

Roles and Responsibilities of Behavioral Science Faculty on Inpatient Medicine Service

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Keywords: behavioral science faculty, family medicine residency, ACGME, inpatient medicine
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ABSTRACT

Behavioral science faculty (BSF) who work in family medicine residency education find themselves in inpatient medicine teaching service settings. However, there is limited research on the roles and responsibilities that BSF fill while working in inpatient medicine teaching services within family medicine residencies. The purpose of the present modified sequential explanatory study was to clarify the roles of BSF and how the BSF responsibilities inform training of mental health clinicians. The convenience sample for quantitative analysis included 60 BSF who currently work on an inpatient medicine teaching service and completed a web-based survey on contextual demographics and roles on inpatient medicine teaching service. The convenience sample for qualitative analysis included 24 BSF who participated in a semi-structured interview about the roles and responsibilities on an inpatient medicine teaching service. Results suggest that behavioral science faculty members assume the roles of Educator, Administrator, Patient Care Supporter, Evaluator, Scholar/Researcher, Community Service Liaison, Mentor/Advisor, and Gatekeeper, and perform multiple responsibilities within each role. I will identify the responsibilities within each role that BSF fill in inpatient medicine teaching services using qualitative analysis and explore discrepancies between previous frameworks and this study's outcomes. Implications for this research will help to inform the hiring process for behavioral science faculty, resident education, and comprehensive behavioral science faculty and marriage and family therapy training.

Keywords: behavioral science faculty, family medicine residency, ACGME, inpatient medicine teaching service

DEDICATION

To Andre & Banks

For your love, loyalty, and much needed walks.

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Chapter I: Introduction

Family Medicine Residencies, Behavioral Science Faculty, and Inpatient Medicine Teaching Service

There are 450 family medicine residencies across the United States of America and each has one or two designated behavioral science faculty (American Council on Graduate Medical Education, [ACGME], 2007). The designated behavioral science faculty member is responsible for teaching the residents biopsychosocial aspects of patient care (ACGME, 2007). Professionals from a variety of medical and mental health disciplines can be a designated BSF and include but are not limited to medical family therapist, psychologist (e.g., health psychologist, primary care psychologist, etc.), marriage and family therapist, social worker, psychiatrist (Searight, 1999), doctors of osteopathic medicine, and doctors of allopathic medicine. Despite the integration of behavioral science faculty and their associated curriculum within family medicine residency education, particularly in the outpatient setting, it is unclear what actual roles behavioral science faculty fill while working on inpatient medicine teaching service.

Family medicine residents practice not only in an outpatient clinic but frequently have clinical rotations to learn and practice medicine in different venues under the supervision of senior family medicine physician faculty, known as Attending Physicians or simply, Attendings. One example of a common clinical rotation for BSF is within an inpatient medical setting such as a hospital. Behavioral science faculty also find themselves within different clinical settings (e.g., hospitals) and join the family medicine residents and Attendings within the inpatient medicine setting, otherwise known as an inpatient medicine teaching service, to evaluate and train residents in patient care as well as provide direct patient care.

Although there has been a position paper on the general roles of behavioral science faculty within family medicine (Armstrong, Fischetti, Romano, Vogel, & Zoppi, 1992), little is

known about the roles that behavioral science faculty fill while working in inpatient medicine teaching services within family medicine residencies (see Appendix A). Furthermore, not all behavioral science faculty work within an inpatient medicine teaching service setting.

Behavioral health faculty training residents in inpatient settings is increasingly common in integrated health care delivery models. The Accreditation Council for Graduate Medical Education (ACGME) establishing six Core Competencies necessary for comprehensive resident training: *Patient Care* (i.e., “Family physicians provide accessible, quality, comprehensive, compassionate, continuous, and coordinated care to patients in the context of family and community, not limited by age, gender, disease process, or clinical setting, and by using the biopsychosocial perspective and patient-centered model of care,” p. 1), *Medical Knowledge* (i.e., “The practice of family medicine demands a broad and deep fund of knowledge to proficiently care for a diverse patient population with undifferentiated health care needs” p. 6), *Practice Based Learning and Improvement* (“The family physician must demonstrate the ability to investigate and evaluate the care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning” p. 12), *Systems Based Practice* (i.e., “The stewardship of the family physician helps to ensure high value, high quality, and accessibility in the health care system. The family physician uses his or her role to anticipate and engage in advocacy for improvements to health care systems to maximize patient health” p. 8), *Professionalism* (“Family physicians share the belief that health care is best organized and delivered in a patient-centered model, emphasizing patient autonomy, shared responsibility, and responsiveness to the needs of diverse populations” p. 15), and *Interpersonal Communication Skills* (“The family physician demonstrates interpersonal and communication skills that foster trust, and result in effective exchange of information and

collaboration with patients, their families, health professionals, and the public” p. 19) (ACGME, 2013). Due to the increasing demands of faculty evaluating residents based on the ACGME milestones and hospital reimbursement being dependent on patient satisfaction, it is important to understand what roles and responsibilities BSF fill while working within the inpatient setting. Research in this area may ultimately formulate a common practice model that can inform the work of BSF in inpatient teaching service settings within family medicine residencies.

Realities and Limitations of Inpatient Medicine Teaching Service

During my experience at the University of California at San Diego (UCSD) family medicine residency and St. Mary’s Hospital family medicine residency, I found myself participating in inpatient medicine service and asking about the role of a behavioral science faculty member in an inpatient medicine teaching service setting. Although there were clear roles and understanding of responsibilities within an outpatient clinical setting, to my surprise, there were no clear roles or responsibilities for behavioral science faculty in inpatient medicine. This came as a surprise because the inpatient setting is a different environment than the outpatient setting. The skills and techniques used in the outpatient needed to be adapted for the inpatient environment.

One reason for the difference between the inpatient and outpatient setting is the issue of time. The inpatient environment is high-intensity and fast-paced not only for patient-care but opportunities for resident learning (Kertesz, Delbridge, & Felix, 2014). A resident who is working within an inpatient setting for a four-week rotation also has afternoon clinic in the outpatient setting. Not only will the resident be present within the inpatient setting, but s/he will have the responsibility of doing “night float,” i.e., the resident is on call and responsible overnight for all patients who are under the care of the family medicine team. Given that the

time demands placed on the resident are strenuous, there is limited opportunity for the BSF to interact with the resident and evaluate them according to the established ACGME requirements.

The activities that a BSF engages in within an outpatient clinic are often not tailored to an inpatient setting. For example, a lecture on a behavioral science topic (e.g., diagnosis of and interventions for eating disorders in primary care) in the outpatient setting is 45-minutes long and time is carved out once a week for resident learning and can involve an interdisciplinary team joining the discussion, e.g., psychiatrist, registered dietician, pharmacist, etc. This carved-out time is protected for resident learning and mandated by ACGME guidelines. A 45-minute lecture on a behavioral science topic in an inpatient setting is not feasible due to the issue of time. Instead, the behavioral science faculty member may present a 5-10 minute talk on specific topics that are applied to inpatient medicine, e.g., motivational interviewing to address medical issues secondary to substance use, family conferences, psychosocial assessment, family-oriented questions for patients who present with ketoacidosis, and counseling strategies for patients who present as a result of suicide attempt. But such talks are not specified by ACGME guidelines nor suggested elsewhere in the literature.

There is a lack of continuity within the inpatient context where patient care is compacted within a week instead of months, as would be the case, for example with, someone hospitalized for ketoacidosis. Differences between both settings are due to the different time schedules and purposes of these settings; this results in a lack of clear methods in the inpatient setting to assess residents in real-time. Table 1 illustrates how the same activity of a BSF looks different within the outpatient and inpatient setting.

Table 1.

Comparison of BSF Activity between Inpatient and Outpatient Setting

Activity	Inpatient	Outpatient
Education	5-10 minutes, monthly or weekly	45-60 minutes, monthly, or 3 hrs/week
Assessment/Evaluation of Resident	Topics related to a presenting problem on inpatient setting Live, in person within patient room	Set topics throughout the year Live, in person within patient room or through video (observation room)
Live Feedback to Resident	Occurs in-between patient rooms; walking and on-the-fly	Occurs in precepting room; sitting down
Patient Presenting Issue	Present very ill and with higher chances of being in crises	Present ill and with lower chances of being in crisis
Clinical Visit	Resident has ten minutes of patient interaction	Resident has 20- to 30-minutes of patient interaction
Therapy	10-minutes, brief therapy interventions	20- to 30-minute sessions, brief therapy interventions
	Acute and high-intensity, usually within a few days to a week	Continuity of care over months/years

Teaching behavioral medicine to residents who work within the inpatient setting is a breeding ground for rich learning and training, albeit difficult due to the logistical challenges of working in an inpatient setting. Only recently have anecdotal frameworks for integrating behavioral medicine into inpatient medicine teaching service settings within family medicine residencies been discussed (Kertesz, Delbridge, & Felix, 2014); however, to this date, there is limited literature on the roles and responsibilities of BSF within an inpatient setting.

Purpose Statement

The purpose of this modified sequential explanatory mixed methods study was to explore what roles behavioral science faculty fill and the responsibilities within each respective role while working in inpatient medicine teaching services. This research will be the first of its kind to explore the roles and responsibilities of behavioral science faculty in inpatient medicine teaching services. As such, my hope is that the research informs how the behavioral science

faculty's roles and responsibilities achieve the comprehensive training established by ACGME within the six Core Competencies and how we, as family medicine educators, can build on this research to construct a model that is best suited for training behavioral science faculty in family medicine residency education.

Research Questions

For the first, quantitative phase of this study, the guiding research question is:

1. What general roles do behavioral science faculty (BSF) fill while working in the inpatient medicine teaching service within family medicine residencies?

For the second, qualitative phase of this study, the overarching research question is:

2. What are the specific responsibilities of the roles that BSF fill while working in inpatient medicine teaching services within family medicine residencies?

Operational Definition of Key Terms and Concepts

The following key terms and concepts will be used throughout this study.

Behavioral Science Faculty: Professionals who are faculty and teach psychosocial aspects (e.g., how complex relationships between the patient, the environment, and the patient's health status impact the patient's health) of medicine within residency education such as how family factors influence medical illness and/or how medical illness influences family. These professionals are from a variety of specialties including but not limited to medical family therapy, psychology (e.g., health psychology, primary care psychology, etc.), marriage and family therapy, social work, psychiatry (Searight, 1999), Doctor of Osteopathic Medicine, and Doctor of Allopathic Medicine.

Family medicine residency: A residency that provides opportunity for family medicine "residents to learn in multiple settings (e.g., hospital, ambulatory settings, emergency rooms, home, and

long-term care facilities) and perform skills and procedures that is within the scope of family medicine” (ACGME, p. 1, 2007).

Family medicine: Medicine that “integrates care for patients of different [*sic.*] genders and every age, and advocates for the patient in a complex health care system” (AAFP, para. 2, 2014).

Roles: A specified set of tasks or position responsibilities that are clearly defined (as cited in Reitz, Simmons, Runyan, Hodgson, & Carter-Henry, 2013).

Inpatient medicine teaching service: A rotation in which “each resident receive clinical experience caring for hospitalized patients in special care units including medical intensive care, coronary care, and/or newborn nursery” and is supervised by a family medicine physician faculty (ACGME, p. 23, 2007). Also referred to as inpatient medicine service.

Chapter II: Literature Review

History of Family Medicine Residency Training

Residencies across America are governed by the American Council on Graduate Medical Education (ACGME), which sets forth competencies for residency programs for all sub-specialties of medicine. The six Core Competencies include the requirement that resident physicians be versed in patient care, medical knowledge, professionalism, system-based practice, practice-based learning and improvement, and interpersonal communication skills (ACGME, 2007). Moreover, the Family Practice Residency Review Committee (RRC) of the ACGME (2007) mandates the presence of a behavioral science curriculum, or the skills and knowledge of behavioral aspects of medicine, in family practice training programs. As such, designated teachers are required to be present to teach the behavioral sciences to family medicine residents (ACGME, 2007).

Role of the Behavioral Science Faculty in Family Medicine Education

In 1979, the Society of Teachers of Family Medicine (STFM) attempted to define and clarify the role of behavioral science teaching activities in family medicine residency programs. Shortly after, STFM commissioned a new Task Force on Behavioral Science, and in 1982 the Task Force studied developments in Behavioral Science training and described the backgrounds and roles of the designated Behavioral Science teachers (see Appendix A). Research suggests that the professional identity of behavioral science teachers includes a range of professional activities within the fields of social science and mental health, as well as family physicians contributing to behavioral science resident education (Behavioral Science Task Force, 1985). The Task Force on Behavioral Science Education (1986) published the *Core Competency Objectives in Behavioral Science Education* that outlined educational goals and objectives in

areas determined to be critical for effective family medicine practice which were sociocultural issues, normal development/developmental crises, doctor/patient relationships, family system and life cycles, biopsychosocial assessment, biopsychosocial management, and personal/professional relationships (Task Force on Behavioral Science Education, 1986); however, questions remained about the role and function of behavioral science faculty in family medicine settings. The task force found there was a lack of “clear guidelines on the specific competencies needed for effective functioning in this role” (Armstrong et al., 1992, p. 258). Given that family medicine administrators need to recruit behavioral science faculty, the lack of clear roles and expectations for behavioral science faculty made the hiring process difficult. The position paper outlined the ambiguity of the field and the hiring difficulties encountered by family medicine administrators.

In 1992, thirty professionals involved in Behavioral Science training in Michigan Family Residency programs and part of the Michigan Behavioral Science Teachers of Family Medicine (MBSTFM) met to review and debate faculty role, function, and qualifications. From that meeting came the creation of a position paper that outlined roles and clarified responsibilities of the behavioral science faculty in family medicine (Armstrong et al., 1992). Armstrong et al. (1992) suggest that the roles and responsibilities of behavioral science faculty include “education, administration, patient care, professional development, scholarship, research, and community service” (p. 259). As seen in Appendix A, each domain of the behavioral science faculty entails responsibilities within family medicine education.

Within the role and responsibility of education, the Task Force emphasized that behavioral science faculty work should be consistent with the mission of family medicine and cultivate a resident’s values and attitudes to meet the following standards: 1) a commitment to

patient welfare; 2) respect for patient autonomy and confidentiality; and 3) sensitivity to familial, cultural, and ethical issues in patient care. Not only are behavioral science faculty responsible for resident education, but they also facilitate learning for graduate and post-graduate students from other health professions, psychiatry residents, and medical students. In Armstrong et al. (1992) view, the educational responsibility for behavioral science faculty with other learners could be delivered by many teaching modalities including large group lectures, consultation, faculty development seminars, and/or interview skills training.

The second responsibility thought to be imperative for the role of behavioral science faculty is administration. Administration involves management of the curriculum and resident training (Armstrong et al., 1992). For example, behavioral science faculty is expected to develop the behavioral science curriculum for resident training, evaluate their efficacy, and manage seminars. In addition, behavioral science faculty are responsible for administrative duties related to the program/department such as serving on a committee, consultation, preparing grants, or serving as a leader for faculty development (Armstrong, et al., 1992).

The third highlighted responsibility is patient care. Behavioral science faculty members are expected to be clinically active within residencies and see patients in different formats. For example, behavioral science faculty might work as consultants with residents and other medical personnel on patient mental health, treating patients and families one-on-one, in couples therapy, family therapy, or group medical visits, or seeing patients and families jointly with other medical faculty and residents.

The fourth area of responsibility for a behavioral science faculty member is professional development, scholarship, and research. Within this domain, a behavioral science faculty member is expected to continue professional academic development as one would expect of a

tenured-track faculty member at a research-driven institution. This includes expecting the behavioral science faculty member to increase their knowledge of medicine, improve skills in teaching, clinical practice, consultation, engage in research, grants, and publications, and to have awareness of their professional and ethical issues in family medicine.

The final suggested responsibility of behavioral science faculty is community service. Through public education and volunteering in the community, the behavioral science faculty member seeks to present to and participate in the community regarding issues of physical and emotional health, health care, prevention, and other community concerns.

It is also worth noting that alternative family medicine faculty roles and responsibilities identified in the healthcare education literature include Mentor/Advisor, Teacher, Evaluator, and Gatekeeper (Reitz et al., 2013). These roles suggest that family medicine faculty may play a supportive role to residents in healthcare education and are an added responsibility to the roles listed within the Task Force Position Paper in the early 1990's (Armstrong et al., 1992).

Although the aforementioned five domains of responsibilities from the position paper (Armstrong et al., 1992) and four roles within healthcare education (Reitz et al., 2013) provide a broad scope of practice for a behavioral science faculty member within a family medicine residency in general, there has been limited research on what roles behavioral science faculty fill while working in an inpatient medicine teaching service. In two decades, the scope of medicine has changed such that new care models have entered into the medical system (e.g., Patient-Centered Medical Home [PCMH] and integrated care) and responsibilities for a behavioral science faculty member may have shifted. Furthermore, the inpatient medicine teaching service has unique qualities, such as limited time for resident learning and training, which may make it difficult for behavioral science faculty to function within these identified roles. To date, limited

research has reviewed the roles and responsibilities of behavioral science faculty in inpatient medicine teaching services within family medicine residencies.

Gaps in the Literature

The role of behavioral science faculty within family medicine residencies in inpatient medicine teaching service and the responsibilities within each designated role is yet to be described in family medicine residency education. The newly released 2014 ACGME Family Medicine Milestones re-emphasize, in several of the sub-competencies, the essential need for residents to not only learn but have measured competency in behavioral aspects of care. BSF can play a critical role in both teaching and assessing these competencies. Moreover, family medicine administrators need to recruit behavioral science faculty and as such, the lack of “clear guidelines on the specific competencies needed for effective functioning in this role” makes it difficult in the hiring process (Armstrong et al., 1992, p. 258). As anecdotal models of integrating behavioral medicine on inpatient medicine teaching service setting increase (Kertesz, Delbridge, & Felix, 2014), there may be an increased difficulty in hiring encountered by family medicine administrators due to unclear guidelines and a lack of sufficient training for early career family medicine faculty. The proposed study will inform the roles and responsibilities of behavioral science faculty on inpatient medicine teaching service. Furthermore, this study will begin the conversation and understanding of what roles behavioral science faculty members within family medicine residencies who work in inpatient medicine teaching service actually fill and the responsibilities included within each role. The study intends to fill this gap, and the results generated by it will have the potential to guide the creation of a standard practice model that the ACGME could one day adopt for behavioral science residency education.

Chapter III: Methods

Research Design Overview

This study design used a modified sequential explanatory mixed methods design (Tashakkori & Teddlie, 2003) to investigate the roles and responsibilities of behavioral science faculty on inpatient medicine teaching service. Quantitative web-based survey and semi-structured interview data were collected from the participants to converge and compare results from two data sources to understand the roles of behavioral science faculty while working on inpatient medicine teaching service, and the responsibilities they perform within each role. Semi-structured interviews were analyzed using thematic analysis (Braun & Clarke, 2006) to identify the main responsibilities. The study design is represented in Appendix B. Details of the quantitative and qualitative strand will be discussed.

Sample

The population in this study was behavioral science faculty who were over the age of 18, who identify as behavioral science faculty, and teach full- or part-time in inpatient medicine teaching services within family medicine residencies. There were no exclusion criteria regarding age and sex. Recruitment of participants occurred from January 2015 - February 2015 via e-mails to three listservs that are affiliated with healthcare organizations and family medicine residency program directors (see Appendix C for all recruitment emails).

To accurately represent the behavioral science faculty population, I recruited a wide range of practitioners from different medical and mental health backgrounds who work in full- or part-time at inpatient medicine teaching services within family medicine residencies for the 15- to 20-minute key-informant interview. This was beneficial in gathering rich description for the

qualitative data collection and analysis of the study and in reflecting the actual range of backgrounds of behavioral science faculty members.

Sampling was completed in two phases for the quantitative and qualitative design, respectively. The behavioral science faculty members, who identified as practitioners from different mental health disciplines (e.g., medical family therapist, marriage and family therapist, primary care psychologist, clinical psychologist, etc.), had to hold a behavioral science faculty position. In total, 43 participants were invited to participate in the semi-structured telephone interview. A convenience sample of 24 behavioral science faculty were selected from the results of the quantitative phase for the qualitative phase.

Phase I Quantitative

The first, quantitative phase of the study focused on identifying the roles that behavioral science faculty fill while working in inpatient medicine teaching service setting (see Appendix D). The primary technique for collecting the quantitative data was via a self-developed, web-based survey containing items of different formats: multiple choice, asking either for one option or all that apply, and fill in the blank. The web-based survey was divided into questions about the participant's individual context, outpatient context, and inpatient context. The web-based survey consisted of 20 questions.

Measures

I developed a 20 question web-based survey on Qualtrics. The first section of the survey asked questions about the participant's individual context. It included questions related to their level of education, program of study, identification as a practitioner, and length of time they had worked within a family medicine residency as behavioral science faculty on an inpatient medicine teaching service and also in general.

The second section consisted of questions related to their outpatient context and setting. The reason for asking about the outpatient context is because often times the outpatient setting is located near the inpatient setting. Other questions asked included demographic information about the setting (i.e., community-, university-, or hospital-based) and if the participant currently practices as behavioral science faculty within the program's inpatient medicine teaching service. If the participant answered, "Yes" to this question, they continued to the next section; however, if they answer "No," the survey skipped to the end thanking the participant for their participation. Lastly, the web-based survey asked how many years the participant has worked in the inpatient medicine teaching service setting.

The third section consisted of questions related to the participants' inpatient medicine teaching service context, or a place where family medicine residents practice within a hospital setting under the supervision of attending family medicine faculty physicians. These questions included how often the participant joins family medicine residents and faculty in an inpatient medicine teaching service, what roles they fill while working in the inpatient medicine teaching service, and if they are willing to participate in a 15- to 20-minute phone interview to explore their experience of working within the inpatient medicine setting. If the participant answered, "No," then the survey skipped to the end and thanks them for their participation. If the participant answers, "Yes," the survey continued to the final section about interviewee information. Here, the participant filled out personal information so that I could contact them to follow-up for the qualitative portion of the study.

Recruitment

The survey questionnaire was web-based and accessed through its Universal Resource Locator (URL), which was sent via e-mail to three listservs which had a medical-affiliation

and/or targeted family medicine residencies: Collaborative Family Healthcare Association (CFHA), Society of Teachers of Family Medicine (STFM), and family medicine residency Directors. Within the e-mail was a web link to the 3-5 minute web-based survey, created by Qualtrics, to gather quantitative data.

To gauge time of completion, a pilot study of the web-based study was completed by three behavioral science faculty who then were excluded from the full study. The pilot participants were debriefed to obtain information on the clarity of the interview questions and their relevance to the study goal. Results of the pilot included rephrasing and re-ordering the questions in which they were asked.

Procedures

When the participant accessed the web link for the full study in the recruitment email, the web-based survey directed them to a consent form to review the purpose of the study, description of procedures, risks, benefits from being in the study, extent of anonymity and confidentiality, disclosure of compensation, freedom to withdraw, and the researcher's contact information (see Appendix E). If the participant consented to be part of the study by selecting, "Yes" then the participant was redirected to questions regarding the selection criteria. If the participant selected, "No," they were redirected to the end of the survey and thanked for their participation. Once the participant completed the questions and successfully submitted the survey, the participant had an option to enroll in a 15- to 20-minute key-information phone interview with me. If they selected, "Yes," they continued with the survey and were asked for their personal information including name and best form of contact (via e-mail, phone, or address) in order to be contacted for the phone interview. Of those who chose, "Yes," all participants were eligible for a phone interview. Finally, after the submission of the survey by the behavioral science faculty, I

electronically uploaded the data from Qualtrics into the Statistical Package for Social Sciences software (SPSS) to screen the data. Once data cleaning was completed, I analyzed the data within SPSS.

Data Analysis

Before the statistical analysis of the quantitative survey results, the data were screened for data cleaning. Data analysis included descriptive statistics for all the variables and frequencies. All statistical analyses of the quantitative results were conducted through the SPSS, version 22.0.

Those who did not meet the inclusion criteria were excluded from the quantitative analysis. Participants who did not identify as a behavioral science faculty member and/or were under the age of 18 years were excluded from analysis. Second, those who accessed the survey but did not complete the survey beyond demographic information about the participant's level of education, professional identity, and years practiced in family medicine were excluded from the data analysis. Third, one participant's set of responses was excluded because he completed the survey twice but with differing responses, making it impossible to know which responses were most representative. Given that the participant elected to be part of the qualitative phone interview, I asked which set of responses most accurately represented his role while working on inpatient medicine teaching service and he selected his responses. Therefore, I did not need to exclude the data.

Using SPSS version 22.0, I reviewed the data using descriptive statistics and frequencies for the quantitative data. I used descriptive data to review the individual context by analyzing the mean, standard deviation, and range of years worked as behavioral science faculty members within family medicine and inpatient medicine teaching service. I used frequency analysis to review the outpatient context by analyzing the family medicine location (i.e., rural, suburb,

urban, city, or other), the setting in which the family medicine residency is located (university-based, community-based, or other), frequency of which the behavioral science faculty participant attends inpatient medicine teaching service, and the roles performed while the behavioral science faculty participants on inpatient medicine teaching service.

Phase II Qualitative

The second, qualitative phase in the study followed the results of the roles identified in the first, quantitative phase and focused on exploring the responsibilities of the roles that behavioral science faculty fill in inpatient medicine teaching service within family medicine residencies. The ultimate goal was to look across the cases for common themes and identify the common responsibilities described within each respective role.

Sample

During this stage of qualitative data collection, I invited 43 (N=43) participants to participate in an in-depth semi-structured telephone interview (see Appendix F). A convenience sample of 24 participants (N=24) scheduled and completed the telephone interview between March 2015 – April 2015.

Procedures

As mentioned above, to gauge the time it would take to complete the survey, a 19-question pilot study of the interview protocol was completed by recruiting via telephone two colleagues who are behavioral science faculty in family medicine residency education and currently work on inpatient medicine teaching service. The content of the interview questions was grounded in the results of the reported roles from the first, quantitative phase. That is, questions asked of the participant focused on having them elaborate on the selected, reported roles from the quantitative survey. Debriefing with the pilot participants occurred in order to obtain information on the

clarity of the interview questions and its relevance to the study goal. The study participants were informed prior to the interview that they will be audio-recorded.

I recruited a third year family medicine resident and academic teaching fellowship candidate, and a medical scribe and medical student candidate, to help conduct phone interviews with eligible participants. We held one, two-hour training session prior to recruitment and reviewed 1) the semi-structured phone interview guide, 2) IRB-approval and consent form (see Appendix G) and email to participants, 3) the type of program used to audio-record the phone interview, 4) work space and location of confidential documents, 5) interviewer instructions (see Appendix H), 6) the participants who were randomly assigned to each interviewer (randomly assigned using select cases and random assignment feature in SPSS), and 7) a mock interview between the resident and medical scribe who took turns being the interviewer and interviewee. During the last stage, I provided feedback on their interviewing skills. I observed the resident conduct a telephone interview and upload the resulting data. I provided feedback about interviewing skills and problem-solved uploading issues that arose. The medical scribe observed me conduct a phone interview and we debriefed about the process. We had a team follow-up meeting to discuss interviewing issues that we needed to troubleshoot after each had an initial phone interview. The research assistants called me for logistical issues that arose. For example, the medical scribe had issues of uploading the audio file to a computer.

Data Analysis

Data collection and analysis occurred simultaneously during the qualitative strand (Merriam, 1998). I used thematic analysis to analyze and report the qualitative data (Braun & Clarke, 2006). A thematic analysis approach to analyzing the data captured the patterned responses and themes related to the second research question, and informed the third research

question. Data analysis of interviews were coded and analyzed for themes in the software, nVivo. In short, the steps in qualitative analysis included 1) reading through the transcripts and materials, as well as writing memos to self about possible codes, 2) reading through the data again and coding the data directly on the transcript, 3) uploading transcripts to nVivo and coding the data by segmenting and labeling the text, 4) using codes to develop themes by aggregating similar codes together, and 5) connecting themes (Creswell, 2002).

Codes and coding occurred in multiple phases. First, I recruited a research assistant to code the data. We read all transcripts no less than twice and were open to patterns that emerged in the data. Using a line-by-line approach (sentences as the unit of analysis) helped us identify relevant segments of text in the transcript. During this phase, we created a list of initial thoughts about what is in the data (Braun & Clarke, 2006). After familiarizing ourselves with the data, we generated a list of initial codes (Braun & Clarke, 2006). These initial codes depended on the cursory analysis of data, e.g., themes were “data-driven.” We coded each transcript independently then met to discuss our codes. After we completed coding of the transcripts together, we sorted codes into potential themes. We discussed the emerging themes and used the pre-existing table about the general roles and responsibilities of behavioral science faculty in family medicine (Armstrong et al., 1992) to edit based on the data generated from this study.

The first consideration in using thematic analysis is the issue of what constitutes a theme. “Researcher judgment is necessary to determine what a theme is” (Braun & Clarke, 2006, p. 11). The second consideration of using this approach is that the researcher needs to decide what type of analysis s/he wants to conduct and the claims a researcher wants to make in relation to a data set (Braun & Clarke, 2006). Braun and Clarke (2006) suggests that using an entire data set to identify, code, analyze, and provide rich description is useful when investigating an under-

researched area and participants' views on a topic is unknown (p. 11). The third consideration in using thematic analysis is determining whether to use semantic (i.e., the researcher stays close to what the participant says and doesn't look beyond the data) or latent themes (i.e., the researcher creates underlying assumptions about what the participant says). Per my research qualitative question, I used a semantic approach to organize themes and progress to summarization of the data. The analytic process provided direction for reviewing the data and creating broader meanings and implications (Patton, 1990) of the qualitative data.

Trustworthiness

Qualitative research seeks to establish rigor based on trustworthiness (Lincoln & Guba, 1985). Therefore, I used an external audit to establish trustworthiness (Creswell, 2003; Creswell & Miller, 2002) and held meetings with a research assistant to discuss emerging themes, concepts, and reactions. The research assistant has worked in qualitative research and conducted interviews and coded transcripts (Altizer et al., 2013; Alitzer, Grywacz, Quandt, Bell, & Arcury, 2014) for the Wake Forest Department of Family and Community Medicine for seven years. We coded all 24 transcripts independently and reviewed codes and themes together. We held weekly, two-hour meetings to discuss our findings, review discrepancies, and solidify codes. During the initial meetings of coding, we discussed discrepancies in transcript codes. Most discrepancies were from the research assistant's lack of knowledge about the logistics of a behavioral science faculty member working on inpatient medicine teaching service, e.g., walking versus sitting down rounds, precepting, behavioral science faculty working in hospitals versus outpatient setting with family medicine residents and faculty. Other discrepancies that were not resolved during our meetings were noted in memos and later discussed during our finalization of codes. For example, the research assistant continued to observe that behavioral and medical

health were often “siloes” in training programs and not integrated. After coding more transcripts and noting that physicians often do not consciously incorporate psychosocial parts of medical care into patient care, we agreed that this emerging theme fit within the theme that behavioral science faculty bridge the gap in healthcare resident education by emphasizing the biopsychosocial aspects of assessment.

Chapter IV: Results

Quantitative Findings

The purpose of the quantitative strand of this study was to identify the roles that behavioral science faculty fill on inpatient medicine teaching service. The total response rate to the web-based survey was $N = 113$ (25% response rate), and after analyzing incomplete data and inclusion/exclusion criteria, the final quantitative sample size was 60 cases ($N = 60$, 56.1%).

Survey Participant Data ($N = 60$)

Individual context. The following results for individual context include length of service, or time, that behavioral science faculty participants have worked in a family medicine setting and inpatient medicine teaching service, highest level of education, and professional identity.

The average length of service for participants who worked in a family medicine residency as a behavioral science faculty was 9.62 years, $SD = 7.05$ years, with a range from one to 21 years. The mean average length of service for participants who worked in an inpatient medicine teaching service as a behavioral science faculty member was 8.65 years, $SD = 6.76$, with a range from one to 21 years.

Participants were asked about their highest level of education. Thirteen percent (13%, $n = 8$) of participants reported completing a degree in Master of Arts, 10% ($n = 6$) in Master of Science, 60% ($n = 36$) in PhD, 10% ($n = 6$) in PsyD, 3.3% ($n = 2$) in MD, and 3.3% ($n = 2$) in other. Participants who reported “Other” noted having a degree in Nursing or Divinity.

Participants were asked about professional identity. Participants reported having more than one professional identity. Sixty five percent (65%, $n = 39$) reported having one professional identity, 28.3% ($n = 17$) reported two professional identities, 5% ($n = 3$) reported three

professional identities, and 2% ($n = 1$) participants reported four professional identities. Given that 21 (35%) participants endorsed having more than one professional identity, Table 2 illustrates the range of reported professional identities. The majority of participants, 33.3% ($n = 20$), reported identifying as a Clinical Psychologist. Most participants who reported “Other” as a professional identity noted identifying as Licensed Professional Counselor (25%, $n = 4$) and Behavioral Science Faculty (25%, $n = 4$). Other participants noted identifying as health psychologist (12.5%, $n = 2$), counselor (6.25%, $n = 1$), primary care behavioral health consultant (6.25%, $n = 1$), social work (6.25%, $n = 1$), employee assistance profession (6.25%, $n = 1$), and behavioral health researcher (6.25%, $n = 1$).

Table 2.

Professional Identity (N = 60)

	Frequency	%
Medical Family Therapist	10	16.7
Clinical Psychologist	20	33.3
Other	16	26.7
Licensed Clinical Social Worker	8	13.3
Counseling Psychologist	7	11.7
Marriage and Family Therapist	9	15
Primary Care Psychologist	9	15
Medical Education Specialist	5	8.3
Nurse Practitioner	1	1.7
MD	1	1.6

Outpatient context. Participants were asked to describe the location of the family medicine residency setting. About 36.7% ($n = 22$) reported participating in a city setting, 30% ($n = 18$) in an urban setting, 20% ($n = 12$) in a suburb setting, 10% ($n = 6$) reported practicing in a rural setting, and 3.3% ($n = 2$) in another setting such as core residency is in an urban setting with rural training tracks and small town, rural catchment.

Participants were asked to describe the family medicine setting in which they work. Seventy two percent (72%, $n = 43$) reported working in a community-based, 17% ($n = 10$) in a university-based setting, and 12% ($n = 7$) in other family medicine residency setting. Participants who reported other note that they practice in both community- and university-based setting (6.6%, $n = 4$), hospital-based (3.3%, $n = 2$), and a teaching health center which partners between academic and community-based setting (1.6%, $n = 1$).

Inpatient medicine teaching service context. Participants were asked to select the frequency in which the participant attends the inpatient medicine teaching service. Behavioral science faculty participants reported attending inpatient service once weekly – half or full day (31.7%, $n = 19$), other (16.7%, $n = 10$), monthly (15%, $n = 9$), less than monthly (11.7%, $n = 7$), twice monthly (11.7%, $n = 7$), twice weekly – half or full day (5%, $n = 3$), and 3-5 times/week – half or full day (8.3%, $n = 5$). Participants who responded “Other” (16.3%; $n = 7$) described attending inpatient every other week, varying depending on the need of physicians, once weekly for less than a half day, on call when paged, or once per block.

Roles filled on inpatient medicine teaching service. Table 3 presents an overview of the roles performed by behavioral science faculty. Behavioral science faculty participants reported assuming the role of Educator (98.3%, $n = 59$), Patient Care Supporter (78.3%, $n = 47$), Mentor/Advisor (51.7%, $n = 31$), Evaluator (46.7%, $n = 28$), Administrator (28.3%, $n = 17$), Scholar/Researcher (26.7%, $n = 16$), Community Service Liaison (18.3%, $n = 11$), Gatekeeper (11.7%, $n = 7$), and Other (6.7%, $n = 4$). Participants who reported “Other” identify roles such as working intraorganizationally as a member of ethics and palliative consult teams and liaison services (1.6%, $n = 1$), support services (1.6%, $n = 1$), and consultant (3.3%, $n = 2$).

Table 3.

Roles Performed on Inpatient Medicine Teaching Service (N = 60)

Role	Frequency	Percent
Educator	59	98.3
Patient Care	47	78.3
Mentor/Advisor	31	51.7
Evaluator	28	46.7
Administrator	17	28.3
Scholar/Researcher	16	26.7
Community Service Liaison	11	18.3
Gatekeeper	7	11.7
Other	4	6.7

The majority of participants ($n = 16$, 26.6%) reported performing up to three roles while working on inpatient medicine teaching service. Table 4 illustrates the total number of roles that a behavioral sciences faculty performs while working on the inpatient medicine teaching service.

Table 4.

Total Roles Performed on Inpatient Service (N = 60)

Roles	Response	Percent
1	6	10
2	12	20
3	16	26.6
4	10	16.6
5	5	8.3
6	5	8.3
7	1	1.6
8	5	8.3

Attitudes Toward Roles. Participants were asked what roles they wanted to perform more or less of while working on the inpatient medicine teaching service setting. Of the participants who participated in the telephone interview and noted the roles that they wanted to do *more of* while working on the inpatient medicine, approximately 48% (48.3%, $n = 29$) of behavioral science faculty members noted wanting to perform more in the Educator role, 33.3% ($n = 20$) performing more in the Patient Care Supporter role, 25% ($n = 15$) performing more in the Scholar/Researcher role, 16.7% ($n = 10$) performing more in the Mentor/Advisor role, 11.7%

($n = 7$) performing more in the Evaluator role, 6.7% ($n = 4$) performing more in the Community Service Liaison role, and two (8.3%, $n = 2$) performing more in the Administrator role.

Participants were asked what roles they wanted to perform *less of* while working on the inpatient medicine. Of the participants who participated in the telephone interview and noted the roles that they wanted to do *less of* while working on the inpatient medicine, 11.7% ($n = 7$) performing less in the Administrator role, 8.3% ($n = 5$) performing less in the Evaluator role, 6.7% ($n = 4$) performing less in the Gatekeeper role, 5% ($n = 3$) performing less in the Patient Care Supporter role, 1.7% ($n = 1$) behavioral science faculty member noted wanting to perform less in the Community Service Liaison, and 1.7% ($n = 1$) noted wanting to perform less in the Educator role.

Summary of Quantitative Findings

The research question that guided the quantitative strand was: What general roles do behavioral science faculty fill while working in the inpatient medicine teaching service within family medicine residencies? Results suggest behavioral science in the inpatient medicine teaching service setting assume nine roles: Educator, Patient Care Supporter, Evaluator, Mentor/Advisor, Administrator, Scholar/Researcher, Community Service Liaison, Gatekeeper, and Other.

Qualitative Findings

The purpose of the qualitative strand was to understand the responsibilities of behavioral science faculty within the reported roles and was guided by the research question: What are the specific responsibilities of the roles that behavioral science faculty fill while working in inpatient medicine teaching services within family medicine residencies? I invited $N = 43$ participants to the phone interview, and $N = 24$ participants (response rate = 55.8%) scheduled and completed

the key-informant phone interview. I will present the quantitative findings followed by the qualitative findings for the $N = 24$ sample.

Individual context. The following results for individual context include length of service, or time, that behavioral science faculty participants have worked in a family medicine setting and inpatient medicine teaching service, highest level of education, and professional identity.

The average length of service for participants who worked in a family medicine residency as a behavioral science faculty was 10.58 years, $SD = 6.467$ years, with a range from one to 21 years. The mean average length of service for participants who worked in an inpatient medicine teaching service as a behavioral science faculty member was 9.29 years, $SD = 6.362$, with a range from one to 21 years.

Participants were asked about their highest level of education. Sixteen percent (16.7%, $n = 4$) of participants ($N = 24$) reported completing a degree in Master of Arts, 12.5% ($n = 3$) in Master of Science, 66.7% ($n = 16$) in PhD, and 4.2% ($n = 1$) in PsyD.

Participants were asked about professional identity. Participants reported having more than one professional identity. Fifty percent (50%, $n = 12$), 33.3% ($n = 8$), 12.5% ($n = 3$), and 4.16% ($n = 1$) of participants reported having one, two, three, and four professional identities, respectively. Given that 12 (50%) participants endorsed having more than one professional identity, Table 5 illustrates the reported professional identity. The majority of participants, 33.3% ($n = 8$), reported identifying as a Clinical Psychologist. Most participants who reported “Other” as a professional identity noted identifying as Licensed Professional Counselor (28.57%, $n = 2$) and Behavioral Science Faculty (28.57%, $n = 2$). Other participants noted identifying as a

health psychologist (14.28%, $n = 1$), counselor (14.28%, $n = 1$), and primary care behavioral health consultant (14.28%, $n = 1$).

Table 5.

Professional Identity (N = 24)

	Frequency	Percent
Clinical Psychologist	8	33.3
Medical Family Therapist	6	25
Marriage and Family Therapist	6	25
Primary Care Psychologist	4	16.7
Licensed Clinical Social Worker	4	16.7
Counseling Psychologist	2	8.3
Medical Education Specialist	3	12.5
Nurse Practitioner	1	4.2
Other	7	29.2

Outpatient context. Participants were asked to describe the area of where the family medicine residency setting is located. Ten percent (10%, $n = 6$) reported practicing in a rural setting, 20% ($n = 12$) in a suburb setting, 30% ($n = 18$) in an urban setting, 36.7% ($n = 22$) in a city setting, and 3.3% ($n = 2$) in another setting.

Participants were asked to describe the family medicine setting in which they work. Seventy nine percent (79.2%, $n = 19$) reported working in a community-based, 8.3% ($n = 2$) in a university-based setting, and 12.5% ($n = 3$) in other family medicine residency setting. Participants who reported other (12.5%, $n = 3$) noted that they practice in both community- and university-based setting (33.3%, $n = 1$), hospital-based (33.3%, $n = 1$), and a teaching health center which partners between academic and community-based setting (33.3%, $n=1$).

Inpatient medicine teaching service context. Behavioral science faculty participants reported attending inpatient service once weekly – half or full day (37.5%, $n = 9$), monthly (20.8%, $n = 5$), twice monthly (12.5%, $n = 3$), other (12.5%, $n = 3$), less than monthly (8.3%, $n = 2$), twice weekly – half or full day (4.2%, $n = 1$), and 3-5 times/week – half or full day (4.2%, $n =$

1). Participants who reported “Other” noted being present on inpatient service varies due to the need of the inpatient medicine team.

Roles. Table 6 presents an overview of the roles performed by behavioral science faculty member. Behavioral science faculty participants reported assuming the role of Educator (100%, $n = 24$), Patient Care Supporter (83.3%, $n = 20$), Evaluator (58.3%, $n = 14$), Mentor/Advisor (54.2%, $n = 13$), Administrator (37.5%, $n = 9$), Scholar/Researcher (29.2%, $n = 7$), Community Service Liaison (20.8%, $n = 5$), Gatekeeper (16.7%, $n = 4$), and Other (4.2%, $n = 1$). Those who responded with “Other” noted working intraorganizationally as a member of ethics and palliative consult teams and liaison with the services for residents.

Table 6.

Roles Performed on Inpatient Medicine Teaching Service (N = 24)

Role	Frequency	Percent
Educator	24	100
Patient Care Supporter	20	83.3
Evaluator	14	58.3
Mentor/Advisor	13	54.2
Administrator	9	37.5
Scholar/Researcher	7	29.2
Community Service Liaison	5	20.8
Gatekeeper	4	16.7
Other	1	4.2

Table 7 illustrates the total number of roles that a behavioral sciences faculty performs while working on the inpatient medicine teaching service. The majority of behavioral science faculty participants reported assuming up to two (20.83%, $n = 5$), three (20.83%, $n = 5$) or four roles (20.83%, $n = 5$).

Table 7.

Total Roles Performed on Inpatient Service (N = 24)

Roles	Response	%
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1	1	4.16
2	5	20.83
3	5	20.83
4	5	20.83
5	2	8.33
6	3	12.5
7	1	4.16
8	2	8.33

Attitudes Toward Roles. Participants were asked what roles they wanted to perform more or less of while working on the inpatient medicine teaching service setting. Of the participants who participated in the telephone interview and noted the roles that they wanted to do *more of* while working on the inpatient medicine, 50% ($n = 12$) behavioral science faculty members noted wanting to perform more in the Educator role, 33.3% ($n = 8$) performing more in the Patient Care Supporter role, 29.2% ($n = 7$) performing more in the Scholar/Researcher role, 12.5% ($n = 3$) performing more in the Mentor/Advisor role, 12.5% ($n = 3$) performing more in the Evaluator role, and 8.3% ($n = 2$) performing more in the Administrator role.

Participants were asked what roles they wanted to perform *less of* while working on the inpatient medicine. Of the participants who participated in the telephone interview and noted the roles that they wanted to do *less of* while working on the inpatient medicine, 12.5% ($n = 3$) performing less in the Evaluator role, 8.3% ($n = 2$) performing less in the Administrator role, 8.3% ($n = 2$) performing less in the Gatekeeper role, and 4.2% ($n = 1$) behavioral science faculty member noted wanting to perform less in the Community Service Liaison role.

Participants were asked to describe each role and provide examples of when the participant assumed the respective role. I will present the next qualitative section by role and responsibilities using quotes and excerpts from the interviews to enrich the findings. The following qualitative findings are organized by each role that behavioral science faculty perform while working on inpatient medicine: (1) Educator, (2) Patient Care Supporter (3) Evaluator, (4)

Mentor/Advisor, (5) Administrator, (6) Scholar/Researcher, (7) Community Service Liaison, and (8) Gatekeeper.

Educator

Twenty four ($n = 24$; 100%) participants noted that they assumed the role of educator while working on inpatient medicine teaching service. The role had two overarching domains of responsibilities: 1) Resident education, and 2) Educational activities. Each sub-theme had specific responsibilities and emerging themes. Responsibilities for the *resident education* domain included: (1) family systems and family-oriented care, (2) biopsychosocial assessment, (3) behavioral health interventions, (4) psychiatric diagnostics, (5) doctor/patient relationship, and (6) sociocultural and ethical issues. Responsibilities for the *educational activities* included: (1) preparing and presenting didactics, (2) precepting and/or consulting on issues of diagnosis and treatment planning, (3) shadowing residents, and (4) modeling behavioral health skills.

Resident Education

Family systems and family-oriented care. When prompted to describe the responsibilities within the educator role, participants noted using family systems or family-oriented care topics to educate residents as a responsibility within the role. One participant reflected on teaching skills to residents to help them understand patient illness from family members as helping them learn to conduct a “*Family and patient perspective and belief-oriented interview*” (P044). This excerpt illustrates that behavioral science faculty approach teach family concepts to residents.

For example, one participant described teaching a resident the use of a genogram, a family assessment skill, to conceptualize patient care.

A patient was needing some end of life decisions made and there were a lot of family dynamics, and there was an intern who was working on the case and she was pretty overwhelmed ... I just sat down with her and starting to sketch a genogram of who was who and what was going on and she was like, "This is so helpful!" I was like, "That's what it's for!" I guess I always am, to some extent, in that educator role and thinking about, that was teaching her about the utility of that genogram intervention and even if it is just organizing her own thoughts (P002).

This excerpt also demonstrates the use of family systems skills used in residency education.

Other behavioral science faculty who used a family systems approach in resident education noted that one of their responsibilities was to facilitate discussion of how the resident would interact with families as it relates to the hospitalized patient's presenting issue. One participant reflected on the challenge that residents are presented with while working on inpatient and addressing family system in education:

If they {residents} are having difficulties, for example, [with] very demanding family members or non-involved family members, or family members who have differing opinions on the health of someone who is in a coma and we have no one who is assigned to be making decisions for this patient, how do you balance all of that out? (P042).

This excerpt exemplifies the importance of incorporating family systems into teaching family medicine residents and the responsibility that behavioral science faculty have in providing resident education about family-oriented skills.

Biopsychosocial assessment. Participants noted incorporating biopsychosocial assessment into conceptualization of patient care. Behavioral science faculty participants reported that a biopsychosocial approach to conceptualizing and informing treatment planning

was an important responsibility within the educator role. For example, one behavioral science faculty participant described the responsibility within the role as educator as,

I try to take them {residents}...the way in which I present this is I say, “Let’s take a 30,000 foot look overhead of the system, of the patient” so I always start with that. Who is the patient in the system? Who are the systems they work in? They live in? They exist in? And how might that influence the kind of treatment we are going to provide for this person? (P013).

This quote illustrates how behavioral science faculty focus on psychosocial aspect of patient care and facilitate this for residents in how to assess and conceptualize treatment planning.

Participants noted that the residents and physician faculty are often focused on the biological or medical aspect of patient care and are not thinking of psychosocial or behavioral aspects that may be influencing a patient’s health. One participant described,

I guess the main responsibility is to listen to opportunities to talk about psychosocial and behavioral health issues when it is relevant and to use my background to provide concise targeted info about how to apply that knowledge (P036).

Other participants noted that the biopsychosocial model was the framework from which they approached their work with residents. For example, a behavioral science faculty member explained,

I can’t believe that I haven’t even said that yet but the biopsychosocial-spiritual is really foundational to my work and the way that I see residency and medicine, and so talking to them {residents} about that and make sure that they get that model (P002).

This excerpt demonstrates the use of the framework in residency education, and how the behavioral science faculty's approach to teaching residents about patient care is grounded within the biopsychosocial model.

Behavioral health interventions. Participants noted that a responsibility within the educator role was to include presentations about behavioral health interventions. The behavioral health interventions taught were often discussed as brief skills that a resident could use during a patient encounter. For example, one participant described,

I teach them ... the 15-minute hour, so basically I teach them how to be sensitive to patients' psychological issues and how to get it done in 15-...in a typical ... inpatient {visit}. Obviously they don't have the luxury of sitting in an office for 45-minutes and, "Tell me about what life was like growing up when you were a little kid." They {Residents} have to move a lot faster. They've got 15 or 20 minutes. So what I try to do is to give them some tools that they can use to be able to address issues with patients and get in and out of the room (P025).

This quote describes that the behavioral science faculty's responsibility is to teach the resident brief behavioral health skills that they can implement within the fast-paced, inpatient environment.

Another described the use of mnemonics as a framework to provide brief counseling techniques, "*We use the BATHE technique {Background: What has happened since the last time we met? Affect: How has that affected you? Trouble: What about it troubles you the most? Handling: How have you been handling that? Empathy: Empathy throughout interview} and go through the process of assessing and counseling based on that" (P017). This is an example of a*

common skill behavioral science faculty teach residents as part of the resident's behavioral health education.

Behavioral science faculty participants described other behavioral models of intervention that include skills clinical providers use during patient encounters. Participants noted teaching the use of common techniques such as motivational interviewing as it relates to managing patient care. For example, one participant said the work consisted of *“Teaching some Motivational Interviewing techniques for how to try to partner with the patient a little more in how he asks for things from the nurses and understanding his need to get off of pain medication”* (P025).

Psychiatric diagnostics. Similarly, behavioral science faculty participants noted teaching topics related to psychiatric diagnosis. Behavioral science faculty described a responsibility of helping residents to identify and learn psychiatric diagnostics while on inpatient service. One participant said that a responsibility within an educator role is, *“I think primarily to help residents learn to identify depression, anxiety, and other psychiatric issues that are impacting care”* (P044). Another participant stated, *“We teach diagnostics, we teach evaluations...”* (P041).

When discussing the responsibility to teach diagnostics, participants described teaching topics related to mental health issues. For example, one participant noted teaching assessment to identify mental health issues, *“How to assess for suicide, you know standard stuff. As best they {residents} can. The thing that they {residents} are most interested in and the thing that gets their {residents} attention the most is Axis II disorders, especially borderline”* (P020). This excerpt highlights the topics that behavioral science faculty use to educate residents.

Doctor/patient relationship. Behavioral science faculty participants described a responsibility to teach residents about physician-patient communication skills to facilitate the

doctor/patient relationship as it relates to patient care. The participants focused on teaching communication skills to residents so that they can cultivate a therapeutic relationship with the patient. Particularly, participants noted training residents in how to talk to patients who were angry. One participant said,

Probably in the educator role, you know, I'm educating residents on a variety of things. One might be how to approach a particular patient where ... we had a patient who was pretty angry, disruptive, and so we brainstormed, kind of did some role plays a little bit on ways that they can approach things with the patient. So educating them {residents} (P009).

Others noted a framework in which they work to guide residency education about communication skills to create a therapeutic relationship between the physician and patient. One participant described an institutional-level initiative to train all physicians in communication skills to aid the physician/patient relationship,

What I'll do is I'll go over {the framework}, then I'll provide them with an evaluation about their communication skills based off of the E-4 techniques which is basically: Engage, Empathy, Educate, and Enlist ... So, that's the large part of what I've been working with them on and how that impacts patient care (P043).

Sociocultural and ethical issues. Participants described having the responsibility to raise and teach ethics while on inpatient medicine teaching service. Ethical issues were raised during patient care, particularly if there was a sociocultural component to treatment. One behavioral science faculty member stated,

I deal with ethical issues. ... A lot of our population doesn't speak English, so consent very frequently comes up. There are cross cultural issues where family members do not

want us to divulge certain dire information to the patient for fear of harming the patient, but in American culture, in medicine we have this informed, this ethical principle of informed consent...and the patients have the right to refuse information but the family members don't get to dictate what the patient does and does not know (P038).

This excerpt illustrates the cross cultural issues that arise from patient care and ethical issues that may impact treatment decisions. One participant shared a similar experience of teaching ethics to residents, “*My chief job, like I’m responsible for the ethics curriculum*” (P004). Another participant explained, “*And sometimes issues will come up that I don’t address on the spot like an ethical issue that I’ll bring back for the whole program to consider. I do a didactic session*” (P019). These quotations illustrate that behavioral science faculty encounter sociocultural and ethical issues in delivering patient care. Behavioral science faculty participants were attuned to the ethical issues while working on inpatient, and the responsibility of raising the issues on inpatient.

Educational activities

Brief didactics. Participants reported a responsibility for preparing and presenting brief didactics on inpatient medicine teaching service. This includes presenting on the BATHE (Background, Affect, Trouble, Handling, and Empathy) technique, motivational interviewing, addiction, mood disorders, suicide, and ethical issues. One participant described,

Sometimes, I prepare little teaching points like there’s something called EPEC {Education in Palliative and End-of-Life Care} and it’s a website out of somewhere and they have these one-page kind of fast facts, and sometimes finding those and providing them to the residents relative to how do you break bad news or you know, they like quick

mnemonics and one-page things, rather than long winded discussions from the behaviorists (P012).

This excerpt illustrates that behavioral science faculty prepare and present formal, brief educational material to residents. Similarly, participants described brief educational opportunities during inpatient rounds and in the outpatient setting about the inpatient medicine teaching service, *“We do some brief educational presentations during the seated rounds and then I do a live education during a weekly education day where we will talk about cases or teaching principles outside the hospital” (P001).* Another participant explained, *“So sometimes I have time, like a half an hour, of structured teaching at the end of the morning. I like it. It’s a great model. It’s part of the teaching so we don’t rely on it but it is a great component” (P014).*

In addition to the brief didactics that occur while a behavioral science faculty member is on inpatient medicine teaching service, participants noted that an informal, impromptu lecture occurred during discussion of patients. For example, one participant noted that residents were not informed about different levels of care for mental health treatment options for patients, *“...so we were talking about different levels of care. So it wasn’t a formal lecture but going over that to figure out where we felt like this patient would be best referred” (P009).*

While some participants had semi-structured brief didactics, others had structured time to provide didactics on inpatient medicine teaching service. One participant described, *“I mean, I may do a five-minute presentation at the end of sign out” (P004).* Another behavioral science faculty member noted having set topics that they rotate during the resident’s training and provide the topic during the first Wednesday of every rotation,

We {Other behavioral science faculty members} will rotate through and we have set topics. We each have about eight set topics that we rotate through that is relevant to

family medicine inpatient. I don't know my colleague's topics as well as mine but an example of mine is family conferences. So, we talk about some of the basic skills needed to successfully run family meetings ... We have 20-30 minutes allotted for that, so we talk about that particular topic and ask, depending on what topic it is, is if there are any relevant patients on service at that time (P006).

This quotation exemplifies the brief didactics that occur while on inpatient medicine teaching service, and the formal curriculum presented by behavioral science faculty member on inpatient. The participant explained that there are set topics and blocked times to present behavioral health topics to residents.

Precepting and consultation. Part of the educator role is for the behavioral science faculty member to use the role as consultant as an opportunity for case-based learning. Participants noted that the responsibility of precepting and consulting were used as an educational opportunity for resident learning. For example, one participant described the responsibility of using patient presentations and consulting as educational opportunities,

What do I do as an educator? That's really hard to nail down. If I have information that's relevant to a particular patient, whether it's around psych medication or, who knows what, maybe a domestic violence issue then I will contribute. I don't do formal teaching in that role (P019).

This excerpt explains that although behavioral science faculty may not have a formal teaching role while on inpatient, a responsibility that they have is to use case-based learning to facilitate resident learning. In addition, one participant described using informal teaching to facilitate resident education, “*And other times, mostly, it's informal. Residents frequently are just like, “I don't know what to do about this. Have you seen this combination of meds before? And what do*

people think about this?” So, it’s like a precepting education, sort of, in the moment, in vivo, precepting role” (P004). This excerpt illustrates the use of precepting that occurs during residency that facilitates resident knowledge of patient care.

ACGME program requirements for graduate medical education in family medicine outline that a “sponsoring institution and participating sites must provide...administration, evaluation, teaching, resident precepting, and scholarship...” (ACGME, 2013, p. 2). Precepting is set apart from the other family medicine faculty responsibilities as a standalone activity. Furthermore, precepting in the medical world differs from mentoring in that the preceptor is responsible for both guiding the behavior of the resident, as well as for the outcome of the resident’s decisions. It is similar to clinical supervision, but more “hands on” as it occurs with the actual; cases “in vivo” as it were.

Behavioral science faculty participants noted that another responsibility was to consult on patient care and use this as an educational opportunity for resident learning. One participant described being asked to consult on a patient and provide information to the team about implications for treatment planning. The participant reflected on the educational opportunities about this responsibility and how the case example was a teaching point for residents,

So, I remember one time from sign out, the residents were getting all these calls all weekend from a “bipolar” patient. And they’re {the patient} kind of barking at the nurses and no one really wanted to go see them ... And it was a simple low hanging fruit about a smoking history. So, the patient typically was smoking 3 packs a day ::laughs:: or something like that, and she hadn’t had a cigarette since like Thursday before, or something like that, and she was going berserk. And I was like, “Yea, she is a little bipolarly. She is going through nicotine withdrawal. Why don’t we just slap some

patches on her?” And so, I love moments like that because, you know whatever, I don’t mean to be crude, but they’re huge. I mean, I could see a patient like that leaving the hospital on some crazy medicine, or put her on some drip. I mean, it’s just insane (P004).

The quotation exemplifies that an educational activity within the educator role can occur informally. This participant explained that, although the situation was “low hanging fruit,” that it was a powerful teaching point for residents. Another participant described, “*Responsibilities {within the Educator role} would be identifying patients that are good teaching examples for the behavioral medicine curriculum*” (P014).

Shadowing residents. Participants noted that education opportunities occurred during observation of residents interacting with patients. Behavioral science faculty participants described observing residents interview patients and using psychosocial interventions to promote behavioral change. One participant noted teaching by observing residents interacting with patients, “*Then in the room, I’m mostly observing {residents interacting with patients}*” (P010). Another participant described shadowing a resident who was identified as needing help with attending to the psychosocial aspects of patient care,

Often, when we have a new set of residents, I’ll come in and shadow one of them. I did that, I guess it must have been a year ago, and so there is a new resident and there are some concerns about his attention to the psychosocial aspect of his patients’ care. I came in and shadowed him for a morning and then we would do a little bit of discussion before each patient room... (P001).

These two excerpts illustrate that behavioral science faculty directly observe and shadow residents in the context of providing education to resident learners. Although similar to precepting, the responsibility of shadowing residents was an educational activity that the

behavioral science faculty member performed to facilitate the resident's education. In addition to shadowing residents, participants noted shadowing other healthcare team members. For example, one participant stated that he shadows medical family therapy fellows while they work on the inpatient service: *"We have a medical family therapy fellowship and they each spend two mornings a week with their residents in mostly supervising them and then providing some coverage when they are not there"* (P001).

Modeling behavioral health skills. Modeling behavioral health skills was a common responsibility within the behavioral science faculty educator role. Participants described modeling a behavioral health skill such as motivational interviewing, displaying empathy, breaking bad news, or other interviews with a sensitive subject for the resident learners. For example, one participant stated, *"And sometimes I purposely go in and teach by modeling because they don't know how to do something"* (P010). Participants described teaching topics to an interprofessional inpatient medicine team which included medical students, pharmacists, as well as graduate and postgraduate students in other health profession such as marriage and family therapy, medical family therapy, and psychology. For example, one participant described modeling and shadowing behavioral health skills for healthcare team members this way: *"Then, I will typically (for the health behavior trainees on inpatient medicine teaching service) model a motivational conversation with the patient or especially with the second year residents who I have already given them some training and motivational training"* (P014).

Behavioral science faculty participants also intervened when residents were doing a behavioral health skill in a suboptimal manner to model other ways to conduct an interview, *"This last week, one of the residents was interviewing a patient who was a very complex patient, who is not doing well. The resident's interview was not going well. I actually stepped in and*

modeled a different way to do the interview and that worked well” (P010). Behavioral science faculty shared stories about modeling how to interview patients about difficult or sensitive topics. For example, one participant reflected on interviewing a patient for suspected child abuse:

We had to encourage the mom to call CPS {Child Protective Services}, so what I was doing was modeling how you interview somebody about suspected abuse when a child’s involved and how you then can work with the mom to actually encourage her to call CPS. And we called CPS. So, we did a whole CPS intervention (P044).

Patient Care Supporter

Twenty ($n = 20$; 83.3%) participants noted that they assumed the Patient Care Supporter role while working on inpatient medicine teaching service. The role had two overarching domains of responsibilities: 1) Direct involvement and (2) indirect involvement. The sub-theme had specific responsibilities and emerging themes. Responsibilities for the *direct involvement* domain included: (1) Diagnostic assessments of individual patients and families, (2) delivering brief interventions, and (3) treating patients and families jointly with residents. Responsibilities for the *indirect involvement* domain included: (1) Consulting on issues of patient mental health and (2) providing referral resources.

Direct involvement

Diagnostic assessments of individual patients and families. Several behavioral science faculty participants noted that they directly see the patient to determine a diagnosis of an individual to help inform treatment. For example, one participant described the responsibility of assessing a patient to inform treatment planning, “*Sometimes the team will ask me to go over and interview a patient when they are not there, when they are unable to be there because they feel it*

would benefit the patient ... I'll assess for depression and make sure depression and anxiety, and things like that are being treated" (P044). This quote illustrates how the behavioral science faculty member functions within the Patient Care Supporter role as directly assessing and informing treatment for patients presenting in the hospital. Another participant said, "I'm doing a diagnostic, psychological interview. I'm often trying to focus in on some pointers – either some diagnostic issue or some specific issue of treatment decision making" (P038). Another participant shared that a physician faculty member was interested in having the behavioral science faculty member see a patient to assess and determine a differential diagnosis. The participant said,

He {The patient} had presented with this acute – they {inpatient team} didn't know if it was delirium or psychosis or a panic episode or what – and he {the faculty physician} was talking to me about maybe going to chat with the man to help with that diagnosis for them {inpatient team}. That was part of the clinician {patient care} role (P002).

The quotation exemplifies behavioral science faculty assuming the direct individual, clinical assessment, patient care responsibility. Also, behavioral science faculty assumed the responsibility of assessing family dynamics as it relates to patient care. One participant described her role in patient care as,

...assessing the family dynamics of what's going on and seeing if there is anything that's playing into either their current medical state, why they are there, anything while they are there, you know. Like is this a patient that we need to be careful because an ex may be coming up and the kids are there and the ex {partner} may be coming up to take the children at some point? And that's not in their parenting rights and responsibilities anymore (P042).

Delivering brief interventions. Participants noted using brief interventions during patient care such as motivational interviewing, breathing techniques, behavioral coping skills, and hypnosis. Participants noted seeing patients and providing behavioral health skills. One participant described this role this way:

A number of different things, mostly it is brief intervention kind of work because there is not a lot of opportunity for the tradition psychology role of sitting down and having hour long therapy sessions. So mostly it's what is described in the literature as brief interventions. And, motivational interviewing is part of that for people who are having difficulty complying with treatment plans. So those would be the two major types of interventions that I use in the Patient Care Supporter role; brief intervention and motivational interviewing (P016).

The quotation describes the major responsibility theme of behavioral science faculty providing brief interventions in the inpatient environment, and the necessity to adapt traditional therapeutic models to the fast-paced, inpatient environment. Another participant described a case where a patient presented with panic attacks and provided a brief intervention to target anxiety:

I also saw a patient a couple of weeks ago, she was in who had a panic attack, was really anxious, so we just did a little deep breathing and some strategies that might be helpful for her when she starts to feel that way. So, short term counseling, supportive counseling (P009).

Treating patients and families jointly with residents. Participants described treating patients and families jointly with residents. Although behavioral science faculty members noted meeting patients with residents to observe the resident's interaction with the patient, the behavioral science faculty often interacted with the patients and families. One participant said,

“I mean, a lot of times, most of the time I talked to the patient but it is in the context of the rounds. I don’t continue...I don’t follow up with the patient except through the resident” (P025).

Another explained that he is not able to see the patient without the resident in the room and the visit is led by the resident, *“...it’s {responsibility within Patient Care Supporter role} taking care by proxy because I’m not credentialed ... it’s {medical visit} being led by the resident. It’s not anything I’m going to be doing documentation on” (P042).*

Participants noted preparing residents to intervene with patients and families.

Participants noted that they would discuss the patient and family with the resident prior to entering the hospital room; however, if the resident was needing help to conduct a session, the behavioral science faculty member noted stepping in to direct the session. One participant described, *“I am in the room with resident while they are doing it {intervention}; if they falter, if they are kind of incomplete, if they start to stumble a little bit, depending on what level of the resident they are. I will step in and directly have some of the conversation” (P015).* Another participant described preparing a resident to hold a family meeting and needing to intervene during the encounter,

...I’ll let the resident try first and I’ll prepare them and I’ll want them to take the lead but if there’s something that comes up that is just an obvious, apparent need for the patient and/or family, then I’m going to step into that clinical role (P002).

These quotations illustrate that the behavioral science faculty do not interact with the patient one-on-one without the residents, or if they do, the interaction is spontaneous because the resident is missing important information that needs to be collected during a medical interview. Although these responsibilities are similar to the responsibility of precepting, modeling, and the responsibility of evaluating patients, the responsibility of behavioral science faculty members to

treat the patients jointly with residents was intentional; however the behavioral science faculty member intervening during the patient encounter was unintentional. Unlike the direct involvement responsibility of delivering brief interventions and providing assessment and diagnostic evaluations of patients, the behavioral science faculty member did not go to the patient room with the intention of intervening with the patient and/or family. That is, the interaction between behavioral science faculty member and patient was unplanned.

Indirect involvement

Consultation on issues of patient mental health. Similar to the consulting role as Educator, behavioral science faculty participants shared that they were used as consultants during rounds to indirectly impact patient care. Although the participants didn't see patients directly, some noted that their presence in the inpatient service during case presentations indirectly impacted patient care. One participant said,

So, we'll do sit down rounds and I'll just offer any suggestions or ask some of questions that they may have not thought of related to patient care. So, I don't necessarily talk about every single patient or chime in with every single patient, but the ones that have relevant issues with behavioral change or mental health concerns or family challenges, and so then that's basically what each of us {behavioral science faculty members} do every week (P006).

This excerpt illustrates that behavioral science faculty members will use their clinical knowledge to indirectly inform patient care treatment planning.

Providing referral resources. Participants described providing outside resources to residents for patient care. Behavioral science faculty participants noted facilitating referrals for

patients and discussing possible outside resources to impact patient care. For example, one participant noted,

If we identify specific needs the patient might have as far as outside resources I might provide some information on AA {Alcoholics Anonymous} meetings or NA {Narcotics Anonymous} meetings, or we might talk about maybe this person may need a referral to Adult Protective Services so then I try to help them say this is where you need to involve social work (P043).

This quotation illustrates behavioral science faculty providing referrals to residents for patient care. The participants noted not acting as a social worker as many behavioral science faculty members reported having social workers on the inpatient medicine teaching service team; instead, behavioral science faculty participants provided the discussion of outside referral resources to impact patient care. One participant said, *“I might address in a therapeutic manner or suggest that they {residents} need to connect with social work, you know, provide more services when the patient goes home, those kinds of things” (P044).*

Evaluator

Fourteen ($n = 14$; 58.3%) participants noted that they assumed the role of Evaluator while working on inpatient medicine teaching service. The role had two overarching domain of responsibilities: 1) summative and (2) formative. The sub-theme had specific responsibilities and emerging themes. Responsibilities for the *summative* domain included: (1) Completing and submitting ACGME Milestone evaluations. Responsibilities for the *formative* domain included: (1) Providing verbal feedback.

Summative

Completing and submitting ACGME Milestone evaluations. Several behavioral science faculty members reported tracking residents' performance using a formal evaluation assessment that aligns with ACGME milestones. Participants reported using the evaluation tool during each rotation. One participant explained,

I'm on the CCC {Clinical Competency Committee}. It's ACGME required, our evaluation committee for the residents. So for one, I am gathering observational data of their performance relate{d} to their CCC reviews. I also complete, we use the new innovation software package, I complete a shift card where I can evaluate them. The shift cards pull up examples of the behavioral {ACGME} Milestones evaluation system, so I will rate them on any {ACGME} Milestones I am able to evaluate during that teaching morning and make comments on what I observe (P014).

This excerpt demonstrates behavioral science faculty using ACGME Milestones as a framework to document the resident's skills. This participant explained using "shift cards", or simply Milestone field notes that Attendings and other faculty complete after the day "shift", on the inpatient medicine teaching service to evaluate the resident's behavioral health skills and record the resident's progress throughout residency training.

Another participant explained the frequency of assessing the resident. The behavioral science faculty member said, "*...one of the most important things in residency is providing that {behavioral health skills} feedback and giving that evaluation. Yes, I do evaluations at the end of the month for those people who are finishing the inpatient rotation*" (P016). This excerpt illustrates the formal feedback given to residents at the end of the resident's inpatient rotation.

Formative

Verbal feedback. Participants stated that a responsibility within the role of Evaluator was to provide verbal feedback during the resident's rotation. Participants described providing evaluation to residents that was in-the-moment and informal. One participant described giving feedback to a resident about patient care this way:

When I am in an Evaluator role, I might push a resident to be more assertive and to dig deeper into their questioning of an issue rather than to just accept what the patient is presenting head on without exploration. So, I would evaluate the resident's need to explore more deeply (P013).

This quotation illustrates the verbal feedback that a behavioral science faculty provides to a resident while observing patient-physician interaction. Another participant discussed the use of formative evaluation as a way to teach residents about their teaching skills: "*We {Behavioral science faculty members} think about formative evaluation. I think on one level we are always evaluating the residents*" (P044). The use of formative evaluation, or evaluation that occurs during an event, is a way to provide feedback to residents in the inpatient setting. Although similar to a preceptor responsibility, the Evaluator role's responsibility is to provide feedback to the resident during or after the behavioral science faculty member observes a professional encounter.

Mentor/Advisor

Thirteen ($n = 13$; 54.2%) participants noted that they assumed the role of Mentor/Advisor while working on inpatient medicine teaching service. Responsibilities included: (1) Evaluating and addressing resident health and wellbeing, and (2) providing feedback to resident about professional development.

Evaluating and addressing resident health and wellbeing. Behavioral science faculty reported being responsible for residents' health and wellbeing. Given that the inpatient setting is challenging for resident's physical and mental health, participants noted that mentoring residents through difficult encounters was a responsibility. For example, one participant said,

So there have been sometimes, like I'm thinking about one instance, there was an unpleasant outcome for a patient and it was pretty tough on a couple of residents, one because he was a fairly new intern at the time, and the other resident had been taking care of the patient when the patient was in the hospital. So, I ended up sending a message to one of the residents to check in with them and made a point in talking in person with the other residents about that experience because it was something that was pretty unpredictable and unexpected (P006).

This excerpt illustrates behavioral science faculty members' responsibility in addressing the health and wellbeing of residents while on inpatient medicine teaching service. Another described informal check-ins with a resident right after difficult patient encounters. *"Sometimes the residents will run into something that affects them more personally than at other times. And, usually by walking to the back of the group or someplace, we will make connections around that and talk about that" (P010).*

Providing feedback to residents about professional development. Behavioral science faculty participants noted that focusing on resident professional development was another aspect of the Mentor/Advisor role. Participants noted the responsibility of coaching residents about professional development, *"A chief resident may ask advice on how to approach an unprofessional behavioral or any difficult situations with residents" (P025).* Another participant said,

One of the biggest confounding factors for residents, particularly early on is for them to figure out what is their “style” of practicing medicine. And so that involves, not only the application of the scientific knowledge they’ve accumulated, but the way in which they want to interact with the patient, communicate back, work with family members, work with colleagues, and so, helping them figure out that style question is important because until they figure out, my bias is on this, but until they figure out what their style is, any discussion about efficiency is pointless because you can’t be efficient until you even know how you want to do this. So, that’s the kind of mentoring and advising that I try to do is to work with them and try and figure out what exactly is my style for practicing medicine (P016).

These two excerpts illustrate how the behavioral science faculty members encourage the resident’s professional development while working on the inpatient medicine teaching service. Although similar to the responsibilities within the Evaluator role, the responsibilities within the Mentor/Advisor role were described by participants as the behavioral science faculty member needing to foster the professional development of the resident beyond patient care clinical skills.

Administrator

Nine ($n = 9$; 37.5%) participants noted that they assumed the role of administrator while working on inpatient medicine teaching service. The responsibility within this role included coordinating the behavioral science curriculum and resident training and included: (1) Developing and integrating the behavioral science curriculum and (2) coordinating and collaborating with resources within the hospital.

Developing and integrating the behavioral science curriculum. Participants described being responsible for developing curriculum for the inpatient medicine teaching service and

collaborating with other resources to compliment the behavioral science education. As one participant noted, “*We {Behavioral science faculty} do develop curriculum*” (P041). Other participants worked with other faculty to coordinate the logistics of integrating behavioral science teaching into inpatient rounds. For example, a behavioral science faculty member said,

I, for instance, work together with the FMS {Family Medicine Service} faculty, the physician attendings, to see what would be the appropriate time to do rounds with the residents. We do behavioral health rounds once a week, although it has become, because of all the other responsibilities of the person in charge of doing those rounds, is not as common as it used to be. But it’s not as regular that we go on rounds with the residents but that’s one thing that we have to coordinate is going to rounds with residents (P017).

This excerpt illustrates the responsibility of behavioral science faculty to collaborate with physician colleagues to develop and implement behavioral science curriculum while on inpatient medicine teaching service.

Coordinating and collaborating with resources within hospital. Behavioral science faculty participants who had relationships with other professionals within the hospital noted that there often was a coordination of educational or service opportunities for resident learning. Participants described coordinating with others outside of the inpatient medicine teaching service team for other resident educational opportunities. For example, one participant explained that a responsibility in the administrator role was to set-up rotations and maintain connection with other physicians outside of the inpatient medicine teaching service:

...we {physicians outside of inpatient medicine teaching service} do joint workshops and educational workshop for the residents, and setting-up – I also do this pain and palliative

elective for the residents and I collaborate with the medical director from the Hospice of the valley locally, and maintain a specialty group (P012).

This quote exemplifies the administrative aspect of behavioral science curriculum and the resident training aspect of their role. Other participants noted developing other curriculum while on the inpatient service. Said one, *“I develop behavioral science curriculum and the community science curriculum and oversee that” (P043).*

Scholar/Researcher

Seven ($n = 7$; 29.2%) participants noted that they assumed the role of scholar/researcher while working on inpatient medicine teaching service. The responsibilities of behavioral science faculty included: (1) Reading current, evidence-based literature, (2) collaborating with other departments in the hospital to conduct original research, and (3) supervising and consulting on the research efforts of residents.

Reading current, evidence-based literature. Behavioral science faculty noted a responsibility to include recent, scholarly work as references during their teaching. One participant said,

Well, I think of Scholar/Researcher in terms of giving references of why we are doing what we are doing. I don't do any actual heavy duty research. Well, I suppose in terms of referring to something, for instance Motivational Interviewing, about using that technique. Referring them back to the materials on Motivational Interviewing. In terms of keeping up with the literature (P010).

This excerpt illustrates that behavioral science faculty use literature to incorporate into resident learning while teaching on the inpatient medicine teaching service.

Collaborating with others to conduct original research. Behavioral science faculty described collaborating with others in the hospital to track outcome data. One participant described,

So every week we {orthopedic trauma service providers and Behavioral Science Faculty} go in and do an assessment {of the patient}. There is one particular orthopedic resident who works on the project with us so he is responsible for providing the patient list or if we need any follow up or anything like that. They are all willing to assist but he is kind of the one who is tagged as the primary person (P035).

Another participant described a responsibility of tracking behavioral health referrals while on inpatient. He explained, “... *as far as research, we do track the referrals that we have. Plus, we also use the information that we have to try and disseminate that to the scientific community. To discuss our services, how we provide them, and things like that*” (P041). This excerpt highlights the collaboration within the inpatient medicine teaching service team to track outcome data and publish for the scientific community.

Supervising and consulting on the research efforts of residents. In addition to collaborating with others in the hospital to collect data, participants described involvement in resident’s scholarly work. One participant said,

So, my job is to make sure that, I mean there’s a lot of moving pieces with this, but make sure that some of the people who are helping gather data, you know, the collection is according to the plan that we filed with the IRB {Institutional Review Board} ... so during my time {on} inpatient, there’s basically a half a day a couple of times a month that I just dedicate {to} keeping the projects going (P004).

This quotation exemplifies the involvement of behavioral science faculty in resident scholarly projects to guide the residents during the research process. Participants who endorsed this role and described responsibilities did so in the context of supervising and consulting on resident research. Another participant explained that the general role of scholar/researcher extended into inpatient medicine when a resident wanted to complete a senior project on a patient who presented on inpatient medicine teaching service: “... *sometimes a resident will do a senior project on something that had to do with a patient they had on the inpatient setting. So in that context, I might help them with some of the framework of what that would look like*” (P021).

Community Service Liaison

Four ($n = 4$; 16.7%) participants noted that they assumed the role of Community Service Liaison while working on inpatient medicine teaching service. The responsibilities of behavioral science faculty here included: (1) Liaison between community groups and hospital, and (2) participating in hospital boards.

Liaising between community groups and hospitals. Participants reported connecting outside community groups to hospital services for the purpose of coordinating systemic issues of patient care. Participants noted that they are aware and involved in groups that impacted hospital process and laws. For example, one participant said,

One of the most difficult parts about inpatient med {medicine} for our residents has been Peds {Pediatrics} and OB {Obstetrics} – the high risk OBs, with addict moms who many times walk away and abandon babies – it’s vicarious trauma really. So, it’s part of the system, and people always complain about the system of care issues related to that. Like, for example, specifically with Child Protective Services, you know, it’s pretty easy for hospital staff to sort of whine about what the DHH – Department of Health and Human

Services and Child Protective Services – is or is not doing, and the more opaque that is, their process and what the rules are and what the laws are for hospital staff, the more reactive, and frankly the more vicariously traumatized they are. So, we made more effort to have meetings, and my role is to be a liaison between some of those community groups like Child Protective Services, like the people that do rape response, and people that do domestic violence response and advocacy in our community (P004).

In addition, some participants reported having a connection to outside healthcare providers who might help patients in the management of their own healthcare: *“And then the community service piece, I do a lot of work with trying to help connect them {patients} with community resources” (P009).* Another participant noted, *“Making sure who else they are involved with, you know, mental health care center. There’s often someone seen in the mental health center or seen by another agency, so trying to make sure that they know that the person is in the hospital” (P032).*

These two quotations illustrate that behavioral science faculty often serve as liaisons between the hospital and community groups at the policy and clinical level to improve patient care. Although these responsibilities are similar to direct patient care role, the responsibility within the community service role was to extend beyond the hospital and into the community to provide patient care.

Participating in hospital boards. Participants noted participating in hospital boards focusing on health and social issues such as HIV and ethics. A participant explained,

I am on one of those committees on the hospital, under the board, they are looking at transportation difficulties because we’re a really underserved community, so I sit on that working group at the hospital, and transportation for our patients. I went and spoke at a

hearing when the bus routes were cut on behalf of that group. I sit on a lot of different boards ... that looks at health of the community and where the {service} gaps are (P009).

Gatekeeper

Four ($n = 4$; 16.7%) participants noted that they assumed the role of Gatekeeper while working on inpatient medicine teaching service. A responsibility included: (1) Participating in evaluation committee to review resident evaluations.

Participating in evaluation committees to review resident evaluations. Behavioral science faculty reported evaluating residents' using ACGME Milestones and being part of committees that review resident progress. This responsibility, however, was described differently from the Evaluator role. That is, participants who endorsed assuming the role of gatekeeper described participating on committees that reviewed the resident's progress and providing information about the resident moving forward in the residency rather than the act of evaluating a resident's interaction with a patient. That is, the responsibility for the behavioral science faculty member was to participate in annual resident reviews to determine the resident's progress and if they are able to advance to the next year. One participant noted,

I'm certainly part of that {evaluation committee}. And a lot of when we do quarterly evals {evaluations} that talks about moving on {to the next resident year}. I can give specific examples from inpatient rounds which are always good because they're concrete, "This is what happened, and this is my concern" (P010).

Another participant said, *"We use the {ACGME} Milestones to try and see where that person is and then we, as a group, decide if this person is ready to progress to that next level of independence. And sometimes they're not..." (P021).* These two excerpts illustrate that the behavioral science faculty members use the evaluations on the inpatient medicine teaching

service to guide the faculty’s decision on whether or not the resident will progress during their residency training.

Summary of Qualitative Findings

Behavioral science faculty on the inpatient medicine teaching service setting assume a variety of roles and responsibilities. A summary of roles and responsibilities is presented in Table 8. The behavioral science faculty’s roles and responsibilities often overlapped with one another and are described in the Discussion Section.

Table 8.

Roles and Responsibilities of Behavioral Science Faculty on Inpatient Medicine Teaching Service

Role	Responsibilities
Educator	
<i>Resident education</i>	<ul style="list-style-type: none"> • Family systems and family-oriented care • Biopsychosocial assessment • Behavioral health interventions • Psychiatric diagnostics • Doctor/patient relationship • Sociocultural and ethical issues
<i>Educational activities</i>	<ul style="list-style-type: none"> • Prepare and present brief didactics, for example, on BATHE technique, motivational interviewing, addiction, mood disorders, suicide, ethical issues • Precept before sit down rounds and/or consult with residents on issues of diagnosis and treatment planning • Shadow residents in counseling or family meetings • Model behavioral health skills, for example, motivational interviewing, empathy, interviewing patients about sensitive issues, breaking bad news
Patient Care Supporter	
<i>Direct involvement</i>	<ul style="list-style-type: none"> • Provide diagnostic assessments of individual patients and families, for example, mood disorders, anxiety disorders, personality disorders • Deliver brief interventions, for example, motivational interviewing, breathing techniques, behavioral coping skills, hypnosis • Treat patients and families jointly with residents, for example, individual and family meetings
<i>Indirect</i>	<ul style="list-style-type: none"> • Consult with residents and medical faculty on issues of patient mental

<i>involvement</i>	<p>health</p> <ul style="list-style-type: none"> • Provide referrals with regard to community resources
Evaluator	
<i>Summative</i>	<ul style="list-style-type: none"> • Complete and submit ACGME milestone evaluation for resident portfolio
<i>Formative</i>	<ul style="list-style-type: none"> • Provide verbal feedback on resident performance after patient encounter, for example, communication and behavioral health skills, physician-patient interaction.
Mentor/Advisor	
	<ul style="list-style-type: none"> • Provide feedback to resident about professional development • Evaluate and address resident health and wellbeing
Administrator	
	<ul style="list-style-type: none"> • Coordinate and collaborate with resources within hospital • Develop and integrate the behavioral science curriculum into the inpatient setting
Scholar/Researcher	
	<ul style="list-style-type: none"> • Read current, evidence-based literature • Collaborate with other departments in hospital to conduct original research • Supervise and consult on the research efforts of residents
Community Service Liaison	
	<ul style="list-style-type: none"> • Liaison between community groups and hospital • Participate in hospital boards focusing on health and social issues, for example, ethics board
Gatekeeper	
	<ul style="list-style-type: none"> • Participate in evaluation committee to review resident evaluations

Chapter V: Discussion

This study examined the roles of behavioral science faculty on inpatient medicine teaching service and the responsibilities performed by behavioral science faculty within each role. Participants in the study used their experience of working on inpatient medicine to inform the survey and phone interview questions. The results vary from the general roles of behavioral science faculty in family medicine residency suggested by earlier frameworks, and provide a revised framework for exploring behavioral science faculty roles responsibilities while working on an inpatient medicine service. The section will discuss the discrepancies between this study's findings and earlier frameworks, and implications for research, training, and hiring. The following research questions guided the present study:

1. What general roles do behavioral science faculty fill while working in the inpatient medicine teaching service within family medicine residencies?
2. What are the specific responsibilities of the roles that behavioral science faculty fill while working in inpatient medicine teaching services within family medicine residencies?

Roles and Responsibilities

Educator. Similar to Armstrong et al.'s (1992) article that outlined the general responsibilities of behavioral science faculty in family medicine residency education, participants noted that resident education was a focus of their work while on the inpatient service. That is, behavioral science faculty discussed behavioral science topics on inpatient medicine which included family systems, family-oriented care, biopsychosocial assessment, behavioral health interventions, psychiatric diagnostics, doctor/patient relationship, and sociocultural and ethical issues. The process by which behavioral science faculty taught was facilitated through educational activities such as didactics, precepting, shadowing residents, and

modeling behavioral skill behavior to residents. This finding is similar to the Armstrong et al. (1992) domain of general roles that behavioral science faculty perform (resident education and educational activities); however, the topics and means by which the education was delivered varied from the original article in 1992. Original education responsibilities identified in Armstrong et al. (1992) included discussion of biopsychosocial management, the maintenance of personal/professional relationships, human development, assessing resident educational needs, presenting seminars, videotaping patient-resident interactions, and evaluating resident competencies within the Educator role. This study suggests that, though there is some general support for the Armstrong et al. (1992) framework, there also are significant differences in terms of what behavioral science faculty actually do in the Educator role while on inpatient. These differences include behavioral science faculty members preparing and presenting brief didactics to residents, modeling behavioral health skills for residents, and shadowing residents while working on the inpatient medicine teaching service.

Patient Care Supporter. The study suggests that behavioral science faculty members have direct and indirect involvement in patient care while working on the inpatient medicine service. Unlike the Armstrong et al. (1992) article, participants' responses did not endorse consulting on pharmacological treatment and providing liaison services with regard to community resources. Rather, participants reported having direct and indirect involvement related to the Patient Care Supporter role. For example, participants described responsibilities that included providing diagnostic assessments and delivering brief interventions to patients and families. Alternatively, participants noted indirect involvement that were parallel to Armstrong et al. (1992) position paper, such as consulting with residents/medical faculty on issues of patient

mental health, treating patients and families jointly with residents, and providing referrals for patients.

Evaluator. Participants in the present study noted having the responsibility of completing resident evaluation either summative or formative. Unlike Armstrong et al. (1992) who captured evaluation under the Educator role, this study suggests that behavioral science faculty members described completing summative and formative evaluations for residents while on inpatient medicine service in an Evaluator role. Similar to the responsibility of an Evaluator role outlined in roles in healthcare education (Reitz et al., 2013), this study suggests that responsibilities of behavioral science faculty on inpatient medicine include the use of summative assessments such as completing evaluations based on the ACGME milestones and providing verbal, in-the-moment feedback to residents.

Mentor/Advisor. Reitz et al. (2013) noted that faculty members in residency training provide guidance to residents about clinical interests, development of a skill, or health/emotional wellbeing. This study suggests that a responsibility of behavioral science faculty on inpatient medicine teaching service who assume a Mentor/Advisor role focus on the health and emotional wellbeing of residents. Moreover, this study suggests that behavioral science faculty members who work on inpatient medicine teaching service provide guidance to residents about their own professional development outside of development of clinical skills.

Administrator. This study further suggests that there is variation between the general roles that behavioral science faculty fill as administrators in family medicine residency programs and the roles performed while working on inpatient medicine services. Behavioral science faculty did not report documenting resident participation, acting as a liaison to other departments, consulting with administration, evaluating the efficacy of the residency program,

and recruiting medical students, unlike what Armstrong et al. (1992) outlined. But similar to the Armstrong et al. (1992) data on the responsibilities of behavioral science faculty in an Administrator role, participants' responses in this study suggests that behavioral science faculty develop and integrate behavioral science curricula into the inpatient medicine teaching service setting. That is, most participants described assuming a responsibility of managing the curriculum. One new responsibility that emerged suggests that, administratively, behavioral science faculty coordinate and collaborate with resources within the hospital.

Scholar/Researcher. The research suggests a difference between the Scholar/Researcher role that behavioral science faculty perform while working on inpatient versus the general role performed as a behavioral science faculty member. That is, Armstrong et al. (1992) identify the role as having activities such as academic development, presentation and publication, and research. The responsibilities noted in the literature included behavioral science faculty to attend local and national conferences, participate in family medicine organizations, develop increased sensitivity to professional and ethical issues, publish on topics in medical training, serve as an editor or reviewer for journals, prepare research grants, and serve as grant reviewer. The overlapping responsibilities between the general researcher role performed (Armstrong et al. 1992) and inpatient Scholar/Researcher role included the behavioral science faculty to read current, evidence-based literature, collaborate with other departments in hospital to conduct original research, and supervise and consult on the research efforts of residents.

Community Service Liaison. Participants in the present study noted acting as a liaison between community groups and hospital, and participating in hospital boards which focused on health and social issues such as ethics. The Armstrong et al. (1992) framework suggests that there is overlap between the responsibilities. Particularly, the common responsibility shared

between the outpatient and inpatient environment is that a behavioral science faculty member participates in hospital boards which focus on health and social issues. The general responsibilities that they do not perform on inpatient, however, is presenting to school and civic groups and providing volunteer services through community organizations (Armstrong et al., 1992). The behavioral science faculty continue to serve their community through public service by engaging with others to address issues of physical and emotional health, health care, prevention, and other systemic concerns.

Gatekeeper. Similar to Reitz et al. (2013) discussion of the Gatekeeper role and responsibility in family medicine education, this study suggests that a behavioral science faculty member responsibility within the Gatekeeper role on inpatient medicine teaching service includes participating in evaluation committees to review resident evaluations. Although similar to the responsibilities within the Evaluator role, this responsibility is for the purpose of identifying residents who are ready to matriculate to the next level of the program.

Attitudes Toward Roles

Behavioral science faculty noted enjoying the roles they performed while working on the inpatient medicine teaching service and that their responsibilities match their job description. Many participants reported being satisfied with their job description as most reviewed the description annually with their residency director or chair, and the job description was vague enough so that it allowed the behavioral science faculty to be autonomous in their work. This was often described as being positive. Similarly, behavioral science faculty noted creating their own job description so that the responsibilities performed matched the participant's job description. Behavioral science faculty participants reported being independent, autonomous, and satisfied with the roles and responsibilities they performed.

The roles they appeared to like best, or enjoyed performing most, were Educator, Patient Care Supporter, Scholar/Researcher, Mentor/Advisor, Evaluator, and Administrator. This may be because most behavioral science faculty participants described their primary role and responsibilities as educating the residents while working on inpatient medicine teaching service. Similarly, the participants described providing direct patient care and being aware of the resident's emotional health and well-being during the rotation. The behavioral science faculty participants described the roles and responsibilities, at times, as overlapping with resident education and patient care responsibilities.

The roles they appeared to like least, or wished they performed less of, were Evaluator, Community Service Liaison, Administrator, and Gatekeeper. This may be because most behavioral science faculty members are mental health clinicians and aware of the dual relationships that occur in a professional environment. In residency education, a behavioral science faculty member's role in one situation may conflict her role in another. For example, a behavioral science faculty member who is in the role of Mentor/Advisor and enters into a supportive relationship with a resident may have difficulty performing in an Evaluator role should the faculty member need to provide critical feedback to a resident who is struggling (emotionally) throughout the inpatient medicine rotation. A behavioral science faculty member's awareness of dual relationships in residency education may impact what roles they enjoy and what roles they perform more or less of while working on the inpatient medicine teaching service. Overall, behavioral science faculty participants did not report feeling discomfort nor ineffective when assuming roles while working on the inpatient medicine teaching service.

Implications

Findings of the present study provide the first empirical framework that behavioral science faculty and hospital staff and administrators can use to optimize behavioral science faculty assignments in inpatient medicine teaching services. This framework moves family medicine faculty beyond Armstrong et al. (1992) model for behavioral science faculty to outline what working behavioral science faculty actually see themselves as contributing to inpatient medicine teaching service. They also point the way to further research of the roles and responsibilities of behavioral science faculty by inviting examination of evidence-based models for delivering education and care on inpatient medicine teaching service, training programs, and inform faculty and hiring committees who hire behavioral science faculty. Implications for such research impact resident education, behavioral science faculty, and marriage and family therapy training.

Research

Understanding the roles and responsibilities that behavioral science faculty perform while working on inpatient contributes to the literature in the field of family medicine. Behavioral science faculty do not have a conceptual model in which they work while participating on inpatient medicine service. This study does provide a framework in which researchers can build on to develop a conceptualized, evidence-based model. Future models can focus on best practices for behavioral science faculty on inpatient medicine teaching service. For example, outcome research can examine the impact of behavioral science faculty on inpatient medicine as it relates to educational outcomes for resident learning and clinical outcomes in patient care. That is, future research can use the ACGME milestones to measure resident competencies in behavioral science during the resident's first year of training (baseline – when the resident first

rotates through the inpatient medicine service) and track learning outcomes throughout their training on inpatient medicine until graduation.

Training

This present study provides a conceptualized framework of the roles and responsibilities of behavioral science faculty on inpatient medicine teaching service. The results of the study include training implications for mental health clinicians who would like to pursue a career as a behavioral science faculty. Training programs can begin to build competencies into the curriculum that include responsibilities outlined in the research. For example, participants described providing brief didactics, behavioral health interventions, and providing feedback to residents while on inpatient medicine. Traditional training programs can prepare mental health clinicians and educators to work within the fast-paced, acute inpatient environment.

Behavioral science faculty are trained in many different mental health disciplines. As suggested in this study, behavioral science faculty members have backgrounds such as marriage and family therapy, medical family therapy, psychology, licensed professional counseling, and social work. Although the mental health disciplines have different epistemologies and theoretical orientations from which they work, behavioral science faculty do not have comprehensive training to prepare for such roles. Programs which emphasize medical training can incorporate the information about behavioral science faculty roles and responsibilities by adding curriculum that reflect the reported outcomes in this research, i.e., Educator the most common reported role that behavioral science faculty assume while working on inpatient medicine.

Marriage and family therapy programs in particular could create a specialty track for students (master's and doctoral-level graduate students) to prepare students to be medical

educators in a medical residency. One approach might include creating course work for MFTs about medical education and how to be a clinical educator within such settings. Course work could include how to structure brief didactics on topics such as current diagnostic criteria for mental health disorders, evidence-based brief counseling strategies (e.g., BATHE, Motivational Interviewing), and case presentations. Another facet of the course could include how to evaluate residents in the inpatient medicine teaching service setting that includes summative and formative evaluations. For example, marriage and family therapy students could be taught the ACGME family medicine resident competencies and the evaluation methods to capture these competencies. Evaluation methods to teach could include the use of shift cards, or field notes, documenting on computer-based evaluation systems (i.e., New Innovations), and how to provide effective, brief verbal feedback to residents in between patient encounters.

Since most behavioral science faculty participants noted that clinical experience helped prepared them for their role as a behavioral science faculty member, MFT programs could also emphasize internships pre- and post-doctoral fellowships and internships that have a medical focus as part of such preparation. Fellowships and internships that are situated in a family medicine residency can integrate interns directly into the inpatient setting. The training of the fellow or intern could be similar to the curriculum in a MFT training program; however, the focus of the training site is on the application of such skills. For example, fellows or interns could be supervised on the inpatient medicine teaching service setting as they provide education and evaluation to residents. A supervisor could be present while the fellow or intern is on inpatient, and provide feedback on the fellow's or intern's teaching, how s/he gives feedback to the residents on their learning, supervise clinical care, and model how to provide education or evaluation to residents while on inpatient. This model would be similar to live supervision in a

traditional marriage and family therapy setting where a clinical supervisor observes a trainee's clinical work and provides feedback on the trainee's clinical skills.

Such a focus would also expand the clinical reach and relevance of MFT beyond its traditional homes in mental health agencies or private practices into the world of acute patient care, which has thus far only rarely felt the impact of systemic approaches and ideas. This would arguably help to significantly advance integrated and relationally based treatment concepts in the world of medicine which still today tends to focus on the individual in isolation from the human connections that give both critical support and meaning to our lives.

Hiring

Programs that are integrating the biopsychosocial-spiritual model (Wright, Watson, & Bell, 1996) into their longitudinal curriculum can use these results to better understand the expectations of the behavioral science faculty working on the inpatient teaching service. The present study illustrates what roles and responsibilities of behavioral science faculty who work on inpatient perform and is useful for those in hiring positions to reference. The results of this study provide a general outline of the roles and responsibilities that behavioral science faculty assume while on inpatient and can be used by hiring faculty and committees to generate questions during the hiring interview. For example, if a committee would like to integrate the behavioral science faculty member into the inpatient setting, the committee can use this framework to guide interview questions which include if a candidate has worked in a fast-paced environment and completed evaluations of residents within inpatient settings.

Role Boundaries

Behavioral science faculty members' discussion of the roles they liked most and least also suggests the importance of them and their supervisors acknowledging the potential conflicts

in their roles and perhaps drawing tighter boundaries around them. It may make sense, for example, in some settings for a behavioral science faculty member to recuse herself from serving as an evaluator for a resident with whom she has worked especially closely. Additionally, a faculty member serving as a community liaison might come into conflict with community members when switching to the role of Patient Care Supporter. Being more cognizant of these inherent challenges for behavioral science faculty may make them less frequent or at least more manageable. Furthermore, reducing the likelihood of role conflict may impact the behavioral science faculty's perception of roles they enjoy and want to perform while working on inpatient medicine.

Role Priorities

A final question this study raises, given the relatively large number of roles behavioral science faculty identify themselves as playing, is simply, should they be playing so many? While the roles they identify don't seem out of place, in the context of a busy hospital in an inpatient setting, is it possible the clinicians represented in this study may at times be spread too thin? While only one participant reported feeling that way, perhaps because they generally felt a high degree of autonomy in their work, there is still the question of whether one person should wear so many hats. Do we, as family medicine faculty, really want behavioral science faculty acting as community liaisons, or should an outreach office be doing that? Should they be serving as gatekeepers in the inpatient setting, where conditions tend to be acute and chronic and residents are focused more on learning critical care, as opposed to outpatient contexts, which tend to be medically less complex and consequences of errors somewhat less egregious? These would seem to be questions this study raises.

In an outpatient setting, behavioral science faculty would be called on to perform the roles reported in this study; however, in an inpatient environment, behavioral science faculty should consider not performing role as Gatekeeper or Community Service Liaison as the role was perceived to be mostly assumed while working in an outpatient setting and there are multiple providers in a hospital that can provide community service support (e.g., medical social workers) to patients, respectively.

Limitations

The present study contributes to the understanding of the roles and responsibilities of behavioral science faculty on inpatient medicine teaching service. This study is one of the first to investigate the roles and responsibilities of behavioral science faculty on inpatient medicine teaching service. Despite its useful contributions, the study has limitations which include sampling and self-reported data.

Sampling limitations affected the quantitative and qualitative analysis. I recruited behavioral science faculty through listservs and included in the subject, “Inpatient Medicine Survey (3-5 minutes).” One hundred and thirteen ($N = 113$) behavioral science faculty responded to the survey. Of the 113 participants, 60 ($n = 60$) participant responses were analyzed to determine the roles of behavioral science faculty. Approximately 15% of the behavioral science faculty population was analyzed for roles performed on inpatient. It would have been ideal for a greater number of participants to be analyzed; however, out of the 113 ($N = 113$), 60 participants either (1) did not complete the survey, or (2) did not participate on inpatient medicine service. Given the recruitment strategy in the subject line of the email and responses to the web-based survey, data suggests that the majority of behavioral science faculty do not participate on inpatient medicine teaching service. Though participation may not have been

controlled using a different recruitment strategy due to limited behavioral science faculty participating on inpatient medicine teaching service, I would consider using the annual STFM Behavioral Science Forum meeting to recruit participants to take the quantitative survey.

There are inherent limitations in self-reported, web-based surveys (Wright, 2006). Participants were able to contact me directly for question; however, the data suggests that participants did not complete the survey or could have reported incorrect roles and/or accessed the survey twice to complete and report different roles. In web-based research, it is difficult to control for the weaknesses of internet research such as sampling issues (Wright, 2006). For example, participants may select incorrect responses during web-based surveys and not accurately report answers. It would be useful to follow-up and verify the roles reported with each participant and limit access to only allow the participant to take the survey once.

Future Research

Considering the large number of behavioral science faculty who identify themselves as marriage and family therapists and medical family therapists, this study has special relevance for family therapy training and research. Specifically, for marriage and family therapy programs that claim to specialize in medical family therapy, how many specifically train graduates to work as behavioral science faculty? What kinds of research are behavioral science faculty who identify as MFTs and MedFTs specifically trained to do? To what extent are family systems trained behavioral science faculty necessary to a well-developed inpatient medicine training service?

As noted before, marriage and family therapy programs could create a specialty track for students who are interested in becoming a behavioral science faculty member in a residency program. Curriculum in such programs could include teaching students the terminology of

inpatient medicine and residency settings, how to develop and implement behavioral science curriculum into inpatient medicine service settings (e.g., psychiatric diagnostics, brief counseling strategies), evaluate residents using ACGME competencies, and navigate the operational aspects of inpatient medicine which includes documentation about patient care and billing for clinical services.

Though the present study contributes to understanding the roles and responsibilities of behavioral science faculty on inpatient medicine service, additional research will be useful in advancing the field of behavioral science. Future research can focus on the roles that behavioral science faculty members performed most and performed least while working on an inpatient medicine service, and what roles behavioral science faculty members would like to do more or less of while so engaged. Such information could also inform behavioral science faculty negotiating roles and responsibilities in the inpatient medicine setting, and aid in creating more effective and realistic professional contracts with supervisors.

Another common role that behavioral science faculty participants reported is patient care support. As such, future research in the area of cost effectiveness of behavioral science faculty interventions on inpatient is important. Recent research suggests that resident's using BATHE as an intervention on inpatient medicine service improves patient satisfaction (Allen, 2015). Research in this area is important as hospital systems begin to measure patient outcomes (medical cost, health outcomes, and patient satisfaction) and hospital reimbursement reviews hospital performance as an indicator of healthcare performance, e.g., Press-Ganey. As behavioral science faculty integrate into the inpatient setting, researchers can explore the impact of behavioral science faculty members' brief interventions on patient outcomes and costs.

Other future research can focus on behavioral science faculty competencies as it relates to family medicine residency education. This research can help inform competency development in training programs and later focus on developing milestones for mental health trainees who want to be a behavioral science faculty member. Given that the behavioral science field is multidisciplinary and does not have a particular set of credentials, researchers can review the competencies within each mental health discipline (i.e., medical family therapy, marriage and family therapy, psychology, social work) and identify areas that educators can develop to include course work to prepare trainees/interns for a career in behavioral science. Finally, integrated care is becoming a standard of care in primary care settings and involves having multi providers from different specialties working together to deliver comprehensive care. As such, researchers can focus on the role and responsibilities of behavioral science faculty when there are multiple learners working on inpatient medicine teaching service, e.g., medical family therapy fellows and family medicine residents.

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Appendix A

Roles of Behavioral Science Faculty in Family Medicine

Responsibility	Description of Activity
Education	
<i>Resident Education</i>	<ul style="list-style-type: none"> • Family awareness and family-oriented care • Biopsychosocial assessment • Biopsychosocial management • Personal/professional relationships • Human development • Doctor/patient relationships • Sociocultural and ethical issues
<i>Educational activities</i>	<ul style="list-style-type: none"> • Assessing educational needs • Preparing and presenting lectures and seminars • Precepting in the ambulatory setting • Videotape reviewing of patient-resident interactions • Making hospital rounds • Consulting with residents on issues of diagnosis and treatment planning • Supervising residents in counseling and joint counseling for educational purposes • Evaluating resident competencies in the psychosocial and behavioral aspects of patient care
<i>Other Learner</i>	<ul style="list-style-type: none"> • Include Behavioral Science Faculty teaching aforementioned topics to medical students, residents in psychiatry, as well as graduate and postgraduate students in other health professions and in the nonclinical social sciences.
Administration	
<i>Behavioral Science curriculum and resident training</i>	<ul style="list-style-type: none"> • Developing and evaluating the curriculum • Organizing didactic conferences and small group seminars • Documenting resident participation in the curriculum • Integrating the behavioral science curriculum into the department/program's overall educational efforts • Acting as a liaison to other departments/programs involved in resident training • Consulting with residency administrators regarding resident impairment and rehabilitation • Evaluating the overall efficacy of the residency program • Recruiting medical students into the residency program
<i>Activities within departments/programs</i>	<ul style="list-style-type: none"> • Participating in department/program meetings and serving on committees • Supervising staff and contributing to staff development activities • Preparing and administering grants and budgets • Administering patient education programs • Participating in case management, quality assurance, and utilization

	<ul style="list-style-type: none"> review Administering the department's mental health services program Consulting with the department/program administration regarding faculty and support staff
Patient Care	
	<ul style="list-style-type: none"> Consulting with residents and medical faculty on issues of patient mental health Providing diagnostic assessments of individual patients and families Providing psychological assessments, for example, personality, intellectual, and neuropsychological assessments Treating patients and families, for example, individual, couples, and family psychotherapy, group psychotherapy, counseling, and crisis intervention Consulting on pharmacological treatment Providing referral and liaison services with regard to community resources Treating patients and families jointly with physician faculty and residents
Professional Development, Scholarship, and Research	
<i>Academic Development</i>	<ul style="list-style-type: none"> Reading the current literature in the disciplines of psychology, psychiatry, marriage and the family, medicine, and medical education Attending local and national conferences sponsored by these disciplines Maintaining collaborative relationships with colleagues and seeking consultation for problems encountered in training, clinical practice, and other professional activities Participating in family medicine organizations Developing increased sensitivity to professional and ethical issues
<i>Presentation and Publication</i>	<ul style="list-style-type: none"> Presenting at local and national conferences and other educational settings Publishing on topics in medical training, clinical practice, and original research in the areas of health and health care Serving as an editor or reviewer for related journals
<i>Research</i>	<ul style="list-style-type: none"> Preparing research grants Conducting original research Supervising and consulting on the research efforts of other faculty and residents Serving as grant reviewer for research or educational grant programs
Community Service	
	<ul style="list-style-type: none"> Presenting to school and civic groups Participating in community organizations, boards, and task forces focusing on health and social issues Providing volunteer service

Armstrong, P., Fischetti, L. R., Romano, S. E., Vogel, M. E., & Zoppi, K. (1992). Position paper on the role of behavioral science faculty in family medicine. *Family Systems Medicine, 10*, 257-263. doi: 10.1037/h0089032

Appendix B

Visual Model for Mixed-Method Sequential Explanatory Design Procedures

Phase	Procedure	Product
<div style="border: 1px solid red; border-radius: 10px; padding: 5px; width: fit-content; margin: auto;"> QUANTITATIVE Data Collection </div>	Web-based survey	Numeric data
↓		
<div style="border: 1px solid red; border-radius: 10px; padding: 5px; width: fit-content; margin: auto;"> QUANTITATIVE Data Analysis </div>	Data screening Frequencies SPSS quan. Software v.22	Descriptive statistics, missing data Descriptive statistics
↓		
<div style="border: 1px solid blue; border-radius: 10px; padding: 5px; width: fit-content; margin: auto;"> Connecting Quantitative and Qualitative Phases </div>	Developing interview questions	Cases Interview protocol
↓		
<div style="border: 1px solid red; border-radius: 10px; padding: 5px; width: fit-content; margin: auto;"> QUALITATIVE Data Collection </div>	Individual in-depth telephone interviews	Text data (interview transcripts)
↓		
<div style="border: 1px solid red; border-radius: 10px; padding: 5px; width: fit-content; margin: auto;"> QUALITATIVE Data Analysis </div>	Coding and thematic analysis nVivo qualitative software	Codes and themes Similar and different themes and categories
↓		
<div style="border: 1px solid blue; border-radius: 10px; padding: 5px; width: fit-content; margin: auto;"> Integration of the Quantitative & Qualitative Results </div>	Interpretation and explanation of the quantitative and qualitative results	Discussion Implications Future research

Adapted from p. 16 of Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods*, 18, 3-20. doi: 10.1177/1525822X05282260.

Appendix C

Recruitment Emails

Recruitment Email/Letter for Quantitative Sample (Qualtrics)

Dear Colleagues,

I apologize in advance for cross posting.

This is a friendly reminder that I am completing my dissertation research on the roles that behavioral science faculty fill within family medicine residencies who work in an inpatient medicine teaching service. This research is not on behalf of the Wake Forest Family Medicine Residency but rather through Virginia Tech. I would like to invite you to participate.

If you are a behavioral science faculty member within a family medicine residency, then please continue to read.

The first step is completing a brief (3-5 minute) online survey to provide your demographic information. In exchange, we will be happy to provide you a summary of our overall findings. Based on our sampling criteria, we would like to invite some participants to also complete a key informant, 15- and 20-minute phone interview. The decision to participate or not will have no effect on your employment.

To participate in the brief survey:

https://virginiatech.qualtrics.com/SE/?SID=SV_1ESiHVC5TOCRhWZ

Please e-mail or call me should you have any questions:

Email: lsudano@vt.edu

Phone: 516-659-4408

Thank you for joining in this important research.

Best,
Laura

Recruitment Email/Letter for Quantitative Sample (Qualtrics)

Dear Program Director,

This is Daryl Rosenbaum, the program director of the Wake Forest Family Medicine Residency. Laura Sudano, our behavioral science faculty member, is completing research on the roles that behavioral science faculty fill within family medicine residencies who work in an inpatient medicine teaching service. I would like to invite your behavioral science faculty member to participate.

If you are a behavioral science faculty member within a family medicine residency, then please continue to read. If not, please forward onto a behavioral science faculty member.

The first step is completing a brief (3-5 minute) online survey to provide your demographic information. Based on Laura's sampling criteria, she will then invite some participants to also complete a key informant, 15- to 20-minute phone interview. If you choose to participate in the telephone interview, you may choose to receive a summary of research findings and implications once the study has been completed.

To participate in the brief survey, <<survey link here>>.

Thank you for joining in this important research.

Dr Daryl Rosenbaum
Program Director

Follow-up Recruitment Email/Letter for Quantitative Sample (Qualtrics)

Dear Program Director,

This is a friendly reminder that Laura Sudano, our behavioral science faculty member, is completing research on the roles that behavioral science faculty fill within family medicine residencies who work in an inpatient medicine teaching service. This research is not on behalf of the Wake Forest Family Medicine Residency but rather through Virginia Tech. Laura Sudano would like to invite your behavioral science faculty member to participate. If you haven't done so already, would you mind forwarding this message to him/her?

If you are a behavioral science faculty member within a family medicine residency, then please continue to read. If not, please forward onto a behavioral science faculty member.

The first step is completing a brief (3-5 minute) online survey to provide your demographic information. In exchange, Laura will be happy to provide you a summary of our overall findings. Based on Laura's sampling criteria, she will then invite some participants to also complete a key informant, 15- to 20-minute phone interview. The decision to participate or not will have no effect on your employment.

To participate in the brief survey:

https://virginiatech.qualtrics.com/SE/?SID=SV_1ESiHVC5TOCRhWZ

Please e-mail or call Laura Sudano should you have any questions:

Email: lsudano@vt.edu

Phone: 516-659-4408

Thank you for joining in this important research.

Dr Daryl Rosenbaum
Program Director

Recruitment Email/Letter for Qualitative Sample (Phone Interview)

Hello,

You are receiving this email because you completed an online survey about the roles and responsibilities of Behavioral Science Faculty on inpatient medicine teaching service within Family Medicine Residencies. You elected to take part in the 15- to 20-minute, key-informant interview. Thank you for your time.

Based on your willingness to be interviewed, we would like to include you in our sample of key-informant behavioral science faculty. Over the next month we will conduct 15-20 minute phone interviews to better understand the roles that behavioral science faculty fill within family medicine residencies who work in an inpatient medicine teaching service. Please see the attached informed consent for details as you will have an opportunity to ask questions before the phone interview.

Please select from dates/times below that would work well for you to be interviewed:

- <<List of dates/times>>

If you no longer wish to participate in the research interview, or have additional questions before participating, please let us know with a reply to this email or call Laura Sudano, co-investigator, at 336-716-7317.

Best,

<<NAME OF TEAM MEMBER>>

Appendix D

Quantitative Survey Questions (Qualtrics)

I. Screening Questions

1. **Are you over the age of 18?**

- Yes
- No

IF NO, SURVEY SKIPS TO END

2. **Do you identify as *Behavioral Science Faculty Member* in a Family Medicine Residency (meaning, you are a Medical Family Therapist, Marriage and Family Therapist, Psychologist, LCSW, or other mental health care provider working within a family medicine residency)?**

- Yes
- No

IF NO, SURVEY SKIPS TO END

3. **Have you worked as a Behavioral Science Faculty member for a year or more?**

- Yes
- No

IF NO, SURVEY SKIPS TO END

II. Demographics

INDIVIDUAL CONTEXT

The first set of questions will ask you about information related to you as a practitioner.

4. **What is your highest level of education?**

- BA
- BS
- MA
- MS
- PsyD
- PhD
- MD
- DO
- Other: Fill in the blank

5. **What was your program of study for your clinical degree? In other words, do you hold a degree in Human Development, Marriage and Family Therapy, Medical Family Therapy, Primary Care Psychology, Social Work, or other mental or medical health care field? List all that apply.**

- Fill in the blank
- Not applicable

6. **As a practitioner, what do you see as your professional identity? Mark all that apply.**

- Medical Family Therapist
- Marriage and Family Therapist
- Clinical Psychologist
- Counseling Psychologist
- Primary Care Psychologist
- Licensed Clinical Social Worker
- Nurse Practitioner
- Medical Education Specialist
- Doctor of Osteopathic Medicine (DO)
- Doctor of Allopathic Medicine (MD)
- Other: _____

7. **For how many years, in total, have you worked within a family medicine residency as Behavioral Science Faculty?**

- Dropdown box with years

OUTPATIENT CONTEXT

The next set of questions will ask you about information related to your practice within the outpatient setting.

8. **Which of the following best describes your family medicine residency setting?**

- Rural (all population, housing, and territory located outside of an urban area)
- Suburb (densely developed territory that has at least 2,500 people but fewer than 50,000 people)
- Urban (densely developed territory that contains 50,000 or more people)
- City (an area that consists of one or more counties that contain a city of 50,000 or more people, or contain an urban area and have a total population of at least 100,000)
- Other: Fill in the blank

9. **Which of the following best describes your family medicine residency setting?**

- Community-based (geared toward providing clinical service)
- University-based (geared toward teaching, research, and academia)
- Other: Fill in the blank

10. **Do you currently practice as a Behavioral Science Faculty member within your program's inpatient medicine teaching service?**

- Yes
- No

IF YES, CONTINUE TO QUESTION 11 (NEXT QUESTION)

IF NO, SURVEY SKIPS TO END

11. **For how many years have you worked in the inpatient medicine teaching service setting?**

- Dropdown box with years

INPATIENT MEDICINE TEACHING SERVICE CONTEXT

The last set of questions will ask you about information related to your practice within the inpatient medicine teaching service setting. Here, the inpatient medicine teaching service is defined by family medicine residents who practice within a hospital setting under the supervision of attending physicians.

12. **How often do you join family medicine residents and faculty in the inpatient medicine teaching service?**

- Less than monthly
- Monthly
- Twice monthly
- Once weekly (half or full day)
- Twice weekly (half or full day)
- 3-5 times/week (half or full day)
- Other: Fill in the blank

13. **What role(s) do you fill while working in inpatient medicine teaching service? (Mark all that apply and/or write your own in the blank).**

- Educator (teaches biopsychosocial curriculum to residents, helps residents increase awareness of psychosocial and behavioral factors in health, etc.)
- Patient Care (consults with residents on patient care, provides referrals and clinical care to patients, etc.)
- Scholar/Researcher (reads current literature, maintains collaborative relationships with colleagues and seeks consultation for problems encountered in training/clinical practice, prepares grants, conducts research, etc.)
- Community Service (participates in community task forces, boards, organizations, etc.)
- Administrator (develops/evaluates curriculum, documents resident participation, evaluates efficacy of the residency program, etc.)
- Mentor/Advisor (helps guide a resident on clinical interest or development of a skill, provides information on maintenance of work-life balance, etc.)
- Evaluator (completes summative assessments of residents/learners)
- Gatekeeper (controls access to entry into a system such as determining if a learner is qualified to matriculate through levels of a program)
- Fill in the blank

14. [Based on the participant's response(s) to Question #13] Order the roles you selected from the **most to least time** that you spent **performing** each role.

15. [Based on the participant's response(s) to Question #13] You described the roles that you fill in the inpatient, would you please rank them in **order of importance**? (1 = Most Important and 10 = Least Important)

16. Which of the following roles do you wish you could be doing **more of** while working on the inpatient medicine teaching service? (Mark all that apply)

- Educator (teaches biopsychosocial curriculum to residents, helps residents increase awareness of psychosocial and behavioral factors in health, etc.)
- Patient Care (consults with residents on patient care, provides referrals and clinical care to patients, etc.)

- Scholar/Researcher (reads current literature, maintains collaborative relationships with colleagues and seeks consultation for problems encountered in training/clinical practice, prepares grants, conducts research, etc.)
- Community Service (participates in community task forces, boards, organizations, etc.)
- Administrator (develops/evaluates curriculum, documents resident participation, evaluates efficacy of the residency program, etc.)
- Mentor/Advisor (helps guide a resident on clinical interest(s) or development of a skill, provides information on maintenance of work-life balance, etc.)
- Evaluator (completes summative assessments of residents/learners)
- Gatekeeper (controls access to entry into a system such as determining if a learner is qualified to matriculate through levels of a program)
- Fill in the blank

17. Which of the following roles are you performing that you wish you could be doing **less of** while working on the inpatient medicine teaching service? (Mark all that apply)

- Educator (teaches biopsychosocial curriculum to residents, helps residents increase awareness of psychosocial and behavioral factors in health, etc.)
- Patient Care (consults with residents on patient care, provides referrals and clinical care to patients, etc.)
- Scholar/Researcher (reads current literature, maintains collaborative relationships with colleagues and seeks consultation for problems encountered in training/clinical practice, prepares grants, conducts research, etc.)
- Community Service (participates in community task forces, boards, organizations, etc.)
- Administrator (develops/evaluates curriculum, documents resident participation, evaluates efficacy of the residency program, etc.)
- Mentor/Advisor (helps guide a resident on clinical interest(s) or development of a skill, provides information on maintenance of work-life balance, etc.)
- Evaluator (completes summative assessments of residents/learners)
- Gatekeeper (controls access to entry into a system such as determining if a learner is qualified to matriculate through levels of a program)
- Fill in the blank

18. **Thank you for your time and participation. Would you like to receive a summary of the results?**

- Yes
- No

If yes, what is the best form of contact (select one)?

- Address: Fill in the blank
- Email: Fill in the blank
- Other: Fill in the blank

19. **Would you be willing to participate in a 15-20 minute phone interview to explore your role within the inpatient medicine setting in your family medicine residency? Your participation in this interview would help the field of family medicine education and**

advance our understanding of the roles behavioral science faculty fill while working within such settings.

*****IF NO, SURVEY SKIPS TO END*****

*****IF YES, SURVEY CONTINUES TO SECTION III. INTERVIEWEE INFORMATION BELOW*****

III. Interviewee Information

Please fill out the information below so that one of the researchers may contact you to schedule a phone interview.

1. **Name:** First Last
2. **Phone Number:** _____
3. **E-mail:** _____
4. **Address:** _____

The researcher will contact you at the aforementioned information. The researcher can contact you by (Mark all that apply):

- Phone
- E-mail
- Address
- Other: Fill in the blank

Appendix E

Informed Consent

Title of Project: Roles and Responsibilities of Behavioral Science Faculty within Family Medicine Residencies in Inpatient Medicine Teaching Service

Investigators: Laura Sudano, MA; Scott Johnson, PhD; Yana Klein, BS; Michelle Keating, DO

I. Purpose of this Research

The purpose of this research project is to investigate the roles and responsibilities that behavioral science faculty fill in the inpatient medicine teaching services within family medicine residencies. The questions included in this research project will help to identify these roles and the responsibilities included within each respective role. The study's information will be made available to other researchers who are studying behavioral science education within residencies or programs that are designed to include behavioral science in the curriculum. The results of this study may be shared with the scientific and medical education communities through presentations, publications, and dissertation; however no information will be used that could identify you.

II. Procedures

Behavioral science faculty working within family medicine residencies and who participate in inpatient medicine teaching services (e.g., hospitals) will be asked to participate in the 15- to 20-minute phone interview. If you'd like to participate in the 15- to 20-minute phone interview, the researcher will ask you to elaborate on those roles you identified within the brief online survey.

III. Risks

The risks of participating in this study are minimal. All of your answers are confidential and will be encrypted and kept on a password-protected computer. All reported answers will not be linked or associated with identifying information during the writing of transcription and/or final reports. Answering some items might possibly remind you of negative events or lead you to feel uncomfortable. During the phone interview, you may choose not to answer any questions that make you feel uncomfortable and you may choose to leave the study at any time without repercussion.

IV. Benefits

While there is no guarantee that you will benefit from being in this research project, you might experience some personal benefits. For instance, you may feel a sense of personal satisfaction knowing that you have contributed to a better understanding of the roles of behavioral science faculty that can benefit not only your level of awareness of your own roles within your work environment, but the larger medical education community. Comparing the risks of being in this study to the benefits of being in this study suggests that the benefits may be greater than the risks.

V. Extent of Anonymity and Confidentiality

Your participation in this research study is confidential. Any directly identifying information will be removed from the phone interview. All information collected during this research study will be stored in secure locations. Only members of the research team will have access to this data. An encrypted database containing your answers with no directly identifying information will be kept for seven years before it is destroyed by the researcher. Only the research team will have access to this data.

VI. Compensation

There is no monetary compensation offered to participate in this research study.

VII. Withdrawal Procedures

You do not have to be a part of this research study. If you agree to participate, you can stop at any time during the research process, i.e., during the phone interview. You may choose to withdraw without negative consequences; that is, no bad things will happen if you choose to stop.

VIII. IRB Contact Information

If you have any study-related questions about this research project, please contact:

Laura Sudano (336) 716-7317 lsudano@vt.edu

If you have questions about your right as a human subject research participant, you can contact:

David Moore, IRB (540) 231-4991 moored@vt.edu

I HAVE READ THIS INFORMED CONSENT FORM AND HAVE HAD THE CHANCE TO ASK QUESTIONS ABOUT THIS RESEARCH STUDY. I UNDERSTAND WHAT IS BEING ASKED OF ME AND I AM PREPARED TO PARTICIPATE IN THIS STUDY.

- Yes
- No

If participant selects “Yes”, they will continue on with the interview and answer questions where they choose.

If the participant selects “No”, they will be thanked for their participation and no interview will be given.

Appendix F

Qualitative Interview Questions (Phone Interview)

You were sent a consent form prior to this phone interview via email. Have you read the consent form? ____ Yes ____ No

Do you have any questions or concerns at this time? ____ Yes ____ No

As a reminder, this research is looking at the roles Behavioral Science Faculty fill in inpatient medicine teaching services. During this phone interview, you may stop at any time and/or choose when and where to answer each question without punishment in anyway. I will be asking you questions regarding the structure of the inpatient medicine teaching service, the role that you play, and the activities performed within each role.

Do you give verbal consent for this phone interview? ____ Yes ____ No

Is it ok that I begin recording now? ____ Yes ____ No

The first set of questions that I will ask is about the structure of the inpatient medicine teaching service.

I. Structure of Inpatient Medicine Teaching Service

1. **Walk me through what a typical day of your inpatient medicine teaching service work looks like for residents within your setting.**
2. **Walk me through what a typical day of your inpatient medicine teaching service work looks like for you within your setting.**
3. *[Highlight/Circle the reported roles prior to the interview].* **On the online survey that you completed, you described your inpatient role(s) as Educator, Patient Care, Scholar/Researcher, Community Service, Administrator, Mentor/Advisor, Evaluator, Gatekeeper, and/or Other: _____. Is that still accurate or would you like to add more roles that you fill while working in the inpatient teaching service?**

II. The final set of questions that I will ask is about each role you described and the responsibilities you have within each respective role.

A. _____ *[This blank will be filled by the Qualtrics survey that asks about the roles the participant fills while working in inpatient medicine teaching service, e.g., teacher]*

1. When you are in the _____ role, what are the responsibilities that you have?
 - a. *Prompt:* Please provide an example of a time when you are in the _____ role.

- B. _____ [This blank will be filled by the Qualtrics survey that asks about the roles the participant fills while working in inpatient medicine teaching service, e.g., evaluator]
2. When you are in the _____ role, what are the responsibilities that you have?
 - a. *Prompt:* Please provide an example of a time when you are in the _____ role.
- C. _____ [This blank will be filled by the Qualtrics survey that asks about the roles the participant fills while working in inpatient medicine teaching service, e.g., patient care]
3. When you are in the _____ role, what are the responsibilities that you have?
 - a. *Prompt:* Please provide an example of a time when you are in the _____ role.
- D. _____ [This blank will be filled by the Qualtrics survey that asks about the roles the participant fills while working in inpatient medicine teaching service, e.g., patient care]
4. When you are in the _____ role, what are the responsibilities that you have?
 - a. *Prompt:* Please provide an example of a time when you are in the _____ role.
- E. _____ [This blank will be filled by the Qualtrics survey that asks about the roles the participant fills while working in inpatient medicine teaching service, e.g., patient care]
5. When you are in the _____ role, what are the responsibilities that you have?
 - a. *Prompt:* Please provide an example of a time when you are in the _____ role.
- F. _____ [This blank will be filled by the Qualtrics survey that asks about the roles the participant fills while working in inpatient medicine teaching service, e.g., patient care]
6. When you are in the _____ role, what are the responsibilities that you have?
 - a. *Prompt:* Please provide an example of a time when you are in the _____ role.
- G. _____ [This blank will be filled by the Qualtrics survey that asks about the roles the participant fills while working in inpatient medicine teaching service, e.g., patient care]
7. When you are in the _____ role, what are the responsibilities that you have?
 - a. *Prompt:* Please provide an example of a time when you are in the _____ role.

H. _____ [This blank will be filled by the Qualtrics survey that asks about the roles the participant fills while working in inpatient medicine teaching service, e.g., patient care]

8. When you are in the _____ role, what are the responsibilities that you have?

a. *Prompt:* Please provide an example of a time when you are in the _____ role.

I. _____ [This blank will be filled by the Qualtrics survey that asks about the roles the participant fills while working in inpatient medicine teaching service, e.g., patient care]

9. When you are in the _____ role, what are the responsibilities that you have?

a. *Prompt:* Please provide an example of a time when you are in the _____ role.

III. Concluding Remarks

1. [If the participant selected **more than one professional identity**, highlight/circle the professional identities and ask the following question] **You described your professional identity as a(n) MedFT, MFT, Clinical Psychologist, Counseling Psychologist, Primary Care Psychologist, LCSW, Nurse Practitioner, Medical Education Special, DO, MD, and/or Other: _____ . How do your various identities influence how you approach your roles as a BEHAVIORAL SCIENCE FACULTY on inpatient medicine teaching service?**
 - a. *Prompt:* **What identity influences your approach to your position most?**
 - b. *Prompt:* **Which one do you identify with most closely?**
2. **What areas of your training prepared you for your roles as behavioral science faculty?**
 - a. *Prompt:* **What areas of your training lacked in preparing you for your roles as behavioral science faculty?**
3. **How much, if at all, do your responsibilities match your job description?**
 - a. *Prompt:* **How do you feel about the amount your responsibilities matching your job description?**
4. **Is there anything else that you have wanted to discuss or share that I have not asked you about?**

Thank you for your time and participation. Would you like a copy of the results?

Yes _____ No _____

If yes, what is the best form of contact (circle one)? Address or E-mail

Address: _____

E-mail: _____

END

Appendix G

Virginia Tech IRB Approval Letter (Original)



Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4806 Fax 540/231-0959
email irb@vt.edu
website <http://www.irb.vt.edu>

MEMORANDUM

DATE: January 7, 2015
TO: Scott W Johnson, Laura Sudano
FROM: Virginia Tech Institutional Review Board (FWA00000572, expires April 25, 2018)
PROTOCOL TITLE: Behavioral Science Faculty on IMTS
IRB NUMBER: 14-228

Effective January 6, 2015, the Virginia Tech Institutional Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<http://www.irb.vt.edu/pages/responsibilities.htm>

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As: Expedited, under 45 CFR 46.110 category(ies) 6,7
Protocol Approval Date: January 6, 2015
Protocol Expiration Date: January 5, 2016
Continuing Review Due Date*: December 22, 2015

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
An equal opportunity, affirmative action institution

Virginia Tech IRB Approval Letter (Final)



Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0959
email irb@vt.edu
website <http://www.irb.vt.edu>

MEMORANDUM

DATE: July 22, 2015
TO: Scott W Johnson, Laura Sudano, Yana Klein, Michelle K Keating
FROM: Virginia Tech Institutional Review Board (FWA00000572, expires April 25, 2018)
PROTOCOL TITLE: Behavioral Science Faculty on IMTS
IRB NUMBER: 14-228

Effective July 21, 2015, the Virginia Tech Institutional Review Board (IRB) Chair, David M Moore, approved the Amendment request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<http://www.irb.vt.edu/pages/responsibilities.htm>

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As: Expedited, under 45 CFR 46.110 category(ies) 6,7
Protocol Approval Date: January 6, 2015
Protocol Expiration Date: January 5, 2016
Continuing Review Due Date*: December 22, 2015

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

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VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
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Appendix H

Interviewer Guide

BEFORE INTERVIEW

- Call (P-27)/Email (all other) to schedule your interview with the participant.
- Email the participant the **Consent Form**.
- Call/Email the participant two (2) days *in advance* to remind them of the date/time of the interview.

DAY OF INTERVIEW

- Arrive to Laura’s office 20 minutes *prior* to interview so you can set-up.
- Place sign that says “STOP research in progress...” on the door.
- Plug your iPhone or Apple device into the charger on the modem.
- Pull up “iTalk” on the iPhone or Apple device and input participant number into “recording”, e.g., P01
- Go to the bottom drawer in the small file cabinet to the left of Laura’s computer workstation.
- Take out the *Interview Questions* from file labeled, “Interview Quest.”
- Go to the U: drive on the computer and open the Quantitative data file titled, “BSF_Research Team.”
- Look for your participant with ID number and match with your participant name.
- Write your participant ID number on the *Interview Questions* script.
- Record your name and date/time on all pages.
- Using the data file, highlight/circle reported:
 - a. **Roles**; and
 - b. **Professional identity/identities**.
- “Fill in the blank” the roles under *Section II. Roles/Responsibilities*.
- “Fill in the blank” under *Section III. Concluding Remarks* the “Other” professional identity, if applicable.

AFTER THE INTERVIEW

- Plug your phone or Apple device into Laura’s computer to upload the audio file.
- When prompted, click “Trust” on your iPhone/Apple device.
- Open iTunes and click on the device (phone/Apple device).
- Download your interview.
- Save audio in the U: drive to Research → BSF on IMTS → Data → Qualitative → Audio
- Place “Interview Questions” and any other notes in the **large** file cabinet under the respective participant number, i.e., P01, P02, etc.
- Go into the audio file and play this to make sure it uploaded correctly.
- Do NOT delete

FEW IMPORTANT NOTES

1. Make sure that your phone/Apple device **has enough storage** for the interview!
2. Make sure your phone/Apple device is **fully charged**.
3. Please remember to **upload** the interview from your phone to the computer **right away**. I have lost data by not doing this afterwards.
4. Once you downloaded the interview, open the folder and check to see if you can hear the interview.

CHEAT SHEET: ROLES

1. **Educator** (teaches biopsychosocial curriculum to residents, helps residents increase awareness of psychosocial and behavioral factors in health, etc.)
2. **Patient Care** (consults with residents on patient care, provides referrals and clinical care to patients, etc.)
3. **Scholar/Researcher** (reads current literature, maintains collaborative relationships with colleagues and seeks consultation for problems encountered in training/clinical practice, prepares grants, conducts research, etc.)
4. **Community Service** (participates in community task forces, boards, organizations, etc.)
5. **Administrator** (develops/evaluates curriculum, documents resident participation, evaluates efficacy of the residency program, etc.)
6. **Mentor/Advisor** (helps guide a resident on clinical interest(s) or development of a skill, provides information on maintenance of work-life balance, etc.)
7. **Evaluator** (completes summative assessments of residents/learners)
8. **Gatekeeper** (controls access to entry into a system such as determining if a learner is qualified to matriculate through levels of a program)