

PLACE IN RETURN BOX to remove this checkout from your record.
TO AVOID FINES return on or before date due.
MAY BE RECALLED with earlier due date if requested.

DATE DUE	DATE DUE	DATE DUE

**TITLE: INTERDISCIPLINARY COLLABORATION
FACTORS THAT INFLUENCE COLLABORATIVE EXPERIENCES AMONG
HOSPICE TEAM MEMBERS**

By

Rie Kobayashi

A DISSERTATION

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

DOCTOR OF PHILOSOPHY

Social Work

2009

ABSTRACT

INTERDISCIPLINARY COLLABORATION: FACTORS THAT INFLUENCE COLLABORATIVE EXPERIENCES AMONG HOSPICE TEAM MEMBERS

By

Rie Kobayashi

Today, an estimated 1.2 million Americans receive hospice or palliative care annually (NHPO, 2006). This is one out of every three terminally ill individuals. As the baby boomer generation approaches its senior years, a rapid increase in the aging population will likely contribute to a greater use of hospice care in the next decades. Although the interdisciplinary team represents a significant part of hospice philosophy and care delivery, there is a lack of research examining the effects of the use of hospice interdisciplinary teams in general. Only a small number of published studies have empirically investigated the processes, benefits, or effectiveness of hospice interdisciplinary teams (Amundson, 2005; Merriman, 1999; Parker-Oliver & Peck, 2006).

The purpose of this research study was to deepen an understanding of the processes of interdisciplinary collaboration in hospice and influencing variables that aid or hinder collaborative work. In this study, both quantitative and qualitative research methodologies were employed. One hundred and twenty-six hospice nurses, physicians, spiritual care providers, and social workers completed a survey questionnaire. Twenty hospice professionals from the disciplines of nursing, medicine, spiritual care, and social work participated in the phone interview and shared their thoughts on the strengths of and barriers to interdisciplinary collaboration, their professional contributions on a team, and the practice of interdisciplinary team effectiveness evaluation.

Quantitative findings revealed that professional affiliation (commitment to one's profession), organizational characteristics (organizational support toward collaboration), personal characteristics and relationships among collaborators (positive feelings toward colleagues), quality of care (benefits of team care), and job satisfaction all had statistically significant associations with the degree of perceived interdisciplinary collaboration. In addition, a statistically significant association was found between professional diversity and variables of job satisfaction and personal characteristics and relationships among collaborators. Hospice professionals were most likely to be satisfied with their job and strong positive feelings toward colleagues from other disciplines.

Qualitatively, the majority of hospice professionals across disciplines identified similar strengths of their hospice team, barriers their team faces, professional qualities, and their hospice team effectiveness evaluation mechanisms. The responses to a question about one's professional quality highlighted their particular professional roles, values, and skills on a team.

The quantitative and qualitative findings of the study convey that overall hospice professionals, regardless of their professional diversity groups: (1) have a high level of interdisciplinary collaboration; (2) share similar perceptions of strengths and challenges of interdisciplinary collaboration; (3) enjoy, are satisfied with and proud of their work and team; and (4) believe in holistic care as an effective way to serve those who are terminally ill and their families.

The study results have implications for hospice professionals and the social work profession as well as implications for future research.

**Copy Right by
RIE KOBAYASHI
2009**

DEDICATION

I dedicate this dissertation to:

**My parents, Yoshinori and Kesako Kobayashi, for their support in pursuing my
dreams,**

**Hospice professionals who share dedication and passion for maximizing the dignity
and integrity of those facing life-limiting conditions and their caregivers,**

and

**Hospice clients and their families who continue to teach me what matters the most in
life and what living life with dignity and integrity means.**

You are my inspiration.

ACKNOWLEDGEMENTS

When I decided to return to school about six years ago, I had no idea what an impact the decision would have on my life. As I look back on this journey, I cannot help but notice how fortunate I have been to be surrounded by a large number of people who have assisted me along the way. I am enormously grateful to the members of my dissertation committee. Dr. Gary Anderson, my chairperson, has guided me through the process with his gentle and patient spirit. Dr. Sally Rypkema has been an invaluable mentor. Her generosity and creativity in helping me grow personally and professionally cannot be described in words. My deep appreciation goes to Dr. Karen Ogle from the College of Human Medicine and Professor Linda Keilman from the College of Nursing who I have had an honor of sharing the passion and vision for improving end of life care and interdisciplinary collaboration. Dr. Rena Harold has been instrumental in my navigating the world of academia over the last six years. She has remained an unofficial committee member and mentor.

My family and friends have been the source of my strengths. I would like to thank my parents, Yoshinori and Kesako Kobayashi, for allowing me to move to this county to pursue my dreams. They have quietly supported me from a distance. My brothers, Hiraku and Hiroshi, have also been supportive and protective of me, even though I was not always the best older sister they deserved. My American parents, Jarl and Pat Nischan and their family have never failed to show me love and acceptance. My third parents, Ken and Dianne McGuire, have always provided me a safe, nurturing place to rest up and recharge. They have been the source of my serenity.

The inspiration for my dissertation project came from working with a group of hospice professionals on a hospice interdisciplinary team. I have been privileged to practice as a social worker over the last 12 years for a same hospice. I would like to thank my colleagues from Allegiance Hospice for their support and encouragement. Through my hospice work, I have had the privilege of meeting and getting to know a countless number of extraordinary individuals and families. Hospice clients and families have allowed me to walk alongside in living life with courage, dignity and integrity. I carry their life lessons, dreams, and hopes in my heart.

I have been truly fortunate in the friend department. My friends have remained the source of much needed reality checks. In this ocean weather-like journey of ups and downs, they were my emotional sanity. Friends who know me from my hospice work and other non-academic settings have helped me remember who I am through the journey. I would like to thank Carmen and Jill, in particular, for their understanding and acceptance of me for who I am.

Lastly, but certainly not least, I would like to thank two of now my closest and dearest friends, Kim Steed and Carolyn McCallister-Kobayashi, who married one of my brothers and became my sister-in-law last year. Your friendship has made the last six years of my life, full of joyful and challenging personal and professional experiences, meaningful and unforgettable. I am most grateful for your authenticity and for never saying, “We told you so” when I fell miserably. Thank you, and I love you.

TABLE OF CONTENTS

LIST OF TABLES.....	xi
CHAPTER 1	
INTRODUCTION.....	1
Introduction and Problem Statement.....	1
Purpose of the Study.....	4
Rationale for the Study.....	5
Research Questions.....	8
Definition of Terms.....	9
Theoretical Framework.....	10
Bronstein's Model for Interdisciplinary Collaboration.....	10
Overview.....	16
CHAPTER 2	
REVIEW OF THE LITERATURE.....	17
Healthcare Teams: From Multidisciplinary to Interdisciplinary Teams.....	17
Experiences of Interdisciplinary Collaboration.....	21
Research on Healthcare and Hospice Interdisciplinary Teams.....	24
Team Processes and Benefits.....	24
Influences on Interdisciplinary Collaboration.....	26
Additional Influencing Variables on Interdisciplinary Collaboration.....	31
Benefits Associated with Interdisciplinary Collaboration.....	34
Overall Findings.....	42
Limited Research on the Processes and Benefits of the Hospice Interdisciplinary Team.....	46
Summary.....	47
CHAPTER 3	
METHODOLOGY.....	49
Research Questions.....	49
Participation Recruitments and Procedures.....	50
Sampling Design.....	51
Participant Characteristics.....	51
Instrumentation and Variables.....	53
Quantitative Instruments and Variables.....	53
Qualitative Design and Measures.....	63
Data Analysis.....	65
Quantitative Data.....	65
Qualitative Data.....	67
Summary.....	67
CHAPTER 4	
RESULTS.....	69
Overview.....	69

Characteristics of the Study Sample.....	70
Demographic Data.....	70
Organizational Data.....	75
Survey Instruments and Reliability Statistics.....	78
Modified Index for Interdisciplinary Collaboration (MIIC).....	78
Job Satisfaction and Quality of Care Subscales.....	78
General Findings.....	79
Addressing of the Research Hypotheses and Results of Analyses.....	80
Hypothesis 1.....	80
Hypothesis 2.....	81
Hypothesis 3.....	82
Hypothesis 4.....	83
Hypothesis 5.....	84
Phone Interviews.....	88
Demographic and Organizational Data.....	89
Open-ended Questions.....	91
Summary.....	103
 CHAPTER 5	
DISCUSSION AND IMPLICATIONS.....	107
Review of Major Findings.....	108
Demographic and Organizational Characteristics.....	108
Review of Influencing Variables.....	110
Interdisciplinary Collaboration.....	110
Personal Affiliation.....	110
Organizational/Structural Characteristics.....	111
Personal Characteristics and Relationships among Collaborators.....	112
History of Interdisciplinary Collaboration.....	113
Quality of Care.....	115
Job Satisfaction.....	116
Professional Diversity.....	119
Study Limitations.....	121
Implications for Hospice Professionals and Social Work Profession.....	126
Implications for Hospice Professionals and Administrators.....	126
Implications for Social Work Profession.....	128
Recommendations for Future Research.....	132
Conclusion.....	134
 APPENDICES	
Appendix A: Michigan State University Institutional Review Board (IRB) Approval.....	138
Appendix B: Letter of Recruitment to the Hospice Executive Director/Administrator.....	139
Appendix C: Letter of Recruitment to the Hospice Colleague.....	141
Appendix D: Consent Form and Telephone Interview Information Sheet.....	142
Appendix E: Follow Up E-mail Messages.....	146

Appendix F: Survey Questionnaire.....	149
Appendix G: Telephone Interview Script.....	166
REFERENCES.....	168

LIST OF TABLES

Table 1.	Chi-square Analysis of Gender by Professional Diversity.....	71
Table 2.	Age Groups by Professional Diversity.....	72
Table 3.	One-Way Analysis of Variance of Age by Professional Diversity.....	73
Table 4.	Employment Status by Professional Diversity.....	73
Table 5.	Chi-square Analysis of Employment Status by Professional Discipline...	74
Table 6.	Years of Hospice Operation.....	75
Table 7.	Hospice Interdisciplinary Team Core Members.....	76
Table 8.	Number of Hospice Teams in One's Agency.....	76
Table 9.	Average Daily Census.....	77
Table 10.	Geographic Service Area.....	77
Table 11.	Internal Reliability Statistics of MIIC and Subscales.....	78
Table 12.	Job Satisfaction and Quality of Care Subscales' Internal Reliability Statistics.....	79
Table 13.	One-Way Analysis of Variance of Interdisciplinary Collaboration by Professional Discipline.....	80
Table 14.	Means, Standard Deviations, and Intercorrelations for Interdisciplinary Collaboration and Predictors Variables.....	82
Table 15.	Summary of Multiple Regression Analysis for Three Variables Predicting Interdisciplinary Collaboration.....	82
Table 16.	Pearson Correlation Coefficient between Quality of Care and Interdisciplinary Collaboration.....	83
Table 17.	Pearson Correlation Coefficient between Job Satisfaction and Interdisciplinary Collaboration.....	83
Table 18.1.	Means and Standard Deviations Comparing Professional Diversity and Variables of Professional Affiliation and Personal Characteristics.....	85

Table 18.2.	Means and Standard Deviations Comparing Professional Diversity and Variables of History of Collaboration and Quality of Care.....	85
Table 18.3.	Means and Standard Deviations Comparing Professional Diversity and Variable of Job Satisfaction.....	86
Table 19.1.	One-Way Analysis of Variance Comparing Professional Diversity on Professional Affiliation.....	87
Table 19.2.	One-Way Analysis of Variance Comparing Professional Diversity on Personal Characteristics.....	87
Table 19.3.	One-Way Analysis of Variance Comparing Professional Diversity on History of Collaboration.....	87
Table 19.4.	One-Way Analysis of Variance Comparing Professional Diversity on Quality of Care.....	88
Table 19.5.	One-Way Analysis of Variance Comparing Professional Diversity on Job Satisfaction.....	90
Table 20.	Participant Information by Gender and Professional Diversity.....	90
Table 21.	Participant Demographic and Organizational Data by Professional Diversity.....	91

CHAPTER 1

Introduction

Over two million people die each year in the United States, and most deaths are of people over the age of 65 years (Kastenbaum, 2003). Prior to the advancement of medical technology during the 20th century, deaths happened at any age, and most people died at home (Bern-Klug, Gesset, & Forbes, 2001). Because there was no cure for many diseases at that time, a great deal of attention was given to the emotional and spiritual comfort of the sick and dying. Death was viewed simply as a natural part of life. Dramatic improvement in medical and scientific technology in the beginning of the 21st century transformed death into an event to interrupt, postpone, and prolong, evidenced by an improvement in life expectancy and a change in causes of deaths. Most deaths thus began to take place in hospitals and other institutions, disappearing from the public view (McDonnell, 1986), and death became stigmatized as fearful, shameful, and an event that ought to be avoided at any cost.

While drastic medical and scientific advancements were shaping the way death was being treated in the early 21st century, a small group of people began to engage in a grassroots movement to improve care for the dying. Inspired by the work of a nurse and social worker turned physician, Dr. Cicely Saunders, and a physician, Dr. Elizabeth Kubler-Ross, in the mid-20th Century, the grassroots movement, known as the modern hospice movement, came to challenge the traditional medical care model of solely focusing on treating one's disease. Initially meant as a resting place for travelers on pilgrimages to Jerusalem and operated by religious healers during the medieval period (Paradis, 1985), hospice emerged as a concept or philosophy of the care for the dying in

the 1960s. Under the hospice philosophy, death is seen as a natural part and the last stage of life, and hospice's focus is on living and maximizing the experience of living until the end rather than on death as an event (Kastenbaum, 2003; Paradis, 1985).

The modern hospice movement re-introduced the previously practiced whole person or holistic care model for the dying by treating an individual as a whole, with bio-psychosocial-spiritual components, in the context of illness in his/her environment (Conner et al., 2002). Instead of looking at a person as an individual with a physical deficiency to be managed, the hospice approach views an individual as a total person who has vital connections to other people and is a unique part of a larger social system (Mor, Greer, & Kastenbaum, 1988). The movement led to a paradigm shift in the care of the dying from a curative care model to a palliative or comfort care model through the comprehensive promotion of total comfort, which is a multi-layered, highly personal and interrelated bio-psychosocial-spiritual aspect of the human experience (Saunders & Bains, 1989).

The first hospice in the United States, the New Haven Hospice opened its doors in 1974 (Foster & Corless, 1999), and other hospices began to open their doors, following the footsteps of the New Haven Hospice. By the late 1970, fifty-nine hospice programs were in operation as hospice in the United States with 73 programs in the planning or opening phase of a hospice program in the near future (United States General Accounting Office [GAO], 1979).

Hospice care became integrated into mainstream health care upon the inception of the Medicare Hospice Benefit (MHB) in 1983 under the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982. Through the MHB, the federal government defined

required components of and who is eligible to receive hospice care (Cassel & Demel, 2001). The MHB under TEFRA (1982) defines the term “terminally ill” as an individual having a life expectancy of 6 months or less should the disease process follow its usual course (Cassel & Demel, 2001; Kastenbaum, 2003). Hospice provides a comprehensive program of care to individuals and families facing an advanced illness for which cure is no longer an option. Central to the concept of hospice care are the recognition of patient and family as the unit of care and the promotion of total comfort or holistic care through the use of an interdisciplinary team (Bennahum, 2003; Sherman, 1999).

The MHB mandates the hospice interdisciplinary team provide and manage the care of a terminally ill individual and his/her family. In order to promote client self-determination and autonomy (Mor et al., 1988) as well as quality of life and death with dignity (Conner et al., 2002; Kastenbaum, 2003; Stoddard, 1978), individually tailored care is developed and delivered by a group of professionals with expertise and skills in multiple dimensions of human experiences. The interdisciplinary team in hospice consists of the core members of physicians, nurses, spiritual care providers, and social workers (Kastenbaum, 2003) and other non-core members such as home health aides, volunteers, pharmacists, physical and occupational therapists, and bereavement care providers. The team is used as a vehicle to providing holistic, comprehensive care to the patient and family as a unit of care. It recognizes that adequately addressing and meeting multiple and complex physical, social, psychological, and spiritual needs presented by the patient and family requires collaborative work by a team of professionals from multiple disciplines. Fineberg (2005) defines interdisciplinary collaboration as “....not merely the individual contributions of multiple professionals but rather a coordinated effort of

different disciplines toward a common goal grounded in patient-and-family focused care” (p.858). The interdisciplinary team is responsible for developing, updating and evaluating an individualized plan of care through on going assessments of the patient and family’s needs (Center for Medicare and Medicaid Services [CMMS], 2008).

Today, an estimated 1.2 million Americans receive hospice or palliative care annually (National Hospice and Palliative Care Organization, 2006). This is one out of every three terminally ill individuals. The number of Medicare recipients receiving hospice care in 2001 multiplied by nearly 10 times the number of recipients in 1989 (Hospice Association of America, 2003). As the baby boomer generation approaches its senior years, a rapid increase in the aging population will likely contribute to a greater use of hospice care in the next decades. Although the interdisciplinary team represents a significant part of hospice philosophy and care delivery, there is a lack of research examining the affects of the use of hospice interdisciplinary teams in general. Only a small number of published studies have empirically investigated the processes, benefits, or effectiveness of hospice interdisciplinary teams (Amundson, 2005; Merriman, 1999; Parker-Oliver & Peck, 2006).

Purpose of the Research

The aim of this research study was to deepen an understanding of the processes of interdisciplinary collaboration in hospice and the impact of variables that aid or hinder collaborative work. Interdisciplinary team members’ perceptions of their own participation and that of other team members in collaborative work as well as the perceived outcomes of collaboration were explored. In addition, the impact of variables to interdisciplinary collaboration (professional role, structural/organizational

characteristics, personal characteristics, history of collaboration, quality of care, and job satisfaction) on perceived level of interdisciplinary collaboration was examined.

Rationale for the Study

A large number of healthcare-related articles, examining and promoting concepts, theories, practices, and benefits of collaborative work, have been published over the last 20 years (Ansari et al, 2001; Brown et al, 2003; Faulkner-Schofield & Amodeo, 1999; Grumbach & Bodenheimer, 2004; Hall & Weaver, 2001; Mickan, 2005; Mizrahi & Abramson, 2000; San Martin-Rodriguez et al, 2005). These have encouraged a push to incorporate interdisciplinary collaboration in health care delivery, using the hospice interdisciplinary team as the working model of such collaboration (Conner et al. 2002; Cowles, 2000).

In spite of the highly favored model of interdisciplinary collaboration in health care delivery, particularly in end of life care, some practitioners and scholars have recently begun to question the promotion as well as the practice of interdisciplinary collaboration, citing limited empirical evidence that actually validate the benefits and effectiveness of interdisciplinary collaboration (Ansari et al, 2001; Brown et al, 2003; Faulkner-Schofield & Amodeo, 1999; Mickan, 2005; Mizrahi & Abramson, 2000; San Martin-Rodriguez et al, 2005). As the current health care delivery system as a whole is expected to show best practices and cost containment (Irvine et al, 2002; Center for Medicare and Medicaid Services, 2008) through evidence-based practice, the pressure to produce empirical evidence is greater than ever.

Although the benefits of hospice care, particularly the cost effectiveness, pain and symptom management and bereavement family satisfaction, have been studied, this body

of research on hospice is insufficient. The hospice interdisciplinary team, like interdisciplinary teams in other settings, has been one of the least empirically studied areas, as teams often have only been evaluated as a component of the study, rather than a focus of the study. Although the hospice interdisciplinary team is a valued and required feature of hospice care, little is known about hospice team collaboration processes and factors that facilitate team collaboration.

The highly valued philosophy and concepts of the holistic approach to caring for the dying through the interdisciplinary team are no longer sufficient to support the practice of interdisciplinary collaboration in end-of-life as well as in other health care settings. Without substantial empirical evidence to validate the benefits and effectiveness of interdisciplinary collaboration, the credibility and even the existence of interdisciplinary collaboration in health care, including hospice, may be threatened. The assumed and rarely tested benefits of collaborative practice thus bring to the surface an undeniable need for systemic research and evaluation of the processes, benefits and effectiveness of interdisciplinary collaboration.

Clear evidence of a growing need for systemic research and evaluation of hospice care and interdisciplinary collaboration is reflected in the current changes taking place in the public policy arena. The Revised Hospice Condition of Participation (CoP) under Medicare Hospice Benefit, 42 CFR 418, finalized in June 2008, became effective in December, 2008. Compared to the original 1983 Hospice CoP, the Revised Hospice CoP lays a set of more detailed requirements for all hospices receiving Medicare reimbursement to follow. Of particular importance to hospice interdisciplinary teams are:

- (1) standards for developing, implementing and updating initial and comprehensive

assessments by interdisciplinary team members; (2) standards for interdisciplinary teams, care planning, and coordination of care; and (3) standards for developing, implementing, and maintaining an effective, on-going, hospice-wide data driven quality assessment and performance improvement program. Hospices are required to engage in quality assessment and performance improvement projects, as of February 2, 2009.

This is a time of great opportunity to engage in empirical studies to systematically **explore** and evaluate the work of the interdisciplinary team. Two major areas of focus are the **work** of each individual discipline and the work of the interdisciplinary team as a **whole**. Understanding factors that influence team collaboration can help team members and team managers to identify ways to enhance team collaboration, leading to improved patient/family and staff outcomes. In addition, gaining knowledge about interdisciplinary team processes will assist hospice team members, managers, and administrators in developing practices and policies that maximize the benefits and effectiveness of interdisciplinary collaboration.

Studies in this area are particularly important for social workers, considering the **current** trend and support in evidence-based practice associated with cost containment. **Underutilization** of hospice social workers for the purpose of cost containment by some **hospice** agencies reported in recently published articles (Reese & Raymer, 2004; Reese & Sontag, 2001) is alarming to the profession. As core members of the interdisciplinary team, hospice social workers have played vital roles in the development and evolution of **end of life** care (Forman, Kitzes, Anderson, & Kopchak Sheehan, 2003). Their focus on **self-determination** (Luptak, 2004), person-in-environment, strength perspectives (Reese & Raymer, 2004) on the micro level as well as their advocacy in addressing issues of

diversity, power and disparities (Kramer & Bern-Klug, 2004) on the macro level are unique voices in the interdisciplinary team. The value of the role and contribution of the social worker as a member of the interdisciplinary team is an area of research worthy of further study.

Research Questions

The overarching question for this study was: What variables are most highly associated with interdisciplinary collaboration in hospice? Specific questions for the study were as follows:

1. What is the relationship between perceived level of collaboration on hospice teams and professional diversity (comparing physicians, nurses, spiritual care providers, and social workers)?

H1: Social workers, compared to physicians, nurses, and spiritual care providers, report a higher level of interdisciplinary collaboration.

2. What is the impact of professional affiliation, structural/organizational characteristics, personal characteristics and relationships among collaborators, and history of collaboration on interdisciplinary collaboration?

H2: Professional affiliation, structural/organizational characteristics, personal characteristics and relationships among collaborators, and history of collaboration have a positive direct effect on interdisciplinary collaboration.

3. What is the impact of interdisciplinary collaboration on perceived quality of care the team provides?

H3: Degree of interdisciplinary collaboration has a positive direct effect on perceived quality of care the team provides.

4. What is the relationship between interdisciplinary collaboration and job satisfaction?

H4: Degree of interdisciplinary collaboration has a positive correlation with job satisfaction.

5. Is professional diversity (physicians, nurses, spiritual care providers, and social workers) an influencing factor in differences in professional affiliation,

personal characteristics and relationships among collaborators, history of collaboration, perceived quality of care, and job satisfaction?

H5: Professional diversity is an influencing factor in differences in professional affiliation, personal characteristics and relationships among collaborators, a history of collaboration, perceived quality of care, and job satisfaction.

Definition of Terms

It is essential to have a clear understanding of the following terms when considering the research.

“Hospice,” for the purpose of the study, relates to an organization that utilizes an interdisciplinary team to provide end-of-life care to terminally ill individuals as regulated by Medicare. This can be done in both inpatient and outpatient settings.

“Interdisciplinary collaboration” is defined as “....a coordinated effort of different disciplines toward a common goal grounded in patient-and-family focused care” (Fineberg, 2005, p.858) and “....an interpersonal process leading to attainment of specific goals that are not achieved by one team member alone” (Bronstein, 2003, p. 299).

“Interdisciplinary team process” means “....purposeful sequences of change-oriented transactions between and among representatives of two or more professionals who possess individual expertise, but who are functionally interdependent in their collaborative pursuit of commonly shared goals” (Billups, 1987, p.147).

“Job satisfaction” is defined as one’s contentment with his/her work (Cammann, Fichman, Jennings, & Klesh, 1983).

“Personal characteristics and relationships among collaborators” for the purpose of the study refers to one’s attitude and behavior toward colleagues from other disciplines on a team (Bronstein, 2003).

“Professional diversity” relates to a professional discipline that “has a set of knowledge, skills, practices, and values that causes it to contribute to healthcare something distinct from those of other disciplines and whose theory, practice, and terminology is sufficiently different from other discipline so that serious effort is required to communicate and collaborate within them” (Satin, 1994, p.6).

“Professional affiliation” for the purpose of the study is defined as commitment to one’s own profession (Bronstein, 2003).

“Quality of care” refers to one’s attitude about teamwork and the impact of teamwork on quality of care provided to clients (Heinemann, Schmitt, Farrell, & Brallier, 1999).

“Terminally ill” means an individual who has a life expectancy of 6 months or less (P.L.97-248, 96STAT.361, 1982) should the disease process follow its usual course (Cassel & Demel, 2001; Kastenbaum, 2002).

Theoretical Framework

Bronstein’s Model for Interdisciplinary Collaboration

The hospice interdisciplinary team is the phenomenon of interest for this study. Bronstein’s model for Interdisciplinary Collaboration provides the overarching framework for this study. Originally developed as a guiding model of interdisciplinary collaboration for social workers working with other disciplines, Bronstein’s Model for Interdisciplinary Collaboration defines the processes of interdisciplinary collaboration (2002; 2003) applicable to the study of hospice interdisciplinary teams. Four theoretical frameworks, a multidisciplinary theory of collaboration, services integration, role theory,

and ecological systems theory (Bronstein, 2002; Bronstein, 2003), were used as the foundation of the model.

Theoretical Frameworks of the Model for Interdisciplinary Collaboration

Bronstein (1999) utilized four theories as the foundation in developing the Model for Interdisciplinary Collaboration (MIC), which includes the generic concept of interdisciplinary collaboration, services integration, role theory, and ecological systems theory. In exploring interdisciplinary collaboration through a literature review, Bronstein (1999) came to realize that a broader, generic concept of interdisciplinary collaboration based on the multidisciplinary literature helps define collaboration as dimensions of both processes and outcomes of individuals and agencies working together.

Service Integration

Influenced by the structural, humanist and general systems perspectives, service integration encourages a critical evaluation of organizational structure, individuals working within the organization, and each professional discipline and organization as a part of a larger environment. The structural perspective on service integration sees organizational patterns and the role of hierarchy and bureaucracy as influencing factors in interdisciplinary collaboration (Bronstein, 1999). The behaviors and characteristics of individuals comprising a team and an organization and characteristics of interactions between individuals in a team are central to interdisciplinary collaboration based on the humanistic perspective of service integration (Bronstein, 1999).

General systems theory, focusing on the role of individuals as subunits of the system as a whole, looks at interpersonal relationships that take place within the organization and external and internal influences on the interpersonal relationships

(Bronstein, 1999). It also views the roles of motivation and effort as critical ingredients of **collaboration** (Bronstein, 1999). The hospice interdisciplinary team can be applied to and **explained** within the interrelated concept of systems theory. Using the interdisciplinary **team** as a whole focal system, each professional discipline working interdependently can **be seen** the subunits of the system. Suprasystems, a system external to the focal system, **may** include hospice as an organization, healthcare system, policies, etc., and these **external** factors guide the practice of the interdisciplinary team.

Role Theory

Role theory is a collection of concepts that predict an action of an individual in a **given** role or types of expected behaviors based on certain circumstances. The concepts **of reference** group and socialization, including professional socialization, are central to **role theory** (Lum, 1998). Role theory views that professions have developed out of **society's** needs for specialized services, and because the professions possess special **competencies**, society permits them to have a monopoly in their particular occupation **(Lum, 1998)**. It means that the profession controls the body of knowledge being **disseminated** and practiced, the number and kind of individuals being allowed to practice, **and the** education of the professionals (Lum, 1998).

The eight influencing variables of professional socialization, according to Lum, **(1998)**, include: (1) the level of formal and informal educational process; (2) the level of **exposure** to multiple agents such as clients, professional colleagues, and other **professionals**; (3) the impact of transition from adolescence to adulthood (developmental **socialization**); (4) the level of heterogeneity of students and socializing agents; (5) the **level of** hazing, ritualism, and monopoly of students' time; (6) learning a professional

language or jargon; (7) professions undergoing a transition in role definition develop a **less** integrated professional self-image; and (8) student culture. Bronstein (1999) used **role** theory as a way to understand the significance of one's professional role in **collaborating** with others and the impact of individual attitudes and behaviors that shape **and** are shaped through interactions with others. In a hospice team where interdependence **or blurring** of professional roles are expected, role theory articulates an interesting **balance** that team members engage in practicing commitment to professional role, **organization**, and the hospice philosophy.

Ecological Systems Perspective

Ecological systems perspective, a framework known as the person-in-**environment** approach, addresses the importance of human experiences within the **context** of the individual's relationship with the environment (Friedman, 1997) composed **of both** living and non-living elements. Bronstein (1999) paid particular attention to four **major** aspects of the perspective, including the dual emphasis on environmental change in **tandem** with individual initiatives, a focus on interactions, a lack of prescriptiveness **regarding** methodology, and a focus on circular thinking. The concept of person-in-**environment** conveys continuous transactions or exchanges between individuals and their **environments** that take place and that they shape each other over time (Germain & Gitterman, 1996). In her analysis, Bronstein (1999) argues that the focus on the **interrelated**, reciprocal relationships of the environment and individuals fosters the **development** and implementation of interdisciplinary collaboration. For instance, **organizational** or structural factors such as administrative support toward collaborative

work and the availability of resources necessary for collaboration thus may affect the **level** of team collaboration.

The hospice interdisciplinary team experiences constant changes and growth **when** encountering a new client with a set of unique needs or welcoming a new team **member** with his or her personal and professional experiences. The lack of a prescribed, **shared** methodology, according to Bronstein (1999) encourages disciplines with diverse **skills** and training to incorporate a various range of methods to meet needs unique to **particular** client population. Each member of the hospice team as well as their clients **brings** to the table their professional expertise, values, skills, and/or life experiences to **accomplish** end-of-life goals.

Bronstein (1999) also linked the focus on circular thinking in ecological systems **perspective** as opposed to linear thinking as a way to diminish the role of blame from any **particular** individual and to view the integral role of all parties involved in producing **successful** outcomes. For instance, in linear thinking, a client declining personal care **from** a home health aide means the client causes an interruption in care that affects the **aide** while the client remains unchanged. In contrast, in circular thinking, a client **declining** care from a home health aide affects the client, his/her caregivers, individual **team** members, a team as a whole, and the system or environments surrounding the client **and team**.

Model for Interdisciplinary Collaboration

Based on the four theoretical frameworks, Bronstein (1999; 2002; 2003) **developed** the Model of Interdisciplinary Collaboration (MIC) and defined what **constitute** interdisciplinary collaboration. Five core components that represent

201

202

203

204

205

206

207

208

209

210

211

212

213

interprofessional processes are: (1) interdependence, (2) newly created professional **activity**, (3) flexibility, (4) collective ownership of goals, and (5) reflection on process.

Collaborative synergy is created through the interactions of the five core components.

Interdependence relates to “the occurrence of and reliance on interactions among **professionals** whereby each is dependent on the other to accomplish his or her goals and **tasks**” (Bronstein, 2003, p. 299).

Elements of interdependence include formal and informal time spent together, **oral** and written communication among team members, respect for team members’ **professional** opinions and input, and a shared belief and attitude that group members’ **ability** to carry out their jobs is dependent on each other. In addition, a clear **understanding** of one’s own professional role as well as of others’ professional roles is **critical**. Interdependence among team members leads to identifying and accomplishing **shared** goals. Newly created professional activities refer to “collaborative acts, programs, **and** structures that can achieve more than could be achieved by the same professionals **acting** independently” (Bronstein, 2003, p. 300). These professional activities maximize **the** expertise of each team member (Bronstein, 2002) and accomplish goals and tasks that **would** not be achieved without the collaborative effort of other team members.

Flexibility is crucial in the successful interdependence and professional activities **among** team members. It extends beyond interdependence and accepts fluidity in and **blurring** of professional roles as part of interdisciplinary collaboration. Productive **compromises**, adaptability to changes, and a decrease in hierarchical relationships among **team** members are elements of flexibility (Bronstein, 2002). Shared responsibility in the **entire** process of jointly designing, defining, developing, and achieving goals leads to

collective ownership of goals (Bronstein, 2002). A commitment to client-centered care, active and on-going partnership with clients in care planning and evaluation, and each team member taking professional accountability for his or her contribution to the team are also important elements leading to collective ownership of goals. Reflection on the process of collaboration by team members symbolizes the interactions among team members to discuss and evaluate their working relationships and to find ways to strengthen their collaborative effort.

Bronstein (1999; 2002; 2003) adapted elements of the multidisciplinary concepts of collaboration, services integrity, role theory, and ecological systems theory in defining the processes of interdisciplinary collaboration and developing the MIC. While the four theories articulate the work of hospice interdisciplinary teams and the overarching framework for the study, the MIC describes the processes of interdisciplinary collaboration that take place in interdisciplinary collaboration in hospice.

Overview

Chapter 1 contains the introduction and problem statement, the purpose of the study, the rationale for the study, the research questions and hypotheses, the definition of terms, and theoretical framework for the study. A review of the relevant literature pertaining to this study is provided in Chapter 2, followed by discussions of the research methodology in Chapter 3 and the findings in Chapter 4. Chapter 5 provides a summary of the study and examines the major findings and conclusions drawn from the findings. Research implications and recommendations are also discussed.

CHAPTER 2

Review of Literature

The following chapter provides a review of the literature related to **interdisciplinary** collaboration and hospice care. First, the development and **transformation** of interdisciplinary teams in health care will be discussed. Next, **experiences** of interdisciplinary collaboration are described. This will be followed by a **discussion** of current research on health care interdisciplinary teams and hospice care. **Bronstein's** Index of Interdisciplinary Collaboration model (1999; 2002; 2003), **particularly** the influences of interdisciplinary collaboration, is used as the guiding **framework** in discussing findings from the literature review and research variables for the **study**.

Healthcare Teams: From Multidisciplinary to Interdisciplinary Teams

The emergence of interdisciplinary work can be traced back to the work of **multidisciplinary** teams in various health care settings during the early 20th Century (**Grumbach & Bodenheimer**, 2004; **Shofield & Amodeo**, 1999). Influenced by an **underlying** recognition of the limitations of solely treating the medical needs of patients, **multidisciplinary** teams began surfacing in acute and other settings as a way to maximize **the traditional** medical model of care, which focuses on the treatment and cure of medical **illnesses**. One of the first forms of multidisciplinary teamwork was a physician-social **worker** partnership developed at Massachusetts General Hospital in 1905. **Ida Cannon**, **who is** considered to be the first medical social worker in the United States, began **working** alongside a physician named Dr. Richard Cabot to assist patients with **psychosocial** needs (**Dzielewski**, 1998).

Multidisciplinary teams refer to a group of professionals who are brought together for their particular professional expertise to problem-solve issues presented by patients (Hall & Weaver, 2001). In multidisciplinary collaboration, professional roles are clearly defined (Dziegielewski, 1998; Satin, 1994), meaning that each discipline works independently from and parallel to each other and is only responsible for its particular professional function. There is very little to no accountability as a member of the team, and interaction among team members is minimally limited to coordination of care. In addition, leadership in this setting is hierarchical, with physicians typically assuming the leader role (Conner et al., 2002; Hall & Weaver, 2001). Frequently, the communication in multidisciplinary teams takes place in an indirect form, using the medical records rather than direct verbal or face-to-face communication.

Prior to the late 1800s, physicians commonly visited and served their patients in their homes. As a result, they observed the patients in their own environment, including the family and other social situations of the patient. The late 1800s, however, saw a shift in the center of medical practice from homes to institutions such as hospitals (Bern-Klug, Gesset, & Forbes, 2001). As medical practice became more institutionalized, specialization of work and division of labor became standard medical practice, and the focus of patient care for physicians became solely the treatment of disease. The establishment of medical social work, rising in popularity within hospital settings in the early 1900s as a way to provide non-medical care to patients, marked the beginning of multidisciplinary health care teams (Grumbach & Bodenheimer, 2004; Schofield & Amodeo, 1999). The partnership of medicine and social work signified the importance of

non-medical aspects of the patient in treatment, and the approach received support from other hospitals and medical settings with increased interest in the continuum of care.

The development of multidisciplinary teams in other health care settings, **beginning in the mid-1950s, was born out of an increased awareness and recognition of the need for health care beyond traditional medical care. Some of these other health care settings included in home care and public health care teams (Goode, 2000; Rehr, Blumenfield, & Rosenberg, 1998), rehabilitation medical teams for disabled veterans (Germain, 1984), and community mental health teams (Leukefeld & Battjes, 1989). Although several health care disciplines were working together to provide care to patients, teams had to rely on “trial-and-error methods of collaborating in a work group directed by a physician” (Germain, 1984, p.198), pointing out the continued adherence to the traditional medical model of care. Non-medical disciplines were complementary services to the medical care provided to patients in acute and other health care settings. The function of non-medical disciplines focused on enhancing the medical care of the patient through the use of their particular expertise, rather than being equal team members on a health care team.**

In the late 1960s and early 1970s, the concept of the holistic, or the whole person, **approach entered the picture within acute hospital settings, greatly influenced by the consumer movement (Luptak, 2004). An attempt to create a shift in the modern health care practice from medical paternalism to that of autonomous decision-making process, promoting patient self-determination and patient-centered care, was at the center of the consumer movement (Conner et al., 2002; Luptak, 2004).**

The emergence of interdisciplinary practice appeared in its complete form in the late 1960s and early 1970s with the introduction of hospice care. Hospice care revived the concept of the holistic approach, or bio-psychosocial-spiritual, patient-centered care for the terminally ill and their families, which for centuries had been the common way to care for the sick and dying before an explosion in the advancement of medicine and science. The holistic approach, a concept of treating and looking at an individual as a whole in the context of illness and his/her environment (Conner et al., 2002), emerged as a part of providing continuity of care to move a person from “the sick role to the well role” (Parry, 2001, p.46). The concept of holistic care includes the notion that various issues of a patient are often not specific to medical needs but rather are interrelated, and need to be addressed in a coordinated manner (Leukefeld & Battjes, 1989).

The center of the hospice approach was an attempt to create a shift in the modern healthcare practice from medical paternalism to that of an autonomous decision-making process promoting patient self-determination and patient-centered care. This more holistic approach, in theory and practice, quickly gained support from health care providers and consumers (Conner et al., 2002; Luptak, 2004). This shift centered around “consideration not only of rights to health care but also rights in health care, such as the right to informed consent, the right to refuse treatment, and the right to participate in medical decisions” (Bradley & Rizzo, 1999, p. 243).

A high functioning interdisciplinary team is assumed to possess: (1) a shared understanding of roles and values and the goals of the team among team members (Conner et al. 2002; D’Amour et al. 2005; Rice, 2000); (2) an egalitarian, cooperative, trusting and interdependent relationship in the team (Conner et al. 2002; D’Amour et al.

2005; Rice, 2000); and (3) a shared decision-making process centering around the needs of the patient and family (D'Amour et al. 2005). The extent to which the interdisciplinary team functions mirrors outcomes associated with the patient/family, team members and organization (D'Amour & Oandasan, 2005).

What sets the hospice interdisciplinary team apart from other such teams is the interdependent relationship that exists between the hospice team members as well as the hospice philosophy of providing holistic care. Because the team is the vehicle in which hospice delivers its philosophy and services, the team is an essential part of hospice.

Teams first came to play a role in the health care field in the early 1900s to enhance medical interventions. Over the last 100 years, health care teams evolved from multidisciplinary to interdisciplinary teams, reflecting historic changes and development. The introduction of hospice care through the use of an interdisciplinary team in the 1960s brought in a new concept of holistic care to the health care field.

Experiences of Interdisciplinary Collaboration

This section describes experiences of interdisciplinary collaboration. In the existing literature, extensive discussions on positive and negative experiences of collaborative work is found, and more attention has been given, both conceptually and empirically, to the challenges and problems with the interdisciplinary team model more than advantages of the model (Abrahamson & Mizarahi, 1996; Faulkner Schofield & Amodeo, 1999; Hudson, 2007).

Abrahamson and Mizarahi (1996), in conducting a study of collaborative relationships in acute care settings, found that positive experiences of collaboration reported by physicians and social workers included respect for collaborators, having

similar perspectives, positive quality of communication, a well-understood role by collaborators, capability of collaborators, and keeping well informed. In a study of the experiences of nurse practitioners and family physicians working in collaboration at four Canadian rural primary care agencies (Bailey, Jones, & Way, 2006), the opportunity to work together led to an increased perception of the competence of other disciplines. The work of Haycock-Stuart and Houston (2005) revealed that those trained in interdisciplinary collaboration reported improved quality in their own work (81%). All practices reported benefits from the involvement in a workshop series, but those who already considered themselves to be working well with others and had clear leadership were able to benefit most from workshops.

Other positive experiences of teams found in the existing literature by Faulkner Schofield and Amedeo (1999) include heightened awareness and appreciation for one's own discipline, an improved understanding and enriched respect for other disciplines, improved role satisfaction and facilitating work with difficult patients. A literature review on health care interdisciplinary team education, practice and research discovered that interdisciplinary collaboration was found to have positive correlations with staff job satisfaction and the promotion of professional identity (Rice, 2000).

A literature review conducted by Faulkner Schofield and Amedeo (1999) identified drawbacks of teams as status differentiation, unequal team participation among team members, role confusion, varied personal commitment to team participation, jargon, and role blurring (Faulkner Schofield & Amedeo, 1999). A study by Abrahamson and Mizarahi (1996) found that physicians and social workers working in collaboration reported dissimilar perspectives as the most challenging part of collaboration while

Bailey, Jones, and Way (2006) observed the existence of an unclear understanding of the role of other disciplines hindering the collaborative relationship between nurse practitioners and family physicians. Mizarahi and Abramson (2000) conclude, "The benefits of collaboration models are usually assumed, while barriers to the full development of collaboration models are more frequently articulated" (p. 3).

Brewer (1999) describes six common obstacles of interdisciplinary work. They are: (1) differences in cultures and frames of reference; (2) differences in methods and operations objects used within and between the disciplines; (3) differences in the use of professional languages within and between the disciplines and the world at large; (4) personal challenges of gaining trust and respect of others working in different disciplines and fields; (5) organizational impediments such as incentives, funding, and priorities given to disciplinary versus interdisciplinary work; and (6) professional impediments such as hiring, promotion, status, and recognition.

Irvine et al. (2002) took another approach by categorizing barriers to interdisciplinary work into the two components of structural barriers and cultural barriers. Structural barriers relate to the issues of authority, power and control that exist in teams. Professional divisions, authority and division of labors, subverting medical dominance, professional organizations, different value systems, and legal effects are listed as structural barriers (Irvine et al., 2002). Cultural barriers to interdisciplinary work result from framing and interpretation of a client's situation/problem in terms of one's own professional frame of reference (intellectual baggage), terms used in one profession being used with different meanings in another profession (language), diversity within a profession (intraprofessional variation), inter-group competition to maintain its own

professional status and distinctive social identity within a team setting (professional identity), and training and education unique to a particular profession (training) (Irvine et al., 2002).

Research on Healthcare and Hospice Interdisciplinary Teams

Team Processes and Benefits

Over the last twenty years, much has been written and published in the areas of collaborative work within many fields, including the disciplines of sociology, education, psychology, management studies, nursing, medicine, and social work (Graham & Barter, 1999; Loxley, 1997). Though limited in numbers, empirical studies have been conducted to explore various processes and outcomes associated with interdisciplinary teams.

Since hospice care became a part of the mainstream health care system in the early 1980s, studies on various aspects of hospice services and outcomes, particularly on types of services, cost savings, and quality of services (Brita-Rossi et al., 1996; Sommers et al., 2003) have been published. Many of the early studies on hospice care were conducted with grants from the Federal government and major foundations in the United States, and generally very little attention was given to the impact of hospice interdisciplinary teams on hospice outcomes.

Early studies on hospice services focused on exploring the existing hospice programs and their characteristics, hospice service utilization, outcomes, and compliance with the requirements of the Medicare Hospice Benefit (Bencala, McIntosh, & Salzman, 1982; United States General Accounting Office [GAO], 1979). Very little to no attention was given to the work of hospice interdisciplinary teams and the impact of teams on the

processes and outcomes of hospice services, and no study specifically focusing on the teamwork was found.

Several studies, though limited, specific to the work of hospice interdisciplinary teams began surfacing in the late 1990s. The vast majority of the literature currently available on interdisciplinary collaboration in hospice has focused on exploring the hospice team processes and their relational affects on organizational, team, and individual variables (Clark et al. 2007; Coopman, 2001; DeLoach, 2003; DiTullio & MacDonald, 1999; Miceli & Mylod, 2003; Parker-Oliver, Bronstein, & Kurzejeski, 2005; Wittenberg-Lyles, Parker-Oliver, Demiris, & Courtney, 2007).

The following contains a discussion of factors that are linked to hospice and other interdisciplinary teams. Bronstein's Model for Interdisciplinary Collaboration (MIC), particularly four influences of interdisciplinary collaboration, was adapted to organize and discuss variables associated with interdisciplinary collaboration in healthcare teams as well as hospice teams based on a literature review.

Influences on Interdisciplinary Collaboration

Bronstein (1999; 2002; 2003) identified four influences on interdisciplinary collaboration. Bronstein claims the presence of these factors support interdisciplinary collaboration, and thus the absence of the influences refers as barriers to interdisciplinary team work. First, professional affiliation, which she conceptualizes as a clear understanding and a strong sense of professional roles, values, and ethics of one's profession, respect for professional colleagues, a similar perspective shared with team members, and balanced allegiances among one's profession, team and organization promote interdisciplinary collaboration. Second, structural influence, which refers to the

ways in which a manager or an organization “allocates resources and assigns work that **either** supports or poses barriers to collaboration” (Bronstein, 1999, p. 40). Manageable **caseloads**, professional autonomy, the time and resource available for collaboration, an **agency** culture that supports collaboration and administrative support to collaboration are **elements** of structural characteristics. Personal characteristics, the third influence, relate **to** how team members view each other as people outside of their professional role.

Components such as the existence of trust, respect and understanding between team **members** as well as positive attitudes towards team members and comfort with team **members’** personal behaviors enhance interdisciplinary collaboration (Bronstein, 2002; 2003). The fourth influence is a history of collaboration, and refers to the experiences and **existence** of collaborative work (Bronstein, 2002; 2003).

Professional Affiliation

Professional affiliation is referred as commitment to one’s profession and **organization**. Aube and Rousseau (2005), in a study of 74 teams working in 13 **organizations** in Canada, found that team goal commitment was positively and **significantly** ($p < .05$) related to team performance, the quality of group experience (the **team** member’s perceptions about the common social climate within the work team and **whether** or not it is positive), and team viability (the team’s ability to adapt to internal **and** external changes).

Professional discipline was identified as an influencing factor in a study of job **comm**itment and perceived team effectiveness by Freund and Drach-Zahavy (2007). Of **the** **four** groups of professionals, administrators, physicians, nurses and paraprofessionals **includ**ed in the study, the nurses expressed desire to work in a team the most. Physicians

saw job involvement as the main motive for team effectiveness while nurses saw both job and organizational commitment as motivators of team effectiveness. Though different professionals were motivated by different commitments, all professionals had significantly greater commitment to their jobs than to the organizations (Freund & Drach-Zahavy, 2007).

Structural/Organizational Characteristics

Structural/organizational characteristics indicate organizational culture within an agency. Organizational culture relates to combined conditions of the organizational work environment, including its structure and philosophy, administrative support, coordination and communication mechanisms (San Martin-Rodriguez et al. 2005). It shapes individuals' assumptions, behavioral and thought patterns, group norms in subtle, unconscious ways and in return shape the way organizations are run (Dersheimer, 1991).

The role of perceived team effectiveness in improving chronic illness care was examined by Shortell et al. (2004), using data obtained from 40 teams participating in the national evaluation of the Improving Chronic Illness Care Program. The study found that the existence of patient satisfaction focus and the presence of team leadership have a significant positive association with overall perceived team effectiveness. Perceived team effectiveness was constantly associated with both a greater number and depth of changes made to improve care to chronically ill patients ($p < 0.01$). Working for an organization that values teamwork and participation was positive and significantly associated with the number and depth of changes made to improve chronic care (Shortell et al., 2004).

A qualitative study further explored the role of organizational factors on teamwork. DiTullio and MacDonald (1999) employed field observations, individual

interviews, group discussions, and review of data by research participants to examine occupational stress among 38 hospice workers. While teamwork and team support were the most frequently cited rewards of hospice work, hospice workers indicated organizational changes as the major causes of occupational stress. In this study, 71% of the participants expressed time “cramping” as a primary source of stress, followed by 55.3% of the respondents indicating lack of time for one’s emotional self-care and 52.6% indicating restriction or demands imposed by policy changes as major factors in occupational stress. Some other causational themes surfaced in the study. Over 55% of study participants expressed inadequate communication was a major source of stress and caused variety of organizational issues and cited the increased pace of work and complexity of delivering care as the causes of faulty communication. In addition, over 55% of the team members expressed that those systemic problems of staffing, scheduling and role blurring were attributed to insufficient response by organizational, administrative culture (DiTullio & MacDonald, 1999).

In a qualitative study on factors that influence the perceived level of effective collaboration by Parker-Oliver and Peck (2006), hospice social workers saw administrative involvement as an important aspect of teamwork but felt distance from upper management. Barriers to effective teamwork were related to organizational factors such as excessive overloads and overemphasis on medical issues as well as interpersonal relationships of teams such as personality conflicts among team members (Parker-Oliver & Peck, 2006).

Personal Characteristics and Relationships Among Collaborators

Personal characteristics and relationships among collaborators refer to how team members view each other as people outside their professional role. In investigating the role of group social and supportive norms and its impact on the perceived team effectiveness, Amundson (2005) found that the individual members indicating positive regard, support and respect toward other members was a significant predictor of perceived team effectiveness ($p < .001$).

Based on interviews with 23 social workers from 20 different hospices, Parker-Oliver and Peck (2006) learned that the relationship between trust and communication within the team was a determining factor in the perceived level of effective interdisciplinary collaboration.

History of Collaboration

History of collaboration relates to the experiences and existence of collaborative work. The experiences of training in collaborative work were found to be associated with improved communication and improved decision-making among team members in an evaluation study conducted by Haycock-Stuart and Houston (2005). In this study, a series of nine educational and team building workshops were provided, and 140 clinical (nurses, general practitioners, and health visitors) and administrative (practice managers, receptionists, secretaries, and other staff) staff members in the pre-workshop and 116 clinical and administrative members in the post-workshop completed a questionnaire. In the same study, 84% of participants perceived that the interdisciplinary training workshops had improved the quality of collaborative practice and 81% felt the workshops had improved the quality of their own work.

Another study that found improved interdisciplinary communication as a benefit of interdisciplinary work examined interdisciplinary team performance in a long-term care setting, using surveys completed by health care providers who work for one of the 26 Program of All-Inclusive Care for the Elderly (PACE) sites. Temkin-Greener et al. (2004)'s work found a positive correlation between level of communication and team cohesion, and level of communication and team performance. Communication had the greatest impact on both perceived team cohesion and effectiveness, followed by conflict management, coordination and leadership. Perceived team effectiveness significantly increased with age of the respondents, longer length of the team's professional work experience, more ethnically diverse composition of the team, greater ethnic concordance between team members and the participants, and greater perceived resource availability (Temkin-Greener et al., 2004).

Another study examined the impact of mastery of teamwork knowledge on team performance. Hirschfeld et al. (2006) examined team members' mastery of teamwork knowledge as a potential predictor of team task proficiency and observed teamwork effectiveness, using a large group of United States Air Force officers in a 5-week teamwork development program. Their hypothesis, that the greater individual mastery of teamwork knowledge within a team, the greater team task proficiency and observed teamwork effectiveness, was supported (Hirschfeld et al., 2006).

The work of Award et al. (2005) showed the impact of medical team training on improving communication based on professional diversity. They found a statistically significant increase in the self-reported communication scores by the surgeons and anesthesiologists, but no significant change in communication among nurses. The results

of the pre-briefing communication survey indicate that there was a real disconnect in the perception in level of communication among the operating room staff. Surgeons perceived communication in the operating room as good (average of 5.2 on the 1-7 Likert scale). Nurses perceived interprofessional communication as adequate (average of 4.3 on the 1-7 Likert scale). For anesthesiologists, their perception of interprofessional communication was very poor (average of 2.0 on the 1-7 Likert scale). A post-briefing training communication survey was completed at 4 months after the training. Surgeons reported an increase in communication among the surgical team by an average of 0.6 points (6.6 on the 1-7 Likert scale). The perceived increase in communication was most significant among anesthesiologists. Their average post-briefing communication training grew to 4.5 from 2.0 on the 1-7 Likert scale. Nurses, on the other hand, reported no improvement in communication scores after the training. Their post-training score was 4.2, 0.1 lower than the pre-training test (Award et al., 2005).

Additional Influencing Variables on Interdisciplinary Collaboration

Additional influencing variables on interdisciplinary collaboration surfaced in the process of a literature review. They are quality of care and job satisfaction.

Quality of Care

Quality of care indicates the interdisciplinary team members' perception of team function and quality of care the team provides. One of the early studies on hospice care conveyed a link between the hospice interdisciplinary team work and quality of care. A comparison study of two types of home health-based hospice programs involved a hospice composed of nurses and trained volunteers and the other composed of nurses, social workers, aides, chaplain, a volunteer coordinator and trained volunteers. Quality of

care was measured based on satisfaction survey questionnaires completed by families and referring physicians. Families and physicians in general reported both hospices studied to be very helpful and of high quality. Hospice of Seattle, a hospice using an interdisciplinary team, was rated slightly higher on their effectiveness in providing pain and symptom management. In addition, Hospice of Seattle, overall, received a higher rating in its effectiveness of helping with coping both by families and physicians (Bencala, McIntosh, & Salzman., 1982).

Abrahm, Callahan, Rosetti, and Pierre (1996) conducted a prospective study to evaluate the effectiveness of a hospice consultation team with hospitalized advanced cancer patients at the Philadelphia Veterans' Affairs Medical Center. The hospice consultation team in this study consisted of an oncologist with palliative care training, a nurse coordinator, an oncology social worker, and a hospital chaplain. All members of the team completed initial assessments and completed data, including demographic and medical information and assessments of medical, nursing, psychosocial, and spiritual needs of the patients and their families. Weekly team meetings were held, and the team met more frequently, if needed, as 75 patients participated in the study were seen daily (Abrahm et al., 1996).

The study found that the hospice consultation team identified a large number of medical, nursing, psychosocial, and spiritual care needs not previously identified or adequately treated by the hospital multidisciplinary team. For instance, 90% of the patients who initially reported unacceptable pain achieved acceptable pain relief, and 96% of the patients achieved acceptable management of other symptoms. Documentation of the patient's wishes regarding life-sustaining treatments was obtained in 66% of the

patients initially lacking documentation. The hospice consultation team identified 152 psychosocial and spiritual needs in the 75 patients, including psychological/mental health issues such as unappreciated anxiety, depression, and/or anger. The study found that the consultation team was less successful in resolving psychosocial problems identified, citing that only 40% of issues of anxiety, depression, and anger were resolved with counseling from the team social worker or chaplain (Abrahm et al., 1996).

Job Satisfaction

Job satisfaction relates to team members' satisfaction with their jobs. Clark et al. (2007) argues that job satisfaction by team members is essential not only for job retention but also maximizing the quality of care provided to patients.

Coopman (2001) examined the perceptions of hospice team decision-making processes and their relationships to assessments of team performance, individual outcomes and job satisfaction. Hospice team decision-making processes were positively and significantly associated with team productiveness and cohesiveness, though not all dimensions were associated with both outcomes. The level of involvement in the decision-making process by all team members was moderately related to perceived team cohesiveness ($r=.52$, $p<.001$) and perceived team productivity ($r=.56$, $p<.001$).

Additionally, involvement in the decision-making process by all team members was moderately related to overall satisfaction with the team ($r=.62$, $p<.001$), satisfaction with team communication ($r=.64$, $p<.001$), and desire to stay with the team ($r=.48$, $p<.001$). Involvement in the decision-making process, the independent variable, was a significant but not strong predictor of job satisfaction, the dependent variable. In this study, satisfaction with job communication was not related to job satisfaction ($r=.19$,

p.18). Job satisfaction was moderately related to evaluation of team productiveness ($r=.55$, $p<.001$) and weakly related to team cohesiveness ($r=.36$, $p<.01$). The findings suggest that team productiveness serves as a mediating variable between involvement in team decision making and job satisfaction (Coopman, 2001).

Another study investigated factors that affect job satisfaction among hospice interdisciplinary team members. Influencing factors of job satisfaction examined by DeLoach (2003) related to team processes such as supervisory support, autonomy, work motivation, and the role of professional diversity. Supervisory support, positive affectivity, role ambiguity, autonomy, and routinization predicted 62% of the explained variance in job satisfaction among hospice members. The most significant predictor variable was supervisory support (DeLoach, 2003).

Benefits Associated with Interdisciplinary Collaboration

The majority of published studies on interdisciplinary collaboration relates to benefits of interdisciplinary collaboration. This section discusses benefits associated with interdisciplinary collaboration.

Improved services and cost containment associated with interdisciplinary collaboration are often based on the results of comparison studies between interdisciplinary team services and no-team services. Various patient benefits from interdisciplinary collaboration have been drawn in empirical studies while no improvements were observed in some aspects of patient lives.

Brita-Rossi et al. (1996) created a 25 member multidisciplinary orthopedic work group and measured its effectiveness based on overall costs, length of hospital stay, patient satisfaction. A decreased length of hospital stay (from 5.9 to 4.6 days pre-work

team) is reported, and is hypothesized to be related to early involvement of social work services, timely arrangements of rehabilitation beds, and improved delivery of pre-operation information to patients/families. In addition, a decrease in operating room delays accomplished by teamwork contributed to a reduction of overall cost of orthopedic service (Brita-Rossi et al., 1996).

The study conducted by Wagner et al. (2003) had similar findings in regards to the impact of interdisciplinary practice on shorter length of hospital stay. In this study, correlations between the use of physical medicine and rehabilitation consultation and variables such as acute functional outcome, length of hospital stay, and discharge planning after a traumatic brain injury were studied. Data were obtained from 1,866 adult hospitalized patients with non-fatal traumatic brain injury. Of the 1,866 patients, 510 received a consult from a physical medicine and rehabilitation team and the 1,346 remaining did not. The study results indicated that earlier (less than 48 hours after admission) physical medicine and rehabilitation consultation resulted in a significantly shorter acute length of hospital stay ($p=0.001$) (Wagner et al., 2003).

Sommers et al. (2000) also supports that interdisciplinary teams decrease readmission and office visits and increase team impact sustainability over time. This experimental study focused on the effectiveness of collaboration in primary care involving 543 seniors. The intervention group received care from an interdisciplinary team consisting of a physician, nurse, and social worker during the middle 18 months of the 3 year study, while the control group continued to only receive services as usual from their primary care physician. The data regarding hospital admissions and readmissions, emergency room visits, office visits, home care service visits, and nursing home

placements as well as patient-reported health status were collected for the 3 study years. Their findings indicate a decrease in hospital readmission and office visits for those in the intervention group while these incidents increased for the control group. The rate of hospitalization increased for the control group (from 0.39 in the baseline year to 0.34 in the year 1 and 0.52 in the year 2) while it stayed stable for the intervention group (0.38 in the baseline year and 0.36 in the year 2 of the interdisciplinary services). The readmission rate within 60 days of the initial hospitalization showed a 4% to 6% decrease for the intervention group (4.8 in the baseline year to 3.6 in the intervention year 2) compared to an increase in hospital readmission for the control group (6.1 in the baseline year to 9.4 in the year 2). During the follow up period, six months after the ending of the experimental study, group differences in hospitalization rate changes were found no longer significant, but the rate of office visits remained low for the intervention group. No significant differences in emergency room visits, nursing home placements, and home care visits between the two groups were found (Sommers et al., 2000).

The sustainability of the effect of interdisciplinary practice on the length of hospital and nursing home stay was also supported by Nikolaus et al. (1999). The effectiveness of geriatric evaluation and management for hospitalized seniors with post discharge home interventions using an interdisciplinary team (nurses, a physiotherapist, an occupational therapist, a social worker, a secretary and primary physicians) was studied with a total of 545 seniors that were randomly assigned to (1) a home interdisciplinary intervention group (comprehensive geriatric assessment and additional in-hospital and post-discharge follow-up interventions by an interdisciplinary team), (2) a geriatric assessment group (comprehensive geriatric assessment with recommendations

followed by traditional care), or (3) a control group (Assessment of activities of daily living and cognitive functioning followed by traditional care in hospital and at home). The main outcome variables studied included survival rate, functional status, hospital readmission, nursing home placement, and direct care costs over 12 months (Nikolaus et al., 1999).

The participants in the intervention group had a shorter length of nursing home stays (114.7 days compared to 161.6 and 170.0 days of assessment group and control group). Although the rate of readmission to hospitals did not differ between the groups, the length of stay was significantly shorter in the intervention group (22.2 days compared to 34.2 and 35.7 days of assessment group and control group). Unlike the findings of Sommers et al. (2000), the authors found no difference in the mean number of visits to primary care physicians between the three groups at one year in this study (Nikolaus et al., 1999). The reduced costs of care in an intervention group that received services from an interdisciplinary team along with a geriatric assessment were reported by Nikolaus et al. (1999). The intervention group cost was \$ 1,922,400 compared to \$2,276,600 in the assessment group that received a geriatric assessment along with traditional care and \$2,36,300 in the control group that received traditional care only.

A year-long investigational study on the effectiveness of palliative medicine consultation teams in serving outpatient patients who continue to pursue aggressive, curative treatments for their underlying disease conducted by Rabow et al. (2004) shows mixed results. The study involved 40 control patients and 50 intervention patients. The participants in the intervention group, along with their physicians received multiple palliative care consultations to address physiological, social, psychological, and spiritual

needs of the patients. The palliative consultation team consisted of three physicians, a social worker, nurse, chaplain, pharmacist, psychologist, art therapist, and volunteer coordinator. Patients in the intervention group were found to make fewer primary care and urgent care visits while no statistically significant group differences were found in regards to emergency room visits, specialty clinic visits, or hospitalizations (Rabow et al., 2000).

Finally, one study showed no impact of interdisciplinary collaboration on organizational benefits. In evaluating the impact of integrated, collaborative health and social care teams versus traditional, multidisciplinary teams on the services provided to older people in the UK, Brown et al. (2003) found no difference between the two groups concerning a number of contacts made with social services and visits made by a visiting nurse. A total of 393 people (195 in the integrated group and 198 in the traditional group) participated in the study and were evaluated at three time periods (at the initial referral time, at 6 months, and 18 months of the services). More people in the traditional group died compared to the integrated group (49 versus 36) and more people in the traditional group were placed in nursing homes (20 versus 13). These results, however, were not statistically significant (Brown et al., 2003).

The reduced costs of care in the intervention group were associated with fewer days spent in hospital and nursing homes. Sommers et al. (2000) found that an interdisciplinary team intervention for chronically ill seniors, compared to a traditional care, resulted in an average of \$90 saving per patient. Service cost savings associated with the use of teams were not supported, however, in a study of the impact of an outpatient palliative medicine consultation team (Rabow et al. 2004). A comparison of

costs between an intervention group of patients who received services from an interdisciplinary team as well as primary care, and a control group of patients who only received primary care service, found no statistically significant differences in urgent care, emergency room or hospitalization charges per patient (Rabow et al. 2004).

The study by Wagner et al. (2003) indicated that earlier (less than 48 hours after admission) physical medicine and rehabilitation consultation resulted in significantly better acute functional scores with transfers and locomotion. The study by Mukamel et al. (2006) involving 3,401 chronically ill seniors who participated in the Program of All-Inclusive Care for the Elderly (PACE) and 1,860 direct care, full-and part-time PACE care team members, revealed that the measure of overall team performance was significantly associated with activities of daily living scores of the seniors at 3 months ($F = -0.71$) and at 12 months ($F = -1.77$). Also, the overall team performance was significantly associated with the status of urinary incontinence of the seniors at 12 months ($F = 0.23$) (Mukamel et al., 2006).

In the investigation of individuals continuing to receive aggressive medical treatment, (Rabow et al. 2004) the use of an interdisciplinary team resulted in improvements in the physical (dyspnea and sleep), psychological (anxiety), end of life planning, and spiritual well-being aspects. However, no change in levels of pain, depression, satisfaction with care, or quality of life was found. Contrary to this finding in regards to quality of life, the work of Brown et al. (2003) found an increase in quality of life scores in the integrated group, compared to the control group, by a mean score of 0.65. A comparative study of integrated team service and traditional care service for older adults living in a rural area showed that those receiving care from the integrated

team had higher quality of life scores over time than those in the traditional care group (paired $t=2.389$, $df=184$; $p=0.018$) (Brown, Tucker, & Domokos, 2003).

In terms of patient self-reported health status measured by Sommers et al. (2000), the participants in the intervention group who received services from an interdisciplinary team on the average reported an increase in social activities (8.3 in the baseline year to 8.8 in the intervention year 2) and a decrease for the control group (8.8 in the baseline year to 8.6 in the year 2). Those in the intervention group, compared with the control group, reported fewer symptoms (17.7 to 17.2 vs. 17.9 to 18.9) and slightly improved overall health (3.2 to 3.3). There was no difference in changes of health status reports in terms of physical, emotional, nutrition, or number of medications based on the group status.

Another experimental study shows similar findings. Nikolaus et al., (1999) studied the effectiveness of geriatric assessment and management of a group of seniors in Germany who had been hospitalized and discharged. Those in the intervention group who received comprehensive geriatric assessment and follow-up by an interdisciplinary team reported a higher score of self-perceived health (3.7 compared to 3.0 in the assessment group and control group). The intervention group also scored higher on life satisfaction (3.9 compared to 3.2 in the assessment and control groups) and use of community resources (Case management, shopping help, meal services, household help, and community centers for seniors). The authors analyze that being better informed about community resources and resource allocation led to greater life satisfaction and higher Perceived health status in the intervention group. The participants in the intervention

group showed better functional capacities (5.6 compared to 4.1 and 4.3 of assessment group and control group).

Reese & Raymer (2004) measured the effectiveness of hospice social worker involvement on hospice outcomes, and included an assessment of team functioning. Based on a literature review on hospice social workers, Reese and Ramyer (2004) assert that some hospice agencies were trying to minimize social work services to contain hospice expenditures. Other authors also have suggested that the trend to undermine social work or spiritual care services might be related to the pressure from third insurance companies. For instance, Herbst (2004) makes an observation on this trend stating, “Although regulatory surveyors and third-party payers who monitor the delivery of palliative care find it relatively easy to understand the need for pain control, to stop patients’ vomiting, and to provide information for decision making, it is often harder for them to understand the need for other interventions. Insurance companies often try to negotiate payment packages with hospices that exclude social work and chaplain services. Problems in any domain may adversely affect a person’s well-being, however” (p.756).

The National Hospice Social Worker Survey (Reese & Raymer, 2004) was undertaken to study the significance of having a social worker as a core member of the interdisciplinary team. The study used 330 patient cases from 66 hospices based on a stratified random sample of the 350 hospices listed with the NHPCO. In terms of social work involvement and hospice processes, having a sole assignment as a hospice social worker rather than having multiple roles was significantly associated with addressing more concerns on the interdisciplinary team. Furthermore, higher educational

background, more experiences in hospice work, full-time status, and no additional duties outside of hospice social work position were all associated with better team functioning (Reese & Raymer, 2006).

In reviewing the effectiveness of the hospice interdisciplinary team, the study found that better team functioning was significantly associated with lower average number of hospitalizations per patient as well as lower overall hospice costs, including lower costs in home health aide, nursing and labor costs. In addition, the study found that the more issues addressed by social workers on the team, the fewer visits by other members of the team required. Social work participation in the initial admission process was associated with lower average costs of pain medications per patient, lower home health aide, nursing and labor costs, and more social work contacts. Master's degree social worker, more experience in hospice were associated with lower pain medication costs (Reese & Raymer, 2004).

Overall Findings

The findings in this literature review support the common themes found by earlier literature reviews on the benefits of interdisciplinary collaboration. The themes include: (1) inefficient empirical studies evaluating the outcomes and benefits of interdisciplinary practice (Faulkner Schofield & Amodeo, 1999; San Martin-Rodriguez et al, 2005; Saultz & Lochner, 2005), (2) persistent limitations in definition, model, and measurement methodologies employed in studies (Faulkner Schofield & Amodeo, 1999; Mickan, 2005; San Martin-Rodriguez et al, 2005; Saultz & Lochner, 2005), (3) difficulties of capturing and measuring the processes and benefits of interdisciplinary collaboration due to the multifaceted nature of interdisciplinary practice (Mickan, 2005; San Martin-Rodriguez et

al, 2005; Saultz & Lochner, 2005), and (4) limited evidence suggesting that interdisciplinary practice is beneficial on organizational, team, and individual levels (Faulkner Schofield & Amodeo, 1999; Mickan, 2005; San Martin-Rodriguez et al, 2005; Saultz & Lochner, 2005).

The lack of empirical studies evaluating the outcomes and benefits of interdisciplinary practice became evident for those conducting a literature review on the topic. Of over 2,200 abstracts of the articles (published between 1974 and 1996) read and 224 articles analyzed by Faulkner Schofield and Amodeo (1999), only 32 articles were considered empirical studies. The vast majority of the articles reviewed by Faulkner Schofield and Amodeo (1999) focused on describing the education, training, or job satisfaction with interdisciplinary team members, “with little critical analysis” (p.217). San Martin-Rodriguez, et al. (2005) searched several databases for the period of 1980 and 2003 and found only 10 empirical studies that focused on determinants of interprofessional collaboration. They concluded that the majority of published work on interdisciplinary collaboration is based on a conceptual approach rather than empirical data.

Of particular concerns raised by San Martin-Rodriguez et al. (2005) relate to absence of attention given to the influence of organizational and systemic factors on interdisciplinary collaboration. Organizational factors are conditions of the organizational work environment such as its structure, philosophy, administrative support, and coordination and communication mechanisms. Systemic factors are elements outside the organization, including power differences between professionals in a team, specific cultural values unique to a team, discipline specific values, philosophy, and theoretical

values, and professional specific training and education. Only forty studies reviewed by Saultz and Lochner (2005) were found to be empirically based studies on the benefits of interdisciplinary work on care outcomes, despite the fact that they had reviewed 2,424 citations of articles published between 1966 and April 2002.

The persistent limitation in terminology, model and methodologies used in studies is another theme highlighted by previous and this literature review on the processes and benefits of interdisciplinary collaboration. There is considerable diversity in how interdisciplinary collaboration is defined and measured (Faulkner Schofield & Amodeo, 1999; Mickan, 2005; San Martin-Rodriguez et al, 2005; Saultz & Lochner, 2005).

Faulkner Schofield and Amodeo (1999) found in their literature review that the terms “multidisciplinary” and “interdisciplinary” rarely were defined and often were used interchangeably. They state, “A prerequisite to a rigorous evaluation of any model is a clear and consistently used definition of terms; however, we found no such clarity or consistency in our searches. Obviously, the literature suffers from a failure to use the terms consistently in articles” (Faulkner Schofield & Amodeo, 1999, p. 211). The present literature review supports persistent inconsistency in definition of interdisciplinary collaboration. Other terms such as teamwork (Haycock-Stuart & Houston, 2005), multidisciplinary team (Yun, Faraj, & Sims Jr., 2005), and integrated team (Brown et al., 2003) were used, along the term “interdisciplinary team,” interchangeably.

The literature review completed by Saultz and Lochner (2005) reveals that only fourteen of 40 empirical studies possessed a clear definition and measurement of interpersonal continuity. Six of 40 studies did not define or measure interpersonal

continuity. In addition, less than half of 40 empirical studies employed study methodologies that truly measured what they were intended to measure.

Absence of a shared and clear definition and measurement methodology might be a reflection of the very nature of interdisciplinary practice. Multifaceted aspects of interdisciplinary collaboration and practice are intended to attend to bio-psychosocial-spiritual issues of human experiences at both micro and macro levels (Conner et al. 2002). The difficulty of conceptualizing the definition of interdisciplinary collaboration, according to Graham and Barter (1999), comes from the verb-based, action-driven nature of collaboration. Parker-Oliver, Bronstein, and Kurzejeski (2005) point out that the delivery system and philosophy of a particular health care team or organization affects how that team provides services to a specific, targeted population. This can explain diversity in the definition and scope of interdisciplinary practice, and ultimately in methodologies used in studies addressing interdisciplinary collaboration.

Lastly, the available empirical studies suggest that interdisciplinary practice is associated with significant improvement in some care outcomes on all organizational, team, and individual levels. Faulkner Schofield and Amodeo (1999) identified 11 outcome-based articles that covered some improvement in outcomes. The findings from the literature review conducted by Saultz and Lochner (2005) counted a total of 81 separate care outcomes in the 40 empirical studies reviewed. Of the 81 care outcomes, 51 were significantly improved (Saultz & Lochner, 2005).

The findings from these literature reviews validate the promotion of the use and benefits of interdisciplinary teams without sufficient scientific proof and thus highlight an

alarming need for empirical studies on the processes, outcomes, and effectiveness of interdisciplinary collaboration.

Limited Research on the Processes and Benefits of the Hospice

Interdisciplinary Team

One explanation for the lack of studies done on the benefits of hospice teams may be related to the essential role of the interdisciplinary team played in hospice. Because the holistic care model has always been practiced as the hallmark of hospice care, challenging the benefits of the team might have been taken as a denial of the whole concept of hospice care. In addition, as discussed earlier, the concept of the interdisciplinary team is logically sound and considered to be the best teamwork model presently available compared to unidisciplinary (no team at all) or multidisciplinary team models (Conner et. al., 2002). In general, therefore, the benefits of the interdisciplinary team have been rarely questioned (Ansari et al., 2001; Brown et al., 2003; Faulkner-Schofield & Amodeo, 1999; Mickan, 2005; Mizrahi & Abramson, 2000; San Martin-Rodriguez et. al., 2005).

A second explanation related to the lack of research on the interdisciplinary team in hospice may be that the use of the interdisciplinary team is one of the requirements under MHB. Therefore, regardless of the actual benefits of the team, hospice services must be provided through the interdisciplinary team. Because many hospices have not been highly involved in research in general (Tolley & Payne, 2006), the hospice industry is still in its beginning stage of practicing data collection on their patient demographics, practices, and outcomes (Conner, Tecca, LundPerson, & Teno, 2004). In fact, it was not until 1999 that the NHPCO began developing a national data set to keep track of key

information on hospice services and outcomes (Conner et al., 2004). While the hospice industry tries to prove its benefits compared to other settings for the dying, studies on the processes and benefits of the interdisciplinary team in hospice may continue to receive the least priority.

Merriman (1999) argues that hospice care is effective and has had made an impact on individual patients and their families, health industry, communities, and society, but the lack of documented benefits of hospice has resulted in no comprehensive body of evidence to support the claim. Some challenges to documenting the impact of hospice care, identified by Merriman (1999) are: (1) the difficulty of defining quantifiable measures of impact, of collecting quantifiable data from highly individualized plans of care tailored for each patient and his/her family, and of objectively measuring a care experience that is inherently subjective; (2) the limited number of well-validated measurement tools; (3) the ethical questions that rise when studying already vulnerable dying patients and their families; (4) the methodological issues, including a non-random nature of the sample (hospice care chosen by the dying voluntarily), the validity of comparing hospice patients with non-hospice patients, and the difficulty of measuring lasting effects of hospice care on the health care industry and society; and (5) the costs and time commitment required to conduct studies.

Summary

This chapter provided background information on the development and experiences of interdisciplinary teams, followed by a discussion of currently available literature on the processes, influencing factors, and benefits of interdisciplinary

collaboration. The next chapter will outline the study of interdisciplinary collaboration and factors that affect collaborative work in hospice teams.

CHAPTER 3

Methodology

Following a discussion of the research questions, this chapter presents the methodology of this study, including procedures, sampling design, instrumentation, and data analysis. The chapter then concludes with a summary. In this study, both quantitative and qualitative research methodologies were employed to understand interdisciplinary collaboration among hospice interdisciplinary team members and to explore what may help or hinder their collaborative work. The study was conducted upon approval from the Social Science/ Behavioral/ Education Institutional Review Board (SIRB) at Michigan State University (Appendix A).

Research Questions

The purpose of the study was to evaluate factors that affect interdisciplinary collaboration among hospice interdisciplinary team members. The proposed study was guided by the five research questions listed below:

1. What is the relationship between perceived level of collaboration on hospice teams and professional diversity (physicians, nurses, spiritual care providers, and social workers)?

H1: Social workers, compared to physicians, nurses and spiritual care providers, report a higher level of interdisciplinary collaboration.

2. What is the impact of professional affiliation, structural/organizational characteristics, personal characteristics and relationships among collaborators, and history of collaboration on interdisciplinary collaboration?

H2: Professional affiliation, structural/organizational characteristics, personal characteristics and relationships among collaborators, and history of collaboration have a positive direct effect on interdisciplinary collaboration.

3. What is the impact of interdisciplinary collaboration on perceived quality of care team provides?

H3: Degree of interdisciplinary collaboration has a positive direct effect on perceived quality of care team provides.

4. What is the relationship between interdisciplinary collaboration and job satisfaction?

H4: Degree of interdisciplinary collaboration has a positive correlation with job satisfaction.

5. Is professional diversity (physicians, nurses, spiritual care providers, and social workers) an influencing factor in differences in professional affiliation, personal characteristics and relationships among collaborators, history of collaboration, perceived quality of care, and job satisfaction?

H5: Professional diversity is an influencing factor in differences in professional affiliation, personal characteristics and relationships among collaborators, a history of collaboration, perceived quality of care and job satisfaction.

Participation Recruitment and Procedures

The procedure for this study involved the administration of the questionnaire described below to medical directors (physicians), nurses, spiritual care providers/counselors, and social workers working in a hospice agency within the state of Michigan. Using the 2008 Michigan Hospice and Palliative Care Organization membership directory (Michigan Hospice & Palliative Care Organization, 2008), a packet of information was mailed to all the member hospices' executive directors or administrators with a letter explaining the purpose of the study and requesting their participation. In 2008, a total of 117 hospice agencies held membership status with Michigan Hospice and Palliative Care Organization. Along with the letter to the executive director or administrator, the packet of information enclosed four copies of the self-administered questionnaire to be disseminated to a medical director, nurse, spiritual care provider/counselor, and social worker of the agency.

Each survey questionnaire was accompanied with a cover letter explaining the purpose of the study, an estimated time of survey, confidentiality, consent for participation, and ways to contact the researcher. In the cover letter, each individual choosing to participate in the survey study was asked to complete an informed consent form prior to participating in the study. A letter requesting participation in a future phone interview was also enclosed. For those individuals who chose to participate in a future phone interview was asked to complete a consent to voluntary participate in the interview and a contact information sheet. Self-addressed and stamped return envelopes were provided to all participants. Three follow-up e-mail messages were send to hospice administrators in approximately two weeks, four weeks, and six weeks after the survey questionnaires were first mailed. Rubin and Babbie (1993) state that two or three weeks is “a reasonable space between mailings” (p.339) as the timing of follow-up mailing.

Sampling Design

The sampling of this study involved four core professional disciplines of hospice interdisciplinary team, which are medical directors, nurses, social workers, and spiritual care -providers/counselors. Participants working for a hospice agency in the state of Michigan that is a member of the Michigan Hospice and Palliative Care Organization in 2008 were recruited for the study. Study participants worked either full-time or part-time for hospice.

Participant Characteristics

The study focused on gaining an understanding of interdisciplinary collaboration among core members of hospice interdisciplinary teams and of influences of interdisciplinary collaboration. The researcher chose to recruit hospice workers from four

specific professional diversities, including medicine, nursing, spiritual care/counseling, and social work. A literature review revealed that the majority of past studies on interdisciplinary collaboration focused on evaluating teams as a whole (Aube & Rousseau, 2005; Brital-Rossi et al., 1996; Clark et al., 2007; Coopman, 2001; DeLoach, 2003; Rawbow et al., 2004). Despite much discussion about the obstacles of teamwork based on the diversity in individual professional disciplines (Bailey, Jones, & Way, 2006; Brewer, 1999; Coopman, 2001; Irvine et al., 2002), only a few published studies were found to evaluate the impact of individual professional diversity on interdisciplinary collaboration (Abrahamson & Mizarahi, 1996; Bailey, Jones, & Way, 2006; Freund & Drach-Zahavy, 2007; Parker-Oliver, Wittenberg-Lyles, & Day, 2006). This finding led to the decision to include an evaluation of individual professional diversity and its relationship to interdisciplinary collaboration in this study.

The professional diversities represent the four core members of hospice interdisciplinary teams required and defined by MHB (Kastenbaum, 2003). Inclusion criteria for the study are individuals who: (1) work either full-time (at least 36 hours a week of work) or part-time (work less than 36 hours a week but are expected to work a certain number of hours each week and are not an “per diem” employee) as a medical director, nurse, spiritual care provider/counselor, or social worker; (2) work as a core member of an interdisciplinary team in a hospice agency; and (3) volunteer to participate in the study. Exclusion criteria for the study include individuals who: (1) do not meet the three criteria above and (2) are not willing to sign a consent form.

Instrumentation and Variables

Quantitative Instruments and Variables

The review of the literature on interdisciplinary collaboration and hospice was the driving force of the development of the questionnaire for this study. The literature suggested the utilization of a combination of existing scales that assess interdisciplinary collaboration and various influencing factors of interdisciplinary collaboration (Freund & Drach-Zahavy, 2007; Lichtenstein et al., 1997; Rawbow et al., 2004; Shortell et al., 2004).

The level of interdisciplinary collaboration was measured using the Modified Index for Interdisciplinary Collaboration (MIIC) (Parker-Oliver, Bronstein, & Kurzejeski, 2005). This instrument has been used to test interdisciplinary collaboration in a hospice setting (Parker-Oliver, Bronstein, & Kurzejeski, 2005; Parker-Oliver, Wittenbeg-Lyles, & Day, 2006). Factors that influence interdisciplinary collaboration was measured using a combination of: (1) modified questions of the influences of interdisciplinary collaboration originally theorized and tested by Bronstein (2002) within the original version of the MIIC; (2) the Quality of Care subscale, a part of the Attitudes Toward Health Care Teams (ATHCT) instrument developed by Heinemann, Schmit, & Farrell (1991); and (3) items on job satisfaction and turnover intention subscales from the core questionnaire of the Michigan Organizational Assessment Questionnaire (MOAQ) developed by Cammann, Fichman, Jenkins, and Klesh (1983).

Descriptive and Demographic Variables

The questionnaire contained a section designated to obtain demographic data from the study participants about themselves as well as the agencies for which they work. Items included in the demographic variables relating to individual participants were: age,

gender, race/ethnicity, professional discipline, full-time (at least 36 hours a week of work) versus part-time (those who work less than 36 hours a week, are expected to work a certain number of hours each week and are not an “per diem” employee) employment status, years of professional discipline experience, years of hospice experience, and years of collaborative work experience including hospice and other work settings. Age was determined with one multiple question with five options (under 30 years, 31-40 years, 41-50 years, 51-60 years, and over 60 years). Five options with one option labeled as “other” are listed to determine race/ethnicity.

Professional discipline was determined with one question specific to each discipline with multiple responses to indicate a specific educational background for the particular discipline. For instance, social workers were asked to choose from three choices of BSW, MSW or other. In this question, participants were asked to respond to whether or not they are certified in palliative care/hospice. Nominal questions were used to indicate sex, male or female, and full time versus part-time employment status. Years of professional discipline experience, hospice experience, and collaborative work experience are each determined with multiple choice questions. Ten answer options included: Less than 2 years, 2-5 years, 6-10 years, 11-15 years, 16-20 years, 21-25 years, 26-30 years, 31-35 years, 36-40 years, and over 40 years.

Information relating to the team and organization in which the participants work included: Agency status, the age of the hospice program, daily census, a number of teams in the organization, a number of core members, geographic service areas of the organization (rural, urban/suburban, or combination), location within Michigan. A three scale of non-profit, for-profit, or government-run hospice agency indicated the agency's

organizational status. The age of the hospice program was determined with a multiple choice question with six options of less than 2 years, 2-5 years, 6-10 years, 11-15 years, 16-20 years, and over 20 years.

Average daily census was indicated with a multiple choice question with six options of less than 30, 31-50, 51-70, 71-90, 91-110, and over 100 patients. The range of responses for the question was created based on the information published by National Hospice and Palliative Care Organization on Hospice Facts and Figures (2007) that the median hospice daily census in 2006 was 45.6 patients with 41.6% of hospice programs serving fewer than 25 patients daily on average. Only 16% of hospice programs had a daily census of 100 and greater (NHPCO, 2007). A multiple choice question of less than 5, 6-10, 11-15, 16-20, 21-25, 26-30, and greater than 31 core members indicated the number of core hospice team members. The number of teams within the organization was determined by a multiple choice question of 1, 2-3, 4-5, and greater than 6 teams within in the organization. Three options of rural, suburban/urban, or combination of rural and suburban/urban areas were given to determine geographic service areas of the organization.

Dependent Variables

Interdisciplinary Collaboration: Modified Index for Interdisciplinary Collaboration (MIIC)

Hospice interdisciplinary collaboration processes was measured using the Modified Index for Interdisciplinary Collaboration (MIIC), a 42-item instrument that assesses the perceptions of hospice team members of interdisciplinary collaboration within their team (Appendix B). The original instrument, the Index for Interdisciplinary Collaboration (IIC) developed by Bronstein (2002; 2003), measured social workers'

perceptions of collaborative work on a team and had five components regarding interdisciplinary collaboration processes including interdependence, newly developed professional activities, flexibility, collective ownership of goals, and reflection on process.

The IIC was initially developed as a 49-item scale and then was narrowed to a 42 item self-report questionnaire (Parker-Oliver, Bronstein, & Kurzejeski, 2005), using a 5-point Likert scale with one indicating “Strongly Agree” and five indicating “Strongly Disagree”. The documented reliability on the 42-item scale was Cronbach α of 0.92 (Bronstein, 2002; Parker-Oliver, Bronstein, & Kurzejeski, 2005). The reliability rates of five subscales were between 0.62 and 0.82. The interdependent and flexibility components were later combined and showed Cronbach α of 0.80 (Parker-Oliver, Bronstein, & Kurzejeski, 2005). The four subscales’ Cronbach α ranged from 0.75 and 0.82 (Parker-Oliver, Bronstein, & Kurzejeski, 2005).

Parker-Oliver, Wittenberg-Lyles, and Day (2007) modified the IIC, changing some wording in the questionnaire, to target and measure perceptions of interdisciplinary collaboration by all hospice team members. The MIIC, a 42-item self-report questionnaire, includes the same four subscales as the IIC, including interdependence and flexibility (18 items), newly created activities (6 items), ownership of goals (8 items), and reflection on process (10 items). Like the original IIC, a 5-point Likert scale with one indicating “Strongly Agree” and five indicating “Strongly Disagree” was used as the range of responses.

The MIIC was tested with 95 hospice team members from five hospice programs in the United States. Within this sample, a total of eleven individual disciplines, including nurse, physician, chaplain, bereavement, home health aide, dietary, volunteer, therapist,

team leader, secretary, and social worker, responded to the questionnaire (Parker-Oliver, Wittenberg-Lyles, & Day, 2007). Both positively and negatively phrased questions were used in the MIIC, and a paired sample t-test was completed to compare the two sets of questions. The mean of thirty positively phrasing questions was 1.98, and the mean for twelve inversely worded and recorded phrasing questions was 2.77, with no statistically significant difference between the two sets of questions (Parker-Oliver, Wittenberg-Lyles, & Day, 2007). The internal consistency of the MIIC, measured by Cronbach α , had a score of 0.935, reflecting very high reliability (Rubin & Babbie, 1993).

The interdependence and flexibility component measured the degree to which individual team members rely on other members and deliberately cross professional roles to accomplish goals. Cronbach's alpha reliability score of 0.867 was found for the interdependent and flexibility subscale ($M=2.19$, $SD=0.70$). The newly created activities component assessed the degree to which organizational and structural mechanisms are in place to support collaborative work. This subscale had Cronbach's alpha of 0.767 ($M=2.07$, $SD=0.75$). Measuring the degree to which individual team members share responsibility in the process of assessing, developing, and evaluating client-centered care planning related to the collective ownership of goals. The collective ownership of goals subscale had a Cronbach's alpha reliability score of 0.795 ($M=2.22$, $SD=0.77$).

The reflection on process component examined the degree to which individual team members engage with each other to evaluate and improve their collaborative work. Cronbach's alpha for the reflection on process subscale was 0.791 ($M=2.31$, $SD=0.66$). The internal consistency of the four subscales demonstrated moderate to good reliability rates (Garson, 2008) between 0.767 and 0.867. Test-retest reliability, a measurement of

stability of an instrument over time, examined in the original version of MIIC had a reported correlation of 0.824 ($p < .01$), which indicates good stability of the instrument over time (Rubin & Babbie, 1993).

Independent Variables

Four Influences of Interdisciplinary Collaboration: Professional Affiliation, Structural/Organizational Characteristics, Personal Characteristics and Relationships Among Collaborators, and History of Collaboration.

Independent variables for this study included the four influences of interdisciplinary collaboration theorized and tested by Bronstein (2002; 2003). The four influences were: Professional affiliation, structural/organizational characteristics, personal characteristics and relationships among collaborators, and history of collaboration (Appendix B). Some modifications to the original statements relating to each influence were made to include various professional disciplines and to further explore information regarding each influence.

Professional affiliation was determined by three statements with five Likert scale responses of one indicating “strongly agree” to five indicating “strongly disagree.” Three professional affiliation statements were: (1) I am strongly committed to the professional role at my agency; (2) I am strongly committed to the values of my profession; and (3) I strongly identify with my profession. Five statements with five Likert scale responses of one being “strongly agree” to five being “strongly disagree” indicated structural/organizational characteristics. Five structural/organizational characteristics statements were: (1) My organization provides physical space needed for interdisciplinary collaboration; (2) My organization provides communication resources such as a phone, pager, and computer needed for interdisciplinary collaboration; (3) My

workday allows me time for interdisciplinary collaboration with other team members; (4) The administration at my organization supports interdisciplinary collaboration; and (5) The administration at my organization expects interdisciplinary collaboration.

Four statements with Likert scale responses with one indicating strongly agree and five indicating strongly disagree indicated personal characteristics and relationships among collaborators. The four statements about personal characteristics and relationships among collaborators include: (1) I like the colleagues from other disciplines whom I work with on a team; (2) My colleagues from other disciplines and I socialize outside of work; (3) My colleagues from other disciplines and I trust each other; (4) My colleagues from other disciplines understand my personal values and perspective.

History of collaboration influence involved a question about a prior collaborative experience of “Have you ever had experience with interdisciplinary collaboration?” with yes or no response. Those who respond “yes” to the question will respond to this statement: “My past experience with interdisciplinary collaboration has prepared me well for my current collaboration with other disciplines,” with five Likert scale responses of strongly agree to strongly disagree. Another question included under the history of collaboration influence relates to a prior training in collaborative work, “Have you ever had training in interdisciplinary collaboration?” For those who respond “yes” to the participant will respond to a statement, “My past training in interdisciplinary collaboration helps me in my current collaborative work” with five Likert scale responses of strongly agree to strongly disagree.

Quality of Care: The Quality of Care Subscale

“Quality of care” was another independent variable measured in this study. The Quality of Care Subscale (Appendix B) from the Attitudes toward Health Care Teams instrument (AHCT) developed by Heinemann, Schmitt, and Farrell (1991) was used to measure the level of quality of care perceived by individual team members. Developed as one of the earlier version of the three subscales (quality of care, process, and physician centrality) of the Attitudes toward Health Care Teams, the Quality of Care Subscale involves an 11-item self-administered questionnaire with six Likert scale responses of zero indicating strongly disagree and five indicating strongly agree. Heinemann et al., (1999) used three study phases to develop, test, and fine tune the AHCT. The last study phase involved surveying 973 individuals from 111 interdisciplinary, geriatric health care teams in 34 Veterans Affairs medical centers across the United States. The internal consistency reliability for the Quality of Care Subscale measured by a Cronbach’s alpha was 0.82, indicating good reliability (Rubin & Babbie, 1993). The test-retest reliability computed using Person’s correlations showed that the Quality of Care Subscale had a correlation of 0.71 ($p < .001$). This indicates acceptable stability of the subscale instrument over time (Rubin & Babbie, 1993).

In terms of validity of the Quality of Care Subscale, the subscale showed a correlation of 0.60 ($p < .001$) with other scale measuring semantic differential measures of attitudes toward health care teams indicating concurrent validity of the subscale (Heinemann et al., 1999). In addition, Heinemann et al., (1999) measured construct validity by correlating nurses’ scores on the subscale with their scores on another scale measuring the collaborative behavior of nurses with physicians. The subscale showed a

statistically significant, moderate association, and the magnitude and direction of the correlation ($r=.21$, $p<.05$) support construct validity of the scale (Rubin & Babbie, 1993).

For the current study, the decision was made to remove one item from the Subscale questionnaire as this particular item, “Hospital patients who receive team care are better prepared for discharge than other patients,” does not apply to a hospice setting. Thus, a total of ten statements will measure individual team members’ perceived quality of care provided by team. In order to maintain consistency and cohesiveness with other questions and responses in the entire questionnaire, five responses of strongly agree to strongly disagree were adapted for the Quality of Care Subscale in this study.

Job Satisfaction

Another independent variable tested in the study is job satisfaction. The Job Satisfaction Subscale, a part of the Michigan Organizational Assessment Questionnaire (MOAQ) developed by Cammann, Fichman, Jennings, and Klesh (1983) was used to measure the level of job satisfaction perceived by hospice interdisciplinary team members (Appendix B). The MOAQ is a self-administered instrument that assesses the attitudes and perceptions of organizational members on six factors associated with work, including job facets, tasks and job role characteristics, work group functioning, supervision, and pay. The Job Satisfaction Subscale (MOAQ-JSS) consists of three item statements with a 7-point Likert scale (1=strongly disagree, 2=disagree, 3=slightly disagree, 4=neither agree nor disagree, 5=slightly agree, 6=Agree, 7=Strongly Agree) (Cammann et al., 1983). The three statements in the subscale are: (1) All in all, I am satisfied with my job; (2) In general, I don’t like my job (reversed scoring); and (3) In general, I like working here (Cammann et al., 1983).

The entire MOQA instruments were tested using a total of 3,381 individuals from 11 diverse organizations located in major regions of the United States, including a tool and a die company, a metropolitan bank, a pharmaceutical plant, and an urban solid-waste disposal department (Cammann et al., 1983). A Cronbach's alpha used to measure internal consistency reliability for the Job Satisfaction Subscale was 0.77 (Cammann et al., 1983), indicating a moderate to good scale reliability (Rubin & Babbie, 1993).

Bowling and Hammond (2008) measured the construct validity of the Job Satisfaction Subscale using meta-analysis of a total of 80 sample studies. The overall result of the study showed strong evidence of the construct validity of the MOAQ-JSS, both with directions and magnitudes of the correlations between the MOAQ-JSS and variables associated with job satisfaction. For instance, autonomy (average weighed correlation $\rho=.35$, number of samples $k=13$, total sample size $N=2984$), co-worker social support (average weighed correlation $\rho=.33$, number of samples $k=4$, total sample size $N=703$), and perceived organizational support (average weighed correlation $\rho=.46$, number of samples $k=4$, total sample size $N=1084$) were positively related to and role conflict (average weighed correlation $\rho=-.32$, number of samples $k=12$, total sample size $N=3164$) and interpersonal conflict (average weighed correlation $\rho=-.29$, number of samples $k=18$, total sample size $N=7634$) were negatively associated with the MOAQ-JSS.

Turnover intention (average weighed correlation $\rho=-.65$, number of samples $k=31$, total sample size $N=12,618$), satisfaction with work itself (average weighed correlation $\rho=.74$, number of samples $k=2$, total sample size $N=316$), and organizational commitment (average weighed correlation $\rho=.69$, number of samples $k=9$, total sample size $N=3161$)

were among the strongest relationships found in the study. In order to maintain consistency and cohesiveness with other questions and responses in the entire questionnaire, five responses of strongly agree to strongly disagree were adapted for the Job Satisfaction subscale in this study.

Qualitative Design and Measures

A telephone interview was used to gather in-depth information about hospice interdisciplinary team collaboration, and as a follow up to the questionnaire. Individuals indicated an interest to voluntarily participate in a future telephone interview by completing a telephone interview information sheet and informed consent for the interview when responding to the survey questionnaire. Those individuals were contacted on later date by phone to respond to six standardized, open-ended questions about their experiences and thoughts on interdisciplinary collaboration.

The standardized open-ended interview involves a set of carefully worded and arranged questions that each participant will be asked to respond (Patton, 1987). In terms of strengths of this approach, the standardized open-ended interview: (1) increases comparability of responses; (2) minimizes interviewer effects and bias when more than one interviewer is used, (3) permits the researcher to review the instrumentation used in the evaluation; and (4) facilitates organization and analysis of the data (Patton, 1987). On the other hand, this approach: (1) allows little flexibility in relating the interview to particular participants; (2) constrains the exploration of topics that were not anticipated when the interview questions were written; and (3) reduces the extent to which individual differences can be taken into account (Patton, 1987). A telephone interview information sheet asked the willing participants to provide a telephone number of choice and

preferred time of contact. Informed consent for the telephone interview containing permission to record the interview was completed by the participants prior to the interview.

The researcher contacted each participant for the standardized open-ended interview. Prior to the start of an interview, the researcher informed each participant about the estimated duration of the interview and reminded each participant that the interview would be recorded. Informed consent was requested for a second time, but for this occasion verbally, before the interview began. The interview began with four demographic and organizational questions about a participant. They were: (1) professional diversity (physician, nurse, social worker, or spiritual care provider/counselor); (2) how long have you been a physician/nurse/social worker/spiritual care provider/counselor?; (3) how long have you worked for your current hospice agency?; and (4) does your hospice agency serve mainly rural, metropolitan, or urban area of the state? The six open-ended questions then followed and are described as follows.

1. Who do you consider to be members of your interdisciplinary team?
2. What is the biggest strength of your hospice team?
3. What poses as the biggest barrier in your hospice teamwork?
4. What professional qualities do you bring to your team in assisting your clients?
5. In what ways does your agency evaluate team effectiveness?
6. Is there anything about hospice teamwork we did not cover that you would like to share?

Data Analysis

The following section discusses data analysis for the quantitative and qualitative methodologies employed in this study.

Quantitative Data

The informed consent forms and questionnaires for individual participants of the study were filed separately in locked files in the researcher's office. Data from the questionnaire including demographic information and responses to the MIIC, influences of interdisciplinary collaboration, Quality of Care Subscale, and MOAQ-JSS were entered on and computed by Statistical Package for the Social Sciences 17.0 (SPSS, 2005) software, with secured access fields. Unique confidential numbers were assigned to each participant.

Descriptive statistics were used to examine individual, team, and organizational level demographic questions. Frequencies and percentages of the demographic characteristics were reported. The following discusses specific statistical tests that addressed each of the five research hypotheses.

Hypothesis 1: Social workers, compared to physicians, nurses and spiritual care providers, report a higher level of interdisciplinary collaboration.

Hypothesis one was tested employing one-way analysis of variance (ANOVA) to examine significance of the relationship between interdisciplinary collaboration (dependent variable) and professional diversity (independent variable). One-tailed tests for significance were used for this hypothesis as the nature of differences and association is specified.

Hypothesis 2: Professional affiliation, structural/organizational characteristics, personal characteristics and relationships among collaborators, and history of collaboration have a positive direct effect on interdisciplinary collaboration.

Hypothesis two was tested using multiple regression analysis. Multiple regression shows “the overall correlation between each of a set of independent variables and an interval-or-ratio-level dependent variable” (Rubin & Babbie, 1993, p.507). It tests how much portion of the variance in a dependent variable at a significant level can be explained by a set of independent variables (through a significance test of r^2) and establishes the relative predictive importance of the independent variables (by comparing beta weights) (Garson, 2008). Backwards regression evaluated the strength of the relationship between perceived interdisciplinary collaboration and four influences of interdisciplinary collaboration.

Hypothesis 3: Level of interdisciplinary collaboration has a positive direct effect on perceived quality of care team provides.

Pearson’s product-moment correlations were employed to test hypothesis three. Pearson’s correlation allowed testing of statistical significance as well as measuring of the strength of association (Rubin & Babbie, 1993) between interdisciplinary collaboration (dependent variable) and the level of quality of care perceived by team members (independent variable).

Hypothesis 4: Level of interdisciplinary collaboration has a positive correlation with job satisfaction.

Hypothesis four was tested using Pearson’s correlation as the test allowed measurement of the strength of association between interdisciplinary collaboration and job satisfaction.

Hypothesis 5: Professional diversity is an influencing factor in differences in professional affiliation, personal characteristics and relationships among collaborators, a history of collaboration, perceived quality of care and job satisfaction.

ANOVAs were be used to test hypothesis five. ANOVAs examined significance of the relationship between a dependent variable of professional diversity (physicians, nurses, spiritual care providers, or social workers) and independent variables of professional affiliation, personal characteristics, a history of collaboration, quality of care, and job satisfaction. One-tailed tests for significance were used for this hypothesis.

For all statistical tests, a Type I error level of .05 was employed as statistically significant probability level (Keppel & Wickens, 2004).

Qualitative Data

Each recorded interview was transcribed verbatim and given a unique code. The transcribed data were filed in locked files in the researcher's office. Content analysis was employed to identify and categorize themes and patterns in the collected, transcribed data. The purpose of content analysis is "organizing and simplifying the complexity of data into some meaningful and manageable themes and categories" (Patton, 1987, p. 150). Manifest content, the visible, surface content (Rubin & Babbie, 1993), was measured thorough computing the frequencies of certain words, phrases and patterns. Using the result of manifest content, latent content, coding underlying meaning of the data (Rubin & Babbie, 1993), were employed to further interpret the data. Underlying themes and concepts surfaced from the phone interview are reported.

Summary

Chapter 3 contains a discussion of the methodology that will be utilized in addressing the research questions and collecting the data. The next chapter presents the results of the data analysis that include a detailed description of study participant

characteristics, general findings, and results of inferential statistical tests of the research questions. It will also include a discussion of themes surfaced in the qualitative study.

CHAPTER 4

Results

Overview

This chapter discusses and analyzes Michigan hospice interdisciplinary team members' perceptions of their own participation and that of other team members in collaborative work, as well as the perceived outcomes of collaboration. The targeted hospice clinicians for this study included physicians, nurses, spiritual care providers, and social workers. The primary purpose of this study was to deepen an understanding of the processes of interdisciplinary collaboration in hospice, and the impact of variables that aid or hinder collaborative work. The study involved a mixed method of survey and phone interview. The survey instrument measured perceived degree of interdisciplinary collaboration and the impact of demographic and other variables such as professional role, structural/organizational characteristics, personal characteristics, history of collaboration, quality of care, and job satisfaction, on perceived degree of interdisciplinary collaboration. Of 468 self-administered survey questionnaires mailed in January, 2009 and three follow-up email requests, 129 hospice clinicians returned the questionnaires. This leads to a return rate of 27.5%.

Sixty three hospice interdisciplinary team members volunteered to participate in phone interviews. Of 63 volunteers, twenty hospice interdisciplinary team members, five each from the professional disciplines of medicine, nursing, spiritual care, and social work, were randomly chosen for the qualitative component of the study. Six open-ended questions about their thoughts on their contribution to their team, strengths of their team, challenges their team faces, and practice of team effectiveness evaluation were addressed.

This chapter will first address characteristics of the study sample using descriptive data, including personal demographic variables of age, gender, race/ethnicity, professional discipline, and years of hospice work experience. In addition, organizational variables about study participants' hospice agencies such as the geographic service area, the number of hospice teams within one's agency, and the number of core hospice team members within one's agency will be discussed. Second, with a focus on significant relationships, trends, and group differences, the results of the data analysis, addressing each research question, will be discussed. The chapter concludes with a summary of the findings.

Characteristics of the Study Sample

Demographic Data

Of the 129 survey questionnaires returned, 126 surveys were analyzed by the researcher. Three questionnaires were omitted from the data analysis because one returned questionnaire was missing the majority of responses on the survey instrument, and two were completed by hospice bereavement service coordinators who were not from the four targeted hospice professional disciplines for this study.

With regards to the professional discipline, the survey participants included 39 nurses (31%), 25 physicians (19.8%), 29 spiritual care providers (23%), and 33 social workers (26.2%). Of 39 nurses, 26, 65%, were registered nurses (RNs), 11, 27.5%, had a Bachelor's degree in Nursing (BSN), and two, 5%, had a Master's degree in Nursing (MSN). Of the 38 nurses (one data was missing), 11 (28.9%) were certified in palliative care while 27 (71.1%) were not certified. The majority of physician participants (18 physicians, 72%) were Medical Doctors (MD). There were seven (28%) Doctors of

Osteopathy (DO). Of the physician participants, 52% were certified in palliative care and/or hospice while the other 44% were not.

The spiritual care provider group had the most diversity in credentials. Approximately 38% of the spiritual care provider participants were Master of Divinity (MDiv), and the other 62% of them identified themselves as having other credentials. Other credentials reported include chaplain, sister, ordained minister, Bachelor's degree in Theology, Master's degree in Religious Education, Master's degree in Counseling, Doctor of Ministry, etc. Of 27 spiritual care providers (two were missing data), only three were certified in palliative care. The majority of social workers (81.8%) were Master's educated social workers while the other 18.2% were Bachelor's educated. Only two social workers were palliative care certified.

The survey participants included 94 females (73%) and 32 males (27%). A Chi-square test of association showed that gender was a statistically significant variable in the study sample ($\chi^2 = 36.771$, $df = 3$, $N = 126$, $p < .0005$) in terms of the professional discipline (Table 1). Nurse and social worker survey participants were more likely to be female, while physicians and spiritual care providers were more likely to be male.

Table 1: Chi-square Analysis of Gender by Professional Diversity

	N	Nurse	Physician	Spiritual Care	Social Work	χ^2	p
Male	34	3	16	13	2	36.771	.0005
Female	92	36	9	16	32		
Total	126	39	25	29	33		

In terms of race/ethnicity, of the 126 survey participants, 118 individuals (93.7%) identified as Caucasian American, 3 individuals identified as African American (2.4%), 2

identified as Asian or Pacific Islander (1.6%), 1 identified as Native American (0.8%), and two identified as other ethnicity (1.6%) which included Pakistani and a mixed heritage of Native American, French, and Norwegian. There was no relationship between race/ethnicity identified and professional diversity.

In terms of age, the participants were composed of a wide range of age groups from under 30 years old to over 60 years old. The 51 to 60 years old group was the largest age group in this sample with 43 participants (34.1%), followed by 34 participants (27%) in the 41 to 50 years old group. Only three individuals were in the 30 years and younger group (2.4%). Table 2 provides information on age by professional diversity.

Table 2: Age Groups by Professional Diversity

	<u>NS</u>		<u>PH</u>		<u>SC</u>		<u>SW</u>		<u>Total</u>	
Age	N	%	N	%	N	%	N	%	N	%
Under 30	1	0.79	0	0	0	0	2	1.59	3	2.35
31 to 40	9	7.14	2	1.59	0	0	10	7.94	21	16.67
41to 50	12	9.52	8	6.35	5	3.97	9	7.14	34	26.98
51 to 60	14	11.11	8	6.35	12	9.52	9	7.14	43	34.12
Over 60	3	2.38	7	5.56	12	9.52	3	2.38	25	19.84
Total	39	31	25	19.8	29	23	33	26	126	100

NS (nurses), PH (physicians), SC (spiritual care providers), and SW (social workers)

A One-way ANOVA test was performed to examine whether or not age difference by professional discipline was statistically significant. The test revealed (Table 3) that there was a statistically significant difference among the participants' age based on professional diversity, $F(3, 122) = 10.14, p < .0005$. Social workers as a group were the youngest group while spiritual care providers represented the oldest age group.

Table 3: One-Way Analysis of Variance of Age by Professional Diversity

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	3	28.22	9.40	10.14	.000
Within groups	122	113.20	.92		
Total	125	141.42			

In regard to employment status, of the 126 participants, 78 professionals (61.9%) reported their employment status to be full-time (greater than 36 hours a week) and 46 (36.5%) part-time (less than 36 hours weekly but not as needed status) (Table 4). A Pearson Chi-square test was performed to investigate whether employment status differed based on professional diversity. A statistically significant difference in employment status was found based on professional diversity ($\chi^2 = 11.03$, $df = 3$, $N = 124$, $p = .012$). The test revealed that nurses and social workers were more likely to be employed full-time while physicians and spiritual care providers were likely to be employed both full-time and part-time (Table 5).

Table 4: Employment Status by Professional Diversity

		<u>Nurses</u>		<u>Physicians</u>		<u>Spiritual Care</u>		<u>Social Workers</u>
Employment Status	N	%	N	%	N	%	N	%
Full-time	31	82.1	11	47.8	14	48.3	21	63.6
Part-time	7	17.9	12	52.2	15	51.7	12	36.4
Total	39	100	23	100	29	100	33	100

Table 5: Chi-square Analysis of Employment Status by Professional Discipline

	N	Nurse	Physician	Spiritual Care	Social Work	χ^2	<i>p</i>
Full-time	78	31	11	14	21	11.03	.012
Part-time	46	7	12	15	12		
Total	124	39	23	29	33		

Reported years of practice in one's current discipline varied from less than two years to over 40 years. For nurses, the majority have been practicing for two to 10 years, making up 46% of all the nurse participants, followed by 13% practicing 11 to 15 years. Physician participants' years of experience were diverse. Seven physicians (30%) had practiced medicine for six to ten years, and this was the largest group among physicians, followed by 16% of them with 16 to 20 years of experience. Two had 36 to 40 years and one had over 40 years of practice. Nearly 50% of the spiritual care providers have been practicing between two to 10 years. Though they represent the oldest age groups, only four had experiences of practicing clergy work or spiritual care over 21 years. For social workers, their years of practice experience were diverse, ranging from two to 25 years of experience, with 15 to 18% or five to six individuals in each of the experience groups. Three social workers had less than two years of practice experience. There was no statistical difference between years of experience in one's discipline based on professional discipline.

Years of working for current hospice also varied from less than two years to 36 to 40 years. Of the 125 responding to the question (one person did not respond to this question), 45 (35.7%) of them have been with their current hospice between two and five years, 29 (23%) with six to 10 years, 28 (22.2%) with less than two years working for

their current hospice agency, and 15 (11.9%) with 11 to 15 years. Years of hospice experience varied from less than two years to 31 to 35 years. There was no statistical difference in years with current hospice based on professional discipline.

Organizational Data

Six questions were asked to explore organizational characteristics about hospice agencies for which the survey participants' work. One hundred and one (80%) of the 124 participants who responded to the question about organizational status reported to work for a non-profit hospice agency. Nineteen (15.1%) work for a for-profit hospice agency, and four (3.2%) work for government-run hospice. Of the 126 participants, 116 responded to the question about their organization's years of operation (Table 6). Sixty-five (56 %) individuals reported to work for an agency with over 20 years in business, followed by 20 individuals (17.2 %) working for a hospice agency with 11 to 15 years in business. Over 84 % of the respondents work for a hospice with over 11 years of history, while five participants work for hospice with less than two years of operation.

Table 6: Years of Hospice Operation

Years of Operation	N	Percentage
Less than 2	5	4.3
2 to 5	7	6.0
6 to 10	6	5.2
11 to 15	20	17.2
16 to 20	13	11.2
Over 20	65	56.0
Total	116	100

The fourth organizational question was about the number of core hospice interdisciplinary team members. Table 7 provides the results. The responses ranged from

less than five members to over 30 core members. Close to 40% of the participants reported to have more than 30 core members in their agency, which was the most frequent response by the study sample, followed by 21.1% reported to have 16 to 20 core members. Two individuals reported to have less than five core members.

Table 7: Hospice Interdisciplinary Team Core Members

Core Members	N	Percentage
Less than 5	2	1.6
6 to 10	9	7.3
11 to 15	16	13.0
16 to 20	26	21.1
21 to 25	12	9.8
26 to 30	9	7.3
Greater than 30	49	39.8
Total	123	100.0

In terms of a number of interdisciplinary teams, 124 participants responded to the question. Over 70% of the participants reported to work for hospice with one team (23%) or two to three (21.4%) teams. Twenty participants (15.9%) reported to work for hospice with more than 6 interdisciplinary teams (Table 8).

Table 8: Number of Hospice Teams in One's Agency

Teams	N	Percentage
1 team	46	37.1
2 to 3 teams	44	35.5
4 to 5 teams	14	11.3
Greater than 6	20	16.1
Total	124	100

Responses to the question regarding one's hospice agency's average daily census ranged greatly from less than 30 cases to over 110 cases (Table 9). The most frequent

response was the over 110 average daily census group with 38 participants (30.2%), followed by 29 (23%) reporting less than 30 daily cases, showing great diversity in average daily census among participating hospices.

Table 9: Average Daily Census

Average Daily Census	N	Percentage
Less than 30	29	23.0
30 to 50	27	21.4
51 to 70	12	9.5
71 to 90	15	11.9
91 to 110	5	4.0
Over 110	38	30.2
Total	126	100.0

The last organizational characteristic question related to geographic service area. Of the 125 survey participants who responded to the question, 44% reported to serving mainly rural areas, 36.8% serve a combination of rural and urban areas, and 19.2% reported to mainly serve urban and suburban area (Table 10). This shows that the participants work for hospice with a variety of service areas.

Table 10: Geographic Service Area

Geographic service area	N	Percentage
Rural	55	44.0
Urban and suburban	24	19.2
Both	46	36.8
Total	125	100.0

Survey Instruments and Reliability Statistics

Modified Index for Interdisciplinary Collaboration (MIIC)

MIIC is a 42-item self-administered survey questionnaire utilized to measure the perceived level of interdisciplinary team collaboration among the four hospice core members (nurses, physicians, spiritual care providers, and social workers). SPSS was used to test for scale reliability with Cronbach's coefficient for internal reliability on four subscales as well as the entire questionnaire. As seen in Table 11, the subscale alphas ranged from .76 to .86 which indicate moderate to good reliability (Garson, 2008). The interdependence and flexibility subscale's internal reliability had an alpha of .81, the newly created activities subscale .76, the collective ownership of goals subscale .85, and the reflection of process .86. The internal consistency of the entire MIIC, measured by Cronbach's alpha, had a score of .94, showing very high reliability (Garson, 2008).

Table 11: Internal Reliability Statistics of MIIC and Subscales

MIIC subscales	# of Items	Cronbach's alpha
Interdependence and flexibility	18	.814
Newly created activities	6	.760
Collective ownership of goals	8	.846
Reflection of process	10	.858
MIIC	42	.935

Job Satisfaction and Quality of Care Subscales

Internal reliability of the Job Satisfaction and Quality of Care instruments was also tested with Cronbach's coefficient (Table 12). The Job Satisfaction subscale had an

alpha of .95, and the Quality of Care subscale had an alpha of .91. Both scales showed very high internal reliability (Garson, 2008).

Table 12: Job Satisfaction and Quality of Care Subscales' Internal Reliability Statistics

Scales	# of Items	Crobach's alpa
Job Satisfaction	3	.948
Quality of Care	10	.911

General Findings

The following section addresses the results of analyses performed to test each of the five hypotheses about factors that may aid or hinder collaborative work among hospice interdisciplinary team members. The five research questions and hypotheses that guided the study are listed below. For analyses of data, the confidence level of .05 was employed for rejecting the hypotheses.

1. What is the relationship between perceived level of collaboration on hospice teams and professional diversity (physicians, nurses, spiritual care providers, and social workers)?

H1: Social workers, compared to physicians, nurses and spiritual care providers, report a higher degree of interdisciplinary collaboration.

2. What is the impact of professional affiliation, structural/organizational characteristics, personal characteristics and relationships among collaborators, and history of collaboration on interdisciplinary collaboration?

H2: Professional affiliation, structural/organizational characteristics, personal characteristics and relationships among collaborators, and history of collaboration have a positive direct effect on interdisciplinary collaboration.

3. What is the impact of interdisciplinary collaboration on perceived quality of care team provides?

H3: Degree of interdisciplinary collaboration has a positive direct effect on perceived quality of care team provides.

4. What is the relationship between interdisciplinary collaboration and job satisfaction?

H4: Degree of interdisciplinary collaboration has a positive correlation with job satisfaction.

5. Is professional diversity (physicians, nurses, spiritual care providers, and social workers) an influencing factor in differences in professional affiliation, personal characteristics and relationships among collaborators, history of collaboration, perceived quality of care, and job satisfaction?

H5: Professional diversity is an influencing factor in differences in professional affiliation, personal characteristics and relationships among collaborators, a history of collaboration, perceived quality of care and job satisfaction.

Addressing of the Research Hypotheses and Results of Analyses

Hypothesis 1: Social workers, compared to physicians, nurses and spiritual care providers, report a higher level of interdisciplinary collaboration.

Hypothesis one was tested with one-way analysis of variance (ANOVA). It examined significance of the relationship between interdisciplinary collaboration (dependent variable) and professional diversity (independent variable). One-tailed tests for significance were used for this hypothesis as the nature of differences and association was specified. The result of the test shows that there was no statistically significant difference in the perceived degree of interdisciplinary collaboration based on professional discipline, $F(3, 111) = 1.42, p = .24$ (Table 13).

Table 13: One-Way Analysis of Variance of Interdisciplinary Collaboration by Professional Discipline

Interdisciplinary Collaboration	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>P</i>
Between Groups	3	1185.63	395.21	1.42	.24
Within Groups	111	30816.49	27763		
Total	114	32002.12			

Hypothesis 2: Professional affiliation, structural/organizational characteristics, personal characteristics and relationships among collaborators, and history of collaboration have a positive direct effect on interdisciplinary collaboration.

Multiple regression analysis was employed to test hypothesis two. It tested how much portion of the variance in perceived interdisciplinary collaboration (dependent variable) at a significant level can be explained by professional affiliation, structural/organizational characteristics, personal characteristics and relationships among and history of collaboration variables. Backwards regression was used to evaluate the strength of the relationship between perceived interdisciplinary collaboration and four influences of interdisciplinary collaboration. Based on the number of data missing for the history of collaboration variable (71 participants did not respond to the questions corresponding with this variable), a decision was made to remove the variable from the data analysis. Thus, backwards regression test examined how much of the variance in perceived interdisciplinary collaboration was explained by the three remaining influencing variables of interdisciplinary collaboration.

As seen in Tables 14 and 15, the result of multiple regression tests shows that the combination of variables to predict interdisciplinary collaboration from the three influencing variables of professional affiliation, organizational characteristics, and personal characteristics and relationships was statistically significant and had a positive effect on perceived interdisciplinary collaboration, $F(3, 109) = 37.07, p < .001$. The beta coefficients are presented in Table 15. The adjusted R^2 value of .51 indicates that 51% of the variance in perceived interdisciplinary collaboration was explained by the three influencing variables. This result, according to Morgan, Leech, Gloeckner, and Barrett (2007), is a large effect.

Table 14: Means, Standard Deviations, and Intercorrelations for Interdisciplinary Collaboration and Predictors Variables (N=113)

Variables	M	SD	Professional Affiliation	Organizational Characteristics	Personal Characteristics
Interdisciplinary Collaboration	79.42	16.84	.49	.52	.65
Predictor Variables					
1. Professional Affiliation	3.50	.99		.34	.47
2. Organizational Characteristics	7.37	2.68			.52
3. Personal Characteristics	7.78	1.96			

Table 15: Summary of Multiple Regression Analysis for Three Variables Predicting Interdisciplinary Collaboration (N=113)

Variables	B	SEB	β	<i>t</i>	Sig. (<i>p</i>)
Professional Affiliation	3.52	1.30	.21	2.70	.008
Organizational Characteristics	1.38	.50	.22	2.76	.007
Personal Characteristics	3.80	.73	.44	5.21	.000
Constant	27.33	5.16			

Note. $R^2 = .51$; $F(3, 109) = 37.07$, $p < .001$

Hypothesis 3: Degree of interdisciplinary collaboration has a positive direct effect on perceived quality of care team provides.

To investigate if there was a statistically significant association between interdisciplinary collaboration and the degree of quality of care perceived by team members, Pearson's product-moment correlation was computed. The Pearson correlation statistics was calculated, $r(110) = .68$, $p = .0005$ (Table 16). The direction of the correlation was positive, which means that those who have higher degree of perceived interdisciplinary collaboration tend to have higher level of perceived quality of care provided by team and vice versa. The correlation statistics of .68, according to Cohen

(1988), is a large effect and indicates that approximately 38% of the variance in perceived interdisciplinary collaboration can be predicted from the level of quality of care perceived by the team member.

Table 16: Pearson Correlation Coefficient between Quality of Care and Interdisciplinary Collaboration

	Mean	Std. Deviation	N	Pearson Correlation	Sig. (2-tailed)
Quality of Care	15.38	4.77	112	.68	.000
Interdisciplinary Collaboration	79.45	16.92	112		

Hypothesis 4: Degree of interdisciplinary collaboration has a positive correlation with job satisfaction.

Hypothesis four was tested using Pearson's correlation to measure the strength of association between interdisciplinary collaboration and job satisfaction. The Pearson correlation statistics was calculated, $r(111) = .52$, $p = .0005$, and the direction of the correlation was positive. The result indicates (Table 14) that those who have higher degree of perceived interdisciplinary collaboration tend to have higher level of Job Satisfaction and vice versa. The correlation statistics of .52, according to Cohen (1988), is a large effect and indicates that approximately 33% of the variance in perceived interdisciplinary collaboration can be predicted from the level of job satisfaction perceived by the team member.

Table 17: Pearson Correlation Coefficient between Job Satisfaction and Interdisciplinary Collaboration

	Mean	Std. Deviation	N	Pearson Correlation	Sig. (2-tailed)
Job Satisfaction	4.47	1.97	113	.52	.000
Interdisciplinary collaboration	79.56	16.90	113		

H5: Professional diversity is an influencing factor in differences in professional affiliation, personal characteristics and relationships among collaborators, a history of collaboration, perceived quality of care and job satisfaction.

ANOVAs were used to test hypothesis five. ANOVAs examined significance of their relationship between a dependent variable of professional diversity (physicians, nurses, spiritual care providers, or social workers) and independent variables of professional affiliation, personal characteristics, a history of collaboration, quality of care, and job satisfaction. One-tailed tests for significance were employed for this hypothesis. Post-hoc tests were performed to determine the independent subsets between professional diversity groups in the event of a significant ANOVA test. Table 18.1, 18.2, and 18.3 provide means and standard deviations comparing professional diversity and variables of Professional Affiliations, Personal Characteristics, History of Collaboration, Quality of Care, and Job Satisfaction.

The mean scores (with standard deviations in parentheses) of Professional Affiliation for nurses was 3.39 (.82), physicians 3.56 (1.08), spiritual care providers 3.59 (1.05), and social workers 3.58 (1.06). The mean scores (with standard deviations in parentheses) of Personal Characteristics and Relationships among Collaborators for nurses, physicians, spiritual care providers, and social workers were 7.47 (1.97), 6.62 (1.38), 8.00 (2.13), and 8.93 (1.84), respectively.

The History of Collaboration variable had mean scores (with standard deviations in parentheses) of 11.27 (27.70) for nurses, 4.00 (1.00) for physicians, 4.07 (.99) for spiritual care providers, and 4.26 (1.76) for social workers. It is important to note that the majority of the participants did not respond to the questions relating to the history of collaboration variable. Of 126 surveys used for data analysis, only 55 individuals

responded to the history of collaboration related questions. Thus, the results may not be representative of the study sample as a whole.

Means of Quality of Care (with standard deviations in parentheses) for nurses was 15.05 (4.86), physicians 15.17 (4.43), spiritual care providers 16.00 (5.21), and social workers 15.76 (4.70). In order, means of Job Satisfaction for nurses, physicians, spiritual care providers, and social workers were 4.29, 3.68, 4.69, and 5.06 (SDs = 1.70, 1.14, 2.01, and 2.41, respectively).

Table 18.1: Means and Standard Deviations Comparing Professional Diversity and Variables of Professional Affiliation and Personal Characteristics

	Professional Affiliation			Personal Characteristics		
Professional Diversity	N	M	SD	N	M	SD
Nurse	38	3.39	.82	38	7.47	1.97
Physician	25	3.56	1.08	25	6.92	1.38
Spiritual Care	29	3.59	1.05	28	8.00	2.13
Social Work	33	3.58	1.06	33	8.93	1.84
Total	125	3.52	.99	124	7.78	1.99

Table 18.2: Means and Standard Deviations Comparing Professional Diversity and Variables of History of Collaboration and Quality of Care

	History of Collaboration			Quality of Care		
Professional Diversity	N	M	SD	N	M	SD
Nurse	15	11.27	27.70	39	15.05	4.86
Physicians	7	4.00	1.00	24	15.17	4.43
Spiritual Care	14	4.07	.99	26	16.00	5.21
Social Work	19	4.26	1.76	33	15.76	4.70
Total	55	6.09	13.53	122	15.47	4.77

Table 18.3: Means and Standard Deviations Comparing Professional Diversity and Variable of Job Satisfaction

Professional Diversity	Job Satisfaction		
	N	M	SD
Nurse	38	4.29	1.70
Physician	25	3.68	1.14
Spiritual Care	26	4.69	2.01
Social Work	33	5.06	2.41
Total	122	4.46	1.94

The results of ANOVA tests show (Table 19.1-4) that there were no statistically significant differences in the level of perceived professional affiliation, $F(3, 121) = .29, p = .832$ (Table 19.1), history of collaboration, $F(3, 51) = 1.008, p = .397$ (Table 19.3), or Quality of Care, $F(3, 121) = .28, p = .84$ (Table 19.4) based on professional diversity. Professional diversity, in this sample, is not an influencing factor in individual differences in the level of professional commitment, history of collaboration, or perceived quality of care provided. On the other hand, a statistically significant difference in the level of Personal Characteristics based on professional diversity, $F(3, 120) = 6.37, p < .0005$, was found (Table 19.2). Compared to the other three disciplines, physicians rated personal characteristics and relationships among other collaborators the lowest. The survey instrument used a 5-point Likert scale with one indicating “strongly agree” and five indicating “strongly disagree. It means that lower the score, the higher level of personal characteristics one has. Therefore, physicians were most likely to have positive feelings and trust toward other disciplines and felt understood by other disciplines. Social workers as a group had the least positive attitudes toward other disciplines.

There was also a statistically significant difference in Job Satisfaction based on professional diversity, $F(3, 118) = 2.73, p = .047$ (Table 19.5). Again, the survey instrument with a 5-point Likert scale with one indicating “strongly agree” and five indicating “strongly disagree” was used. The data suggests that physicians as a group were most satisfied with their job while social workers were the least satisfied group.

Table 19.1: One-Way Analysis of Variance Comparing Professional Diversity on Professional Affiliation

Source	<i>df</i>	SS	MS	<i>F</i>	<i>P</i>
Professional Affiliation					
Between Groups	3	.87	.29	.29	.832
Within Groups	121	120.33	.99		
Total	124	121.20			

Table 19.2: One-Way Analysis of Variance Comparing Professional Diversity on Personal Characteristics

Source	<i>df</i>	SS	MS	<i>F</i>	<i>P</i>
Personal Characteristics					
Between Groups	3	66.74	22.25	6.37	.000
Within Groups	120	419.19	3.49		
Total	123	485.3			

Table 19.3: One-Way Analysis of Variance Comparing Professional Diversity on History of Collaboration

Source	<i>df</i>	SS	MS	<i>F</i>	<i>P</i>
History of Collaboration					
Between Groups	3	553.00	184.33	1.008	.397
Within Groups	51	9327.55	182.89		
Total	54	9880.55			

Table 19.4: One-Way Analysis of Variance Comparing Professional Diversity on Quality of Care

Source	<i>df</i>	SS	MS	<i>F</i>	<i>P</i>
Quality of Care					
Between Groups	3	19.08	6.36	.28	.84
Within Groups	121	2733.29	23.16		
Total	124	2752.37			

Table 19.5: One-Way Analysis of Variance Comparing Professional Diversity on Job Satisfaction

Source	<i>df</i>	SS	MS	<i>F</i>	<i>P</i>
Job Satisfaction					
Between Groups	3	29.62	9.87	2.73	.047
Within Groups	118	426.67	3.61		
Total	121	456.30			

Phone Interviews

The purpose of phone interview was to gain in-depth information about hospice team members' attitudes toward interdisciplinary collaboration beyond what the survey questionnaire allowed gathering. A total of twenty hospice nurses, physicians, spiritual care providers, and social workers, with five individuals from each professional discipline, participated in the phone interview. The participants were randomly selected from a pool of professionals who completed survey questionnaires and volunteered to take a part in the phone interview in later date. Each participant completed the telephone interview information sheet (Appendix C), providing contact information and consenting to an audio-taped interview. The researcher contacted and interviewed each participant between February and March, 2009.

Upon receiving verbal consent to participate in the taped phone interview, the participants were asked four demographic and organizational character questions about themselves and their hospice agency. The four questions were: (1) what is your professional discipline (nurse, physician, spiritual care provider, or social worker)?; (2) how long have you been a nurse/physician/spiritual care provider/social worker?; (3) how long have worked for current hospice agency?; and (4) does your hospice agency serve mainly a rural, urban/suburban area, or combination of the two? The participants were then asked to respond to the following six open-ended questions.

1. Who do you consider to be members of your interdisciplinary team?
2. What is the biggest strength of your hospice team?
3. What poses as the biggest barrier in your hospice teamwork?
4. What professional qualities do you bring to your team in assisting your clients?
5. In what ways does your hospice agency evaluate team effectiveness?
6. Is there anything about hospice teamwork we did not cover that you would like to share?

Demographic and Organizational Data

A total of 63 professionals volunteered for the interview, including 19 nurses, 13 physicians, 15 spiritual care providers, and 16 social workers (Table 20). As seen in Table 20, of the 63 professionals, there were 20 males and 43 females. For the disciplines of nursing (2 males and 17 females) and social work (0 male and 16 females), more females than males volunteered to participate in the interview. The ten randomly selected nurse and social work participants, five from each discipline, were female. Of the 13 physicians, ten were male. Four male and one female physicians were randomly selected for the interview. Spiritual care providers as discipline had about an equal number of

male and female volunteer participants, with 8 males and 7 females. The five randomly selected spiritual care participants included three males and two females.

Table 20: Participant Information by Gender and Professional Diversity

Professional Diversity	Volunteered		Interviewed	
	Male	Female	Male	Female
Nurse	2	17	0	5
Physician	10	3	4	1
Spiritual Care	8	7	3	2
Social Worker	0	16	0	5
Total	20	43	7	13

Table 21 is a summary of three demographic questions about years of experience in one's discipline, years of working for current hospice agency, and geographic service area. Years of experience in one's discipline among the interview participants ranged from eight to 44 years. Social workers as professional diversity had the least years of experience in its discipline, which was also reflected in the survey questionnaire. The participants who identified as nurse or physician had the greatest range in years of experience in one's discipline, ten to over 42 years for nurse and 12 to over 44 years for physicians. Spiritual care providers' years of experience were between 13 to over 30 years. Overall, the participants were more likely to be representative of experienced professionals regardless of one's professional diversity.

As seen in Table 21, years of working for current hospice agency ranged from seven months to over 20 years. Three of the five nurses reported between four to seven years with current hospice, and two had around one year experience. The physician as group reported the most range as three had nine to over 20 years of experience, one with 3 to 4 years and the other with less than one year with current hospice. All spiritual care providers had at least two years and less than eight years of working for current agency.

Except for one social worker with over a year with its hospice, social workers as group have been with current hospice for at least over six years.

In terms of geographic service area, 13 (65%) reported to work for hospice which services a combination of rural and urban/suburban areas, followed by 6 (30%) serving rural area, and 1 (5%) urban/suburban area.

Table 21: Participant Demographic and Organizational Data by Professional Diversity

	Years of experience in discipline	Years with current hospice	Service area
Nurses			
Ns 1	Over 10	Over 1	Combination
Ns 2	Over 42	5	Combination
Ns 3	36	Less than 1	Combination
Ns 4	28	7	Rural
Ns 5	10	4-5	Rural
Physicians			
Ph 1	20	3-4	Combination
Ph 2	25	12	Combination
Ph 3	18	Less than 1	Combination
Ph 4	12	9	Combination
Ph 5	44	Over 20	Rural
Spiritual Care			
Sp 1	Over 25	7-8	Urban
Sp 2	13	4	Combination
Sp 3	24	2	Combination
Sp 4	Over 30	4	Combination
Sp 5	18	Over 2	Combination
Social Worker			
Sw 1	11	11	Rural
Sw 2	18	6	Combination
Sw 3	10	8	Rural
Sw 4	8	Over 1	Combination
Sw 5	15	15	Rural

Open-ended Questions

The following section reports the results of six open-ended questions asked to 20 hospice nurses, physicians, spiritual care providers, and social workers. The results are organized based on each of the questions.

Question 1: Whom do you consider to be members of your hospice team?

In response to question one, three main responses were identified from the participants' responses. One main response among the participants was that their definition of hospice interdisciplinary team included strictly the hospice interdisciplinary core and non-core members as are outlined by the Medicare Hospice Benefit. The hospice interdisciplinary care members defined by Medicare include nurses, medical directors (physicians), spiritual care providers/counselors, social workers, volunteers, pharmacists, physical and other therapists, home health aides, and bereavement services (Center for Medicare and Medicaid Services [CMMS], 2008). Some others, in addition to the hospice interdisciplinary team members defined by Medicare, included other hospice staff such as administrators, clinical managers, quality assurance personnel, and office support staff. A few individuals focused on their patients and families as the center of their interdisciplinary team, supported by hospice staff. One spiritual care provider responded to the question by saying:

Patients and families, first. Beyond that, nurses, social workers, chaplain, hospice physicians, patient's own physicians, volunteers, volunteer coordinator, and bereavement team (Sp 5)

Question 2: What is the biggest strength of your hospice team?

The hospice professionals provided a variety of comments in response to question two, which can be categorized to three main areas. One relates to the skills that their hospice team members possess such as expertise and experience in one's profession and hospice work and good communication. One physician stated, "...we have a lot of experience in our team (Ph 3)," and one spiritual care provider

reported, “Each member brings their expertise to the team (Sc 5).” One social worker stated:

That would be our experience. Many of the people that are here at our hospice are very experienced, and they have a great deal of knowledge (Sw 3).

In regards to good communication as strength of one’s hospice team, one social worker reported:

I think we communicate well with each other, keeping each other informed with one another on the patients (Sw 4).

This comment was echoed by a physician who stated:

I think the biggest strength of ours is the communication between each other and respect for each other as we have pretty open discussions (Ph 1).

A nurse also noted:

The biggest strength I think is the communication between each other, you know. Everybody is willing to share, so I think that is the most important...(Ns 3)

The second theme found from the responses of the interview participants connect to hospice philosophy of providing a holistic, patient-centered care. One nurse stated:

Biggest strength...I think is that everyone is motivated to support and encourage patients and families to the best of their abilities. I think that we are a very patient-centered care (Ns 1).

One social worker, in response to the biggest strength of her hospice team, discussed hospice’s emphasis on treating their client as a whole and including patient and family or caregivers as a unit of care:

I think it is our ability to identify the client and family needs that go beyond their diagnosis...We don’t just work with their physical needs, but their emotional mental, and spiritual (needs). We have a very holistic approach, and it’s not just the person we are serving. It is also the other people involved that are going to be impacted by the loss of the individual (Sw 2).

The third theme has to do with characteristics considered to be essential to successful interdisciplinary collaboration. They include: flexibility among team members, trust and respect for one another, equal contributions made by all members, closeness, and passion and compassion for one's work and assisting clients (Conner et al. 2002; D'Amour et al. 2005; Rice, 2000). One spiritual care provider discussed flexibility that exists in her hospice team:

I think our flexibility...Our ability to handle a number of patients that come to us, to provide excellent care. We are a very dedicated group (Sc 3).

Another spiritual care provider also talked about attitudes of his team and flexibility and fluidity in roles that exist in his team:

Well, I would say that we work so well together, and it's kind of like we are in this together...We are very, very interactive with each other. We are not people to have a 'turf' if you know what I mean, and so I think that kind of respect for each and other and working together I think is probably our greatest strength (Sc 4).

In regards to equal contribution made by all members, one physician stated, "...all the people are considered equally important parts of the team (Ph 4).

For one physician, it was about the distribution of power among team members. He compared a hospice team with a traditional medical team and discussed two very different distributions of power in healthcare teams (Ph 5):

Not like a traditional medical setting where physicians are on the top, our hospice team members make equal contributions, like a round table.

Strong support that hospice team members provide to each other was also highlighted.

One nurse described her hospice team as:

We are like a family...If one person is down, you know we help each other, no questions or anything. We need help, we just ask. You know somebody is there to always catch your back (Ns 5).

Many interview participants talked about trust and respect for one another that exist in their hospice team as strength. One nurse asserted, "...every single person's opinion counts and is listened to (Ns 2)" while a physician said, "...respect for each other's opinions (Ph 2)."

One social worker discussed high level of trust that her team has for each other by stating:

We have a really great team. We are all very comfortable with each other, saying what we think. We feel comfortable giving each other information, advice, input...even if it is not our discipline. And, we are comfortable asking each other question...it is a wonderful strength we have (Sw 5).

Compassion and passion for one's work and assisting clients were discussed by a few hospice professionals. One spiritual care provider responded to the question by simply stating, "Our compassion for our work and patients (Sc 2)" while a nurse explained her team's strength as "...the real passion or the real heart that they have for what they are doing for the patients and the families (Ns 4)."

Question 3: What poses as the biggest barrier in your hospice teamwork?

Interview participants' responses to question three can be categorized into six major themes of time constraints, communication difficulties, agency and government regulations on paperwork and team practices, adjustments to new technology, staff shortage, and the existence of superiority based on professional diversity. In the course of interviews, it became very clear that all six major themes were connected to each other and created difficulties for the team as well as patient care. Of the twenty hospice interdisciplinary members interviewed, eleven professionals, 55%, indicated lack of time as the major barrier in their teamwork. One nurse stated, "One of the biggest barriers is time constraints (Ns 4)." Lack of communication, often due to lack of time, was another

major barrier to collaborative work shared by the interview participants, regardless of professional diversity.

Not having enough time to communicate, particularly face-to-face, was mentioned by many. One physician stated, "...the biggest barrier I think is probably that all members are out in the field a lot of the time, and it makes it difficult to get together physically (Ph 1)," and one spiritual care provider asserts, "...we don't see each other enough (Sc 4)."

Some hospice professionals shared their opinions on the importance of communication and impact of lack of time. One spiritual care provider shared his thought on communication and stated:

(The biggest barrier is) Lack of communication, mainly due to lack of time...Communication happens best face-to-face, followed by phone calls (Sc 5).

A physician reported the impact of lack of time on communication as it leads to some team members being left out of being updated on patient information:

Time to collaborate and communicate. Time to have meetings to discuss cases or update each other. And, sometimes some members get left out (Ph 5).

One social worker further explained the negative impact of lack of communication due to time constraints as:

...At times there is a lack of communication where you are not informed of something that would be necessary for you to better serve the client (Sw 2).

Large amounts of paperwork required by the agency and government, leading to lack of time for patient care, was another barrier discussed by hospice professionals. One spiritual care provider explained the relationship between lack of time and large amount of required paperwork and how they impact patient care:

(The biggest barrier in hospice teamwork is) I am thinking mainly of time, although the flip side of that...the tangent of time is the paperwork. Sometimes the paperwork required by the government can actually get in the way sometimes in taking care of the patients (Sc 2).

An impact of changes in hospice interdisciplinary team meeting practice required by new Condition of Participation in Medicare on a hospice agency was discussed by one social worker:

...there are some new hospice Medicare guidelines about how to run an interdisciplinary team meeting, and they are very restrictive. We were much more informal before and shared anecdotal information as well as other information, but now they don't...now they are giving us a hard time, saying "stick to the script," and "don't do the anecdotal stuff" and that is a challenge (Sw 5).

Staff shortage as barrier was also discussed, particularly by nurses. One nurse reported, "Well. Probably our real problem is not enough staff...Not everyone is beating down the door to work for hospice (Ns 2)." Another nurse discussed the difficulty of dealing with nursing shortage and the impact of it on her client care:

...Our load of patients is sometimes strained so that the quality is maybe sometimes a little hindered...sometimes you just...you are torn between. You would like to see a patient more often than you actually can (Ns 3).

Another barrier in hospice teamwork was difficulty caused by a transition to new technology, such as a new phone system and computerized assessments from paper-based assessments. One social worker stated, "(The biggest barrier) Right now it is our phone system. It is very hard to get messages to each other (Sw 5)."

Frustration of adjusting to new technology and seeking understanding from administrators about practical difficulties with new technology was expressed by one nurse:

We are out in the rural areas, and we are trying to get everything computerized. We tell our superiors, the higher ups that stuff (computer) is not working, so it is slowing us down. It is not allowing us to hook it to the computer. And, it is

getting them (superiors) to understand what we are facing out there when we are trying to pull up the information and can't. That is the biggest headache right now (Ns 5).

Finally, one person, a nurse reported the existence of superiority among team members based on professional diversity:

...it is a significant barrier when there is superiority among whatever profession, there is that a person believes that their scope of practice is more important than another's scope of practice (Ns 1).

Question 4: What professional qualities do you bring to your team in assisting your clients?

Two major themes surfaced from hospice professionals' responses to question four. First, many discussed their experience, knowledge, and expertise in their profession and hospice work to meet patient needs as their professional quality. Their responses were reflected by the focus and values of their particular expertise. For instance, physician participants discussed their ability to manage physical pain and other symptoms as their professional quality, while spiritual care providers discussed facilitating spiritual and religious matters in end of life with patients and families as their quality. Additionally, three out of five physicians (Phs 2, 3, and 4) discussed providing in-service or educational sessions to their hospice teams, indicating their role as educator to the team, and one physician (Ph 5) spoke of his responsibility as making financially sound decisions about medications and other treatments for clients. The most frequently used terms by spiritual care providers to describe their professional quality were values, understanding, and compassion. One spiritual care provider stated:

...everyone is a sacred being. Everyone has spirituality and that end of life issues need to be addressed in a kind and gentle way, and people need to be affirmed for their life (Sc 3).

Being a patient advocate and having practice wisdom that come with many years of practice experiences were reported as professional quality by nurse participants. For instance, three out of five nurses reported that their professional quality relate to being patient advocate in dealing with physicians (Ns 3) and families (Ns 4 and Ns 5). One nurse stated, “My ability to be assertive with physicians to get what the patient wants (Ns 3) while another nurse stated:

I am I am very much a patient advocate. And, I try to tell what the patient wants even though the family might want something else. If the patient wants something else, then I fight for the patient, and I explain and try to make the family understand what the patient wants (Ns 5).

One nurse articulated how her practice wisdom benefits her clients as well as co-workers:

(My professional quality is) Many years of experience. I have the ability to be very good at being independent, thinking and decision making. And, I have the experience to bring forward. We have a team that recently went through just a huge change over nursing staff and new social workers. You know a lot of the core members are fairly new to the program, so I see myself also as being a resource, a mentor, probably more to the nurses but a resource both in terms of, you know, kind of knowing the history of the way we operated or why we have operated the way we have, bringing that to the table. And, just you know, experience in various settings that we get into with families and patients. And, having had enough of a background to go well in the past, you know, this is how we handle this, when we have had the patients say, ‘don’t tell my children the truth.’ You know, kind of bringing the wisdom from the past (Ns 4).

For social workers, their professional qualities related to their values on self-determination, non-judgmental attitude, advocacy as well as their focus on an ecological perspective and approach with their clients. One social worker discussed “advocacy for the clients and families (Sw 5)” while another talked about “the ability to be non-judgmental (Sw 1).”

One social worker explained how her past experience in other areas of social work prepared her to pay attention to different difficulties clients may face besides their terminal illness:

I have worked with people who suffered traumatic events in their lifetime, people with substance abuse, mental health issues, so I have a wide range of experience. So, when you are serving someone who is terminally ill, you are serving anyone, and you might encounter anyone of these additional difficulties, so having the professional experience in those areas can help to maybe identify what may be barriers to them or in the family system (Sw 2).

Another social worker summarized her professional quality of taking an ecological approach with her clients:

I think I have a good concept of 'the big picture'... Sometimes I think social workers are comfortable with ambiguity and the 'grey areas' and can see that families manage. They manage very, very well without being... meeting traditional expectations, and there are a lot of different ways of doing things that are okay (Sw 4).

A second theme surfaced from the participants' contributions related to one's personal characters. They included positive and calming attitude, good communication skills, being a good team player, and being comfortable with the nature of interdisciplinary collaboration. One nurse indicated bringing a calming effect to the office (Ns 2) as her professional quality. Good communication skills as professional quality were reported by many participants across all professional diversity groups. Another nurse discussed her belief in collaboration as her professional quality. She stated:

I have a spirit of collaboration. I do wanna get along with everybody, to be the best I can be. I feel I am not doing the job on my own, and I need other people (Ns 1).

One physician (Ph 1) discussed being a team player as his quality by reporting:

I enjoy working with our team as a team member, not much as a traditional role of physician that I have to be the person making all the decisions... and, I think I do a pretty good job of creating a setting in which we can talk openly.

Another physician discussed flexibility and fluidity of roles in hospice team as the nature of interdisciplinary collaboration:

We all have qualities we bring to the table, and sometimes my role extends to doing some of other team members' jobs...I, for example, may provide spiritual care to our patients and families because that is what happens with hospice. Our roles involve flexibility and fluidity in that we share roles and responsibilities over our patients (Ph 5).

Question 5: In what ways does your agency evaluate team effectiveness?

A variety of responses were received in response to question four. While a few reported to have no evaluation mechanisms in place, with their agencies being in the process of creating a tool for team effectiveness evaluation, most fell in the following four responses. One was formal or informal peer and/or supervisor performance reviews. Six of the 20 study participants reported peer and/or supervisory review as their agency's established team effectiveness evaluation. Two involved a review of plans of care, mainly at interdisciplinary meetings, mentioned by five clinicians. Three, the participants reported the role of on-going quality assurance projects such as chart audits to check frequency of visits or update medication lists. Seven clinicians discussed quality assurance projects, often conducted by their quality assurance managers, as a way that their hospice evaluated team effectiveness. Finally, the use of patient/family satisfaction surveys was reported by four study participants as a tool to evaluate team effectiveness.

Question 6: Is there anything about hospice teamwork we did not cover that you would like to share?

The last open-ended question was created to provide some freedom in the participants' thoughts on interdisciplinary collaboration. Overall, the participants shared deep pride and passion for the work they perform as team in hospice. One physician

simply stated, “We have a great team (Ph 3)” while a spiritual care provider said, “We all get along very, very well. And, I think that really helps to have a close team. We don’t have personality conflicts. We work very well together (Sp 2).”

How well team members work together and the benefits of healthy teamwork were expressed by a few study participants. For instance, one nurse stated:

...We all help each other, you know. Everyone has each other’s back. All you have to do is call someone and say I need help. It is all about the key members working together (Ns 5).

The following statement was made by a spiritual care provider as he discussed his team and the impact of good communication on team:

We always keep each other in touch with concerns and issues about patient care. It works very well. I have gotten and given calls to (other members). That kind of communication is important because more than just the information but the content of the message, the fact that there is a telephone call or message, I think, indicates to the person on the other end of the line that they are a valued part of the team (Sp 1).

One social worker shared how her team members deal with overlapping of professional roles as the nature of hospice work by stating:

What is interesting is that each of us can, when we are going to see someone, may encounter something that blends into another discipline’s and I think that although the nurses may not feel comfortable dealing with psychosocial issues, they address it as best they can, and then they contact the appropriate discipline (Sw 1).

One nurse expressed how hospice work differs from other nursing jobs she had had and stated, “In the 28 years of nursing, I have never worked in an arena before where there truly was interdisciplinary communication and teamwork (Ns 4).”

Another nurse shared a similar experience:

Well, probably it is the first time that I have had a job where I really felt that my opinion counted as much from the very lowest person to the very highest person. It is just so wonderful to be appreciated and listened to so much (Ns 2).

Another nurse connected pride in her work and the impact of supportive team environment to job satisfaction:

I think how the team cares for one another, I think, affects how your job satisfaction is, because you are not tense, you are enjoying the company. There is trust, you know. You want the best for the people you work with. You want to make them feel you are supporting them...the whole team rally around your patient...It is all about customer service, and you know we give customer service to one another, social workers to the nurses to the aides to the physicians...It just makes the whole place better, and the company has a better reputation, and you are going to feel more better about your job and the company you work for and feel a sense of pride (Ns 1).

One physician discussed matters of job satisfaction and turnover in terms of how professionals choose hospice work and the unique feature of hospice interdisciplinary team in the healthcare industry:

We have virtually zero turnovers in personnel, and there is a waiting list for nurses who want to work on our hospice team...I think that everybody loves this work. Frankly, my experience generally has been that most people who do this work generally love it. You can make a major difference in people's lives. And, another piece is that we are not afraid to sit down and go nose to nose and toes to toes with people and listen to them, which is a unique thing in healthcare...unfortunately (Ph 2).

Some shared unique challenges in their hospice work as a rapid growth in their patient caseload and large service areas as well as the impact of rules and regulations.

One spiritual care provider reported the impact of rules and regulations on hospice work:

Most of us who are working in hospice, regardless of disciplines, have hearts in it. It is hard at times to separate ourselves from serving real people and worry about the rules and regulations (Sp 5).

Summary

The following is a summary of the five research hypotheses and their test results.

H1: Social workers, compared to physicians, nurses and spiritual care providers, report a higher degree of interdisciplinary collaboration.

The hypothesis was rejected. There is no statistically significant difference in the degree of perceived interdisciplinary collaboration based on professional diversity.

H2: Professional affiliation, structural/organizational characteristics, personal characteristics and relationships among collaborators, and history of collaboration have a positive direct effect on interdisciplinary collaboration.

The hypothesis was partially retained. Professional affiliation, structural/organizational characteristics, and personal characteristics and relationships among collaborators have a statistically significant, positive direct effect on interdisciplinary collaboration.

H3: Degree of interdisciplinary collaboration has a positive direct effect on perceived quality of care team provides.

The hypothesis was retained, and the null hypothesis was rejected. Degree of interdisciplinary collaboration has a statistically, positive direct effect on perceived quality of care team provides.

H4: Degree of interdisciplinary collaboration has a positive correlation with job satisfaction.

The hypothesis was retained, and the null hypothesis was rejected. Degree of interdisciplinary collaboration has a statistically, positive correlation with job satisfaction.

H5: There is a difference in the level of professional affiliation, personal characteristics and relationships among collaborators, a history of collaboration, perceived quality of care and job satisfaction based on professional diversity.

The hypothesis was partially retained. Reported levels of personal characteristics and relationships among collaborators as well as job satisfaction showed statistically significant difference based on professional diversity.

Qualitatively, the study participants, regardless of professional diversity for the most part, identified and shared similar strengths of their hospice team, barriers their team faces, professional qualities, and their hospice team effectiveness evaluation mechanisms. The most significant strengths of hospice team included: (1) possessing skills, experiences, and expertise in one's professional discipline; (2) providing a holistic, patient-centered care; and (3) demonstrating characteristics considered essential to successful interdisciplinary collaboration. The most critical barriers to teamwork were

time constraints, communication difficulties, agency and government regulations on paperwork and team practices, adjustments to new technology, staff shortage, and the existence of superiority based on professional diversity.

Two major themes surfaced in response to the question regarding to one's professional qualities. One is participants' experience, knowledge, and expertise in their profession and hospice work to meet patient needs. Their responses were reflected by the focus and values of their particular expertise. Two relates to one's personal characteristics such as positive and calming attitude, good communication skills, being a good team player, and being comfortable with the nature of interdisciplinary collaboration. Diverse responses were found in terms of team practice evaluation mechanism. Tools utilized as team practice evaluation mechanisms included: (1) formal /informal peer and supervisor performance reviews; (2) a review of plans of care; (3) the use of quality assurance projects; and (4) the use of patient/family satisfaction surveys.

Throughout the phone interviews, the participants, regardless of professional diversity groups, echoed pride and passion for their hospice work. They endorsed the use of interdisciplinary collaboration and viewed an interdisciplinary team as essential in delivering a holistic, patient-centered care. They also reported the crucial role that their interdisciplinary team members play to each other in providing support, fostering pride, and leading to job satisfaction.

This chapter addressed a comprehensive discussion of the quantitative and qualitative study results. The quantitative study findings included descriptive data on the study sample and testing of six research questions. Demographic information and trends about the study sample as well as responses to the six open-ended phone interview

questions were reported in the qualitative study findings section. The following chapter, Chapter 5, discusses the findings from the surveys and phone interviews, the implications of the study for social work profession as well as hospice interdisciplinary team, and the limitations of the study. Lastly, recommendation for future research in the area of interdisciplinary collaboration is offered.

CHAPTER 5

Discussions and Implications

Overview

This exploratory dissertation study was designed to investigate variables that aid or hinder collaborative work among core hospice interdisciplinary team members. Both the quantitative methods of the survey questionnaires and qualitative methods of the phone interview were utilized to address the overarching question of what variables are most highly associated with interdisciplinary collaboration in hospice. Specifically, the study examined the relationship between a dependent variable of a perceived level of interdisciplinary collaboration and seven independent variables: professional diversity, professional affiliation, history of collaboration, organizational/structural characteristics, personal characteristics and relationships among collaborators, job satisfaction, and quality of care provided by team. These constructs have been found to be linked to the level of interdisciplinary collaboration in other studies (Abraham et al., 1996; Bronstein, 2002; Coopman, 2001; Freund & Drach-Zahavy, 2007; Parker-Oliver, Bronstein, & Kurzejeski, 2005; San Martin-Rodriguez et al. 2005).

Additionally, the study reviewed the influences of the demographic variables such as age, gender, employment status, and years of practice in one's discipline and the organizational variables of organizational status, the number of hospice teams within the agency, and the geographic service area. One hundred and twenty-nine hospice nurse, physicians, spiritual care providers, and social workers participated in the survey study. Twenty telephone interviews were conducted to complement the findings from the survey and to aid in understanding the quantitative data.

This final chapter will highlight major research findings from the survey and phone interviews. Variables, hypothesized to be associated with the degree of interdisciplinary collaboration in the study, including personal affiliation, organizational/structural characteristics, personal characteristics and relationships among collaborators, history of collaboration, quality of care, job satisfaction, and professional diversity, will be reviewed individually. Next, the chapter will address the study's strengths and limitations, followed by a discussion of implications for social work practice, policy and evaluation. The chapter concludes with recommendations for future research.

Review of Major Findings

Demographic and Organizational Characteristics

Three existing survey instruments were used for the quantitative study to address the five research questions. The survey results highlighted common trends among the study participants. Between 25 and 39 professionals from the disciplines of nursing, medicine, spiritual care, and social work participated in the study. The majority of the survey participants were female (73% female versus 27% male), which was particularly true for nurses and social workers. Almost all of the participants were Caucasian (93.7%), and the majority of them reported to be between 41 and 60 years old (61.1%). Over 60% of the participants indicated full-time (36 hours or more hours a week) employment status. Nurses and social workers were most likely to work full-time while physicians and spiritual care providers were more likely work either full-time or part-time. A wide range of responses in years of experience in one's discipline, years of working for current hospice agency, and years of hospice experience were reported across all the disciplines.

The study sample also reported some shared information about their hospice agencies. Eighty percent of the participants reported working for a non-profit hospice organization, and 84% worked for hospice with at least 11 years in business experience. In terms of a number of core hospice team members, hospice teams within agency, and average daily caseload, responses among the study sample varied. The majority of the participants reported to have one to three teams with close to 40% of them having over 30 core team members. Over 30% had greater than 110 patient cases a day on average while over 20% had less than 30 average daily patient cases. Compared to the national data (NHPCO, 2007) of median hospice daily census of 45.6 clients with over 40% serving fewer than 25 clients and 16% serving over 100 clients, the study sample had larger daily client cases. The survey study participants worked for various geographical service areas in the state of Michigan.

Survey study participants were asked to volunteer for audio-taped phone interviews. Of the 63 hospice clinicians that volunteered to participate in the interview, five each within the professions of nursing, physicians, spiritual care coordinators, and social workers were randomly chosen for the qualitative study. Similar demographic and organizational data observed in the survey study, in terms of volunteered study participants, years of working for one's current hospice, and geographic service area, were also found in the qualitative study sample. As a group, the qualitative study participants were more experienced in their professional discipline compared to the survey participants as a whole. This may be related to the level of comfort in one's ability to discuss interdisciplinary collaboration in that more experienced clinicians felt comfortable participating in the phone interview. It would be of future interest to find out

if the described demographic and organizational data about the study sample would be reflected by hospice professionals in other states.

Review of the Influencing Variables

Interdisciplinary Collaboration

The degree of interdisciplinary collaboration was measured, using the MIIC, a 42-item survey questionnaire (Parker-Oliver, Bronstein & Kurzejeski, 2005). The questionnaire was designed to measure the experiences, attitudes, and perceptions of individual team members about interdisciplinary collaboration within their team. The instrument had been tested in a hospice setting by others (Parker-Oliver, Bronstein, & Kurzejeski, 2005; Parke-Oliver, Wittenberg-Lyles, & Day, 2006) and had high reliability rates of .92 to .93. Similar to the reports from other studies, the MIIC with this study sample had a very high reliability rate of .935.

Professional Affiliation

In this study, the level of perceived interdisciplinary collaboration was found to be positively associated with the degree of professional affiliation. The higher the perceived interdisciplinary collaboration, the higher personal affiliation, and vice versa. This finding supports various other studies in the literature (Aube & Rousseau 2005; Bronstein 1999:2002:2003; Freund & Drach-Zahavy, 2007) and suggests that strong professional affiliation, measured by commitment to one's profession, professional values, and professional identity, results in positive impact on one's perception of interdisciplinary collaboration. Hospice professionals who have strong connection to their particular professional diversity are also likely to have positive experiences, attitude towards, and perceptions of interdisciplinary collaboration. The qualitative component of

the study reveals that professionals see their particular expertise as a strength and professional quality that they bring to the team. It may be of a benefit to hospice managers and administrators, when hiring hospice personnel, to seek professionals who have strong commitment to their profession, professional values, and professional identity, as those individuals in turn may have a higher degree of collaboration.

Organizational/Structural Characteristics

Organizational/structural characteristics, symbolized by administrative support in interdisciplinary collaboration and the availability of time, space, and resources needed for collaboration, are predicting factors in hospice team members' perceived degree of interdisciplinary collaboration. Those professionals who report having strong administrative support and the availability of collaboration time, space, and resources also report positive experiences, attitudes, and perceptions about interdisciplinary collaboration. The impact of administrative support on interdisciplinary collaboration was also found in the study by Shortell et al. (2004) as the researchers reported a positive association between administrative support on teamwork and changes made to improve care to chronically ill patients.

The qualitative component of the study adds depth to the quantitative finding. While the phone interview participants conveyed the existence of excellent communication among their team members, the majority of them voiced lack of time, leading to communication difficulties among team members, as the main contributing factor of barriers to interdisciplinary collaboration. One past qualitative study involving hospice social workers (DiTullio & MacDonald, 1999) reported similar findings and

suggested that lack of time and inadequate communication were the major sources of stress.

Additionally, the conditions of shortage of staff in one's agency and large volume of paperwork required by one's agency and the government were reported by the phone interview participants as negative elements of organizational/structural characteristics, affecting interdisciplinary collaboration. Past qualitative studies of hospice social workers' perceptions of interdisciplinary collaboration and the impact of organizational characteristics also indicated insufficient responses by organizational administrative culture attributing to excess overload of scheduling and lack of staffing (DiTullio & MacDonald, 1999; Parker-Oliver & Peck, 2006).

Organizational/structural characteristics are crucial elements in enhancing individual team members' positive experiences, attitudes, and perceptions about collaborative work. It is thus invaluable for hospice managers and administrators to create a work environment where: (1) collaborative work is expected and supported, (2) time, space, and resources necessary for collaboration is provided, (3) sufficient staffing is guaranteed, and (4) reasonable amount of paperwork is required. Promoting and providing a supportive, collaboration-enhancing work environment may lead to not only improved interdisciplinary collaboration but also improved client care.

Personal Characteristics and Relationships among Collaborators

Statements that reflect the personal characteristics and relationships among collaborators variable in the quantitative study connect to: (1) one's feeling toward colleagues from other disciplines on a team, (2) level of socialization outside of work with colleagues from other disciplines, (3) the existence of trust toward colleagues from

other disciplines, and (4) being understood by colleagues from other disciplines of personal values. The quantitative study results suggest that those who have positive feelings toward colleagues from other disciplines, socialize with colleagues from other disciplines outside work, trust colleagues from other disciplines, and feel their personal values are understood by colleagues from other disciplines report high interdisciplinary collaboration.

Matters of trust toward, respect for, and genuine liking of other team members were frequently echoed by the qualitative study participants as strengths of their hospice team. The effect of personal characteristics of positive regard and support toward colleagues and of trust among colleagues on interdisciplinary collaboration and team effectiveness were also reported in other studies (Amundson, 2005; Parker-Oliver & Peck, 2006). In the hiring process, it would be of a benefit to hospice team members, managers, and administrators to pay attention to personal characteristics, besides job qualifications, of new applicants and consider how well a potential new member fits with other team members. Asking questions about one's past experiences with and attitudes toward his/her then co-workers or giving a personal attitude test on teamwork, for instance, may give important information about his/her attitude toward teamwork.

History of Interdisciplinary Collaboration

Several studies reported that a history of or training in interdisciplinary collaboration was associated with improved interdisciplinary collaboration, team effectiveness, and communication among team members (Award et al., 2005; Haycock-Stuart and Houston, 2005; Hirschfeld et al., 2006). Contrary to these past study findings, the quantitative component of the study rejects a positive association between the degree

of interdisciplinary collaboration and history of collaboration. It is also important to note that this finding is based on a limited number of respondents. Less than a half of the survey participants, 55 out of the 126 participants, responded. In this study, history of collaboration was measured using a set of two statements and question about the impact of past collaboration experience and past training experience in interdisciplinary collaboration. These statements and question were adopted from the original MIIC developed by Bronstein (1999).

In order to understand the low response rate on the variable, the researcher reviewed data on each of the two statements and one question. The first statement about history of collaboration was “My past experience with interdisciplinary collaboration has prepared me well for my current collaboration with other disciplines.” Of the 126 survey participants, 123 responded to this statement. The first statement was followed by a question of “Have you ever had training in interdisciplinary collaboration?” by answering either yes or no. One hundred and twenty four hospice professional responded to this question, with 55 of them (43.7%) indicating past training in interdisciplinary collaboration and 69 (54.8%) reporting no past training in interdisciplinary collaboration. It directed those who answered “no” on the question to skip to the next section of the survey. As a result of the question, only 55 individuals responded to the second statement about history of collaboration, “My past training in interdisciplinary collaboration helps me in my current collaborative work.” Because most of the survey study participants had no prior training in interdisciplinary collaboration and were asked to skip the second statement about history of collaboration, it significantly reduced the response rate on this variable as a whole.

The difficulty with the MIIC survey instrument which included a set of history of collaboration-related statements, however, was not reported by others who previously used the instrument in their studies (Bronstein 1999: 2002; Parker-Oliver et al. 2007).

Quality of Care

The quality of care subscale (Heinmann, Schmitt, & Farrell, 1991) was used to measure the quality of care variable. Ten statements relating to quality of team care included statements about the benefits of teamwork on the team and patient care levels. On the team level, avoiding errors in delivering care, fostering communication, understanding the work of other disciplines, maintaining enthusiastic attitude, and making better patient care decisions represented benefits of teamwork. On the patient care level, the benefits related to teams better meeting patient and family caregiver needs, being more responsible to the emotional and financial needs of patients, patient being treated as a whole person, and improved quality of care. The benefits of teamwork on the patient-care level, including improved services and cost containment have been reported by multiple studies (Abraham et al., 1996; Bencala et al., 1982; Brita-Rossi et al., 1996; Nikolaus et al., 1999; Sommers et al., 2000). The internal consistency reliability for the Quality of Care Subscale from the study was higher (Cronbach's $\alpha = .911$) than the score previously reported by Heinmann, Schmitt, & Farrell (1991) which was .82.

The quantitative study finding reveals that those who see the benefits of teamwork both on the team and patient-care levels also have positive experiences with, attitudes toward, and perceptions about interdisciplinary collaboration, and vice versa. Qualitatively, the hospice professionals were very vocal about the positive impact of teamwork on the team members as well as clients. Many discussed experiences of being

valued and treated as an equal partner by other team members for the first time in their professional careers.

One possible explanation for this finding may be related to the function as well as philosophy of hospice care. Interdisciplinary collaboration is not only a required function of hospice care defined by the MHB, but also an integral part of delivering holistic care driven by hospice philosophy. Hospice professionals are expected to work collaboratively for legislative as well as philosophical reasons. Hospice's emphasis on seeing physical, psychosocial, and spiritual needs of individuals as equally significant parts of human experience may work to diminish the traditional medical model of hierarchy among health care providers and reinforce equal contributions of all disciplines involved.

Another possible explanation for this finding is that professionals who work for hospice might have chosen hospice work because they identify strongly with hospice philosophy and believe the best way to deliver holistic care is through the use of interdisciplinary teams. As a result, hospice professionals may view interdisciplinary collaboration as an effective tool to deliver holistic care to their clients and families, and the team approach is beneficial for meeting the needs of their clients and team members. Hospice professionals serve those who live with life-limiting conditions and their families/caregivers. The qualitative study findings convey that hospice professionals see working on a team crucial to providing and receiving emotional support in their work.

Job Satisfaction

Job satisfaction was measured using the Job Satisfaction subscale (Cammann et al. 1983), which included three statements indicating one's attitude toward his/her job. The quantitative study finding suggests that hospice professionals who are satisfied with their

jobs are more likely to have a high level of interdisciplinary collaboration. Those who have positive experiences, attitudes, and perceptions about collaborative work are also satisfied with their jobs. Past studies (Coopman, 2001; DeLoach, 2003) also support this finding. The connection between a well-functioning team, customer satisfaction, and team member job satisfaction was also articulated in the qualitative component of the study. The correlating relationship between job satisfaction and perceived degree of interdisciplinary collaboration should be of interest to hospice team members, managers, and administrators in improving job satisfaction and thus interdisciplinary collaboration and vice versa.

Furthermore, for most hospice professionals, their feelings toward their job extended beyond liking and being satisfied with what they were hired to do. They consistently expressed genuine passion and pride for doing hospice work and seeing hospice work almost as their life's calling, not simply "a job."

Professional Diversity

"Professional diversity" refers to a professional discipline with a set of special knowledge, values, and skills. The primary focus of the professional diversity groups for the study included nurses, physicians, spiritual care providers, and social workers. The quantitative and qualitative data provide some interesting findings relating to the impact of professional diversity on the degree of interdisciplinary collaboration as well as other aspects of the study. First, the finding from the survey study rejects an assumption that hospice social workers, compared to hospice professionals from other three disciplines, have better experiences of, attitudes toward, and perceptions of interdisciplinary collaboration. The researcher hypothesized that social work training and values on

collaboration with other professionals may contribute to social workers' perceived interdisciplinary collaboration. In reality, professional diversity had no association with the degree of interdisciplinary collaboration reported by hospice team members.

Second, professional diversity may be a contributing factor in one's level of personal characteristics and relationships with collaborators and job satisfaction. Although all professional diversity groups reported high to very high positive feelings and trust toward other disciplines and being happy with their jobs, differences on these outcomes based on professional diversity were statistically significant. The quantitative data of the study suggests that physicians, followed by nurses, reported the most positive feelings and trust toward other disciplines and felt understood by other disciplines. Social workers, on the other hand, expressed the least positive attitude and trust toward other disciplines and feel least understood by other disciplines. Also, as a professional discipline, physicians were most happy with their jobs, followed by nurses. On the other hand, social workers were least satisfied with their jobs.

One possible reason for these outcomes may be related to professional and structural barriers to interdisciplinary collaboration (Brewer, 1999; Irvine et al. 2002) discussed earlier in the literature review section. Professional and structural barriers of inequality in professional incentives, status, recognition, authority, division of labors, and legal effects (Brewer, 1999; Irvine et al. 2002) may explain differences in attitudes toward colleagues from other disciplines and job satisfaction based on professional diversity. Though hospice has been perceived as unique in promoting holistic care over the traditional medical care and valuing interdisciplinary collaboration of various professionals as equally important in delivering services, it is still very much a part of the

mainstream healthcare system. Healthcare professionals, whether or not working for hospice, learn a set of discipline-specified knowledge and skills as well as their professional status within the healthcare system and society.

The issue of professional status may be best understood in terms of differences in compensation, and professional recognition and ranking that exist among hospice professionals. For instance, social workers, despite their advanced degree, those with master's degree, are compensated significantly less than registered nurses. In fact, in 2007, hospice registered nurses (RNs) made an average of \$26.82 per hour, \$4 more per hour than hospice social workers who were master's degree educated (Hospice Association of America, 2008). Hospice physicians are compensated significantly more than hospice nurses and social workers. One resource reports that the median salary for a hospice medical director working for non-profit hospice was \$93,000 and \$101,530 for for-profit hospice annually (PayScale, 2009). Information on salary for hospice spiritual care providers was not available.

Differences in compensation among hospice professionals are very much reflective of the mainstream healthcare system. Findings from a study by Acker (2004) support the impact of compensation on job satisfaction. In her study of the effect of organizational conditions on job satisfaction among social workers, satisfaction with worker's salary had statistically significant positive correlation with job satisfaction (Acker, 2004). The level of financial incentives may explain the level of contentment toward one's job and other disciplines.

Additionally, the existence of professional recognition and ranking among healthcare professionals is not foreign to hospice. Physicians, by the nature of their

professional practice and well-established political, financial, and societal status, are one of the most highly regarded professions in society (Irvine et al. 2002). In hospice, each core discipline of medicine, nursing, spiritual care, and social work, is expected to work together to deliver individually tailored holistic care to clients. Yet, hospice physicians, much like physicians in other settings, have the highest inherited power, recognition, and ranking among hospice professionals. The law supports and reinforces the professional distinction. By Medicare Hospice Benefit, hospice physicians are required to dictate and approve plans of care before they are turned to action by other hospice professionals. For instance, hospice physicians are ultimately responsible for re-certifying clients for continued hospice service on an ongoing basis, although other team members may share inputs toward the decision making process.

Social workers face the matter of professional status as well in hospice. In order to deal with economic issues, many hospices are trying to cut down social worker jobs (Reese & Raymond, 2002). One study found that hospice social workers identified over-emphasis placed on physical aspects over psychosocial aspects of clients needs as one of the challenges of interdisciplinary work (Parker-Oliver & Peck, 2006). The limited focus on psychosocial aspect of clients needs was also observed by a study of interdisciplinary team meeting communication processes (Wittenberg-Lyles et al. 2005). In addition, one study revealed a statistically significant, positive relationship between recognition of personal and professional identities by others on a team and job satisfaction (Thatcher & Greer, 2008). They found that those individuals who felt their personal and professional identities were well recognized by colleagues on their team were more likely to be content with their jobs.

These study outcomes may explain a reason for social workers' feeling their values and perceptions less understood by other disciplines. Hospice social workers, as a result, may feel under-compensated and under-appreciated for the contribution they make in hospice while physicians may be satisfied with their compensation and inherited professional recognition and ranking within the team, leading to the difference in job satisfaction and personal characteristics and relationships among collaborators based on professional diversity.

Study Limitations

This section discusses limitations of the study, relating to sampling, research design, and procedures. First, the study's sampling method was problematic as it was not possible to do random sampling. Because there is no known published list of hospice core members' information (names, a number of professionals in each discipline, for example) currently working in the state of Michigan, the researcher chose to recruit study participants through contacting hospice agencies and requesting they distribute the study materials.

The initial recruitment process involved the researcher contacting administrators of Michigan Hospice and Palliative Care Organization's 2008 member hospice agencies. Each hospice agency received a packet of information which included the initial recruitment letter addressed to the administrator and four copies of the survey questionnaire. In the initial recruitment letter, hospice administrators were asked to disseminate four copies of the questionnaire, one each to the disciplines of nursing, medicine, spiritual care, and social work. Dissemination of the survey questionnaire as well as the selection of four professionals within each particular hospice organization, as

a result, was left to the discretion of hospice administrators and managers. Although hospice professionals were made aware of their right not to participate in the study, they may have felt obliged to take a part in the study because of who was facilitating the dissemination.

In addition, the study relied on the voluntary participation of the then selected hospice professionals. The researcher had to rely on the administrators to encourage their hospice professionals to return the survey as follow-up e-mail messages were sent to the administrators. Even with three follow up e-mail messages to the administrators of MHPCO member hospices, the return rate for the survey study was 27.5%. These steps may have resulted in sampling selection biases (e.g. those whom hospice administrators felt had a strong team spirit were chosen for the study), history (e.g. a participant completed the questionnaire after receiving positive appraisal for his/her work), mortality (e.g. individuals who were less committed to interdisciplinary collaboration did not complete the questionnaire) as potential threats to internal validity (Rubin & Babbie, 1993).

One possible explanation for the low return rate may be that some hospice administrators were not interested in their hospice team members participating in the study and thus did not disseminate the surveys. Another possible explanation may be that some hospice professionals were simply not interested in participating in this study. For instance, some individuals might have felt that they did not relate to the importance of research or felt completing the questionnaire appeared to be too time consuming, thus declining to participate in the study. Although the study guaranteed confidentiality and provided self-addressed and stamped individual return envelopes for the surveys, many

did not take a part in the study. As one study (Edwards et al. 2002) reported, offering a monetary incentive and using a colored ink might have improved the return rate.

The qualitative study participants were randomly chosen from volunteer hospice professionals who had participated in the survey study. This method, much like the quantitative study participants recruitment method, restricted the recruitment of hospice core members to those who work for MHPCO member hospices. The study sample therefore may not be representative of core hospice team members in general and thus limit generalization and representativeness of study findings, potential threats to external validity (Rubin & Babbie, 1993). Again, a potential threat to internal validity in terms of mortality (e.g. individuals who were enthusiastic about teamwork volunteered to participate in the interview) was also identified (Rubin and Babbie, 1993).

Second, this study brought attention to an instrument issue previously not reported by studies that had utilized the MIIC (Bronstein, 2002; Parker-Oliver, Wittenberg-Lyles, & Day, 2008). A question, aimed to examine history of training in interdisciplinary collaboration as part of the MIIC, led to a significant reduction in the response rate on the history of interdisciplinary collaboration. As a result, there was a reduction in the overall response rate on the variable. Revision of the question may be necessary to avoid a response rate issue in future research.

Another issue with the survey instrument is that the survey questionnaire examined perceptions of individual hospice professionals, not individual interdisciplinary teams. Matching and being able to compare individual professionals' perceptions with other individual professionals on the same team and also with their team as a whole

would provide an opportunity to investigate gaps in perceptions that may exist among members of the same hospice team.

Because this study relied on the perceptions of hospice professionals about their own teams and team experiences, the information was only limited to professional perceptions and did not reflect perceptions of administrators or clients/families. Inclusion of the perceptions of administrators and clients/families may aid in understanding the impact of interdisciplinary collaboration on administrators as well as clients/families.

Third, the study sample was limited by the homogeneity. Of 126 participants, 73% of them were female and 118 (93.7%) identified as Caucasian. Thus, the study findings have limited generalizability as a potential threat to external validity (Rubin & Babbie, 1993). Because no state-wide or national data on personal demographic information (e.g. gender, race/ethnicity, and age groups) about hospice professionals are available, whether or not the study sample is representative of hospice professionals in general is not known. The availability and accessibility of state-wide and national level data on hospice professionals would strengthen future study sampling methods.

Fourth, this study was limited to four core hospice disciplines of nursing, medicine, spiritual care, and social work. Inclusion of other hospice team members, such as home health aides, bereavement services, and volunteers would be of benefit to further understand interdisciplinary collaboration.

Lastly, because the qualitative study was conducted before the completion of the quantitative data analysis, interview questions did not include questions reflective of findings from the survey study. A follow up interview with hospice professionals that

include questions relating to job satisfaction and quality of care, for instance, would allow gathering of in-depth information.

Despite these limitations, the study also has strengths. One is that this study utilized established instruments with a good level of reliability and validity. Additionally, because this study utilized the MIIC already tested in other studies to measure interdisciplinary collaboration, the findings of the study can be compared to results from previous studies to validate and further strengthen the instrument. At the same time, the study tested new influencing variables on interdisciplinary collaboration, thus adding to the knowledge base of what factors aid or hinder collaborative work.

Another strength is that this study included four core hospice disciplines, with between 25 and 38 individuals from each discipline represented. Other published studies of interdisciplinary team members in hospice and other health care field often focused on a few specific disciplines or included various professionals but some of participating professionals did not have a large enough number representing their disciplines for data analysis based on professional diversity (Abrahamson & Mizarahi, 1996; DeLoach, 2003; Parker-Oliver, Witttenberg-Lyles, & Day, 2008).

The mixed method used to address the overarching research question of this study is another strength. Mixed method research design increase quality of data and give a comprehensive understanding of analyzed data (Creswell, 2003). Information from the telephone interview in this study provided an opportunity for the survey study data to be verified, enhanced, and interpreted.

Implications for Hospice Professionals and Social Work Profession

The findings of this study have implications for hospice interdisciplinary team members as well as administrators in terms of practice and policy. A discussion on social work practice implications follows.

Implications for Hospice Professionals and Administrators

The study findings examined factors that aid or hinder collaborative work among hospice interdisciplinary team members. Professional affiliation (commitment to one's profession), organizational characteristics (organizational support toward collaboration), personal characteristics and relationships among collaborators (positive feelings toward colleagues), quality of care (benefits of team care), and job satisfaction were all found to be associated with the degree of perceived interdisciplinary collaboration.

Information about the association between interdisciplinary collaboration and professional affiliation and personal characteristics should aid hospice administrators, managers, and team members in the hiring process. Those professionals who have strong commitment to their profession and have positive personal feeling toward colleagues from other disciplines have a higher level of interdisciplinary collaboration. Hiring individuals with a strong commitment to one's profession and positive feelings toward other professionals may benefit overall quality and function of one's team. Hospice professionals should take an active role in the hiring process of new team members, regardless of professional diversity, as a new team member affects the entire team climate and may affect their team performance.

Hospice administrators and managers can work to enhance interdisciplinary collaboration of their hospice teams by improving organizational and structural support.

They may include: (1) providing time, space, and resources necessary for collaboration; (2) encouraging and supporting collaboration; (3) maintaining enough staff; and (4) requiring reasonable, not excessive, amounts of paperwork.

Being overwhelmed by an excessive amount of paperwork and a large number of cases was a barrier to collaborative work repeatedly mentioned by the interview participants. There is a crucial need for hospice administrators to alter their practice regulations to streamline paperwork to allow team members to have more focus on clients and building interdisciplinary collaboration with other team members. Additionally, assessments of hospice team members' needs for specific organizational support should be practiced on an on-going base. For instance, an annual survey on organizational support completed by hospice team members may provide practical information for hospice managers and administrators in reviewing and revising organizations regulations and practices.

Policy changes in the use of interdisciplinary collaboration may also be helpful. As found in this study and other studies (Abrahm et al., 1996; Coopman, 2001), the degree of interdisciplinary collaboration affects the level of quality of team care. If hospice administrators and policy makers are looking for ways to improve quality of care provided to clients, then organizational regulations as well as government policies need to reflect and outline detailed, substantial use of interdisciplinary collaboration. Once in place, these regulatory and policy changes, aimed to maximize the use and function of interdisciplinary collaboration, can be evaluated on an on-going basis. Evaluation should include examining the work of team in terms of level of collaboration and quality of care the team provides to clients.

The matters of team practice and regulations should not be solely left to hospice managers, administrators, and policy makers. Hospice professionals, regardless of professional diversity, need to actively participate in reviewing and revising organizational regulations that directly affect their interdisciplinary collaboration practices and services provided to their clients. As identified in the qualitative study findings and other studies (DiTullio & MacDonald, 1999; Parker-Oliver & Peck, 2006), hospice professionals have first-hand knowledge of how certain practice regulations such as excessive paperwork and shortage of staff may affect client services. Assisting administrators with creating ways to streamline required paperwork without compromising service quality, for instance, would permit more time for direct client care and team collaboration.

Furthermore, if hospice professionals want to improve public policies that directly affect client service, interdisciplinary collaboration, and hospice practice, it is essential for them to be aware of current policy issues first. Educating each other and themselves about current policy issues allows hospice professionals to make informed decisions about how to lobby for the improvement of public policies relating to hospice and interdisciplinary collaboration practice.

Implications for the Social Work Profession

The study findings provide insight to implications for the social work profession. The qualitative findings of the study bring the contributions of social workers on the interdisciplinary team to the forefront. As discussed before, professionals who have strong commitment to and value their profession have a high level of perceived interdisciplinary collaboration. The social work profession's focus on ecological,

strengths perspectives and commitment to promoting self-determination/autonomy in assessing and addressing client needs was very evident among the study participants. The qualitative data reflected a unique professional perspective in social work consisting of:

- (1) translating the environmental impact of terminal illness on clients and their families;
- (2) understanding the affect of history on current issues and problem solving mechanism among clients and families; and
- (3) defining client and systems strengths in creative ways.

Social workers' perspective and skills in understanding human behavior and environmental impacts allow them to advocate for the importance of addressing not only psychosocial needs but also of reviewing all aspects of human experiences as interconnected. In addition to fostering a strong commitment to the mission and values of social work in classrooms and field practicum, social work education should also assist students in articulating their professional contributions in a team setting. Use of case studies involving various professionals in class rooms, for instance, may aid social work students in understanding how differences in professional values and training may affect attitudes toward and relationships with other professionals in an actual practice setting. This is also true for other hospice professionals, including physicians, nurses, and spiritual care providers. Their professional education should involve fostering strong professional values and commitment unique to their professional discipline while educating students on the role of their profession in a team setting.

In addition, social work education should assist students in gaining an understanding of other professionals that they may be working with on a team. For instance, offering a course on social work practice in healthcare that includes a lesson on medical language and common jargon may help in understanding professionals who use

them and also in enhancing professional confidence in working with other professionals. Having knowledge of other professionals' practices and values should aid social workers/social work students in understanding the roles that other professionals play, based on their particular set of knowledge, skills, and values.

Social work educators may also join in force with educators from other disciplines in creating opportunities for social work students and students from other disciplines to learn about the art of interdisciplinary collaboration. Although this study's findings did not support the positive impact of past teamwork experience on the perceived level of interdisciplinary collaboration, other studies found a history of collaboration training and experiences correlating with signs of high levels of interdisciplinary collaboration such as improved communication and collaborative practice (Haycock-Stuart & Houston, 2005; Temkin-Greene et al. 2004). Jointly offering a course on interdisciplinary collaboration using educators from multiple disciplines as co-instructors may provide students from various disciplines a unique classroom experience to not only learn about interdisciplinary collaboration but also interact with and learn from each other. For instance, a course on interdisciplinary collaboration in healthcare instructed by educators from the disciplines of nursing, medicine, theology, and social work will provide students a great opportunity to have first-hand experiences working with professionals with different values and trainings.

In regard to education and training, social work schools may play a major role in promoting social work practitioners in their life long learning. Making continuing education courses on various topics of social work practice, policy, and research

accessible and available to social work practitioners is one way that social work schools can assist practitioners in their continued professional development.

In terms of social work research, quantifying the impact of social work interventions on client, team, and organizational outcomes should be of a high priority. As evidenced by the new Condition of Participation, demands to provide means-tested interventions in hospice practice, like in other healthcare settings, will continue to grow. The development of tools that quantitatively measure social work interventions will provide a baseline for continuous evaluation and contribute to creating means-tested interventions. The study by Reese and Raymor (2004) on the effectiveness of hospice social work interventions is a good example of how researchers may evaluate and demonstrate social work contributions on an interdisciplinary team. Being able to quantify contributions in improving client care and teamwork may also lead to improved professional recognition in hospice as well as other healthcare settings for social workers. Positive changes in professional recognition in return may result in improved compensation and job satisfaction.

The need to quantify the impact of one's professional intervention applies to other hospice professionals as well. Hospice care is provided through the use of an interdisciplinary team, and as noted in the qualitative study findings, hospice professionals take strong belief and support in its philosophical and actual benefits of collaboration in delivering care to their clients. If the use of an interdisciplinary team is to survive a greater scrutiny posed by consumers, researchers, and public policy makers, then all hospice professionals need to seek a part in producing evidence that empirically validate the practice. Social workers need to take a leading role in collaborative research

opportunities with other hospice professionals to evaluate the benefits of interdisciplinary collaboration on individual team members, teams, organizations, and clients. This may include forming a partnership with researchers from academics settings and engaging in evaluations of hospice team interventions.

The study revealed an interesting finding about social workers as compared to other professionals. Despite the unique contributions that social workers make on the team, hospice social workers as a discipline had the least positive feelings toward other professionals and were the least happy with their jobs. These findings may be deeply rooted in the issues of professional status that exist in hospice, the healthcare system as a whole, and society. Social workers have always worked and continue to work on improving the lives of their clients. Promoting professional and public acceptance and recognition in all areas of social work may bring positive changes in the issues of professional status thus improve job satisfaction and personal feelings toward other disciplines among social workers. As discussed earlier, one way to accomplish this may be through the use of research and quantifying the effectiveness of social work intervention in improving client care. It is essential for social work educators to make a tireless effort to help their students understand the interrelatedness of education, practice, policy, and evaluation/research.

Recommendations for Future Research

This study investigated factors that aid or hinder collaborative work among hospice interdisciplinary team members. While the findings add to an understanding of interdisciplinary collaboration, they also inspire ideas for future research.

First, continued research on influencing variables of interdisciplinary collaboration is crucial in gaining an understanding of the processes and functions of interdisciplinary collaboration. Future research should include further exploration on the roles of personal demographic variables of age, gender, employment status, educational credentials, and certification in palliative care on the degree of interdisciplinary collaboration. In terms of organizational characteristics, the impact of organizational status (non-profit, for-profit, and government-run) on the degree of interdisciplinary collaboration, job satisfaction, and quality of care, for instance, may reveal additional information about what factors influence collaborative work. Information on team leadership, spiritual affiliation, and feelings toward death and their relationships to the degree of interdisciplinary collaboration may also lead to interesting findings about what factors may aid or hinder collaborative work.

Second, future research should include studies of not only individual team members but also individual teams. Examining differences in perceptions and experiences of interdisciplinary collaboration between members and within teams would provide further information on how to improve collaborative work on individual and team levels. Inclusion of other disciplines such as home health aides and bereavement services would allow an opportunity to further investigate the impact of professional diversity on interdisciplinary collaboration and influencing variables.

Furthermore, the study findings suggest that hospice team members associate: (1) administrative support to the level of interdisciplinary collaboration and (2) team-based care to quality of care provided to clients. Inclusion of hospice administrators and clients in future studies would examine perceptions from the perspectives of hospice

administrators and service recipients. Differences found among those who manage teams, deliver services, and receive services reveal information on how to improve interdisciplinary collaboration from diverse perspectives.

Third, qualitative research, focusing on understanding the roles of influencing variables such as job satisfaction and quality of team care, would strengthen quantitative knowledge. Focus groups and individual team member interviews regarding individual members' and teams' perceptions about interdisciplinary collaboration, job satisfaction and quality of team care, may be used to gather information on team and individual levels.

Fourth, future studies should explore the relationship between the degree of interdisciplinary collaboration and specific outcomes for clients. The development of instruments that address bio-psychosocial-spiritual aspects of hospice care interventions, particularly quantifying psychosocial and spiritual interventions, would be highly beneficial.

Fifth, comparing the study findings about interdisciplinary collaboration in a hospice setting to teams in other settings would test whether or not hospice teams indeed have a higher degree of interdisciplinary collaboration than teams in other settings.

Conclusion

The hospice interdisciplinary team has been described as the ideal model for interdisciplinary collaboration and delivering holistic care to clients. The literature review revealed that support for interdisciplinary collaboration, particularly hospice interdisciplinary teams, is often assumed and rarely tested. Since the inception of hospice care in the late 1960s to early 1970s, only a handful of studies have focused on and examined the processes, benefits, and effectiveness of hospice interdisciplinary teams.

With the current condition of the economy, a growing pressure to produce empirical evidence for healthcare services in general has recently reached the hospice industry. The new Condition of Participation (CoP) under the Medicare Hospice Benefit, requiring hospices receiving Medicare reimbursement to engage in on-going quality assessment and performance improvement projects, is now in effect. Before the implementation of the new CoP, the evaluation of interdisciplinary work was left to the discretion of each hospice. Hospices are now expected to evaluate their services in a more systemic way than before. As hospice provides services utilizing an interdisciplinary team, gaining an understanding of hospice team collaboration processes is invaluable to evaluating and improving collaborative work.

This study aimed to examine the processes of interdisciplinary collaboration and variables that affect interdisciplinary collaboration among hospice team members. The quantitative and qualitative findings of the study convey that overall hospice professionals, regardless of their professional diversity groups: (1) have a high level of interdisciplinary collaboration; (2) share similar perceptions of strengths and challenges of interdisciplinary collaboration; (3) enjoy, are satisfied with and proud of their work and team; and (4) believe in holistic care as an effective way to serve those who are terminally ill and their families. Findings reported in this study make a contribution to the existing body of knowledge on interdisciplinary collaboration, particularly in interpreting the impact of variables on interdisciplinary collaboration in a hospice setting and encourage further studies in this area.

As the baby boomer generation approaches its older age, demand for hospice services is expected to grow even greater. This is evidenced in a growing number of

hospice organizations and clients over the years. Between 1984 and 2007, the number of Medicare-certified hospices grew from 31 to 3,257 (Hospice Association of America, 2008). In addition, the number of individuals receiving hospice care in 2006 was 964,614, a large increase from 60,802 in 1989 (Hospice Association of America, 2008). With the increased utilization of hospice care as an option for end of life care and growth in hospice agencies, the hospice industry is expected to receive greater attention.

The development of systemic evaluation of hospice interdisciplinary teams and their interventions will aid in improving care to those who face life-limiting illnesses and their families. Also, an on-going systemic evaluation of interdisciplinary work may provide empirical evidence to support and promote the use of interdisciplinary teams in delivering holistic, bio-psychosocial-spiritual care to clients in all aspects of healthcare.

APPENDICIES

Appendix A:

Michigan State University Institutional Review Board (IRB) Approval

Michigan State University

December 12, 2008

To: Gary Anderson
254 Baker Hall

Re: **IRB # X08-1142**
Approval Date: December 12, 2008

Title: Interdisciplinary collaboration: Factors that influence collaborative experiences
among hospice team members

The IRB has found that your research project meets the criteria for exempt status and the criteria for the protection of human subjects in exempt research. **Under our exempt policy the Principal Investigator assumes the responsibility for the protection of human subjects in this project as outlined in the assurance letter and exempt educational material.** The IRB office has received your signed assurance for exempt research. A copy of this signed agreement is appended for your information and records.

Renewals: Exempt protocols do not need to be renewed. If the project is completed, please submit for an *Application for Permanent Closure*.

Revisions: Exempt protocols do not require revisions. However, if changes are made to a protocol that may no longer meet the exempt criteria, a new initial application will be required.

Problems: If issues should arise during the conduct of the research, such as unanticipated problems, adverse events or any problem that may increase the risk to the human subjects and change the category of review, notify the IRB office promptly. Any complaints from participants regarding the risk and benefits of the project must be reported to the IRB.

Follow-up: If your exempt project is not completed and closed after three years, the IRB office will contact you regarding the status of the project and to verify that no changes have occurred that may affect exempt status.

Please use the IRB number listed above on any forms submitted which relate to this project, or on any correspondence with the IRB office.

Good luck in your research. If we can be of further assistance, please contact us at 517-355-2180 or via email at IRB@msu.edu. Thank you for your cooperation.

Sincerely,

Dan Ilgen, Ph. D.
SIRB Chair

c: Rie Kobayashi
10 Baker Hall
School of Social Work

Appendix B:

Letter to the Hospice Executive Director/Administrator

Interdisciplinary Collaboration: Factors that Influence Collaborative Experiences among Hospice Team Members

Gary Anderson, Ph.D.
Rie Kobayashi, LMSW
Michigan State University School of Social Work
254 Baker Hall
East Lansing, MI 48824

Dear Hospice Executive Director/Administrator:

My name is Rie Kobayashi, and I am a Ph.D student at Michigan State University. I have also been a social worker in a hospice organization for the past 11 years. In partnership with the Michigan Hospice and Palliative Care Organization, I am conducting a research study on hospice interdisciplinary teams and would like your assistance in disseminating the survey questionnaire enclosed. This study is supported by my committee members, Gary Anderson, Ph.D., LMSW, Sally Rypkema, Ph.D., LMSW, Linda Keilman, MSN, APRN, BC., and Karen Ogle, MD.

The survey aims to deepen our understanding of the processes and experiences of hospice interdisciplinary team collaboration and learn about factors that aid or hinder collaborative work. This study is designed to target full-time and part-time (not PRN) hospice medical directors, nurses, spiritual care providers/counselors, and social workers as study participants. In the entire study, approximately 117 hospice organizations and 488 hospice medical directors, nurses, spiritual care providers/counselors and social workers in the state of Michigan are being asked to participate.

Enclosed in this packet are four copies of the survey questionnaire and informed consent/telephone interview information sheet. I ask that you disseminate a copy of the questionnaire to one medical director, one nurse, one spiritual care provider/counselor, and one social worker in your organization. After collecting data, we plan to share our findings with you through the Michigan Hospice and Palliative Care Organization website. The data from this study will not be connected to individual hospice agencies, and participants will not be asked to name their hospice on the survey document. It is our hope that the findings from the study will help your organization in strengthening your interdisciplinary team collaboration.

If you have any concerns or questions regarding this study, please contact me at (517) 862-6015 or e-mail kobayas6@msu.edu.

Thank you in advance for your time and attention to this matter. Your assistance and support in disseminating the survey are essential to the success of the study.

Rie Kobayashi, LMSW
254 Baker Hall
East Lansing, MI 48824
kobayas6@msu.edu

Appendix C:

Letter to the Hospice Colleague

Interdisciplinary Collaboration: Factors that Influence Collaborative Work among Hospice Team Members

**Gary Anderson, Ph.D.
Rie Kobayashi, LMSW
Michigan State University School of Social Work
254 Baker Hall
East Lansing, MI 48824**

Dear Hospice Colleague:

My name is Rie Kobayashi, and I am a Ph.D student at Michigan State University. I have also been a social worker in a hospice organization for the past 11 years. In partnership with the Michigan Hospice and Palliative Care Organization, I am conducting a research study on hospice interdisciplinary teams and would like your assistance. This survey aims to deepen our understanding of the processes and experiences of hospice interdisciplinary team collaboration and learn factors that aid or hinder collaborative work. As a practicing hospice social worker myself, I am often reminded of the importance of teamwork and the impact that teamwork has on our clients. This study is designed to target full-time and part-time (not PRN) hospice medical directors, nurses, spiritual care providers/counselors, and social workers as study participants. In the entire study, approximately 480 hospice medical directors, nurses, spiritual care providers/counselors and social workers in the state of Michigan are being asked to participate.

Enclosed please find the survey questionnaire and informed consent/telephone interview information sheet. Your response on the survey will be used to finding ways to improve hospice interdisciplinary collaboration. After collecting data, we plan to share our findings with you through the Michigan Hospice and Palliative Care Organization website. The data from this study will not be connected to individual hospice agencies, and participants will not be asked to name their hospice on the survey document. It is our hope that the findings from the study will help your team and organization in strengthening interdisciplinary collaboration.

If you have any concerns or questions regarding this study, please contact me at (517) 862-6015 or e-mail kobayas6@msu.edu.

Thank you in advance for your time and attention to this matter. Your assistance and support in completing the survey are essential to the success of the study.

**Rie Kobayashi, LMSW
254 Baker Hall
East Lansing, MI 48824 kobayas6@msu.edu**

Appendix D:

Consent Form and Telephone Interview Information Sheet

Michigan State University

Interdisciplinary Collaboration: Factors that influence Collaborative Experiences among Hospice Team Members

Consent Form

Dear Hospice Colleague:

You are being asked to participate in a research study of interdisciplinary collaboration in a hospice setting. This study is being conducted in partnership with Michigan Hospice and Palliative Care Organization. You have been selected as a possible participant in this study to represent your hospice organization and profession of medicine, nursing, spiritual care provider/counselor or social work in helping us deepen our understanding of the processes and experiences of hospice interdisciplinary team collaboration. From this study, we hope to learn factors that aid or hinder collaborative work. In the entire study, approximately 480 hospice medical directors, nurses, spiritual care providers/counselors and social workers in the state of Michigan are being asked to participate. Your participation in the following survey questionnaire will take approximately 18 minutes.

Enclosed is a survey questionnaire and an information sheet. If you choose to participate in the study, please sign the consent form and begin the survey. We ask that you respond to each question by choosing only one response. Once you complete the survey, place the survey and the consent form in a self-addressed, stamped envelope enclosed and mail it back to us. The information sheet needs to be completed only if you choose to participate in a phone interview at a later date to answer five open-ended questions on your thoughts and experiences about collaborative work in hospice. If you complete the information sheet for a phone interview, you will be contacted to schedule an appointment. In order to ensure the accuracy of the information, your phone interview will be recorded and later transcribed verbatim. You indicate your voluntary agreement to participate by beginning the phone interview. The phone interview will take about 15 minutes. After collecting survey and phone interview data, we hope to share our findings with you through Michigan Hospice and Palliative Care Organization website.

The potential benefits to you for taking part in this study are an increased understanding of interdisciplinary collaboration and an opportunity to compare your current collaborative practice to the practice of other hospice team members and organizations in Michigan. The potential risks of participating in this study may include distress or discomfort from responding to sensitive questions.

The data for this project will be kept confidential. The informed consent forms and questionnaires for individual participants of the study will be filed separately in locked files in the researcher's office. The information sheet, recorded and transcribed phone interviews will be filed separately in locked files. The audio-taped phone interviews will be destroyed upon the completion of transcription. Also, unique confidential numbers will be assigned to each returned questionnaire, and recorded and transcribed phone interviews. Information about you will be kept confidential to the maximum extent allowable by law unless there is a danger to yourself or others. The researchers and research staff and Institution Review Board at Michigan State University will have access to the collected data. The Michigan Hospice and Palliative Care Organization will have access to the findings of the data. The results of this study may be published or presented at professional meetings, but the identity of all research participants will remain anonymous.

Participation in this study is completely voluntary. You may choose not to answer specific questions or to stop participating at any time. Choosing not to participate or withdrawing from this study will not make any difference in benefits to which you are otherwise entitled. You will be told of any significant findings that develop during the course of the study that may influence your willingness to continue to participate in the research. You will not receive money or any other form of compensation for participating in this study.

If you have concerns or questions about this study such as how to do any part of it, please contact Rie Kobayashi, LMSW at (517) 862-6015, e-mail kobayas6@msu.edu or regular mail at 254 Baker Hall, East Lansing, MI 48824. You may also contact Gary Anderson, Ph.D., Primary Investigator at gary.anderson@ssc.msu.edu.

If you have any questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact anonymously if you wish, the Michigan State University's Human Research Protection Program at (517) 355-2180, Fax (517) 432-4503, or e-mail irb@msu.edu or regular mail at 202 Olds Hall, MSU, East Lansing, MI 48824.

Thank you for your participation in this study. If you choose to participate in a phone interview in a later date, please complete the Telephone Interview Information Sheet attached below. If you choose not to participate in the phone interview, you do not have to complete the information sheet and please proceed with the questionnaire. Please feel free to make a copy of this form for your record.

You indicate your voluntary agreement to participate in this study by returning the attached survey.

Rie Kobayashi, LMSW, ABD
Michigan State University School of Social Work
254 Baker Hall, E. Lansing, MI 48823
kobayas6@msu.edu

Telephone Interview Information Sheet

If you choose to participate in a phone interview, please provide contact information below. A total of 20 professionals, five each from the disciplines of medicine, nursing, spiritual care provider/counselor, and social work, will be randomly selected to participate in the phone interviews.

Your name:

Occupation (circle one):

Medical Director

Nurse

Spiritual Care Provider/Counselor

Social Worker

Phone number: () -

Preferred time of contact (circle one):

Day time (8am-5pm)

Evening (after 5pm)

In order to ensure the accuracy of the information you provide to us, your phone interview will be audio-taped and then transcribed verbatim. Please respond to the following statement and place your initial where indicated.

I agree to allow audio-taping of the phone interview.

☐ **Yes** ☐ **No** **Initials** _____

Your signature below means that you voluntarily agree to participate in this phone interview.

Signature

Date

Thank you for choosing to participate in a phone interview. You will be contacted at a later date to schedule an appointment. Please feel free to make a copy of this form for your records.

Appendix E:
Follow Up E-mail Messages

Follow up E-mail Message 1

January 20, 2009

Dear Hospice Executive Director/Administrator:

Approximately three weeks ago I sent you a packet of information, containing four copies of a survey questionnaire, informed consent/telephone interview information sheets, and self-addressed, stamped envelopes. I asked that you disseminate a copy of these items to one medical director, one nurse, one spiritual care provider/counselor, and one social worker in your organization. I am e-mailing you today as follow up to ensure that you have been able to disseminate these materials to your staff.

As stated in the initial letter, your support in disseminating the survey is essential to the success of the study. I will be more than happy to send you additional copies of the survey, and I am available to answer any questions or concerns relating to the study.

Thank you again for your time and assistance.

Rie Kobayashi, LMSW
Michigan State University School of Social Work
254 Baker Hall
E. Lansing, MI 48824
Kobayas6@msu.edu

Follow Up E-mail Message 2

February 9, 2009

Approximately five weeks ago I sent you a packet of information, containing four copies of a survey questionnaire, informed consent and telephone interview information sheets, and self-addressed, stamped envelopes. I asked that you disseminate a copy of these items to one medical director, one nurse, one spiritual care provider/counselor, and one social worker in your organization. If you have already disseminated the materials to your staff, I thank you very much. I have been receiving returned surveys and entering data to a statistical program.

I am e-mailing you today to ask your help in encouraging your hospice staff to complete and return the survey. Your staff's participation in the survey is essential to the success of the study. I am attaching the survey today for your staff's convenience. Instead of mailing in a completed survey, they may fax it back to (517) 353-3038, attn: Rie Kobayashi. Please feel free to contact me for any questions or concerns.

Thank you again for your time and assistance with this survey.

Rie Kobayashi, LMSW
Michigan State University School of Social Work
254 Baker Hall
E. Lansing, MI 48823
kobayas6@msu.edu

Follow Up E-mail Message 3

February 28, 2009

Approximately eight weeks ago, I sent you a packet of information, containing four copies of a survey questionnaire, informed consent and telephone interview information sheets, and self-addressed, stamped envelopes. I asked that you disseminate a copy of these items to one medical director, one nurse, one spiritual care provider/counselor, and one social worker in your organization. If you have already disseminated the materials to your staff and encouraged them to return the surveys, I thank you very much. I have been receiving returned surveys and entering data to a statistical program.

I am e-mailing you today to ask your help again in encouraging your staff to complete and return/fax the survey. Your staff's participation in the survey is essential to the success of the study. In the last e-mail, I attached the survey and provided a fax number for submitting the survey. Again, I am more than happy to provide additional copies of the survey or e-mail you the survey with a fax number.

Thank you very much for your time and attention to this matter.

Rie Kobayashi, LMSW
Michigan State University School of Social Work
254 Baker Hall
E. Lansing, MI 48823
kobayas6@msu.edu

Appendix F:

Survey Questionnaire

Hospice Interdisciplinary Team Survey

Directions: Please share some information about yourself and about the hospice agency/organization where you currently work that might help us better understand interdisciplinary collaboration. For each question, please check the correct answer or fill in the blank where applicable.

Personal Demographics

1. What is your gender?

☐ Male
☐ Female

2. What is your age?

☐ Under 30 years
☐ 31-40 years
☐ 41-50 years
☐ 51-60 years
☐ Over 61 years.

3. What is your race/ethnicity? (Please check only one)

☐ Native American (American Indian/Alaska Native)
☐ African American/Black (Non-Hispanic)
☐ Asian or Pacific Islander
☐ Hispanic/Latino
☐ White Caucasian (Non-Hispanic)
☐ Other (Please specify) _____

4. What is your professional discipline?

If you a **nurse**, please check one:

☐ LPN ☐ RN ☐ BSN ☐ MSN
☐ Other (Please specify) _____

Are you certified in palliative care/hospice? ☐ Yes ☐ No

If you are a **physician**, please check one:

☐ MD ☐ DO

Are you certified in palliative care/hospice? ☐ Yes ☐ No

If you are a **social worker**, please check one:

☐ BSW ☐ MSW ☐ Other (Please specify) _____

Are you certified in palliative care/hospice? ☐ Yes ☐ No

If you are a **Spiritual care provider**, please check one:

☐ MDiv ☐ Other (please specify) _____

Are you certified in palliative care/hospice? ☐ Yes ☐ No

5. What is your employment status?

☐ Full-time (at least 36 hours per week)

☐ Part-time (less than 36 hours per week)

6. How many years have you been practicing in your current discipline?

☐ Less than 2 years ☐ 21-25 years

☐ 2-5 years ☐ 26-30 years

☐ 6-10 years ☐ 31-35 years

☐ 11-15 years ☐ 36-40 years

☐ 16-20 years ☐ Over 40 years

7. How many years have you been practicing in your current agency?

☐ Less than 2 years ☐ 21-25 years

☐ 2-5 years ☐ 26-30 years

☐ 6-10 years ☐ 31-35 years

☐ 11-15 years ☐ 36-40 years

☐ 16-20 years ☐ Over 40 years

8. How many years of hospice work experience do you have?

☐ Less than 2 years ☐ 21-25 years

☐ 2-5 years ☐ 26-30 years

☐ 6-10 years ☐ 31-35 years

☐ 11-15 years ☐ 36-40 years

☐ 16-20 years ☐ Over 40 years

Agency/Organizational Characteristics

1. What is your hospice's organizational status?

☐ Non-profit

☐ For profit

☐ Government-run

2. How long has your hospice organization been operating for?

☐ Less than 2 years

☐ 2-5 years

☐ 6-10 years

☐ 11-15 years

- ☐ 16-20 years
☐ Over 20 years

3. How many core members (physicians, nurses, social workers, spiritual care providers/other counselors) does your hospice have?

- ☐ Less than 5 members
☐ 6-10 members
☐ 11-15 members
☐ 16-20 members
☐ 21-25 members
☐ 26-30 members
☐ Greater than 31 members

4. How many interdisciplinary teams does your hospice have?

- ☐ 1 team ☐ 2-3 teams ☐ 4-5 teams ☐ greater than 6

5. What is your hospice's average daily census/patient loads?

- | | |
|---------------------------------------|-----------------------------------|
| ☐ Less than 30 | ☐ 71-90 |
| ☐ 31-50 | ☐ 91-110 |
| ☐ 51-70 | ☐ Over 111 |

6. What is your hospice's major geographic service area (Check all that applies)?

- ☐ Rural ☐ Urban ☐ Suburb

Rural: Less than 2,500 people

Urban: At least 2,500 but less than 50,000 people

Suburb: Greater than 50,000 people

Professional Affiliation: (Please choose only one response for each statement.)

1. I am strongly committed to the professional role at my agency.

- ☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

2. I am strongly committed to the values of my profession.

- ☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree

- ___ Strongly Disagree
3. I strongly identify with my profession.

___ Strongly Agree
___ Agree
___ Neither Agree nor Disagree
___ Disagree
___ Strongly Disagree

Structural/Organizational Characteristics: (Please choose only one response for each statement.)

1. My organization provides physical space needed for interdisciplinary collaboration.

___ Strongly Agree
___ Agree
___ Neither Agree nor Disagree
___ Disagree
___ Strongly Disagree

2. My organization provides communication resources such as a phone, pager, and computer needed for interdisciplinary collaboration.

___ Strongly Agree
___ Agree
___ Neither Agree nor Disagree
___ Disagree
___ Strongly Disagree

3. My workday allows me time for interdisciplinary collaboration with other team members.

___ Strongly Agree
___ Agree
___ Neither Agree nor Disagree
___ Disagree
___ Strongly Disagree

4. The administration at my organization supports interdisciplinary collaboration.

___ Strongly Agree
___ Agree
___ Neither Agree nor Disagree
___ Disagree

___ Strongly Disagree

5. The administration at my organization expects interdisciplinary collaboration.

___ Strongly Agree
___ Agree
___ Neither Agree nor Disagree
___ Disagree
___ Strongly Disagree

Personal Characteristics and Relationships with Others: (Please choose only one response for each statement.)

1. I like the colleagues from other disciplines whom I work with on a team.

___ Strongly Agree
___ Agree
___ Neither Agree nor Disagree
___ Disagree
___ Strongly Disagree

2. My colleagues from other disciplines and I socialize outside of work.

___ Strongly Agree
___ Agree
___ Neither Agree nor Disagree
___ Disagree
___ Strongly Disagree

3. My colleagues from other disciplines and I trust each other.

___ Strongly Agree
___ Agree
___ Neither Agree nor Disagree
___ Disagree
___ Strongly Disagree

4. My colleagues from other disciplines understand my personal values and perspective.

___ Strongly Agree
___ Agree
___ Neither Agree nor Disagree
___ Disagree
___ Strongly Disagree

History of Interdisciplinary Collaboration: (Please choose only one response for each question/statement.)

1. My past experience with interdisciplinary collaboration has prepared me well for my current collaboration with other disciplines.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

2. Have you ever had training in interdisciplinary collaboration?

☐ Yes ☐ No (If you answer "No" to this question, skip to the next section).

3. My past training in interdisciplinary collaboration helps me in my current collaborative work.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

Job Satisfaction: (Please choose only one response for each statement)

1. All in all, I am satisfied with my job.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

2. In general, I don't like my job.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

3. In general, I like working here.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

Quality of Care Subscale (Please choose only one response for each statement).

1. Having to report observations to the team helps team members better understand the work of other health professionals.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

2. The team approach permits health professionals to meet the needs of family caregivers as well as patients.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

3. Working on a team keeps most health professionals enthusiastic and interested in their jobs.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

4. Health professionals working on teams are more responsive than others to the emotional and financial needs of patients.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree

☐ Strongly Disagree

5. Patients receiving team care are more likely than other patients to be treated as whole persons.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

6. Team meetings foster communication among team members from different disciplines.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

7. The team approach makes the delivery of care more efficient.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

8. Developing a patient care plan with other members avoids errors in delivering care.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

9. The give and take among team members helps them make better patient care decisions.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

10. The team approach improves the quality of care to patients.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

Modified Index of Interdisciplinary Collaboration (Please choose only one response for each statement).

1. I utilize other professionals in different disciplines for their particular expertise.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

2. I consistently give feedback to other professionals in my setting.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

3. Professionals in different disciplines in my setting utilize me for a range of tasks.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

4. Teamwork with professionals from other disciplines is not important in my ability to help clients.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

5. The colleagues from other professional disciplines and I rarely communicate.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

6. The colleagues from other disciplines with whom I work have a good understanding of the distinction between my role and their role(s).

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

7. My colleagues from other disciplines make inappropriate referrals to me.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

8. I can define those areas that distinct in professional role from that of professionals from other disciplines with whom I work.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

9. I view part of my professional role as supporting the role of others with whom I work.

☐ Strongly Agree
☐ Agree
☐ Neither Agree nor Disagree
☐ Disagree
☐ Strongly Disagree

10. My colleagues from other disciplines refer to me often.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

11. Cooperative work with colleagues from other disciplines is not a part of my job description.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

12. My colleagues from other professional disciplines do not treat me as an equal.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

13. My colleagues from other disciplines believe that they could not do their jobs as well without my professional discipline.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

14. Distinct new programs emerge from the collective work of colleagues from different disciplines.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

15. Organizational protocols reflect the existence of cooperation between professionals from different disciplines.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

16. Formal procedures/mechanisms exist for facilitating dialogue between professionals from different disciplines (ie, at staffings, inservice, rounds, etc).

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

17. I am not aware of situations in my agency in which a coalition, task force, or committee has developed out of interdisciplinary effort.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

18. Work with colleagues from other disciplines leads to outcomes that we could not achieve alone.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

19. Creative outcomes emerge from my work with colleagues from other professions that I could not have predicted.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

20. I am willing to take on tasks outside of my job description when that seems important.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

21. I am not willing to sacrifice a degree of autonomy to support cooperative problem solving.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

22. I utilize formal and informal procedures for problem-solving with my colleagues from other disciplines.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

23. The professional colleagues from other disciplines with whom I work stick rigidly to their job descriptions.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

24. Colleagues from other disciplines and I work together in many different ways.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

25. Professionals from other disciplines with whom I work encourage family members' participation in the treatment process.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

26. My colleagues from other disciplines are not committed to working together.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

27. My colleagues from other disciplines work through conflicts with me in efforts to resolve them.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

28. When colleagues from other disciplines make decisions together they go through a process of examining alternatives.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

29. My interactions with colleagues from other disciplines occur in a climate where there is freedom to be different and to disagree.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

30. Clients/patients/students participate in interdisciplinary planning that concerns them.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

31. Colleagues from all professional disciplines take responsibility for developing treatment plans.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

32. Colleagues from all professional disciplines do not participate in implementing treatment plans.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

33. Professionals from different disciplines are straightforward when sharing information with clients/patients/students.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

34. My colleagues from other disciplines and I often discuss different strategies to improve our working relationships.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

35. My colleagues from other professions and I talk about ways to involve other professionals in our work together.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

36. Colleagues from other disciplines do not attempt to create a positive climate in our organization.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

37. I am optimistic about the ability of my colleagues from other disciplines to work with me to resolve problems.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

38. I help my colleagues to address conflict with other professionals directly.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

39. Colleagues from other disciplines are as likely as I am to address obstacles to our successful collaboration.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

40. My colleagues from other disciplines and I talk together about our professional similarities and differences including role, competencies, and stereotypes.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

41. My colleagues from other professionals and I do not evaluate our work together.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

42. I discuss with professionals from other disciplines the degree to which each of us should be involved in a particular case.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither Agree nor Disagree
- ☐ Disagree
- ☐ Strongly Disagree

Appendix G:

Telephone Interview Script

Telephone Interview Script

1. Introduction

My name is Rie Kobayashi. I am a Ph.D student at Michigan State University. I am calling you today to conduct a phone interview. What I will be asking you involve 4 demographic and your hospice organizational questions, followed by 6 open-ended questions about your thoughts on hospice interdisciplinary team, teamwork, and your contribution to the team. The interview will take about 15 minutes.

I know that you have given written informed consent to participate in a phone interview when you completed the survey. As indicated in the consent form, our interview will be audio-taped in order to assure the accuracy of data analysis later on. Your identity will be protected.

Do you have any questions or concerns at this point?

I want to make sure that you are still comfortable with participating in a phone interview and you are giving me verbal consent to proceed with the questions.

2. Interview

I have four demographic and your hospice organizational questions.

First, what is your professional discipline?

How long have you been a “.....”?

How long have you worked for your current hospice agency?

Does your hospice agency serve a mainly rural or urban area?

Now, I would like to start asking you following 6 open-ended questions.

1. Who do you consider to be members of your hospice interdisciplinary team?
2. What is the biggest strength of your hospice team?
3. What poses as the biggest barrier in your hospice interdisciplinary team work?
4. What professional qualities do you bring to your team in assisting your clients?
5. In what ways does your agency evaluate team effectiveness, if there is any?
6. Is there anything about your hospice teamwork we did not cover that you would like to share?

3. Ending the interview

I have asked all the questions that I needed to ask for the interview. Thank you for taking the time to participate in the interview. If you have any questions about the interview or my study, please feel free to contact me at 24 Baker Hall, E.Lansing, MI 48823. My phone number is 517-862-6015. Thank you again for your assistance with this study.

REFERENCES

References

- Abraham, J.I., Callahan, J., Rossetti, K., Pierre, L. (1996). The importance of a hospice consultation team on the care of veterans with advanced cancer. *Journal of Pain and Symptom Management*, 12(1), 23-31.
- Abrahamson, J.S. & Mizrahi, T. (1996). When social workers and physicians collaborate: Positive and negative interdisciplinary experiences. *Social Work*, 41(3), 270-281.
- Acker, G. M. (2004). The effect of organizational conditions (role conflict, role ambiguity, opportunities for professional development, and social support) on job satisfaction and intention to leave among social workers in mental health care. *Community Mental Health Journal*, 40(1), 65-73.
- Amundson, S. J. (2005). The impact of relational norms on the effectiveness of health and human service teams. *The Health Care Manager*, 24(3), 216-225.
- Ansari, W. E., Phillips, C. J., & Hammick, M. (2001). Collaboration and partnerships: Developing the evidence base. *Health and Social Care in the Community*, 9(4), 215-227.
- Aube, C. & Rousseau, V. (2005). Team goal commitment and team effectiveness: The role of task interdependence and supportive behavior. *Group Dynamics: Theory, Research, and Practice*, 9(3), 189-204.
- Award, S.S., Fagan, S.P., Bellows, C., Albo, D., Green-Rashad, B., and et al. (2005). Bringing the communication gap in the operating room with medical team training. *The American Journal of Surgery*, 190, 770-774.
- Bailey, P., Jones, L., & Way, D. (2006). Family physician/nurse practitioner: Stories of collaboration. *Journal of Advanced nursing*, 53(4), 381-391.
- Bencala, R., McIntosh, E., & Salzman, C. (1982). Hospice care demonstration project: A study of two models of hospice home care delivery. U.S. Department of Health and Human Services. Administration on Aging (AoA/TID-83/001). Washington D.C.: Author.
- Bennahum, D.A. (2003) The historical development of hospice and palliative care. In W.B. Forman, J.A. Kitze, R.P. Anderson, & D.K. Sheehan, *Hospice and palliative care: Concepts and practice* (pp. 1-12), Sudbury, MA: Jones and Bartlett Publications.
- Bern-Klug, M., Gessert, C., & Forbes, S. (2001). The need to revise assumptions about the end-of-life: Implications for social work practice. *Health & Social Work*, 26(1), 38-48.

- Billups, J.O. (1987). Interprofessional team process. *Theory into Practice*, 26(2), 146-152.
- Bowling, N.A. & Hammond, G.D. (2008). A meta-analytic examination of the construct validity of the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale. *Journal of Vocational Behavior*, 73, 63-77.
- Brewer, G. D. (1999). The challenges of interdisciplinarity. *Public Sciences*, 32(4), 327-337.
- Brita-Rossi, P., Adduci, D., Kaufman, J., Lipson, S.J., Totte, C., et al. (1996). Improving the process of care: the cost-quality value of interdisciplinary Collaboration. *Journal of Nursing Care Quality*, 10(2), 10-16.
- Bronstein, L. (1999). *Interdisciplinary collaboration between social workers and other professionals: The design and development of an assessment instrument*. Retrieved from ProQuest. (ATT 9939449)
- Bronstein, L.R. (2002). Index of interdisciplinary collaboration. *Social Work Research*, 26(2), 113-123.
- Bronstein, L.R. (2003). A model for interdisciplinary collaboration. *Social Work*, 48, 297-306.
- Brown, L., Tucker, C., & Domokos, T. (2003). Evaluating the impact of integrated health and social care teams on older people living in the community. *Health and Social Care in the Community*, 11(2), 85-94.
- Brunelli, C., Costantini, M., Di Giulio, P., Gallucci, M., Fusco, F., Miccinesi, G., et al. (1998). Quality-of-life evaluation: When do terminal cancer patients and healthcare providers agree? *Journal of Pain and Symptom Management*, 15(3), 151-158.
- Cabot, R.C. (1929). *Social service and the art of healing*. New York: Dodd Mead.
- Cabot, R.C. (1925). *The goal of social work*. Boston. Houghton Mifflin.
- Cammann, C., Fichman, M., Jenkins, G.D., & Klesh, J.R. (1998). Assessing the attitudes and perceptions of organizational members. In S.E. Seashore, E.E. Lawler III, P.H. Mirvis, & C. Cammann, *Assessing organizational change: A guide to methods, measures, and practices* (pp. 71-138). New York: John Wiley & Sons.
- Cassel, C. K. & Demel, B. (2001). Remembering death: Public policy in the USA.

Journal of the Royal Society of Medicine, 94, 433-436.

Center for Medicare and Medicaid Services. (June 5, 2008). Medicare and Medicaid Programs: Hospice conditions of participation; Final rule. 42 CFR Part 418. Federal Register, 73(109), 32088-32220.

Clark, L., Ledy, S., McDonald, L., Muller, B., Lamb, C., Mendez, T., Kim, S., & Schonwetter, R. (2007). Spirituality and job satisfaction among hospice interdisciplinary team members. *Journal of Palliative Medicine*, 10(6), 1321-1327.

Clark, P. G. (1995). Quality of life, values, and teamwork in geriatric care: Do we Communicate what we mean? *The Gerontologist*, 35(3), 402-411.

Cohen, K.P. (1979). *Hospice: Prescription for terminal care*. Germantown, MD: Aspen Systems Corporation.

Conner, S.R., Egan, K.A., Kwilosz, D.M., Larson, D.G., & Reese, D.J. (2002). Interdisciplinary approaches to assisting with end-of-life care and decision Making. *The American Behavioral Scientist*, 46(3), 340-356.

Conner, S.R., Tecca, M., LundPerson, J., & Teno, J. (2004). Measuring hospice care: The National Hospice and Palliative Care Organization National Hospice Data Set. *Journal of Pain and Symptom Management*, 28(4), 316-328.

Coopman, S. J. (2001). Democracy, performance, and outcomes in interdisciplinary care teams. *The Journal of Business Communication*, 38(3), 261-284.

Cowles, L. A. (2000). *Social work in the health field: A care perspective*. New York: The Haworth Press.

Chen, G., Thomas, B., & Wallace, J. C. (2005). A multilevel examination of the relationships among training outcomes, mediating regulatory processes, and adaptive performance. *Journal of Applied Psychology*, 90(5), 827-841.

D'Amour, D. & Oandasan, I. (2005, May). Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept. *Journal of Interprofessional Care*, Supp 1, 8-20.

D'Amour, D., Ferrada-Videla, M., San Martin-Rodriguez, L., & Beaulieu, M. D. (2005). The conceptual basis for interprofessional collaboration: Core concepts and theoretical frameworks. *Journal of Interprofessional Care*, Supplement 1, 116-131.

DeLoach, R. (2003). Job satisfaction and hospice interdisciplinary team members. *American Journal of Hospice and Palliative Care*, 20(6), 434-440.

- Dershimer, R. A. (1991). Completing the hospice organizational model. *American Journal of Hospice and Palliative Care Medicine*, 8(5), 30-36.
- DiTullio, M. & MacDonald, D. (1999). The struggle for the soul of hospice: Stress, Coping, and change among hospice workers. *American Journal of Hospice and Palliative Medicine*, 16(5), 641-655.
- Dziegielewski, S.F. (1998). *The changing face of health care social work*. New York: Springer.
- Edwards, P., Roberts, I., Clarke, M., DiGuseppi, C., Prata, S., & Wentz, R. (2002). Increasing response rates to postal questionnaires: Systematic review. *BMJ*, 324(7347), 1183-1192.
- Faulkner Schofield, R. & Amodeo, M. (1999). Interdisciplinary teams in health care and human services settings: Are they effective? *Health & Social Work*, 24(3), 210-219.
- Fineberg, I.C. (2005). Preparing professionals for family conferences in palliative care: evaluating results of an interdisciplinary approach. *Journal of Palliative Medicine*, 8(4), 857-866.
- Forman, W. B., Kitzes, J. A., Anderson, R. P., & Sheehan, D. K. (Eds.). (2003) *Hospice and palliative care: Concepts and practice* (2nd ed.). Sudbury, MA: Jones and Bartlett Publishers.
- Foster, Z. & Corless, I.B. (1999). Origins: An American Perspective. In I.B. Corless & Z. Foster, *The Hospice Heritage: Celebrating our future* (pp.9-14). New York: The Haworth Press.
- Freund, A & Drach-Zahavy, A. (2007). Organizational (role structuring) and personal (organizational commitment and job involvement) factors: Do they predict interprofessional team effectiveness? *Journal of Interprofessional Care*, 21(3), 319-334.
- Garson, G.D. (2008). Reliability analysis. Retrieved September 16, 2008 from <http://www2.chass.ncsu.edu/garson/pa765/reliab.htm>
- Germain, C.B. (1984). *Social work practice in health care: An ecological perspective*. New York: Free Press.
- Germain, C.B. & Gitterman, A. (1996). *The life model of social work practice* (2nd ed.). New York: Columbia University Press.

- Goode, R.A. (2000). *Social work practice in home health care*. Binghamton, NY: The Haworth Press.
- Graham, J.R. & Barter, K. (1999). Collaboration: A social work practice method. *Families in Society*, 80(1), 6-13.
- Grumbach, K. & Bodenheimer, T. (2004). Can health care teams improve primary care practice? *Journal of American Medical Association*, 291(10), 1246-1251.
- Hall, P. & Weaver, L. (2001). Interdisciplinary education and teamwork: A long and winding road. *Medical Education*, 35, 867-875.
- Hall, P., Weaver, L., Gravelle, D., & Thibault, H. (2007). Developing collaborative person-centered practice: A pilot project on a palliative care unit. *Journal of Interprofessional Care*, 21(1), 69-81.
- Haycock-Stuart, E. & Houston, N.M. (2005). Evaluation study of a resource for developing education, audit and teamwork in primary care. *Primary Health Care Research and Development*, 6, 251-268.
- Heinmann, G.D., Schmitt, M.H., Farrell, M.P., & Brallier, S.A. (1999). Development of an attitudes toward health team scale. *Evaluation & The Health Professions*, 22(1), 123-142.
- Herbst, L. (2004). Hospice care at the end of life. *Clinical Geriatric Medicine*, 20, 753-765.
- Hirschfeld, R.R., Jordan, M. H., Field, H. S., Giles, W. F., & Armenakis, A. A. (2006). becoming team players: Team members' mastery of teamwork knowledge as a predictor of team task proficiency and observed team effectiveness. *Journal of Applied Psychology*, 91(2), 467-474
- Hospice Association of America. (March, 2006). Hospice facts and statistics. Retrieved March 25, 2007 from <http://www.nahc.org/hospicefs06.pdf>
- Hospice Association of America. (November, 2002). *Hospice facts & statistics*. Retrieved November 15, 2004, from <http://nahc.org/Consumer/hpcstats.html>
- Hudson, B. (2007). Pessimism and optimism in inter-professional working: The Sedgefield Integrated Team. *Journal of Interprofessional Care*, 21(1), 3-15.
- Irvine, R., Kerridge, I. McPhee, J. & Freeman, S. (2002). Interprofessionalism and ethics: Consensus or clash of cultures? *Journal of Interprofessional Care*, 16(3), 199-210.

- Kastenbaum, R.J. (2003). *Death, society, and human experience* (8th ed.). Boston: Pearson.
- Keppel, G & Wickens, T.D. (2004). *Design and analysis: A researcher's handbook* (4th ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall.
- Kramer, B.J. & Bern-Klug, M. (2004). Social work end-of-life research. In J. Berzoff & P.R. Silverman (Eds.), *Living with dying: A handbook for end-of-life healthcare practitioners* (pp.792-814), New York: Columbia University.
- Leukefeld, C.G. & Battjes, R. (1989). Interprofessional collaboration. In M.L.Henk (Ed.), *Social work in primary care* (pp.145-159), Newbury Park, CA: Sage Publications.
- Lichtenstein, R., Alexander, J. A., Jinnat, K., & Ullman, E. (1997). Embedded intergroup relations in interdisciplinary teams: Effects on perceptions of level of team integration. *The Journal of Applied Behavioral Science*, 33(4), 413-434.
- Loxley, A. (1997). *Collaboration in health and welfare: Working with differences*. Bristol, PA: Jessica Kingsley Publishers.
- Lum, J.L.J. (1998). Reference groups and professional socialization. In M.E.Hardy & M.E.Conway, *Role theory: Perspectives for health professionals* (2nd ed.). (pp. 257-272). Norwalk, CT: Appleton & Lance.
- Luptak, M. (2004). Social work and end-of-life care for older people: A historical perspective. *Health & Social Work*, 29(1), 7-15.
- McDonnell, A. (1986). *Quality hospice care: Administration, organization, and models*. Owings Mills, MD: National Health Publishing.
- Medicare and Medicaid Budget Reconciliation Amendments of 1985. Pub. L. No. 99-272. 100 STAT. 151 (1985).
- Merriman, M. P. (1999). Documenting the impact of hospice. In I.B. Corless and Z. Foster (eds.), *The hospice heritage: Celebrating our future* (pp. 177-192). New York: The Haworth Press, Inc.
- Miceli, P. J. & Mylod, D.E. (2003). Satisfaction of families using end-of-life care: Current success and challenges in the hospice. *American Journal of Hospice And Palliative Medicine*, 20(5), 360-370.
- Michigan Hospice & Palliative Care Organization (April, 2007). Michigan Hospice & Palliative Care Organization 2007 membership directory. Retrieved September

16, 2008, from
<http://www.mihospice.org/Portals/Rainbow/Documents/2007%20MHPCO%20Membership%20Directory.pdf>

- Mickan, S.M. (2005). Evaluating the effectiveness of health care teams. *Australian Health Review*, 29(2), 211-217.
- Mizrahi, T. & Abramson, J.S. (2000). Collaboration between social workers and physicians: Perspectives on a shared case. *Social Work in Health Care*, 31(3), 1-24.
- Mor, V., Greer, D., & Goldberg, R. (1988). The medical and social service interventions of hospice and nonhospice patients. In V. Mor, D.S. Greer, & R. Kastenbaum, *The hospice experiment (pp.88-108)*. Baltimore: The Johns Hopkins University Press.
- Morgan, G.A., Leech, N.L., Gloeckner, G.W., and Barret, K.C. (2007). SPSS for Introductory statistics (3rd. ed.). Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.
- National Hospice and Palliative Care Organization (November, 2006). NHPCO's facts and figures-2005 findings. Retrieved on March 25, 2007, from <http://www.nhpco.org/files/public/2005-facts-and-figures.pdf>
- Nikolaus, T., Specht-Leible, N., Bach, M., Oster, P., & Schlierf, G. (1999). A randomized trial of comprehensive geriatric assessment and home intervention in the care of hospitalized patients. *Age and Ageing*, 28(6), 543-550.
- Omnibus Budget Reconciliation Act of 1990. Pub. L. No. 101-508, 104 STAT. 1388 (1990).
- Paradis, L.F. (Ed.). (1985). *Hospice handbook: A guide for managers and planners*. Rockville, MD: Aspen.
- Parker-Oliver, D., Bronstein, L.R., & Kurzejeski, L. (2005). Examining variables related to successful collaboration on the hospice team. *Health & Social Work*, 30(4), 279-286.
- Parker-Oliver, D. & Peck, M. (2006). Inside the interdisciplinary team experiences of hospice social workers. *Journal of Social Work in End-of-Life & Palliative Care*, 2(3), 7-21.
- Parker-Oliver, D., Wittenberg-Lyles, E.M., & Day, M. (2007). Measuring interdisciplinary perceptions of collaboration on hospice teams. *American Journal of Hospice and Palliative Medicine*, 24(1), 49-53.

- Parry, J.K. (2001). *Social work theory and practice with the terminally ill* (2nd ed.). New York: The Haworth Social Work Practice Press.
- Patton, M.Q. (1987). *How to use qualitative methods in evaluation*. Newbury Park, CA: Sage Publication.
- PayScale (2009). Salary survey report for Job: Medical hospice director. Retrieved May 27, 2007 from [http://www.payscale.com/research/US/Job=Medical Hospice Director/Salary/by Employer Type](http://www.payscale.com/research/US/Job=Medical_Hospice_Director/Salary/by_Employer_Type)
- Rabow, M., Dibble, S.L., Pantilat, S., & McPhee, S. (2004, Jan). The comprehensive care team: A controlled trial of outpatient palliative medicine consultation. *Archives of Internal Medicine*, 164(1), 83-91.
- Reese, D. J. & Raymer, M. (2004). Relationships between social work involvement and hospice outcomes: Results of the National Hospice Social Work Survey. *Social Work*, 49(3), 415-422.
- Reese, D.J. & Sontag, M.A. (2001). Successful interprofessional collaboration on the hospice team. *Health & Social Work*, 26(3), 167-175.
- Rehr, H., Blumenfield, S., & Rosenberg, G. (1998). Collaboration and consultation: Key social work roles in health care. In H. Rehr, S.Blumenfield, & G.Rosenberg (Eds.), *Creative social work in health care: Clients, the community, and your organization* (pp.93-102), New York: Springer Publishing Company
- Rice, A.H. (2000). Interdisciplinary collaboration in health care: Education, practice, and research. *National Academies of Practice Forum*, 2(1), 59-73.
- Rubin, A. & Babbie, E. (1993). *Research methods for social work* (2nd ed.). Pacific Grove, CA: Brooks/Cole Publishing Co.
- San Martin-Rodriguez, L. Beaulieu, M-D., D'Amour, D., Ferrada-Videla, M. (2005). The determinant of successful collaboration: A review of theoretical and empirical studies. *Journal of Interprofessional Care, Supp 1*, 137-147.
- Satin, D. G. (1994). A conceptual framework for working relationships among disciplines and the place of interdisciplinary education and place: Clarifying muddy waters. *Gerontology & Geriatrics Education*, 14(3), 3-24.
- Saultz, J.W. & Lochner, J. (2005). Interpersonal continuity of care and care outcomes: A critical review. *Annals of Family Medicine*, 3(2), 159-166.
- Saunders, C. & Baines, M. (1989). *Living with dying: The management of terminal*

- disease. New York: Oxford University Press.
- Sherman, D.W. (1999). End-of-life care: Challenges and opportunities for health care professionals. In I.B. Corless & Z. Foster (Eds), *The hospice heritage: Celebrating our future* (pp.109-121).
- Shortell, S. M., Marsteller, J. A., Lin, M., Pearson, M. L., Wu, S-L., Mendel, P., et al. (2004). The role of perceived team effectiveness in improving chronic illness care. *Medical Care*, 42(11), 1040-1048.
- Sommers, L.S., Marton, K.I., Barbaccia, J.C., & Randolph, J. (2000) Physician, nurse and social worker collaboration in primary care for chronically ill seniors. *Archive Internal Medicine*, 160, 1825-1833.
- Statistical Package for the Social Sciences [SPSS] 17.0 (2008). SPSS Inc., Chicago, IL.
- Stoddard, S. (1978). *The hospice movement: A better way of caring for the dying*. New York: Stein and Day.
- Tax Equity and Fiscal Responsibility Act of 1982. Public Law No. 97-248, 96 STAT. 324 (1982).
- Temkin-Greener, H., Gross, D., Kunitz, S.J., & Mukamel, D. (2004). Measuring interdisciplinary team performance in a long-term care setting. *Medical Care*, 42(5), 472-481.
- Thatcher, S. M.B. & Greer, L. L. (2008). Does it really matter if you recognize who I am? The implications of identity comprehension for individuals in work teams. *Journal of Management*, 34(1), 5-24.
- Tolley, D.C. & Payne, R. (2006). Hospice partnership with academic entities: Philosophical and historical background and assessment of future needs. *Journal of Pain and Symptom Management*, 33(1), 90-98.
- U.S. General Accounting Office. (1979). *Hospice care---A growing concept in the United States*, (GAO/HRD-79-50). Washington, D.C: Author.
- Wagner, A.K., Fabio, T., Zafonte, R.D., Golderg, G., Marion, D.W., et al. (2003). Physical medicine and rehabilitation consultation: Relationships with acute functional outcome, length of stay, and discharge planning after traumatic brain injury. *Journal of Physical Medicine & Rehabilitation*, 82(7), 526-536.
- Wittenberg-Lyles, E.M., Parker-Oliver, D., Demiris, G., & Courtney, K.L. (2007). Assessing the nature and process of hospice interdisciplinary team meetings. *Journal of Hospice and Palliative Nursing*, 9(1), 17-21.
- Wittenberg-Lyles, E.M. (2005). Information sharing in interdisciplinary team

meetings: An evaluation of hospice goals. *Qualitative Health Research*, 15(10), 1377-1391.

Yun, S., Faraj, S., Sims Jr., H.P. (2005). Contingent leadership and effectiveness of trauma resuscitation teams. *Journal of Applied Psychology*, 90(6), 1288-1296.

MICHIGAN STATE UNIVERSITY LIBRARIES



3 1293 03062 9319