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Nurse-Physician Communication Tools to Enhance use of Nursing Evidence-Based Protocols

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Abstract

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MSN, Walden University, 2011

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Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

In the current health care environment, consumers are demanding collaboration among clinicians even when traditional attitudes minimize nurses' input on the direction of clinical care. Compounding this problem is that nursing practices have not always been derived from randomized clinical trials, but instead from personal experiences. The purpose of this study was to explore the perceptions of nurses, physicians, and administrators on clinical protocols, including the use of nurse evidence-based practice (EBP) in practice settings. The study aimed at fostering clinical decisions anchored on shared knowledge, collegiate interactions, and emotions. A survey designed using nurse-physician communication tools was disseminated among a convenience sample of 50 nurses, 12 physicians, and 3 administrators. Content analysis was applied to survey responses. The findings revealed that effective communication between nurses, physicians, and administrators enhanced the use of nursing EBPs; these findings were used to generate the Nurse-Physician Communication Tools (NPCT) as a mechanism to enhance the translation of nursing EBP in clinical setting. The use of NPCT provided a mechanism for practice changes needed to improve clinical collaboration and enhance use of nursing EBPs in patient care.

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Dedication

This work is dedicated to my family, for their support and love during this project. Thank you for your understanding, my wife Margrate and my daughters Chidinma Krystal and Odinakachi Destini. We made it!

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To Dr. Yisa B. Sunmonu MD, FCCP my preceptor and mentor and to all clinicians whose input provided the data and made this study possible. Finally, thank you to Dr. Allison Terry for advice and encouragement.

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Section 1: Nature of the Project

In this project, I explored and identified collaborative mechanisms involving nurses and physicians and applied communication tools to enhance the translation of nurse evidence-based protocols (EBP) in clinical settings. In this cross-sectional, mixed methods study I used surveys, interviews, and discussions to collect data from nurses, physicians, and administrators on the barriers to use of nursing EBPs in clinical settings. Nurses adopt physicians' protocols derived from randomized clinical trials (RCTs) and rely primarily on physicians' orders to care for clients. In this project, I have integrated collaborative approaches to implement and evaluate nurse-physician communication tools as a mechanism to enhance the translation of nursing EBPs at a small county medical center. I explored clinicians' perspectives and identified the different theories and philosophical constructs of caring and curing held by nurses, physicians, and administrators. I found that professional interactions, emotions, and experiences are linked determinants of nursing EBP use in specific heath care interventions. Recommended practice changes include the use of effective communication tools to bridge professional collaboration gaps among clinicians, especially between nurses and physician to enhance the translation of nursing EBP in clinical practices.

Introduction/Background/Context

Inspiration for this study came from my own professional perspectives developed over the years working as clinical nurse and nurse educator and from personal knowledge of colleagues who held positive attitudes towards research; still they are unable to use

nursing research to inform their clinical practices. In this nonexperimental study, surveys, interviews, and discussions were used to gather prospective data from nurses, physicians, and administrators. I asked questions about issues related to clinical protocols used in practice settings. The aim was to identify which collaborative initiatives could enhance the use of inquisitive, analytical, and systematic evidence derived from nursing EBP to guide practice and clinical decisions. This inquiry became necessary because few nurses use nursing EBP to inform their own practice, despite the abundance of relevant nursing EBPs. Some nurses claim to have positive attitudes towards research findings in general but evidence point to their inability to use nurse EBP (Fink, Thompson, & Bonnes, 2005). It is important to determine how clinicians influence and sustain the use of nursing EBP to guide practice given that nurses are the largest group of health care providers. Solutions to these practice problems are important because the prevailing health care environment demands care based on cost reduction, patient centeredness, cultural competence, and quality (Norrish & Rundall, 2001; Saha, Beach, & Copper, 2008).

Collaboration amongst clinicians which include the use of available nursing EBP could lead to increased knowledge of less costly and safe health care interventions. Practice changes that position nurses as cochampions of quality health care intervention would also include strategies to adopt nursing EBP. In this study, I reviewed the literature and identified studies on traditional barriers to use of nursing EBPs in practice. These barriers were categorized by Dr. Mauk as bordering on social, political, technological, and financial considerations which influence how nursing EBPs are used at the individual and institutional levels (Laureate Education, Inc., 2012d). My project

resulted in the development of nurse-physician communication tools as an attempt to enhance clinicians' use of nurse EBP.

Problem Statement

When nursing traditions are coupled with evidence and experiences from clinical phenomena, they constitute nursing EBPs and provide guides to nurses in the form of nursing diagnoses and nursing care plans. Quality health outcomes and reduced health care costs can accrue from collaborative approaches when other clinicians integrate nursing EBP in their clinical decisions. Nursing practice guidelines are not always derived from research methods favored by physicians who otherwise write most of the clinical orders; anecdotal reports from nurses indicate that such issues present practice problems. The purpose of this project was to provide solutions to these problems and in the process engender more collaboration among clinicians to help improve health outcomes and reduce rising health care costs.

Purpose Statement

The aim of this project was to explore and identify barriers to the translation of nurse EBP in practice and to illustrate how nurse-physician communication tools can enhance the use of inquisitive, analytical, systematic evidence from nursing research and experienced clinical phenomena to guide clinical decisions. In my literature reviews, I found very few research studies on clinicians' communication skills as possible barriers to the use of nursing EBPs. In this descriptive mixed study, I explored clinicians' attitudes and identified ineffective communication mechanisms and poor communication

skills as major barriers to the use of nursing EBP. Nurse-physician communication tools were developed to facilitate clinicians' use of nursing EBPs in clinical settings.

Project Objectives

- To design, develop, and implement nurse-physician communication tools and other initiatives to enhance translation of nurse EBP in a clinical setting by 10/31/14.
- To apply educational concepts and quality improvement models to facilitate the adoption of nursing EBP anchored on science and philosophies of caring by 10/31/14.
- To influence nurse-physician collaboration through meaningful interactions and shared experiences in clinical settings by 10/31/14

Guiding/Practice/Research Questions

1. Can effective communication between nurses and physicians lead to more clinical collaboration and enhance the use of nursing EBP by clinicians?
2. What nursing and physician leadership skills, developmental steps and educational concepts when harnessed could facilitate the adoption of nursing EBP in clinics?

Significance of the Project

When nurse-physician communication tools are employed to harness collaborative tendencies, clinicians are empowered to include inquisitive, analytical, systematic evidence gleaned from nursing research findings and clinical phenomena to form foundations of clinical decisions (Bowles & Bowles, 2000; Kramer &

Schmalenberg, 2003; Scott, Profetto-McGrath, & Estabrooks, 2012). As more clinicians embrace the use of nursing EBPs, more experiences are shared, knowledge is expanded, and professional collaborations are fostered.

Such atmospheres promote interdisciplinary learning, bridge gaps in practice, reduce clinical errors, and minimize associated health care costs (Newhouse, 2007; Schenk & Hartley, 2002). Overall, these practice approaches where nursing EBPs are integrated in clinical care decisions have the potential of improving health care delivery and outcomes (National Database of Nursing Quality Indicators, 2011).

Reduction of Gaps

Nurses and physician have continued to re-examine their professional relationships, including obvious practice dynamics that often discourage professional collaboration. Nurses and physicians must increase their efforts to link nursing EBP, expertise, and theories to physicians' knowledge and professional acumen in order to achieve desired quality health outcomes (American Nurses Association, 1996; Institute of Medicine, 2004, 2010). Specifically, any empowerment of nurses through collaborative adoption of nursing EBPs in clinics throughout communities will facilitate the promotion of healthy lifestyles in vulnerable populations.

Implications for Social Change

The application of nurse-physician communication tools to enhance the use of nurse EBPs has become a necessary practice approach to lay the foundation for learning, inquiry, and sustenance of quality health outcomes. The adoption of nursing EBPs, the

products of logic, information processing, intuition, and analysis of clinical phenomena in clinical settings could contribute to quality health care improvements (Simmons, 2010).

The greater implication is the consequential reduction in health disparities and the promotion of the virtues of collaboration within health institutions and at-large populations. Treating chronic illnesses requires the combination of perspectives, use of different protocols, and reliance on inferences derived from several formal and informal strategies including nursing EBPs. Bamford-Wade and Moss (2010) argued that the continued advancement of the nursing profession require transformational leadership facilitated by shared governance necessitated by clinical collaborations. Nursing leadership's support for the use of nursing research to guide practice would transform existing application gaps between nurses and physicians on the use of nursing research findings.

Clinical collaborations involving nurses and physicians could solidify the nurse's role as patients' advocates and provide additional humanpower and avenues for championing the message of healthy living and disease prevention measures through measures adopted in clinical activities (Kramer & Schmalenberg, 2003). The recently enacted Affordable Care Act's prevention and public health funds the training of 600 new nurse practitioners and nurse midwives by 2015 to serve at least 94,000 patients in managed-care clinics mostly in underserved and vulnerable population areas (Whitehouse.gov., 2012). Clinician collaboration will be vital to achieve these goals.

Definition of Terms

Clinician attitudes: The approaches to patient care shaped by clinician's experience, which include clinicians' assumptions that could hinder use of nursing EBP.

Cross-sectional, mixed methods research: A research method that integrates quantitative and qualitative research methods into a study to draw on the strengths of each (Johnson, Onwuegbuzie, & Turner, 2007). It may span over different stages of data collection, implementation, and evaluation and qualitative data obtained at different time scales are coded and analyzed to decipher responses to research questions

Evidence-based practices: Application of holistic approaches to the care and treatment of individuals, groups, or populations based on available evidence that has been tested or confirmed to work for the individual, group, or population (Muir-Gray, 1997; Stillwell, Fineout-Overholt, Melnyk, & Williamson, 2010; Terry, 2012; Turner, 2009).

Framework: Theoretical model employed in which implementation strategies follow constructs of the transtheoretical model of behavior change. The transtheoretical model as an integrative model of behavior change was adopted in interventions aimed at modifying clinicians' attitudes to use of nursing EBPs. Positive attitudes towards use of nursing EBPs were achieved with the aid of nurse-physician communication tools in a time-frame of five stages: precontemplation, contemplation, preparation, action, and maintenance (Lach, Everard, Highstein, & Brownson, 2004; Marcus & Simkin, 1994; Prochaska, Wayne, & Velicer, 1997; &Velicer, Prochaska, Fava; Norman, & Redding, 1998).

Nurse evidence-based protocols: The use of analytical and systematic evidence from nursing research and clinical phenomena to guide clinical decisions and judgments (Casebeer & Verhoef 1997; Ploeg, Jack, & Dobbins, 2010). Nursing EBP has been summarized as synthesis of findings into best available evidence and the incorporation of the evidence to inform practice and clinical decisions (Brown, 2009; Closs & Cheater, 1999; Melnyk & Fineout-Overholt, 2005, Malloch & Porter-O'Grady, 2006, Pearson, Field, & Jordan, 2007).

Nurse-physician communication tools: A mechanism designed to facilitate the use of nursing EBPs in an integrative approach characterized by intentional actions by clinicians to commit, contextualize, communicate, corroborate, and collaborate with other clinicians. It could be used to review nursing protocols systematically through the process of what, whys, how, and when factoring in the anticipatory outcome objectives and through meaningful interactive bonding and clinical collaborations.

Assumptions, Limitations, and Delimitations

Assumptions. I premised this project on these assumptions: (a) collaborative initiatives, when properly channeled within a conducive practice environment, can enhance clinicians support of the use of inquisitive, analytical, and systematic evidence from nursing research and clinical phenomena to guide clinical decisions; (b) nurses have claimed to receive more clinical collaboration from pharmacists, therapists, social workers and others than physicians; and (c) even though most nurses have positive attitudes towards research, many do not use research to inform their own practice (Fink et al., 2005).

Limitations. The limitations to the study included sampling errors that could result from the use of the convenience sampling approach, measurement, and data processing errors that could result from (a) respondents misunderstanding of surveys, questions, or instructions; (b) participants failing to answer questions honestly for whatever reasons; and (c) mistakes in data coding and failure to obtain complete data due to nonresponses.

Delimitations. Efforts were made to delimit these barriers by controlling my biases through (a) broad inclusion criteria where all clinicians (nurses, physicians, and administrators) at the medical center with all levels of education and experiences were included in the target sample population; (b) offering participants repeated opportunities to respond to surveys, questions, and interviews; (c) coding and the use of themed questions; (d) flexibility with the timing of participants' interactions, and the use of nurse-physician communication tools to facilitate project implementation. The sample population was representative of clinicians who worked at the medical center. This project is a descriptive cross-sectional study in a mixed methods approach (qualitative and quantitative) to probe real -life contextual understandings of multilevel perspectives of the clinicians' perspectives on use of nursing EBP (Johnson, Onwuegbuzie, & Turner, 2007; Turner, 2009). Coding was employed for analysis of study findings and to contextualize and decipher the meanings of responses related surveys and interview questions (Terry, 2012).

Summary

Ineffective communication mechanisms can adversely affect the use of nurse EBP in clinical settings. Purposeful interaction techniques, combined with educational materials, formed the backbone of mechanisms and strategies employed in developing the nurse-physician communication tools. Nurse EBP often is not incorporated in physician orders, and many nurses do not have practice and institutional privileges to initiate clinical orders. In order to ensure that clinicians learn from each other and facilitate quality health outcomes, application of established theories and practices from other health disciplines, EBP, experiences, and expert knowledge contained in nurse EBP could bridge existing professional practice gulfs. In translating nurse EBP in clinical settings, nurses must take the lead. This could be accomplished through research, use of communication mediums, and interprofessional initiatives to influence other clinicians' collaboration aimed at facilitating use of nursing EPBs. Practice changes that include use of nurse-physician communication tools to enhance use of nurse EBP can facilitate clinicians' collaboration and improve health outcomes. This idea is generally supported by literature on collaboration amongst clinicians.

Section 2: Review of Literature and Theoretical and Conceptual Framework

General Literature

I conducted literature searches in Medline, CINAHL, and Google scholar using the general terms such as *evidence-based nursing*, *evidence-based practice*, *evidence-based health care*, *nursing protocols*, *nursing care communication*, *nursing practice research*, and *nursing clinical practice*, which yielded 215,000 results. A more refined search using key phrases such as *dissemination of nursing evidence protocols*, *utilization of nursing research*, and *nursing evidence-based practices* produced 282 articles. Abstracts of these articles were reviewed and narrowed down to those articles which specifically addressed barriers to the use of nursing evidence-based protocols in practice.

To further understand how physicians define EBP, more searches were conducted using terms as *evidence-based medicine*, *physician use of evidence in practice*, and *evidence-based practices barriers*. This search strategy yielded additional 108 articles out of which 25 articles were appraised for their relatedness to my study question.

Even as the interpretations of what is EBP varied according to the points of views supported by each discipline, a general theme emerged which summed EBP as the application of holistic approaches to the care and treatment of individuals, groups, or populations based on the available, tested, or confirmed evidence which works for the individual, group, or population (Casebeer & Verhoef, 1997; Matthew-Maich, Ploeg, Jack, & Dobbins, 2010; Muir-Gray, 1997; Stillwell et al., 2010; Terry, 2012; Turner, 2009). The general acceptance of what represents EBP offered nursing ways to approach nursing care holistically based on caring principles. Nursing knowledge, experiences,

values, and expertise make up nurse EBP; the effective communication of these principles would involve the identification, understanding, and explanation of the clinical phenomena upon which the underlying nursing protocols are based (Chinn & Kramer, 2008).

Specific Literature

Nursing EBP have been summarized as a synthesis of findings into best available evidence and the incorporation of the evidence to inform practice and clinical decisions (Brown, 2009; Malloch & Porter-O'Grady, 2006; Melnyk & Fineout-Overholt, 2005; Pearson, Field, & Jordan, 2007). Few scholars have identified other clinicians' perspectives on the use of nursing EBPs. Researchers have not focused on clinicians' failures to communicate skillfully as contributory barriers to translation of evidence from nurse research into practice. These barriers that contribute to fewer clinicians using nurse EBP in practice have been attributed to other factors such as power dynamics in clinical settings; differences bordering on social, political, technological, and financial considerations (Laureate Education, Inc., 2012d ; Matthew-Maich et al., 2010). A lack of nurse-physician communication mechanisms has not been identified in literature as a hindrance to the use of nursing EBP and/or clinical collaboration. The existing gulf in standardized professional practices for both nursing and medicine is evident in the different approaches to patient care: caring versus curing (Matthew-Maich et al., 2010). Casebeer and Verhoef (1997) explored the known difficulties inherent in working collaboratively across research paradigms and argued against traditional adherence to particular methods of inquiry. Restriction of nursing EBP within clinical setting amounts

to restriction on nursing practice autonomy (Closs & Cheater, 1999). Existing application gaps between nurses and physicians on the use of nursing research findings result in lack of synergy in the use of nursing evidence-based protocols to complement medical protocols. Nurses receive more support from other clinical practitioners than from physicians in the application of nursing EBPs. In a cross-cultural study of physicians and nurses in the United States and Mexico, Hojat et al. (2001) reported on attitudes toward physician-nurse collaboration and suggested improvements requiring nurses to play more central roles traditionally reserved for only physicians.

Muir Gray (1997) acknowledged that, in patient-centered nurse caring, the use of best available evidence requires collaboration with the patient to decide upon the best options in a clinical approach which considers patients' and clinicians' perspectives. Nurses' philosophy and approach to patient care are informed by the varied clinical phenomena they have experienced and/or witnessed. The belief that a particular patient care protocol may not fit the health care needs of all patients is reinforced by Ferrara (2010), who advocated for the integration of nurse EBP in clinical practice as a way to bridge theory-practice gap. Lach et al. (2004) reported that collaborating across services help to advance evidence-based nursing practice. Banning (2008) suggested that a nurse's clinical rationale, which include the use of patient-centered prototypes, protocol analysis, and the think aloud approach, factor in the use of nursing EBPs use and professional judgments which affect patient care.

Nurse leaders must demonstrate leadership through facilitating collaborative teams for improving patient and population health outcomes (American Association of Colleges of Nursing [AACN], 2006; Kenny, Richard, Ceniceros, & Blaize, 2010).

Framework

The transtheoretical model (TTM) as an integrative model of behavior change provided the conceptual basis for developing interventions to modify clinicians' attitudes to use of nursing EBPs. The acquisition of positive attitudes towards use of nursing EBPs was aided during project implementation with nurse-physician communication tools (Norman, & Redding, 1998; Velicer, Prochaska, Fava 1998). Project implementation was based on a framework of stages of behavior change and was considered integral to promoting desired behavior change (Johnson et al., 2008; Lach et al., 2004; Salmela, Poskiparta, Kasila, Vähäsarja, & Vanhala, 2009; Velicer et al., 1998). In this project, I explored and challenged clinicians' attitudes to the use of nursing EBP using the nurse-physician communication tools and through a series of steps. Practice changes needed to facilitate clinical collaborations were encouraged in multiple steps necessary for a behavior change Prochaska, Wayne, and Velicer (1997) suggested that the most promising outcomes were found with computer-based individualized and interactive interventions, and Marcus and Simkin (1994) believed that, in applying this model, change agents should consider that the amount of progress made as a result of intervention tends to be a function of the stage that people are at the start of treatment. This approach was important to project implementation and was considered in the implementation; schedules were adjusted to accommodate clinicians' busy schedules. It

also provided allowance for attitude fluctuations and avoidance of rigid stances. West (2005) argued that people responding to multiple choice questionnaires are compliant and will generally try to choose an answer, but this does not mean that they think about things in the terms set by the response options. Applying the TTM techniques led to meaningful clinicians' interactions; clinical attitudes that promote collaboration were observed or at least noted as absent. The identified perceptions, mental judgments, actions, and reactions (negative or positive) abstracted from surveys, interviews, and discussions defined the appropriate ways to present study activities. The use of communication tools focused on collaborative interactions between nurses and physicians to encourage clinicians to imbibe nursing clinical scholarships and analytical methods that nurses use to support nurse EBP. The transtheoretical model of behavior change provided guidelines for provider interactions and project implementation strategies.

Summary

Each stage of the TTM model focused on a process wherein intentional achievement of behavior change is the goal. The TTM model provided a framework involving the use of five stages of model of change: precontemplation, contemplation, preparation, action and maintenance to achieve change of attitudes to use of nursing EBPs. Nurse-physician communication tools were used as project instruments. The project was designed to allow for time constraints, flexibility of participants schedules and a follow up discussion where attitudes and perceptions were either confirmed or debunked. Surveys, structured interviews and discussions allowed for holistic exploration of attitudes and beliefs on the use of nurse EBP in clinical settings.

Section 3: Methodology

Project Design/Methods

Design. I employed a cross-sectional mixed methods approach (qualitative and quantitative) in this study. Surveys, structured interviews, and open discussion forums were used to explore participants' attitudes. An understanding of how nurses' and physicians' theoretical and philosophical constructs of caring influence the use of EBP provided the rationale for development of appropriate communication mechanisms to be used in clinical settings. I used coding for analysis of study findings and to contextualize and decipher the meanings of responses to research questions (Johnson et al., 2007; Terry, 2012). Although the interviews allowed for opinions to be freely expressed, the participants were always redirected to the original questions in order for them to expand on the predetermined themes. This approach helped to accurately interpret codes and analyze the rich conversational comments, even when each response only reflected a clinician's particular point of view.

Methodology.

1. Identifying the practice issue
2. Collect, appraise, and summarize empirical and nonempirical evidence
3. Integrate evidence based on expressed clinicians' expertise, values, and attitudes
4. Propose practice change(s), implement changes (include new EBP)
5. Evaluate project and EBP change outcomes.

In the mixed methodology approach, survey questions were sent to 65 clinicians (nurses, physicians, and administrators) in the medical center. Within this group, an additional survey of seven themed questions (See Figure 1) were sent to 35 clinicians (a group that returned completed pilot questions) and a follow-up, structured, two open-ended interview questions were administered to those who indicated interest in expanding their opinions.

Data Collection

Protection of Human Subjects. Participation in this study was voluntary; informed consent and an open communication style eliminated or at least minimized areas of possible ethical concerns of coercion. Prior to undertaking this study, I had successfully completed the NIH Web-based training course on Protecting Human Research Participants (See Appendix B). Solicitation to participate in the study was limited to the initial letters of invitation sent out to nurses, physicians, and administrators. Only those who returned the initial requests to participate as contained in the Consent Form, Research Study Design template Request Form and Clinicians' Characteristics/Demography Form indicating an informed consent to participate were included in the study (See Appendix A, C and D). There were no disclosures of personal information during and after data collection periods. Data integrity confidentiality was maintained. There was no intrusion on participants' privacy, and all of the interviews were initiated by the clinician voluntarily or during an attendance in a focus group forum.

Population and Sampling. The study population comprised of a convenience sampling of 50 nurses, 12 physicians, and 3 administrators who voluntarily returned

study invitation/request forms (See Appendix A, C and D) made available to all clinical staff at the medical center. Data collection methods included use of surveys, interviews, and group discussion. Clinicians' identifying data (See Appendix D) were replaced with coded numbers and alphabets. The first 2-digit numbers (01-99) represented the participant's name (First, Last), the second 1- digit number (1, 2, or 3) represented professional title (nurse, physician, or administrators). The alphabets (A, B, C) stood for the instrument (s) used for a particular response (survey, interview or discussion), and the last 1-digit number represented the number of each contact (frequency) per instrument for each participant.

The participant code of 013A1 when translated became XYNurseSurvey1time. These codes were deciphered only by me and at the end of the data collection phase. Before analysis, all of the responses were grouped in themes, with all identifying codes removed and recoded again this time based on recurring themes for content analysis. Participant data were collected during the project period, and the summary of findings were noted (See Table 1). Overall, 35 clinicians completed all phases of the project.

Instruments. Descriptive survey and interview methods were used, and themes and content analysis of participants' responses to study questions were coded and analyzed. Multiple implementation strategies were employed to cultivate a culture of inquiry using surveys, interviews, and focus/discussions groups to generate questions and answers on nurse-physician communication/collaboration and nurse EBP use. Participants were asked to rate their opinions for the themed concepts on a Likert-type

scale ranging from 5 (*strongly agree*) to 1 (*strongly disagree*). Interviews were based on these two open-ended questions to confirm previously stated perspectives:

1. What can be done to get you to integrate nurse EBP in your clinical decisions?
2. What do you see as the biggest hindrance to use of nurse EBP in your clinical settings?

Coding. In this project, coding allowed for an effective mapping of responses derived from interviews and surveys for content analysis. Burns and Grove (2009) identified the coding process of as transformation of qualitative data into numerical symbols which can be analyzed. Coding enabled me to categorize and divide collected information on clinician attitudes and perspectives into meaningful analytical units. Smith and Firth (2011) described the coding matrix as a way to itemize and group the coded information and build on the themes embedded in data. The quantitative data from questionnaire results and interviews, observational notes, and qualitative data were segmented into meaningful themes to facilitate analysis. Each theme singularly does not foretell the general picture, but collectively, the correlations began to emerge.

Application of nurse-physician communication tools. Guided by the framework of intentional change, the principles of the 5 C's (See Figure 6) were introduced and incorporated in the project implementation period. Clinician commitment to use nursing EBPs in clinics was paramount. In an integrative approach, the clinicians reviewed and contextualized the identified protocols in order to confirm a fit to the unique health needs of the client. The identified nursing EBP was communicated to relevant care providers

through systematic steps of what, whys, how, and when with measurable outcome objectives. In this process, corroboration of ideas occurred; consultation of all available clinical resources, expert consultations, review of policies, and other clinical practice reference guides provided additional validation of the appropriateness of the chosen protocol. Clinical ideas shared during communication and corroboration phases allowed for meaningful interactive bonding, learning, and clinical collaborations (Kramer & Schmalenberg, 2003; Ubani, 2014). The *nurse-physician communication tools* used are found in the appendix section (See Appendices E, F, G, H, I and J).

APPENDIX C: SURVEY-QUESTIONNAIRE
INSTRUCTIONS: Circle your response to the items. Rate your opinion on a 1 to 5 scale, when 1 equals "strongly disagree" and 5 equals "strongly agree."
I:
My clinical colleagues offer new ideas based on nurse EBP and respond promptly when I seek to know more about a patient's clinical condition
II:
Clinicians have open and effective communication mechanisms to link clinical situations to theoretical contexts during patient care.
III:
There are no significant differences in patient health outcomes even when physicians fail utilize nursing evaluation and documentation to plan patient care.
IV:
The nurse's task is defined by following physicians' orders to care for patients
V:
The nurse's main task is defined by following physicians' orders to care for patients.
VI:
Physicians understand the science and scope of the practice of nursing including nurse's autonomy to use nurse EBP in patient care
VII:
The use of nurse EBP in clinical settings and health outcomes generally will improve significantly only when there are effective communication mechanisms
VIII:
More time is devoted to patient care documentation than on searching for relevant EBP

Figure 1. Survey questionnaire

Data Analysis

Reliability and Validity of Research Findings. A total of 65 clinicians received invitations to participate in this study. More than half the target population, only 35 questionnaires were completed and returned (53.8%). The population sample reflected the demography and characteristics of the other clinicians who were unable to participate or complete the study. The respondents were broadly spread among the target group (nurses, physicians and administrators). There are more nurses who work at the medical center and more nurses participated in the study however the findings were not skewed and did not reflect only one particular group's perspectives. The focus questionnaires were broad enough to provide clear pointers to the objectives of the research study. The open-ended questions validated the themed responses from the Likert-scale survey instrument. From the 35 respondents who completed all phases of the study, *ineffective communication mechanisms* and *poor communication* were identified as the greatest barriers to use of nurse EBP in that order (97.1% and 91.1%). Research objectives included (a) designing, developing and implementing nurse-physician communication tools to enhance translation of nurse EBP in a clinical setting, (b) applying educational concepts and quality improvement models to facilitate the adoption of nursing EBP anchored on science and philosophies of caring, (c) influencing nurse-physician collaboration through interactions and shared experiences in clinical settings were captured in the 8 discussion focuses:

1: To explore how professional expectations are met in clinical activities using nurse EBP My clinical colleagues offer new ideas based on nurse EBP and respond promptly when I seek to know more about a patient's clinical condition

2:
To explore how nurses and physicians share clinical and patient care ideas

Clinicians have open and effective communication mechanisms to link clinical situations to theoretical contexts during patient care.

3:
To explore the relationship between clinician's use of nurse EBP, levels of education and/or knowledge deficit of nurse EBP protocols
There are no significant differences in patient health outcomes even when physicians fail utilize nursing evaluation and documentation to plan patient care.

4:
To explore how clinicians view their duty to inform each other about new protocols including nurse EBP
The nurse's task is defined by following physicians' orders to care for patients

5:
To explore how power dynamics in a clinical setting affect nurse EBP utilization
The nurse's main task is defined by following physicians' orders to care for patients.

6:
To determine how clinician's view nursing evidence based protocols
Physicians understand the science and scope of the practice of nursing including nurse's autonomy to use nurse EBP in patient care
7:
To determine what each clinician perceives as the greatest barriers to use of nurse EBP in practice
The use of nurse EBP in clinical settings and health outcomes generally will improve significantly only when there are effective communication mechanisms

8:
To determine clinician's definition of evidence based practices
More time is devoted to patient care documentation than on searching for relevant EBP

Figure 2. Themed discussion focuses

Analytical Techniques to Answer Guiding/Resource Questions. Descriptive statistics for demography/characteristics of study group (N = 35, [Mean, Std.*DEV*]) = 29, 3.67 and calculated p value at 95% CI = 0.051). Outcome with the greatest influence on clinician use of nursing EBPs is ineffective communication mechanisms and others factors such as poor communication, institution culture and traditions, time constraints and physician protocols could be modified using effective communication mechanisms. The coding process and themes' designation were derived from answers to the survey questions. The study findings reliably reflected the personal perspectives of the clinicians at the medical center on the use of nursing EBP.

Project Evaluation Plan

Based on the project design and implementation, I also evaluated project outcomes using the TTM framework which involved the 5 stages of model of change: Precontemplation, Contemplation, Preparation, Action and Maintenance. Each evaluation stage measured the intentional achievement of project outcomes (Evers et al., 2003; Johnson et al., 2008; Lach et al., 2004; Prochaska et al., 1997; Salmela et al., 2009; Velicer et al., 1998; Wright., et al., 2008). The Pre-contemplation stage evaluated participants intent on taking actions to enhance use of nursing EBPs at the beginning of the project. The project's focus at this stage was to assess and gather information which will be used at later stages to inform and educated clinicians on the consequences of historical attitudes, behaviors and decisions which hinder translation of nursing EBP in clinics. At the Contemplation Stage the participants were evaluated for readiness to take positive actions.

Emphasis was on the positive benefits of collaborative actions and the detrimental effects of inaction were amplified during discussions, question and answer sessions. In the Preparation Stage the participants are empowered to take actions and collaborate with each other to enhance the use of nursing EBPs. This was followed by the Action Stage when participants make significant inroads in adopting nurse-physician communication tools to enhance use of nurse EBP in their respective units. The final stage was the Maintenance Stage and participants are evaluated on their perspectives of study outcomes. The projects goal was a 75% positive response to use of nurse-physician

communication tools to enhance use of nurse EBP. This goal was met with 90% of the clinicians answer *"yes"* to the post-project summative evaluative question (See Figure 7).

Summary

From the surveys and interviews, themed concepts of (a) *ineffective communication mechanism,* (b) *poor communication,*(c) *knowledge deficit,* (d) *institution culture, traditions,* (e) *time constraints*, (f) *lack of support* and (g) *physician protocols* were identified in that ranked order as barriers to nurse use of EBP. Participants expanded on their perspectives during the open-ended questioning. Themes such as "ineffective communication mechanisms hinder collaboration and use of nurse EBP", "communication as the key to collaboration", "most nurses and physicians are not knowledgeable about current evidence-based practices" and "poor communication skills bordering on incivility and bullying" emerged and this correspond to findings from previous studies on the subject.

Section 4: Discussion and Implications

Discussions

Clinicians' perspectives on the use of nurse EBP were identified, and nurse-physician communication tools enhanced clinicians' use of nurse EBP in given clinical cases. Project strategies and activities were adjusted to fit the realities of the practice environment and to adapt to contingencies and opportunities. I modeled the formative evaluations in a time-series design with measurement points at various stages of program implementation to determine if and when project objectives are met (Miake-Lye et al., 2011). The primary study questions were answered: (a) Can effective communication

between nurses and physicians lead to collaboration and enhance the use of nursing EBP? (b) What nursing and physician leadership skills, developmental steps and educational concepts could facilitate the adoption of nursing EBP in clinics? Evaluation criteria were clearly stated, and project evaluations were continuous. Meaningful formative and summative evaluations were carried out to identify project's strength and weaknesses and opportunities for future research. The transtheoretical model of behavior change provided guidelines for project implementation.

Findings

- Theme 1: After participating in this study, I consider *ineffective communication mechanisms* as the greatest barrier to use of nurse EBP. Overall, clinicians had a much more positive view of the role of effective communication in enhancing nurse EBP use (97.1%).
- Theme 2: *Poor communication* accounts for most clinical errors and clinicians (nurses and physicians) need to improve upon corroboration of clinical findings amongst each other and collaboration on care approaches. Responses to this question elicited strong opinions during discussions, especially from nurses (82.9%).
- Theme 3: Before participating in this study, my attitude about the use of nurse EBP was shaped by my *knowledge deficits*. This question surprisingly elicited honest self-reflection from both physicians and nurses (85.7%).

- Theme 4: I am aware of many *institution culture and traditions* that could inhibit my use of nurse EBP. There is a general agreement that policies do affect how a person practices, though nurses feel "the deck is stacked against them" (80.0%).
- Theme 5: *Time constraints* make it harder for me to incorporate nurse EBP in my clinical activities. The general agreement was so much work and documentations hinder clinical collaboration (74.3%).
- Theme 6: *A lack of support* from my colleagues limited my ability to use nurse EBP. Many nurses lamented how nursing colleagues do not help out, and physicians generally agree that their colleagues are too busy to help out (91.1%).
- Theme 7: I would rather adhere to strict *physician* protocols than adopt some creative nurse EBP. There was agreement, but nurses claimed they had no choice because their tasks are dictated by physician orders and physicians claim fear of practice liability lawsuits (65.7%).

Discussion of Findings in the Context of Literature and Frameworks

Many nurses expressed "a lack of authority" to effect practice changes and most physicians "expect nurses to adhere strictly to physician orders." Strang and Kuhnert (2009) argued that such feeling of powerlessness undercut nurses' sphere of leadership and authority. Clinicians generally agreed that nurse-physician communication tools could enhance collaboration and the use of nurse EBP. Participants were willing to use learned educational concepts from this project to facilitate the adoption of nursing EBP

especially aimed at reducing hospital readmission rates and caring for diabetic patients. During project implementation phase, the focus was to establish relationships between known barriers of translating nursing EBPs in practice and the lack of effective communication tools. Evaluation and dissemination of findings was done in phases and at multiple levels using Power Points and posters and focus groups (Lawson, 2005; White & Dudley-Brown, 2011; Wyatt, Krauskopf, & Davidson, 2008).

Conclusions

Nurses, physicians, and administrators benefit most from this study. Clinician collaboration has become an essential element for optimal care and to promote the diffusion of evidence-based practice in an interdisciplinary context. The effects of a lack of nurse-physician communication mechanisms and the benefits of combining nursing protocols which support patient caring and advocacy through the use of nurse EBP have been established in this project.

Implications on Practice/Action

Implications. With the nurse-physician communication tools, clinicians are enabled to practice in an environment that supports advocacy of evidence-based care/policies even within smaller units and clinical floors (Ferrara, 2010; White & Dudley-Brown, 2012). Issues which could detract from effective clinical flow were handled appropriately using a defined score card *Nurse-Physician Communication Tool Reference Score Card* (See Appendix I). Administrative issues which could affect patient care were channeled to the appropriate command structure. Other policy issues were resolved using the 5 C's of the *Nurse-physician communication tool* (See Figure 6).

Clinicians were able to build on shared professional and clinical knowledge to integrate nursing EBP in a *Medicine cup* and to form their clinical decisions when appropriate (See Appendix H).

Implications for Future Research

Recommendations for Future Research. The relationship between known barriers to the use of nurse EBP and a lack of effective nurse-physician communication has not been fully explored, and this is a fertile ground for future research interests. Future studies involving multiple sites, more clinicians, and other stakeholders such as states' licensing Boards of Nursing and Medicine politicians and those who determine scopes of practices need to be conducted over a longer period of time.

The small sample population, single site, and duration of my study constituted limitations to extensive statistical analysis and generalization of the study's findings for wider application. In this study, I aimed to advance the process of the use of nurse EBP by nurses and others in clinical practice. The focus of the project on nurse-physician communication tools to enhance use of nurse evidence-based protocols is to minimize traditional barriers to nurse-physician collaborative initiatives. Fewer studies have been conducted on how to overcome these specific barriers to the use of nurse EBP. Therefore, more studies are needed to find targeted solutions to each identified barrier to EBP translation. Nurse-physician communication is an area demanding further research inquiries to enable stakeholders to understand the effects of poor mechanisms of communication on the quality of care received by clients and the overall cost of health care.

Implication on Social Change. The practice approach of using nurse-physician communication tools to enhance the use of nursing EBP lays the foundation for learning, inquiry, and sustained use of nursing EPBs by clinicians. Accruable quality improvement in health care delivery and the empowerment of nurses as professional collaborators can promote social changes in each individual organization and the greater communities where nurses serve.

Project Strengths and Limitations

Strengths. The project design included strategies to integrate communications, attitudes, interactions, and education as study variables to decipher clinicians' perspectives on the use of nursing EBPs. The use of a convenience sampling allowed for the exploration of the attitudes of clinicians' attitudes in their place of work minimizing the hardships of recruiting participants. Nurse-physician communication mechanisms allowed for intentional behavior change as predicted in the transtheoretical model of behavior change.

Limitations. The duration of the study, (less than one year), sample and population size and unique institutional cultures limit the generalization of this study finding to other practice environments.

Recommendations for Remediating Limitations. I recommend that future studies include multiple sites, involve more clinicians, diverse stakeholders such as the States Boards of Nursing and Medicine, and the politicians who determine scopes of professional practices. It should be conducted over a longer period of time with greater focus on solutions to these identified barriers to nursing EBP translation in clinical

settings. I also recommend more research inquiries on nurse-physician communication to fully understand how known barriers to the use of nursing EBPs and mechanisms of clinicians' communication in clinical settings are related.

Analysis of Self

I believe in each one, teach one so that entire society could benefit from the shared knowledge. My skills as a nurse leader and advance practice nurse have grown over the years. My goal is to inform health policy by getting other clinicians to view nursing evidence-based protocols as standardized protocols to be incorporated in patient care. I aim to continue my nurse roles, become a good spokesperson for use of nurse evidence based protocols in clinical settings and advocate for greater clinical collaboration among nurses and physicians.

As a Scholar. My research interests are (a) Use of nursing EBPs in clinical settings and (b) Nurse/physician clinician collaboration in practice. I will continue further research on other factors identified in this study on how nurse-physician communication tools can be applied to enhance use of nurse EBP in clinical settings. I will continue to disseminate the findings of my studies in various forums using different media. My goal is to influence a practice revolution that encourages other health care professionals to embrace nursing EBPs and standards as acceptable healthcare interventions modalities (Farquhar, Stryer, & Slutsky, 2002; Forsyth, Wright, Scherb, & Gaspar, 2010). I will target future practitioners specifically in schools of nursing and medicine, engage them in lectures and speeches; publish in magazines and journals and invite nursing and medical

students to collaborate with me in future research studies (Olade, 2004, Sternas, O'Hare, Lehman & Milligan, 1999).

As a Practitioner. As a scholar-practitioner, I will continue to measure my professional growth in terms of how well I reach wider audiences and the broader dissemination of the findings of my scholarly works. Promotion of quality improvements in healthcare delivery is the guiding principle of my nursing practice. As a nurse leader and change agent, I believe in organizational and systems leadership which includes quality improvement and systems thinking (AACN, 2006; Walden School of Nursing, 2011). My professional focus is on resolving practice questions and sharing ideas with stakeholders in ways that improve health outcomes.

As a Project Developer. The experiences and expectations of this DNP project challenged my project development skills and these confirmed my belief that practice changes do not come easy and may take awhile to achieve desired goals. As a Doctor of Nursing Practice, I will continue to use my knowledge, practice expertise and positive attitudes to develop and implement other health practice projects. I am determined to always take into consideration social, organizational, environmental, and cultural factors that can indirectly impact how ones visions are implemented. In such instances, I will focus on the specific barriers to change and design appropriate projects to gain more insight into the barriers. In this project, I was able to systemically find answers to a particular practice problem, determined some perceived barriers to use of nursing EBPs including paucity of nurse-physician collaborative initiatives which were remedied by the application of nurse-physician communication tools (Ubani, 2014).

What Does Project Mean for Future Professional Development? Some barriers have been reported at length in various nursing literatures but the effect of real and perceived lack of communication mechanisms resulting in meaningful interactions among clinicians have not been fully explored. This project's findings could provide foundation for future research inquiries. This project advanced the process of evidence utilization by nurses in clinical practice. I identified that the lack of effective nurse-physician communication mechanisms among other factors, contribute to clinician failure to use nursing EBPs in their daily clinical activities. I explored this phenomenon by focusing on "Nurse-physician communication tools to enhance use of nurse evidence-based protocols" (Ubani, 2014). I have confirmed the hypothesis that communication or lack thereof among nurses and physicians is a big barrier to translation of nursing EBPs in practice.

Summary and Conclusions

In this study, I have established a relationship between nurses' perceived barriers to research use and the translation of nursing EBPs in clinical settings and the studies findings point to the dearth of effective communication mechanism among nurses and physicians as a major barrier. Physicians acting as mentors to nurses and advanced practice nurses mentoring student doctors could provide a valuable bridge to interdisciplinary understanding of the usefulness of using nursing research studies to guide practice. This nurse-physician mentorship approach is valuable in achieving the tenets of 'Nurse-physician communication tools' to enhance use of nurse evidence-based protocols.

Section 5: Scholarly Product

Manuscript for Publication

Clinical collaboration: Communication guides to use of nurse evidence-based protocols

by

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February 2015

Abstract

Aim. To explore clinicians (nurses, physicians and administrators) perceptions other use of nursing EBPs as clinical protocols in practice settings and to validate that nurse-physician communication tools can enhance translation of nursing EBP in clinical settings.

Method. Methodology was a descriptive cross-sectional mixed methods approach. Research instruments included surveys (questionnaires), semi-structured interviews and discussions. Recurring thematic responses on the use of nurse evidence-based protocols were abstracted from 35 participants and coded for meanings and content analysis.

Findings. Responses reveal clinicians' beliefs that ineffective communication mechanisms present the greatest barrier to the use of nursing evidence in clinical settings followed by lack of support from clinical colleagues. Other barriers were noted as "understandable", suggesting they are less burdensome factors in translating nursing EBPs in practice settings.

Conclusion. Clinical decisions are influenced by clinicians' knowledge, interactions, emotions and experiences which make the use of nurse-physician communication tools fundamental medium to enhance clinicians' collaboration and use of nursing evidence-based protocols in patient care.

Background, Purpose, and Nature of the Project

Background

Current healthcare environments demand that clinicians collaborate to achieve quality health outcomes at reduced costs. However in practice, nurses are limited to physician orders and institutional policies to guide their clinical decisions. The use of nursing EBPs in clinics is limited, even though nurses have positive attitudes towards research and would want to incorporate several practice strategies to facilitate healthy outcomes in their clients. Nursing strategies are not always derived from randomized clinical trials (RCTs) and some include nursing traditions and experiences harnessed from observed clinical phenomena; nursing logic applied as nursing diagnoses to guide nursing practice. Physicians on the other hand view these clinical protocols not based on the results of RCTs as lesser objective thereby limiting nurses' inputs on the directions of patient care. Meaningful practice changes are needed to ensure effective clinical collaboration on the use of nurse EBP in clinical settings.

Clinicians can influence and sustain the use of nurse EBP to guide practice when clinical collaboration exists among colleagues. In clinical care, barriers to collaboration hinder quality health outcomes. Finding solutions to these barriers are equally important because the prevailing healthcare environment demand that care be based on cost reduction, patient centeredness, cultural competence and quality (Norrish, & Rundall, 2001; Saha et al., 2008). It is important that nursing EBPs become standardized and accepted modalities of care comparable to the medical protocols given that nurses as the largest group of healthcare providers are still the least likely to use applicable EBP.

In this the project, I explored and identified clinicians' perspectives to the use of nursing EBPs and associated the findings with recurring themes on nurse-physician collaboration. I also identified how theories and philosophical constructs of caring held by nurses, physicians and administrators influence the use of available nursing EBPs in clinical settings. I established that professional interactions, emotions, and experiences are linked determinants of the level of nurse EBP utilization in specific heath care interventions. Recommended practice changes included use of effective communication tools to bridge the professional collaboration gaps among nurses and physician to enhance the use of nursing EBPs in clinical practice.

Research Purpose

The purpose of this project was to explore and identify barriers to the translation of nurse EBP in practice based on clinicians perceptions of nursing EBP. I also applied nurse-physician communication tools to enhance the use of evidence from nursing research and experienced clinical phenomena to guide clinical decisions. In this project, I reviewed other studies in literature on traditional barriers to use of nurse EBP in practice. Dr. Mauk categorized these barriers as bordering on social, political, technological, and financial considerations which influence the use of nurse EBP at the individual and institutional levels (Laureate Education, Inc., 2012d). The goal of this project was to contribute to research efforts on nurse-physician clinical collaboration, nursing practice research translation and the improvement of health outcomes through the incorporation of nurse EBP in clinical decisions (Kramer, & Schmalenberg, 2003, Ubani, 2014). In this

project, I developed the nurse-physician communication tools as an attempt to enhance clinicians' use of nurse evidence-based protocols.

Nature of Research Study

This is a descriptive mixed study which explored clinician attitudes and identified communication as a barrier to the use of nursing EBPs. Nursing traditions when coupled with evidences and experiences from clinical phenomena constitute nursing EBPs to guide nurses and other clinicians. Based on the study findings which implicated the lack of nurse-physician communication mechanisms, nurse-physician communication tools were developed to facilitate clinicians' use of nursing EBPs.

Researcher pre-understanding. The inspiration for this study came from my professional experience. I am a clinical nurse and a nurse educator with personal knowledge of colleagues who have positive attitude towards research but are unable to use nursing research to inform their own clinical practice. I have undertaken this project to understand clinicians' perspectives on the use of nursing EBP and to develop communication mechanism to enhance the use of nurse EBP in clinical settings.

Literature Review

General Literature

There is research gaps on this issue because few research studies investigated clinicians' communication skills as possible barriers to use of nursing EBP. General literature searches were conducted in Medline, CINAHL, and Google scholar using terms such as *"dissemination of nursing evidence protocols"*, *"evidence-based healthcare"*, *"evidence-based medicine"*, *"evidence-based nursing"*, *"evidence-based practice"*, *"Evidence-*

based practices barriers", *"Nursing care communication"*, *"Nursing clinical practice"*, *"Nursing evidence-based practices"*, *"Nursing practice research"*, *"Nursing protocols"*, *"Physician use of evidence in practice"* ,*"Utilization of nursing research"*. Abstracts of these articles were reviewed and narrowed to articles that specifically addressed issues on barriers to use of nurse evidence-based protocols in practice.

A general theme emerged and EBP was categorized as the application of holistic approaches to the care and treatment of an individual, groups or population based on the available evidence that has been tested or confirmed to work for such individual, group or population (Casebeer & Verhoef, 1997; Matthew-Maich et al., 2010; Muir-Gray, 1997; Stillwell et al., 2010; Turner, 2009; Terry, 2012).

Specific Literature

Few studies have identified clinicians' perspectives on the use of nurse EBP. Factors contributing to fewer clinicians utilizing nursing EBPs in practice have been attributed to other barriers (Matthew-Maich et al., 2010). The existing gulf in standardized professional practices for both nursing and medicine is evident in their different approaches to patient care (Matthew-Maich et al., 2010). Casebeer and Verhoef (1997) explored other reasons and difficulties inherent in working collaboratively across research paradigms and argued against traditional adherence to particular methods of inquiry. Restriction of nursing EBP within clinical settings amounts to restriction on nursing practice autonomy (Closs & Cheater, 1999). Researchers recommend more collegiate practice environments to sustain interdisciplinary collaboration. In a cross-cultural study of male and female physicians and nurses in the United States and Mexico,

Hojat et al. (2001) reported on the role of attitudes as it affects physician-nurse collaboration. These findings support conclusions in other studies that nurses claim to receive support from other clinical practitioners than from physicians in the application of nursing EBPs (Hojat et al., & Griffiths, et al., 2001).

Nursing evidence based practice was summarized as synthesis of findings into best available evidence and the incorporation of the evidence to inform practice and clinical decisions (Closs & Cheater, 1999; Brown, 2009, Melnyk & Fineout-Overholt, 2005, Malloch & Porter-O'Grady, 2006; & Pearson et al., 2007). Clinical decisions must take into account the uniqueness of the individual. Muir Gray (1997) acknowledged that, in patient-centered nurse caring, the use of best available evidence requires consultation with the patient to decide upon the best options. Ferrara (2010) advocated for the integration of nurse EBP in clinical practice as a way to bridge theory practice gap. Lach, Everard, Highstein, and Brownson, (2004) and Kenny, Richard, Ceniceros, and Blaize (2010) reported that collaborating across services helps to advance evidence-based nursing practice. Lach et al., and Melnyk and Fineout-Overholt (2005) reported that nurses' clinical expertise paired with patient values and preferences form the basis for the adoption of any best evidence into practice. Nursing practices are derived from many pathways including nursing traditions and experiences from clinical phenomena. More nurses incorporate these logics into their formulation of nursing diagnoses and clinical decisions.

When nurses employ inquisitive, analytical, systematic evidence from nursing research and their experience clinical phenomena to guide clinical decisions, it is

considered nursing evidence-based practice. Banning (2008) suggested that nurses' clinical rationales include the use of patient-centered prototypes, protocol analysis, and the think aloud approaches which factors into how EBPs are used. Nursing practice guidelines are not always derived solely from quantitative research methods. There is need to communicate this nursing knowledge, experiences, values and expertise, the make-up of nurse evidence-based protocols by identifying, understanding, and explaining the phenomena and constructs to clinicians in other health disciplines (Chinn & Kramer, 2008). The inherent lack of effective communication mechanisms in clinical settings have often resulted in missed opportunities for quality health outcomes.

Research Design, Setting, and Data Collection

Research Design

This project was conducted as descriptive, cross-sectional study in a mixed methods approach (qualitative and quantitative). Surveys, structured interviews and open discussion forums were employed to explore participants' attitudes and their understandings of the use of nurse EBP in clinical settings. I identified the influence of nurses and physicians theoretical and philosophical constructs of caring in the use of nursing EBP in clinical settings. Coding was employed for analysis of the study findings and to contextualize the meanings of the responses from the surveys, interviews and discussions. The interviews allowed for opinions to be freely expressed; the participants were always redirected to the original questions to expand on the pre-determined themes. This approach was helpful for interpreting and analyzing these rich conversational

comments, coded as data even when the responses only reflect each participant's own view.

Research Framework. Project implementation was based on the framework of stages of behavior change espoused in Transtheoretical Model of Behavior Change (TTM). The TTM have been described as an effective integral model used in interventions to promote health behavior change (Lach et al., 2004 & Velicer et al., 1998). TTM techniques were applied and meaningful interactions with the clinicians occurred (Lach et al., 2004; Marcus & Simkin, 1994; Prochaska et al., 1997; &Velicer et al., 1998). Clinical behaviors that promote collaboration were either observed or noted as absent. Perceptions, mental judgments, actions, reactions (negative or positive) were abstracted from these interactions and analyzed.

Setting

Population and Sampling

This study involved a convenience sample of 50 nurses, 12 physicians, and 3 administrators in a small county medical center who voluntarily returned study request forms made available to all clinical staff. Data collection was done on a continuous basis using surveys, interviews and group discussion. Participant identifiers were replaced with coded numbers and alphabets. The first two-digit numbers [01-99] represented the participant's name (First, Last), the second one- digit number [1, 2 or 3] represented professional title (Nurse, Physician or Administrators). The alphabets [A, B, C] stand for the instrument (s) used for a particular response (survey, interview or discussion).

The last one-digit number represented the number of each contact [frequency] per instrument for each participant. The participant code will look like 013A1 translated as (XYNurseSurvey1time). Responses for 35 participants who completed all phases of the project were grouped in themes, with all identifying codes removed, recoded again this time based on recurring themes for content analysis. Participant data were collected during the 11-month period and summary of findings are noted in Table 2.

Data Collection

Methodology

Descriptive cross-sectional surveys were used to explore clinicians' professional characteristics including their perceptions on the barriers to the use of nursing EBPs. I designed and implemented nurse-physician communication tools to enhance clinician use of nurse EBP in clinical settings. Data were collected using surveys, structured interviews and discussions. Project implementation conducted in this sequence: (a) identifying the practice issue (b) collecting, appraise and summarize empirical and non-empirical evidence. (c) integrate evidence based on expressed clinicians' expertise, values and attitudes (d) propose practice changes (e) implement changes including new EBP, and (f) evaluate project and EBP change outcomes.

Survey questions were distributed to 65 clinicians (nurses, physicians and administrators) at the medical center. Additional 7 themed implementation questions were administered to 35 clinicians (this group completed and returned their surveys) and 2 open-ended interview questions were used as follow-up to allow participants to expand on their survey opinions.

Instruments

Descriptive survey and interview methods were used. Coding of recurring themes and content analysis was applied to survey responses. Multiple implementation strategies were employed to cultivate a culture of inquiry using the surveys, interviews and focused discussions to generate questions and answers on nurse-physician communication/collaboration and nurse EBP use. Participants rated their opinion on the themed concepts on a Likert-type scale ranging from 5 (*strongly agree*) to 1 (*strongly disagree*). Interviews were based on 2 open-ended questions to confirm previously stated perspectives: (a) what can be done to get you to integrate nurse EBP in your clinical decisions? (b) What do you see as the biggest hindrance to use of nurse EBP in your clinical settings?

Nurse-physician communication tools were used (See figure 7) to illustrate the relationship of effective communication mechanisms using the 5'Cs approach (Commitment, Contextualization, Communication, Corroboration and Collaboration) to engender collaborative actions in clinical settings. Clinicians worked as healthcare teams, used nurse EBP to improve health outcomes. Centrally placed, communication triggers meaningful interactions that reduce knowledge deficits and overcome traditional institutional barriers, engender reciprocating clinician support system and further enhance the sustainability and use of nurse EBP.

Results

Initial assessment of the survey group of the study revealed diverse group of clinician with experiences ranging from less than 3 years to less than 20 years (See Table

1). The demography and characteristics of this study group is typical of most clinicians at the study site. The measured characteristics covered (a) experience a clinician, (b) post high school, (c) educational level, (d) average worked pay day hours and the (e) number of conferences/in-services attended by the clinician within the last 20 years.

Table 1

Descriptive Statistics for Characteristics/Demography of Study Group

Demography Mean(SD)	< 3yrs	< 5yrs	< 11yrs	< 15yrs	< 20yrs
Experience as Clinician (Years) 7(3.80)	5	10	12	3	5
Post High School Education Level 7(3.87)	12	4	6	3	10
Average Worked Per Day (Hours) 7(6.52)	0	1	14	13	7
EBP Conferences/In-Services 7(4.74)	13	11	4	5	2

Table 2

Pre-Implementation Survey

Rank/Ordering Themed Question Strongly	(Agree OR Disagree, N = 35)	%
1. Ineffective Communication Mechanisms	34	97.1
2. Poor Communication Skills	29	82.9
3. Knowledge Deficit	30	85.7
4. Institution culture, Traditions	28	80.0
5. Time Constraints	26	74.3
6. Lack of Support	32	91.1
7. Physician Protocols	23	65.7

- Theme 1: After *participating in this study*, I consider *Ineffective communication mechanisms* as the *greatest barrier to utilization* of nurse EBP. All clinicians had more positive view of the role of effective communication in enhancing nurse EBP use (97.1%).
- Theme 2: *Poor communication* account for most *clinical errors* and clinicians (nurses and physicians) need help. This question elicited stronger opinions during discussions sessions especially from the nurses (82.9%).
- Theme 3: Before participating in this study, my attitude about the use of nurse EBP was shaped by my *knowledge deficits*. This question surprisingly elicited honest self-reflection from both physicians and nurses (85.7%)
- Theme 4: *I am aware of institution culture and traditions that could inhibit my use of nurse EBP*. There is a general agreement that policies do affect how one practices though more nurses reported that “the deck is stacked against them” (80.0%).

- Theme 5: *"Time constraints make it harder for me to incorporate nurse EBP in my clinical activities."* The general agreement was that workload and documentations hinder clinical collaboration. (74.3%).
- Theme 6: *"Lack of support from my colleagues limits my ability to use nurse EBP."* More nurses reported that colleagues do not help out and physicians generally agree that "people are too busy to help out" (91.1%).
- Theme 7: *"I'd rather adhere to strict physician protocols than adopt some creative nurse EBP."* There was general agreement on this theme even though the reasons differed: Nurses claimed they "have no choice" because their tasks are dictated by physician orders and more physicians point to "fear of practice liability lawsuits" (65.7%).

The surveys, interviews and discussions confirmed themed concepts of (a) Ineffective communication mechanism, (b) poor communication, (c) knowledge deficit, (d) institution culture, traditions, (e) time constraints, (f) lack of support and (g). Participants expanded on their perspectives during the open-ended questioning. Themes such as *"ineffective communication mechanisms hinder collaboration and use of nurse EBP"*, "*communication as the key to collaboration"*, *"most nurses and physicians are not knowledgeable about current evidence-based practices"* and *"poor communication skills bordering on incivility and bullying"* emerged throughout the discussion sessions, and these general attitudes correspond to findings from previous studies on the subject.

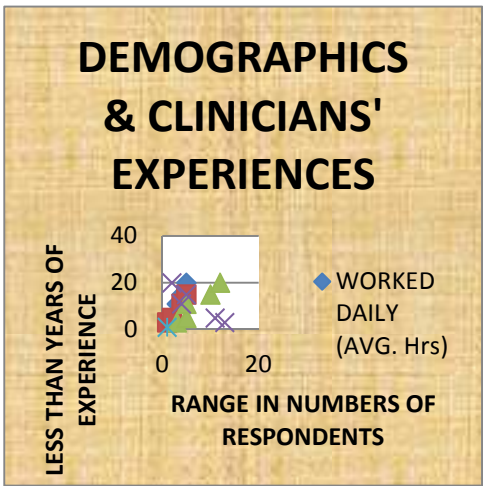

Figure 3. Demograhics and Clinician's experiences

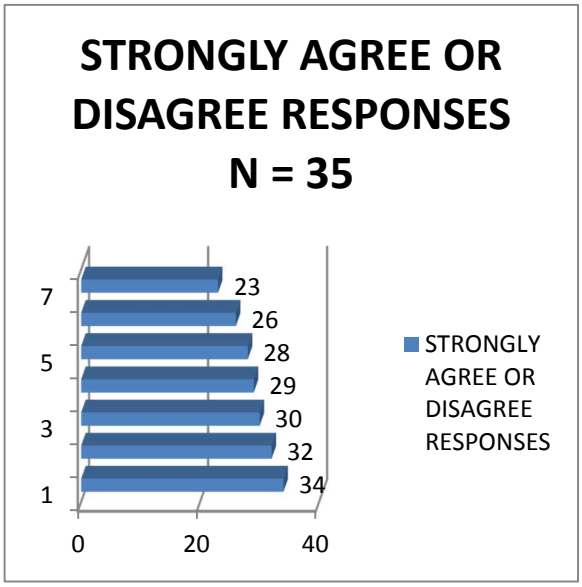

Figure 4. Graph of Strongly Agree or Disagree Responses

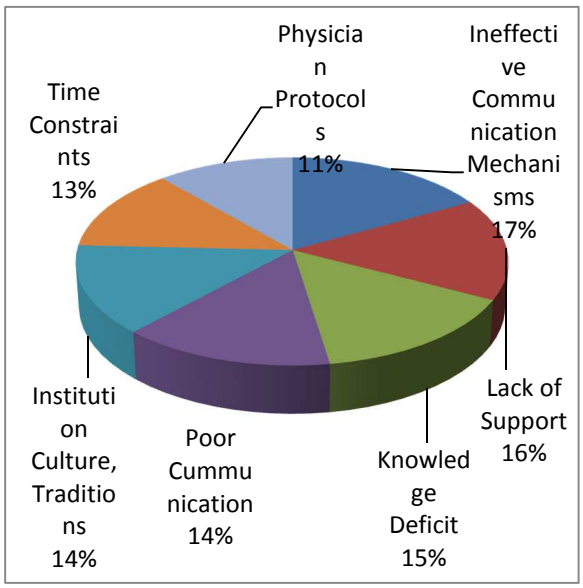

Figure 5. Themed responses on use of nurse EBP

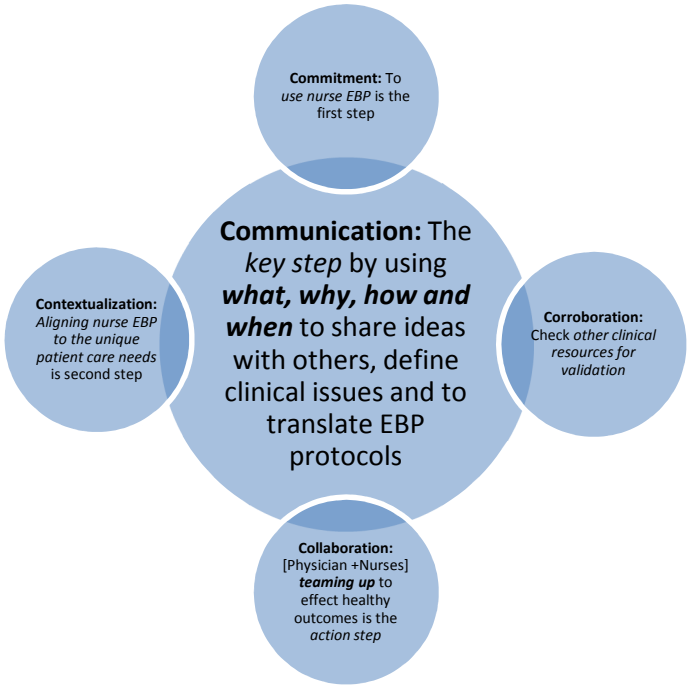

Figure 6. Communication cycle for EBP use

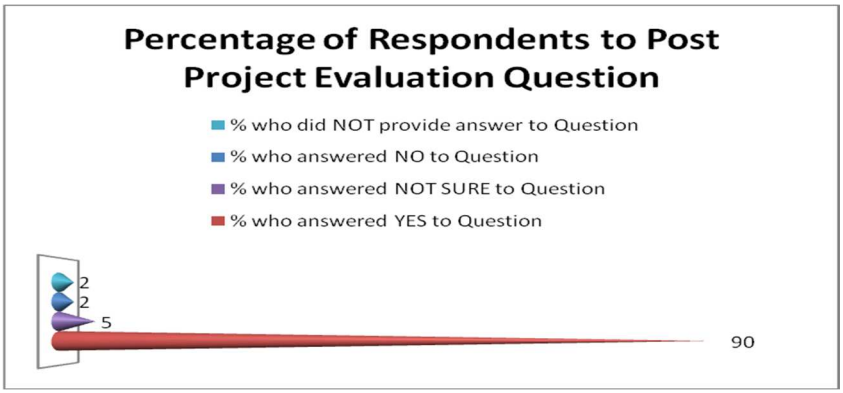

Figure 7. Post-project summative evaluation

Interpretation of Findings, and Implications for Evidence-Based Practice

The postproject survey question: *"Do you think that nurse-physician communication tools as introduced in this project will enhance your use of nurse EBP?"* revealed findings of 90.6 % of *"yes",* 5.0 % of *"not sure",* 2.0% of *"no",* and 2.0% of multiple answers (See figure 5). Nurse-physician communication tools were effectively utilized to enhance communication of nursing knowledge, experiences, values and expertise, and this led to the understanding of how nursing EBPs are formulated increasing the chance that other clinicians will adopt nursing EBPs in their clinical decision making process.

Implications for Evidence-Based Practice. At the practice level clinicians will apply the principles of 5 C's (See Figure 7), committing first to use nursing EBP in an integrative approach with medical orders, followed by a review of the identified protocols to confirm that it actually does fit the unique health needs of the client. The next action is spreading the 'message' to enable all care providers to understand and choose intervention strategies, systemically applying what, whys, how and when as guideposts to outcome objectives. Within the communication phase, corroboration of ideas is encouraged through use of all available clinical resources, consultation of expert colleagues and review of policies and other clinical practice reference guides. Sharing of ideas during these phase of communication and corroboration allow for interactive bonding and confidence building on all parties and resulted in clinical collaboration.

The communication of nursing knowledge, experiences, values and expertise, the understanding and explaining the phenomena to other practitioners increase collaboration (Chinn & Kramer, 2008). This study holds promise for positively influencing the translation of other evidence-based practices, improving patient care and outcomes, reducing healthcare cost, empowering clinicians, ensuring professional growth through effective communication mechanisms. The two themes identified in this study as the greatest barriers to use of nursing EBPs were *ineffective communication mechanisms* (97.1%) and *lack of support* (91.1%). This project established relationships between known barriers to the use of nurse and how nurse-physician communication tools can enhance clinicians' collaboration in EBP projects and nursing EBP utilization.

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Appendix A

Consent Form

CONSENT FORM

You are invited to take part in a research study of Nurse-physician communication tools to enhance use of nurse evidence-based protocols. The researcher is inviting nurses, physicians and administrators to be in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Tochi Onyenwe Ubani, who is a doctoral student at Walden University. You may already know the researcher as a faculty member of [redacted] but this study is separate from that role.

Background Information:

The purpose of this study is to explore and identify other barriers to translation of nurse EBP in practice and to illustrate how the use of nurse-physician communication tools can enhance the use of inquisitive, analytical, systematic evidences from nursing research and experienced clinical phenomena to guide clinical decisions.

Procedures: If you agree to be in this study, you will be asked to: participate in a culture of inquiry using surveys, interviews and discussions to generate questions and answers on nurse-physician communication and the use of nurse EBP.

(a) Surveys:

You will be asked to complete surveys to rate your opinion on a Likert-Type scale ranging from (5= strongly agree) to (1 = strongly disagree).
Survey questions could take about 20 minutes to complete

Sample Questions:

INSTRUCTIONS: Circle your response to the items. Rate your opinion on a 1 to 5 scale, when 1 equals "strongly disagree" and 5 equals "strongly agree."

I: My clinical colleagues offer new ideas based on nurse EBP and respond promptly when I seek to know more about a patient's clinical condition

II: Clinicians have open and effective communication mechanisms to link clinical situations to theoretical contexts during patient care.

III: There are no significant differences in patient health outcomes even when physicians fail utilize nursing evaluation and documentation to plan patient care.

IV: The nurse's task is defined by following physicians' orders to care for patients

V: The nurse's main task is defined by following physicians' orders to care for patients.

VI: Physicians understand the science and scope of the practice of nursing including nurse's autonomy to use nurse EBP in patient care

VII: The use of nurse EBP in clinical settings and health outcomes generally will improve significantly only when there are effective communication mechanisms

VIII: More time is devoted to patient care documentation than on searching for relevant EBP

(b) Interviews:

A follow-up interview with participants to review and to confirm the validity of researcher's interpretations to survey answers will occur if you indicate "yes" on the informed consent form and this interview will last for only 10 minutes

Two (2) open-ended interview questions to guide the discussion are:

- What can be done to get you to integrate nurse EBP in your clinical decisions?
- What do you see as the biggest hindrance to use of nurse EBP in your clinical settings?

If you agree to participate in this study, you will be observed by me during an interview. The observation would not be a separate activity and would not be audio-recorded. However assessment notes would be taken by me to aid in evaluating your feelings, interests and values as they relate to the research focus "Nurse-physician communication tools to enhance use of nurse evidence-based protocols".

Voluntary Nature of the Study:

This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at [redacted] will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time.

Payment: Your participation in this study will be at your personal time(s) and not during your work hours. No payments, thank you gifts or reimbursements will be provided to you for participating in this study.

Risks and Benefits of Being in the Study:

Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as fatigue, stress or becoming upset. Being in this study would not pose risk to your safety or wellbeing.

This study's potential benefits include identifying relationships between known barriers to the use of nurse and how nurse-physician communication tools can be used to facilitate clinicians' collaboration in EBP projects especially nursing research utilization.

Payment: No payments, thank you gifts or reimbursements will be provided to you for

participating in this study.

Privacy:
Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. Data will be kept secure by "Coding" which enables me to categorize and divide the data into meaningful analytical units. Data from questionnaires results, interviews, observational notes and all qualitative data are segmented into meaningful terms to facilitate analysis and is stored in my password protected computers. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via [redacted]TUbato2@sbcglobal.net. If you want to talk privately about your rights as a participant, you can call Dr. [redacted]. She is the Walden University representative who can discuss this with you. Her phone number is [redacted]. Walden University's approval number for this study is IRB Approval #: 09-05-14-0176101 and it expires on 09-04-2015.

Check only one
Yes, I would like to be contacted for a follow up interview_____

No, I would not like to be contacted for a follow up interview_____

You will receive a copy of this form to keep

Printed Name of Participant	
Date of consent	
Participant's Signature	
Researcher's Signature	

Statement of Consent: I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By signing above "I consent", I understand that I am agreeing to the terms described above.

Appendix B

Recruitment Letter

Hello:

Introduction

My name is Tochi Onyenwe Ubani. I am a doctoral student at Walden University. I am conducting this study for my DNP project in partial fulfillment for the Doctor of Nursing Practice (DNP) degree from Walden University. You may previously know me (the researcher as a faculty member of [redacted] but this study is separate from that role.

Invitation to participate: You are invited to take part in this research study entitled "Nurse-physician Communication Tools to Enhance Use of Nurse Evidence-based Protocols" because you work at [redacted] as a nurse, physician and /or an administrator. The purpose of this study is to explore and identify other barriers to translation of nurse EBP in practice and to illustrate how the use of nurse-physician communication tools can enhance the use of inquisitive, analytical, systematic evidences from nursing research and experienced clinical phenomena to guide clinical decisions.

A follow-up interview with participants to review and to confirm the validity of researcher's interpretations to survey answers will occur if you indicate "yes" on the informed consent form and this interview will last for only 10 minutes

Voluntary Nature of the Study: This study is voluntary. If you agree to participate, you will be required to sign an "Informed Consent" form. Your decision of whether or not you choose to be in the study will be respected. If you decide to join the study now, you can still change your mind later. You may stop participating in this study at any time. Participation in the study is at your own discretion.

Risks and Benefits of being in the Study: Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as fatigue, stress or becoming upset. Being in this study would not pose risk to your safety or wellbeing. This study has the potential to help in identifying relationships between known barriers to the use of nurse and how nurse-physician communication tools can be used to facilitate clinicians' collaboration in EBP projects especially nursing research utilization.

Data security and confidentiality:

Any information you provide will be kept private and confidential. Your name or anything else that could identify you will not be included in the study's reports. Data from questionnaires results, interviews and observational notes will be segmented and coded into meaningful terms to facilitate analysis and this will be stored in my password protected computer. Data will be kept for a period of at least 5 years, as required by the university.

Payment: Your participation in this study will be at your personal time(s) and not during your work hours. No payments, thank you gifts or reimbursements will be provided to you for participating in this study.

Contact/Questions: You may ask any questions you have now. Or if you have questions later, you may contact the researcher via [redacted] TUbato2@sbcglobal.net. If you want to talk privately about your rights as a participant, you can call Dr. [redacted]. She is the Walden University representative who can discuss this with you. Her phone number is [redacted].

Appendix C

Survey-Questionnaire

INSTRUCTIONS: Circle your response to the items. Rate your opinion on a 1 to 5 scale, when 1 equals "strongly disagree" and 5 equals "strongly agree."

I:
My clinical colleagues offer new ideas based on nurse EBP and respond promptly when I seek to know more about a patient's clinical condition
II:
Clinicians have open and effective communication mechanisms to link clinical situations to theoretical contexts during patient care.
III:
There are no significant differences in patient health outcomes even when physicians fail utilize nursing evaluation and documentation to plan patient care.
IV:
The nurse's task is defined by following physicians' orders to care for patients
V:
The nurse's main task is defined by following physicians' orders to care for patients.
VI:
Physicians understand the science and scope of the practice of nursing including nurse's autonomy to use nurse EBP in patient care
VII:
The use of nurse EBP in clinical settings and health outcomes generally will improve significantly only when there are effective communication mechanisms
VIII:
More time is devoted to patient care documentation than on searching for relevant EBP

Check only one:
Yes, I would like to be contacted for a follow up interview_____

No, I would not like to be contacted for a follow up interview_____

Appendix D

Interview Guide Protocols

General rule: Interviews and discussions groups when observed are intended to listen to participants' comments, hear arguments for or against use of nurse EBP and to answer questions or clarify issues on Nurse-physician Communication tools to enhance use of nurse EBP.

No audio recording during interviews. Recording of events during any interview will be done by note-taking to document:

- Description of the setting of the observation venue [i.e., where the observation took place and what the physical setting was like]
- The characteristics of those who were present
- Description of actual activities, questions, answers and suggestions and messages delivered
- Clinicians interactions with each other especially during discussions
- Evaluations, assessments and new findings that could provide impetus for future research study

Additional guides

1: Each interview will last approximately 10 minutes per session

2: Interview questions will be based on two (2) open-ended interview questions to guide the discussion are:

- What can be done to get you to integrate nurse EBP in your clinical decisions?
- What do you see as the biggest hindrance to use of nurse EBP in your clinical settings?

3: Interview will be conducted with participants who have already signed their "informed Consent" to participate in the study

4: Interviewees will be informed of their right to stop the interview process or observation at any time for any reason

Appendix E

Clinicians Characteristics/Demography Form

CLINICIANS CHARACTERISTICS/DEMOGRAPHY FORM "Nurse-physician Communication Tools to Enhance Use of Nurse Evidence-based Protocols"
JOB TITLE:
Name of Participant:
Experience as Clinician (Yrs): **Post High School Education (Yrs):** **Average Worked Per Day (Hrs):** **EBP Conferences/In-Services (#?):**
RESEARCH INSTRUMENTS USED: **SURVEY** **INTERVIEW** **DISCUSSIONS**

Appendix F

Letter of Cooperation from a Community Research Partner

July 16, 2014

Dear Tochi O. Ubani,

Based upon a review of your research proposal, this letter confirms my permission for you to conduct the study entitled "Nurse-physician Communication Tools to Enhance Use of Nurse Evidence-based Protocols" within [redacted] shall neither recruit nor encourage any staff participation in this project. As part of this study, you shall obtain consent to participate in your study directly from each willing participant. I authorize you to conduct surveys and interviews related to "Nurse-physician Communication Tools to Enhance Use of Nurse Evidence-based Protocols" among participants who voluntarily agree to engage in your study. At the conclusion of your study, you and all interested parties shall determine appropriate ways for you to share your research findings.

We understand that our organization's responsibilities are limited to allowing you to conduct surveys and interviews around [redacted] premises and we reserve the right to withdraw our permission for this study at any time if our circumstances change.
I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Please be advised that I wish Walden University to exclusively conduct the IRB review of your DNP project.

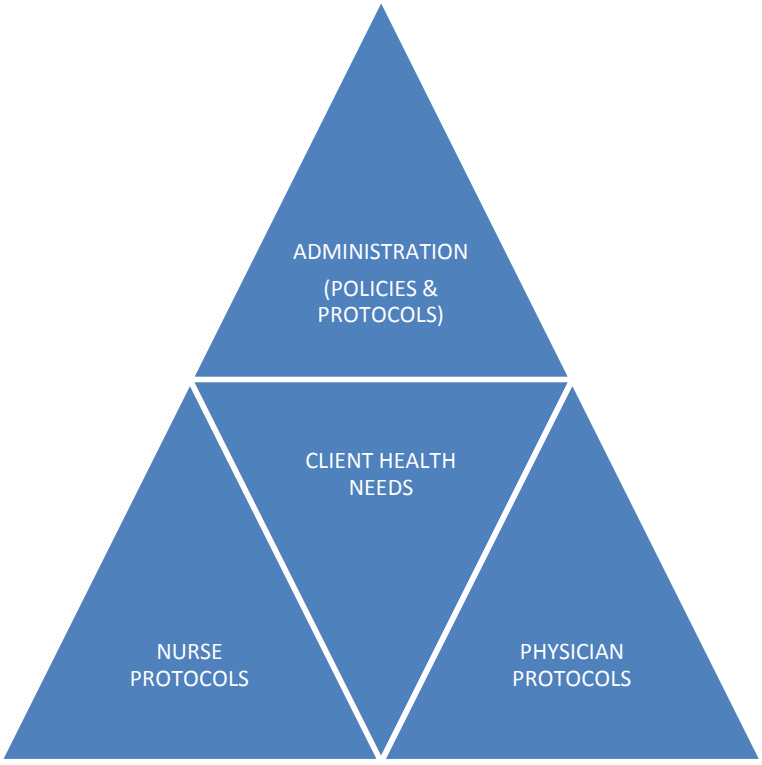
I confirm that I am authorized to approve this research in this setting.

Sincerely,

[redacted]
Chief Nursing Officer/Chief Clinical Officer
[redacted]

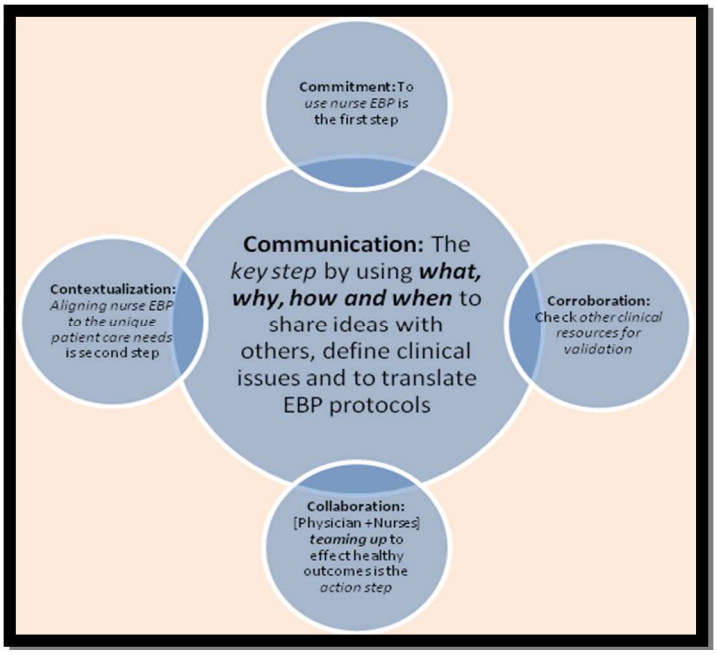
Appendix G

Healthcare Interconnected-Segmented Pyramid



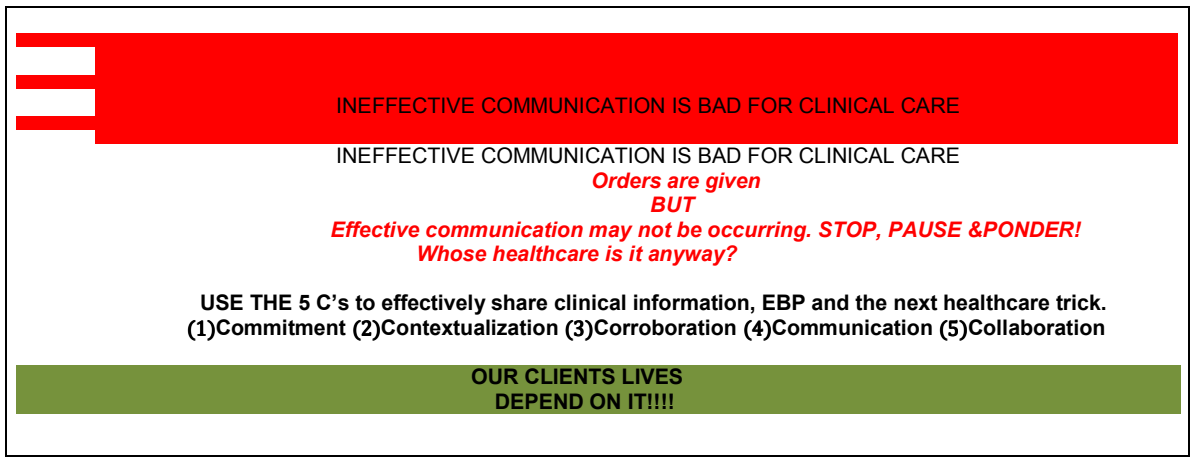
Appendix H

Communication Cycle for EBP Use



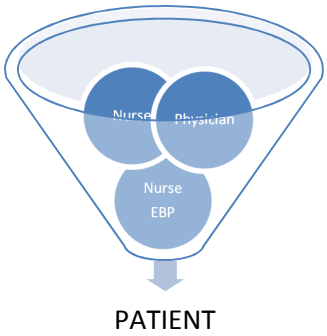
Appendix I

Ineffective Communication Poster



Appendix J

The Medicine Cup Poster



Appendix K

Nurse-Physician Communication Tool Reference Card

IF THE ISSUE(S) IS ABOUT	TALK TO			
	NURSE	PHYSICIAN	MANAGER	CLIENT
Client Signs/Symptoms	•	•		•
[Old/New Clinical Development	•	•	•	•
Routine/Urgent/Emergency Care]				
Nurse Evidence-Based Protocols	•			
Physician Evidence-Based Practices		•		

IF THE ISSUE(S) IS ABOUT	TALK TO			
	NURSE	PHYSICIAN	MANAGER	CLIENT
Old/New Clinical Orders	•	•		•
Efficacy of Therapy (including Allied Heath)	•	•	•	•
[Conflict with Evidence Based Practices/ Institutional				
Protocol(s)]				
Conflict with Clinician Belief Systems	•	•	•	
Clinicians Other Concern(s)	•	•	•	
			•	

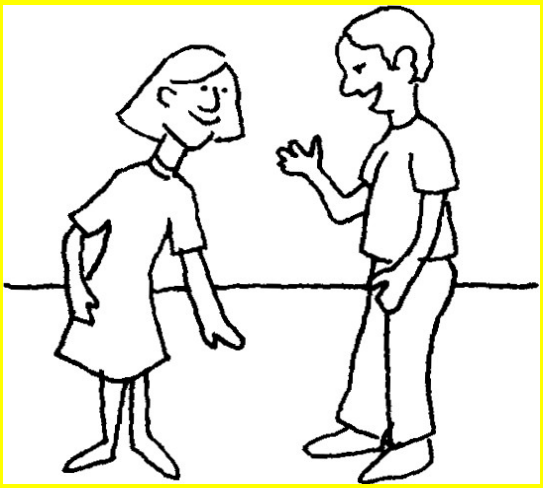
IF THE ISSUE(S) IS ABOUT	TALK TO			
	NURSE	PHYSICIAN	MANAGER	CLIENT
Administration/Policies			•	
Safety	•	•	•	•
Bullying/Incivility			•	
Patient Personal/Family Concerns	•	•	•	•

Appendix L

Communication Signal for Danger Zone Poster

CAUTION: THIS CONVERSATION IS STANDING ON DANGER ZONE!!!

Answer:Only when your voice is not in the way!



Question: Can you hear me now?

Appendix M

NIH Web-BasedTraining: Protecting Human Research Participants

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Tochi Ubani** successfully completed the NIH Web-based training course “Protecting Human Research Participants”.

Date of completion: 05/24/2012

Certification Number: 889572