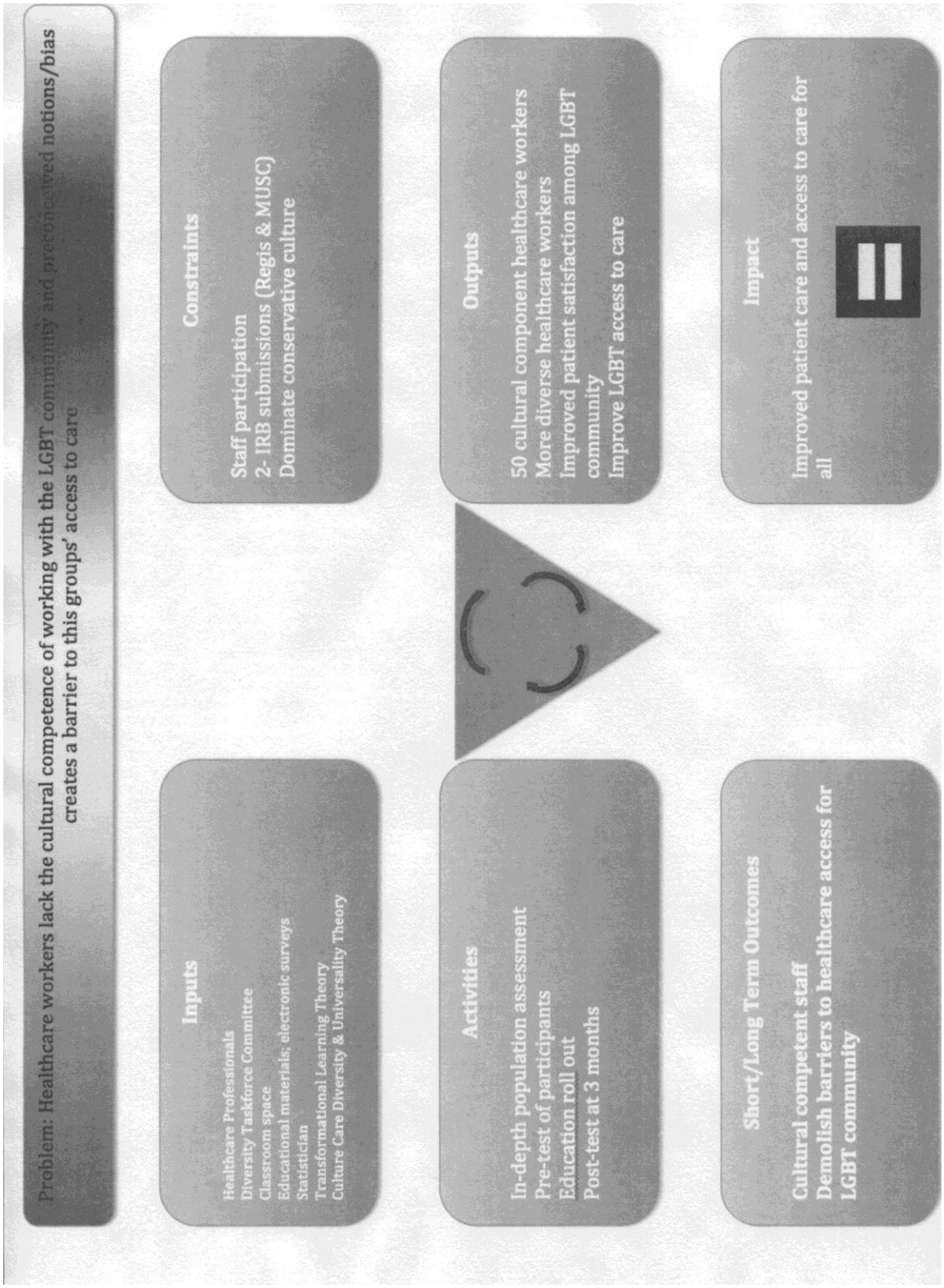
Appendix C. *Budget and Resources*

Projected Costs/Resources	**Costs to Replicate**
1. DNP Students Time • 3 Months (480 hours x $48.50) • $23,280.00	1. Healthcare Professionals Time • 3 Months • $23,280.00
2. Brochure/Handouts • $300.00	2. Clerical Supplies • $300.00
3. 100 RN Participants Salaries • $28.50 x 100 x 1 hr. • $2850.00	3. Information technology (REDCap), assessment tools, classroom space, hardware, etc. – Variable
4. Chief Diversity Officers Time • $72.00 hr. x 5 hr. • $360.00	**Total: $23,580.00**
5. DNP Mentor • $48.50 x 15 hr. • $727.50 **Total: $27,517.50** *Costs estimated and in kind*	
Resources • Information Technology • Assessments Tools • Participants • Time	

Appendix D. *Logic Model*

RESOURCES	ACTIVITIES	OUTPUTS	SHORT & LONG-TERM OUTCOMES	IMPACT
In order to accomplish our set of activities we will need the following:	In order to address our problem we will accomplish the following activities:	We expect that once accomplished, these activities will produce the following evidence of service delivery:	We expect that if accomplished these activities will lead to the following changes in 1-3 then 4-6 years:	We expect that if accomplished these activities will lead to the following changes in 7-10 years:
Healthcare professionals at a large, academic medical center in the Southeast Diversity task force committee Physical classroom space Educational materials, electronic surveys Statistician Knowles's Learning Theory Kurt Lewin Change theory Culture Care Diversity & Universality Theory	In-depth epidemiological population assessment of SC Pre-test participants (baseline levels of knowledge & 20-item homophobia scale) Educational roll out Post-test at 60 days	50 cultural competent healthcare workers More diverse healthcare workforce at medical center Improved patient satisfaction among LGBT community Improve LGBT community access to care	Cultural competent staff Decrease in heterosexism/bias by dominate culture Remove barriers to care for LGBT community Improve healthcare outcomes for the LGBT community in SC	Improved patient outcomes for all Reduce marginalization of the LGBT community in SC

Appendix E. *Conceptual Diagram*



Appendix F. *Regis IRB Approval Letter*

REGIS UNIVERSITY

OFFICE OF ACADEMIC GRANTS

IRB – REGIS UNIVERSITY

August 21, 2015

Tim Brendle
125 Adthan Circle
Goose Greek, SC 29445

RE: IRB # 15-216

Dear Mr. Brendle:

Your application to the Regis IRB for your project, "Development of an Educational Program to Improve Care for the Lesbian, Gay, Bisexual and Transgender (LGBT) Community", was approved as an exempt study on August 20, 2015. This study was approved per exempt study category of research 45CFR46.101.b(#2).

The designation of "exempt" means no further IRB review of this project, as it is currently designed, is needed.

If changes are made in the research plan that significantly alter the involvement of human subjects from that which was approved in the named application, the new research plan must be resubmitted to the Regis IRB for approval.

Sincerely,

Patsy McGuire Cullen, PhD, CPNP-PC
Chair, Institutional Review Board
Professor & Director
Doctor of Nursing Practice & Nurse Practitioner Programs
Loretto Heights School of Nursing
Regis University

cc: Dr. Patricia Cullen

3333 Regis Boulevard, H-4, Denver, CO 80221-1099
REGIS.EDU | **O** 303-458-4206 | **F** 303-964-5528 | **E** oag@regis.edu

Appendix G. *MUSC IRB Approval Letter*

MUSC
COLLEGE of NURSING

99 Jonathan Lucas Street
MSC 160
Charleston · SC 29425-1600
www.musc.edu/nursing

July 16, 2015

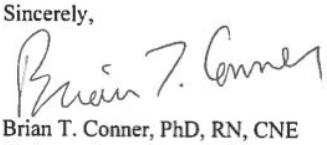
Dear Dr. Cullen:

This letter is in reference to one of your students, Tim Brendle, and his project proposal entitled "Development of an Educational Program to Improve Care for the Lesbian, Gay, Bisexual and Transgender (LGBT) Community." This evidence-based practice project will be conducted solely for the purpose of improving the quality of care and services provided within the Medical University of South Carolina. I have reviewed the final version of Tim's proposal and believe it meets the criteria for use of our Quality Improvement checklist (see attached). I have been teaching our DNP project proposal course for five years and over 90% of our student projects are able to use the QI checklist in lieu of submitting IRB applications. The key lies in the statement found in item #8 regarding publication.

In accordance with the policies of the Institutional Review Board (IRB) of the Medical University of South Carolina, this project is deemed as strictly a quality improvement initiative and is not subject to IRB supervision. A quality improvement checklist developed by the IRB has been completed and is on file in the College of Nursing.

Please feel free to contact me should you require further information.

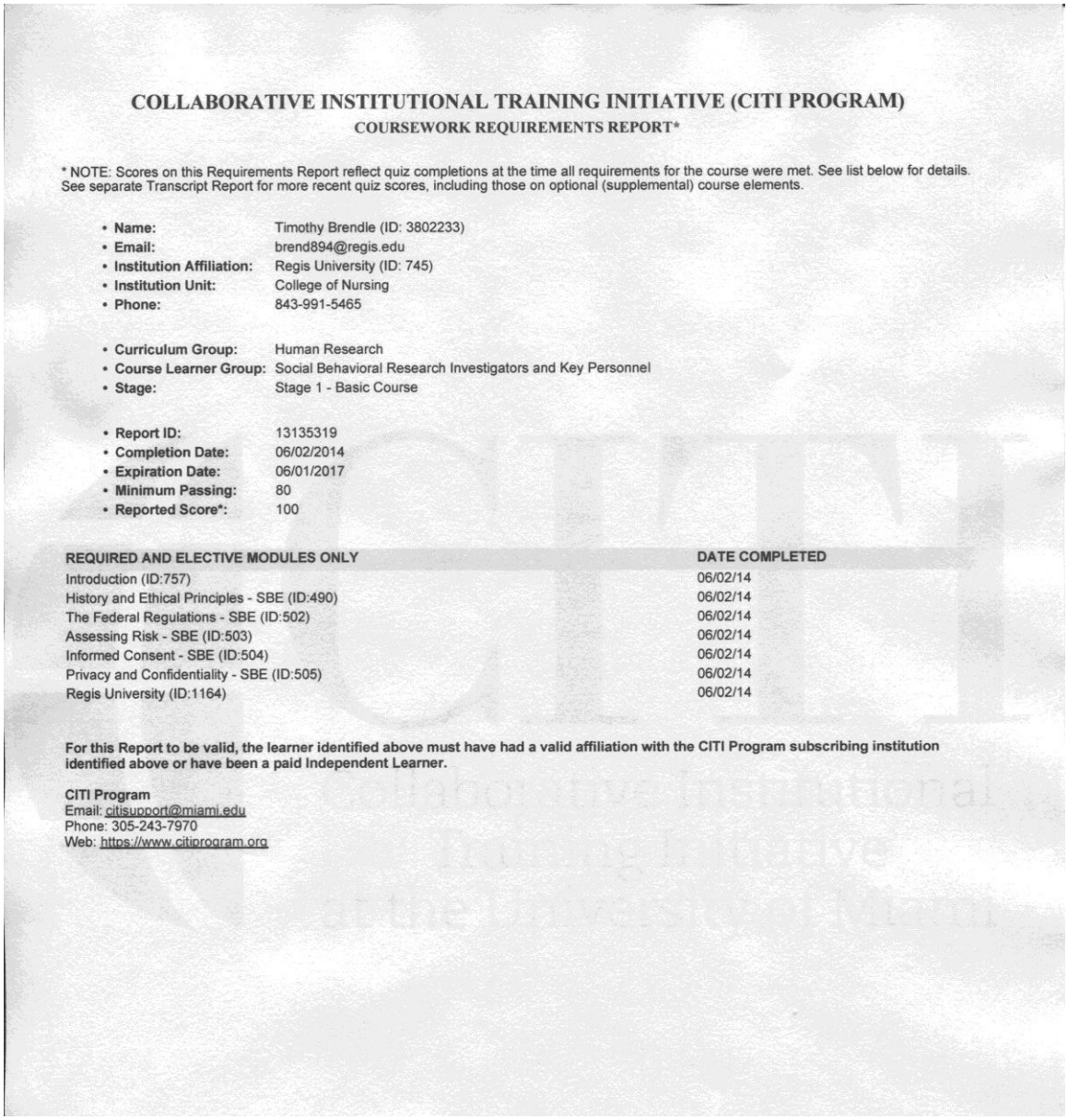
Sincerely,



Brian T. Conner, PhD, RN, CNE
Undergraduate Program Director
Assistant Professor
Medical University of South Carolina
College of Nursing
99 Jonathan Lucas St MSC 160
Charleston, SC 29425
843-792-6119
connerb@musc.edu
www.musc.edu/nursing

MUSC Nurses Change Lives!

Appendix H. *CITI Training Certificate*



COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COURSEWORK REQUIREMENTS REPORT*

* 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:** Timothy Brendle (ID: 3802233)
- **Email:** brend894@regis.edu
- **Institution Affiliation:** Regis University (ID: 745)
- **Institution Unit:** College of Nursing
- **Phone:** 843-991-5465

- **Curriculum Group:** Human Research
- **Course Learner Group:** Social Behavioral Research Investigators and Key Personnel
- **Stage:** Stage 1 - Basic Course

- **Report ID:** 13135319
- **Completion Date:** 06/02/2014
- **Expiration Date:** 06/01/2017
- **Minimum Passing:** 80
- **Reported Score*:** 100

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED
Introduction (ID:757)	06/02/14
History and Ethical Principles - SBE (ID:490)	06/02/14
The Federal Regulations - SBE (ID:502)	06/02/14
Assessing Risk - SBE (ID:503)	06/02/14
Informed Consent - SBE (ID:504)	06/02/14
Privacy and Confidentiality - SBE (ID:505)	06/02/14
Regis University (ID:1164)	06/02/14

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.

CITI Program
Email: citisupport@miami.edu
Phone: 305-243-7970
Web: https://www.citiprogram.org

Appendix I. *ATLG Measurement Tool*

Attitudes Toward Lesbian & Gay Men Scale

1. Lesbians just can't fit into our society.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

2. Male homosexual couples should be allowed to adopt children the same as heterosexual couples.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

3. A women's homosexuality should not be a cause for job discrimination in any situation.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

4. I think male homosexuals are disgusting.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

5. Female homosexuality is bad for society because it breaks down the natural divisions between sexes.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

6. Male homosexuals should not be allowed to teach school.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

7. State laws against private sexual behavior between consenting adult women should be abolished.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

8. Male homosexuality is a perversion.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

9. Female sexuality is a sin.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

10. Male sexuality is a natural expression of sexuality in men.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

11. The growing number of lesbians indicates a decline in American morals.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

12. If a man has homosexual feelings, he should do everything he can to overcome them.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

Appendix I. *ATLG Measurement Tool Cont.*

13. Female homosexuality in itself is no problem unless society makes it a problem.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

14. I would not be too upset if I learned that my son is a homosexual.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

15. Female sexuality is a threat to many of our basic social institutions.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

16. Sex between two men is just plain wrong.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

17. Female sexuality is an inferior form of sexuality.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

18. The idea of male homosexual marriage seems ridiculous to me.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

19. Lesbians are sick.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

20. Male homosexuality is merely a different kind of lifestyle that should not be condemned.

☐ Strongly disagree ☐ Disagree somewhat ☐ Neither agree nor disagree ☐ Agree somewhat ☐ Strongly agree

Appendix J. *Knowledge Assessment Measurement Tool*

LGBT Knowledge Test

1. There are several psychosocial and cultural constructs such as gender identity, sexual attraction and sexual behavior that integrate to form human sexuality?
    a. True
    b. False

2. Homosexuality is a conscious choice made by the individual?
    a. True
    b. False

3. People who identify as transgender are?
    a. Homosexual
    b. Heterosexual
    c. Bisexual
    d. Gender Queer
    e. May identify as A, B, C or D

4. A person's sexual attraction (orientation) is developed by what age?
    a. Preschool
    b. Middle childhood
    c. Late adolescents
    d. Young adult

5. Lesbian, Gay & Bisexual youth who come from highly rejecting families are ___ times as likely to commit/attempt suicide, than peers who come from accepting families?
    a. 2
    b. 5
    c. 8
    d. 10

6. Health disparities are the inequalities that occur in the provision of healthcare and access to healthcare. Lesbian, Gay, Bisexual and Transgender (LGBT) face many healthcare disparities. The ***most significant*** cause of these disparities is?
    a. LGBT individuals live in poverty
    b. LGBT have limited access to healthcare/insurance
    c. LGBT have inadequate level of education
    d. The healthcare providers (MD, RN, APRN, etc.) bias toward the LGBT individual

7. People who self-identify as LGBT constitute an estimated 8% of the population. What percentage of men and women between the ages of 25 – 44 report having a same-sex sexual experience?
    a. 1%
    b. 10%
    c. 18%
    d. 28%

Appendix J. *Knowledge Assessment Measurement Tool Cont.*

8. Multiple studies have shown that prejudice against LGBT patients is unacceptably high. In one study the percentage of physicians who were uncomfortable providing care to a gay patient was ___?
    a. 5%
    b. 10%
    c. 19%
    d. 28%

9. The average medical school student receives ___ hours of curriculum devoted to LGBT health?
    a. 5
    b. 15
    c. 25
    d. 35
10. In South Carolina a person can be fired from their job solely based on their sexual orientation?
    a. True
    b. False

Appendix K. *Timeframe*

Processes	**Time Frame**
1. Critical appraisal of latest EBP related to PICO	1. June 2014 – June 2015
2. Develop in-depth, culturally accurate educational intervention aimed at healthcare providers	2. June 2015
3. Seek IRB approval	3. July/August 2015
4. Administer intervention	4. September – November 2015
5. Apply tested measure to population, pre and post intervention	5. September – January 2015/16
6. Data analysis	6. January/February 2016
7. Hypothesize an improvement in documented scores using the Attitudes Towards Lesbian and Gay Men Scale measurement tool	7. 60 days post intervention
8. Dissemination of results	8. April/May 2016