

Survey of Nurses' Educational Needs Related to End of Life Care

A Dissertation submitted
to the Graduate School
Valdosta State University

in partial fulfillment of requirements
for the degree of

DOCTOR OF EDUCATION

in Curriculum and Instruction

in the Department of Curriculum and Instructional Technology
of the College of Education

May 2006

Maura C. Schlairet

MSN, Valdosta State University, 1997
BSN, Valdosta State University, 1995
RN, Mount Carmel Hospital School of Nursing, 1981

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This dissertation, "Survey of Nurses' Educational Needs Related to End of Life Care", by Maura C. Schlairet, is approved by:

**Dissertation
Committee
Chair**

Mark J. Fenster, Ph.D.
Assistant Professor of Educational Leadership

Committee Member

Chet Ballard, Ph.D.
Professor and Head of Sociology, Anthropology, and Criminal Justice

Ellen W. Wiley, Ed.D.
Professor of Curriculum and Instructional Technology

Susan J. Wold, Ph.D., RN
Professor of Nursing

**Dean of the College
of Education**

Philip L. Gunter, Ph.D.
Professor of Special Education and Communication Disorders

**Dean of the
Graduate School**

Brian U. Adler, Ph.D.
Professor of English

ABSTRACT

A decade after release of the landmark Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatment, improvements in end of life (EOL) care are apparent. Notwithstanding an improved dialogue focused on EOL care, evidence suggests persistent shortcomings in our ability to meet the needs of the dying. Registered Nurses must possess the knowledge/skill to assist patients/families in managing health across all stages of life, including the EOL phase. A significant proportion of practicing nurses have not received formal EOL care education. Of further concern, deficiencies in existing formal EOL care education have been well described. Insufficient information exists on specific EOL care educational needs of practicing RNs. Few surveys exploring educational needs of nurse generalists have been available and no large-scale utilization of any one instrument has been identified. To aid in development of EOL continuing education (CE) for RNs, a survey was designed to explore nurses' EOL care attitude/belief, knowledge/skill, education, and learner characteristics. The survey was published in a state nurse association newspaper and mailed to all RNs in one southeastern state. A Web-based version of the survey was also available. The accessible population consisted of 51,000 licensed RNs. Return of 567 surveys, primarily via the Web, resulted in a response rate of 1.1%. Reliability was assessed with calculation of coefficient alpha of 0.96 across survey sections. The majority of respondents had neither formal EOL education nor prior EOL CE. Yet, nurses held positive attitude/belief toward EOL care and the majority desired EOL CE. *T*-tests revealed nurses with prior EOL CE scored significantly better than nurses without CE across all survey subsection; nurses who received formal EOL instruction during initial nursing education failed to score

better on objective EOL knowledge/skill questions than nurses without formal EOL education. MANOVAs identified a similar counterintuitive pattern. Bimodal distributions were observed in analyses of “workplace appropriateness” and “desire for education” scores across 23 EOL care topics. Chi-square analyses revealed significant contributions of EOL attitude/belief, prior EOL CE, and objective EOL knowledge/skill toward positive views on EOL workplace appropriateness and desire for EOL education.

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ACKNOWLEDGMENTS

I would like to acknowledge the following individuals for their assistance and support with this research:

Dr. Chet Ballard, Dr. Ellen Wiley, and Dr. Susan Wold for serving on my Committee and providing insight, thoughtful review, valuable feedback, and encouragement with this research.

Dr. Carol Sapp, Ms. Cindy Balkstra, and other officers and executives of the Georgia Nurses Association who allowed me to partner with them in their tireless professional efforts to serve the RNs of the state and the patients they care for. The state's RNs are fortunate to have leaders of such caliber.

Mr. Mark Swift who graciously programmed my *End of Life Care—Education Needs Survey* into an Active Server Page, thus making the survey available on the World Wide Web and allowing Web-based data collection and data base archiving.

My Chair, Dr. Mark Fenster, for his unparalleled expertise and contagious enthusiasm for research. With an ability to ignite a spirit of inquiry, considerable skill in teaching the demanding research domain, and willingness to share his time, he provided exemplary modeling of the scholarship and service components of the faculty role. Fenster, well done; just as I expected!

My husband, Dr. Timothy J. Schlairet, for his unwavering support, encouragement, and personal sacrifice that allowed me to fulfill this professional goal. No one could have done more! If not for Taylor, Brooke, and T.J., who were uncomplaining and understanding kids through this all-encompassing process, I might have forgotten that the world continued to turn while I was working on my dissertation!

DEDICATION

In loving memory of Patty Goss; your crossing helped me learn more about the journey.

CHAPTER I

Introduction

Significant concern exists amongst policy agents, healthcare professionals, researchers, and the general public over the present state of end of life (EOL) care across the nation. In part, these concerns have resulted from a changed profile of Americans, changes in *how* people die (Ferrell, 1999), and reported deficiencies in existing care for the dying.

Recognizing that registered nurses (RNs) spend more time with the dying than any other healthcare professional (Baggs, 1993; Murray-Frommelt, 1991; Fakhoury, 1998), it is not surprising that inquiry about issues of EOL care delivery focus largely on the contribution of nursing care in the overall provision of exemplary EOL care. To gain an accurate understanding of essential attitudes, knowledge, skill, and core competencies nurses must possess to promote excellence in the delivery of EOL nursing care, there must also be a general understanding of nurses and needs assessment, nursing education and continuing education, professional organizations and professional development, and a detailed description of the existing state of EOL care in America.

Overview

A dramatic increase in the percentage of elderly Americans (Federal Interagency Forum on Aging-related Statistics, 2004; Field & Cassel, 1997) has contributed to significant changes in society. Rushton, Sabatier, and Gaines (2003) observed improvements in nutrition, sanitation, cardiopulmonary resuscitation, and disease

detection and treatment, along with the development of vaccinations, antibiotics, preventive medicine, and technological advances have contributed significantly to increased longevity. The appearance of dying in America has been changing as well—from one of acute, often infectious processes and a rapidly ensuing demise, to that of chronic, incurable, progressive illness that eventually culminates in organ failure and death (Teno, McNiff, & Lynn, 2001). Steinhauser, Clipp et al. (2000) observed the changing trends associated with these processes has resulted in a dramatic shift in the culture of death in the 20th century—a shift that has profound implications for EOL care.

Although Field and Cassel (1997) argue for the “compression of morbidity hypothesis”—improvements in nutrition, diagnosis of disease, and preventive medicine resulting in people experiencing disabling conditions for a smaller percentage of the years before death—the absolute number of dying patients in America will grow significantly over the next few decades (p. 261). The population of seniors in the United States is projected to double over the next 30 years, rising to 69 million by 2030. Of the nation’s baby boomers, one in nine is expected to live to age 90; in 2040 there will be four times the number of people over the age of 85 as there were in 2003 (Jennings, Ryndes, D’Onofrio, & Baily, 2003). National data from 2002 suggested that almost 10% of Georgia residents were age 65 or over (Federal Interagency Forum of Aging-Related Statistics, 2004).

Other changes in the patient population and the healthcare system have contributed to evolving concerns about EOL care. The increasing incidence of chronic diseases, a shortfall of caregivers (Last Acts National Coalition, 2002; Oncology Nursing Society, 2002; Reb, 2003), a limit in cancer care resources, heightened acuity amongst

greater numbers of frail patients with increased comorbidity and disability, increased family mobility and isolation (Rudberg, Teno, & Lynn, 1997), and an escalation of healthcare costs (Picket, Cooley, & Gordon, 1998) conspire to negatively affect the provision of expert, compassionate EOL care. In fact, some view national legislation on euthanasia and assisted suicide as evidence of a society-wide dissatisfaction and angst associated with EOL care as it is currently being delivered in America (Ferrell, 1999).

Dying has been described as a biologic process as well as a social and psychological experience that unfolds within a particular cultural milieu, and it has been suggested that, “Dying is far harder than it should be” (Field & Cassel, 1997, p. 259). According to Teno et al. (2001), the types of needs created for the dying by such a complex phenomenon are too important to ignore; preliminary recommendations for accountability in EOL care are warranted. A senior communications officer of the Robert Wood Johnson Foundation (RWJF), commenting on people’s perceptions of “bad deaths” as experienced by their loved ones, noted, “Everyone interprets the (bad) experience as a totally idiosyncratic confluence of disease, personality, doctor, and so on. They don’t see it as reflecting systemic issues. But it is” (Bronner, 2003, p. 4). This type of thinking often results from a fundamental lack of information on the EOL phase of life and a misunderstanding of tenets of EOL care.

In a discussion of both the public’s and health care professionals’ ignorance of EOL educational initiatives funded by the RWJF, experts observed the notion of a *good death* has salience only after a loved one has died—most people don’t want a good death they want a cure (Weisfeld, Miller, Gibson, & Schroeder, 2000). Society’s ambivalence about dying has, “led to a system of care for the terminally ill that allows us to indulge

the fantasy that dying is somehow optional” so that we now have a, “medical system for the dying that is as ambivalent about dying as we are ourselves” (Henig, 2005, p. A4).

Considerable efforts have begun to address some of the shortfalls observed in EOL care. In fact, most clinicians and policy agents view the provision of EOL services as a moral imperative. For example, the American Geriatrics Society (1995) observed EOL patients must have access to interdisciplinary EOL care (IDC) across the spectrum of care settings—not limited only to traditional EOL care settings like oncology units and hospices.

Some believe EOL care in the US has arrived at a point where assessment of quality and determinations of accountability have come to the fore. Jennings et al. (2003) observed, “For our moral identity is nowhere better tested and tempered than in the respect and care we show to those in the twilight of life” (p. S13). Fortunately, the importance of research and the development of a strong evidence base to support EOL care have been recognized (Hughes & Addington-Hall, 2005) and represent an important component of modern EOL care (Jubb, 2002; Saunders, 2003). In fact, since 1997, considerable attention in the form of research initiatives has been focused on improving EOL care in the U.S., to include collaboration amongst agencies within the U.S. Department of Health and Human Services such as the National Institute of Nursing Research and the National Institutes of Health (Knebel, 2004).

As a profession, and at all levels, nursing has begun to address critical needs associated with EOL care. It has been observed that nurses spend more time with the dying than any other healthcare professional (Baggs, 1993; Murray-Frommelt, 1991; Fakhoury, 1998). Rushton et al. (2003) viewed EOL care as a core competency for all

RNs. A 1997 Institute of Medicine report on EOL care observed, “Nurses are expected to have sufficient knowledge to care for patients during all life stages, including dying” (Field & Cassel, 1997, p. 228) and practitioners must hold themselves and their colleagues responsible for meeting the complex needs of the dying. Simmonds (1996) provided evidence of this notion, finding that nurses believed that it was their responsibility to assure patients experienced calm, pain-free, peaceful deaths. Thompson, Cullum, McCaughan, Sheldon, and Raynor (2004) corroborated this view of responsibility from other perspectives noting, “Nurses are increasingly regarded as key decision makers within the healthcare team. They are also expected to use the best available evidence in their judgments and decisions” (p. 72).

In the Report of the Special Subcommittee on the Management of Acute and Terminal Pain (Joint Committee on Health Care, 1997) it was noted that at the core of the clinicians’ professional commitment, rests the ethical obligation to relieve patients’ suffering. The Code of Ethics for Nurses operationalized this duty stating, “Nurses are required to have knowledge relevant to the current scope of nursing practice, changing issues, concerns, controversies, and ethics” (American Nurses Association [ANA], 2001, p. 24). Nurses play an important role in EOL care since RNs are the key to quality and capacity in EOL care as the roles filled by nurses run the entire spectrum of the health care system and nurses perform essential functions throughout all aspects of patient care (Health Care Workforce Policy Advisory Committee, 2003).

In 1997 the International Council of Nurses drafted a mandate stating, “Nurses have a unique and primary responsibility for ensuring that individuals at the EOL experience a peaceful death” (Ferrell, 1999, p. 33). Field and Cassel (1997) advanced a

reasonable call for, “basic grounding” (p. 269) in EOL care for all clinicians who deal directly with patients and families. Sadly, in a 2004 statement emerging from the National Institutes of Health (NIH), it was noted, “Little evidence was provided regarding the experiences of professional caregivers at the EOL” (NIH, 2004, p. 13). Clearly, despite nurses’ strong sense of professional responsibility in the delivery of exemplary care for the dying, comprehensively addressing systemic EOL care issues (Bronner, 2003) extends well beyond the level of the individual nurse.

In view of such findings, this research effort, to better identify the specific EOL care educational needs of nurse generalists utilizing a cross-sectional survey, represents the logical next step that might add meaningfully to the state-level and national dialogue focused on improving EOL care for all.

Aims

To better identify the specific EOL nursing care learning needs of practicing nurses, the primary aim of this study was the development of a data-driven, descriptive analysis of the educational needs of Georgia’s nurses related to provision of care for the dying. This analysis, based on a survey research approach, was conducted to support the Georgia Nurses Association’s (GNA) comprehensive understanding of the needs of the state’s nurses in relation to ongoing professional development. It was hoped that this tacit understanding would allow the GNA to design targeted continuing education initiatives to improve the provision of EOL care across the state. The Institute of Medicine, in the most recent report on dying, called explicitly for surveys of health care providers on EOL care from these professionals’ perspectives (Lunney, Foley, Smith, & Gelband, 2003). In a 2004 report on key indicators of well-being amongst older Americans, the Federal

Interagency Forum on Aging called specifically for additional state-level data related to the health and healthcare needs of older populations to promote accurate assessment and planning for the requirements of the aging populous (Federal Interagency Forum on Aging-Related Statistics, 2004).

From a wider perspective, as described by Rudestam and Newton (1992), an additional aim of this study was to contribute to the existing body of scholarly work devoted to the identification of educational needs amongst practicing nurses in relation to the provision of EOL care. Although surveys exploring these needs have been developed, to date no comprehensive instrument exploring EOL care needs amongst nurse generalists has been developed or widely implemented in the United States or the United Kingdom. Few instruments have simultaneously addressed EOL attitudes/beliefs, subjective and objective knowledge/skills, learning styles and preferences, workplace relevancy of EOL care, workplace support for continuing education, learner goals and educational barriers, knowledge/skill self-ratings across EOL topical areas, desire for specific EOL education across topical areas, an array of demographic data, and “open-ended” responses about specific topics they deemed necessary for the provision of EOL care. Describing the potential challenges of dealing with data related to EOL patients and care issues, the authors of a 2003 Institute of Medicine report on dying in America noted, “Clearly, some early pilot studies will have to use tools that are not validated, but one aim of that type of research will be to learn about the tools and determine whether they can be used widely” (Lunney et al., 2003, p. 54).

Goals

One goal of this study was to assess the EOL attitudes/beliefs, EOL knowledge/skills, and prior EOL education/training of nurses in Georgia. Although the literature suggested that aspects of EOL nursing care had been evaluated (Field & Cassel, 1997; Foley & Gelband, 2001; Last Acts National Coalition, 2002; NIH, 2004; SUPPORT Principal Investigators, 1995) and nursing curricula and specific educational initiatives had been developed to address nurses' apparent EOL care deficits (American Association of Colleges of Nursing [AACN], 2002; Bronner, 2003; Rushton & Sabatier, 2001), little is known about the specific EOL care knowledge, skills, and prior EOL education of nurse generalists' currently in practice.

A second goal was to describe nurse generalists' learning characteristics and preferences. The literature suggested that a variety of barriers affected learning related to EOL care (Ferrell, 1999; Kirchoff & Beckstrand, 2000; Rooda, Clements, & Jordan, 1999) and these must be identified and managed. Additionally, learning theory, as it pertains to adult learners, has suggested that the unique goals and desires of adult learners influence their learning outcomes and should thus be utilized to best shape educational offerings and opportunities (Bowden & Merritt, 1995; Brookfield, 1984; Burns, 1995; Cranton, 2000; Rogers, 2002; Van Tilburg & Moore, 1989).

A third goal was to identify nurses' EOL educational needs. Although a general call for improvements in EOL care education has been sounded (Bradley et al., 2001; Ferrell, 1999; Field & Cassel, 1997; Hilden et al., 2003; Kazanowski, 1997; Meier, Morrison, & Cassel, 1997; McPhee, Rabow, Pantilat, Markowitz, & Winder, 2000; Reb, 2003) the specific educational needs of nurse generalists have not been clearly delineated.

No existing comprehensive instruments exploring EOL care educational needs could be identified. Few large-scale (e.g., state-wide) surveys of nurse generalists' educational needs could be located, and those few studies identified suffered from low response rates (Brown & Timms, 2004; Marra, 1999).

A fourth goal was to examine potential relationships between nurses' characteristics, educational needs, and EOL attitudes/beliefs/knowledge/skills. It has been suggested that EOL care education presents unique challenges for both students and educators alike (Sweeney & Bruera, 2001). A complex array of variables contributes to an individual's ability to honestly and accurately self-assess clinical knowledge and skills—especially in emotionally laden situations (e.g., death and dying) that often present themselves as clinical crisis events. Hypothesis testing was used to explore relationships between nurses' participation status on prior EOL care education (i.e., formal EOL education during initial nursing education or EOL care continuing education) and EOL care attitude/belief along with knowledge/skill.

Additionally, the researcher sought to determine the utility of a survey instrument, the *End of Life Care—Educational Needs Survey*, for the purpose of identifying EOL care educational needs amongst nurse generalists in other settings. Information on reliability of measurement and validity of resultant inferences was sought to better understand the potential value of additional survey development efforts and ongoing utilization of the instrument.

Justification

Justification for this study was grounded in the belief that for those who are dying, a profound and universal experience, the goal of a experiencing a good death—as

free as humanly possible from pain and suffering, aligned with personal values and desires, and rational in consideration of ethical standards and social resources—must be possible (Jennings et al., 2003; Lunney et al., 2003). “If dying includes everyone within its ambit, our society’s care giving response to dying should be no less inclusive” (Jennings et al., p. 44).

EOL care is clearly a part of the most basic healthcare services, standing perhaps as a moral imperative (Jennings et al., 2003), yet far too many people traverse the end of life phase and approach death without adequate medical, nursing, social, and spiritual support. These unmet needs may render the dying unable to finish the “existential tasks” aligned with the affective dimensions of dying (Jennings, 1997, p. 120). Dying badly is a social problem—a failure at the social level to adequately attend to and provide for the needs of patients in their most vulnerable moments (Jennings et al.). Kathleen Foley, the Director of the Project on Death in America and co-editor of the 2001 Institute of Medicine report on EOL care observed, “There are no villains in this piece but ourselves and our culture. Public institutions and policymakers reflect dominant societal values that still deny dying and death” (Foley & Gelband, 2001, p. 10).

Jennings et al. (2003) describe dying as, “The ultimate private event, but it is also a profound social event; the community is automatically and inherently involved” (p. S13). Sulmasy (2003) noted the processes inherent in the provision of compassionate EOL care result in “rebound” that contributes substantially to the common good—all are benefited when the dying are well cared for. He goes on to posit we owe all members of society, out of respect for our common dignity, the gift of a reasonably good death (Sulmasy).

McPhee, Rabow, Patilat, Markowitz, and Winker (2000) noted, “One of the greatest gifts in confronting death is the perspective it offers about living life” (p. 2513). Along with Sulmasy’s (2003) notions of the common good, Pierce (1999) suggested that on the individual level, moments shared with family members while tending to the needs of their dying make for lasting memories. In relation to EOL care shortfalls, from every perspective, the “cost of forming bad impressions is totally non-recoverable” (p. 13).

Meleis (1997) notes the “open system” feature of nursing suggests the profession, and nurses on an individual level, must at all times be aware and responsive to the needs of society. Yet, research suggests that nurses, along with other healthcare professionals, acknowledged, “Having acted contrary to their consciences” in EOL care, “mostly by providing overly burdensome treatment to the dying” (Solomon et al., 1993, p. 18).

Nonetheless, progress toward improved EOL care has been at the fore of the profession’s agenda. Nursing’s pivotal role in improving EOL care was solidified when the National Institute of Nursing Research (NINR) was selected the lead organization within the NIH for EOL research (NINR, 2002). In 2004, speaking as the director of the NINR, Patricia Grady noted that increasing the quality of EOL care remained at the heart of the Institute’s research agenda (Kennedy, 2005). This goal was identified earlier in an Institute of Medicine report describing dying in America (Lunney et al., 2003), in which experts called for research on, “Valid indicators of variables and constructs that are important to good EOL care” (p. 12).

Discussing directions for doctoral research in 2005, Sharts-Hopko observed that inquiry must be attentive to current healthcare needs and focused on effective teaching and learning in nursing to support healthcare patterns emphasizing short stays,

community-based services, and family caregivers—the hallmarks of EOL care. Looking forward to 2006, the NINR continues to target research on EOL care and identifies the provision of EOL care in rural and frontier areas as critically important (NINR, 2005). Although several challenges exist for researchers exploring EOL issues (Lunney et al., 2003; Sweeney & Bruera, 2001), inquiry focused on educational preparation for nurses takes on greater importance viewed from the perspective of a deepening nursing shortage (Sharts-Hopko). Understanding these foci and the current healthcare delivery milieu, the Institute of Medicine's (Lunney et al.) call for smaller, focused explorations at the local level, as compared to inquiry at the national level, becomes exceedingly clear.

Definition of Terms

Definitional clarity related to terminology associated with the dying has been lacking (Meir, 2003; NIH, 2004). The literature describing compassionate, comprehensive healthcare associated with the final stages of life commonly utilizes terminology such as *end of life care*, *palliative care*, and *hospice care*. The interchangeability of these terms in research and practice settings represents a barrier to inquiry and research focused on EOL care improvements (NIH, 2004). Generally, the key processes of EOL care include (a) identification and communication of diagnosis and prognosis, (b) the institution of goals and plans, and (c) the shaping of EOL care to these goals (Field & Cassel, 1997). In this study, the phrase end of life care will be used as an overarching descriptor for the delivery of comprehensive, comfort and support services managed by an IDC team, addressing the physical, emotional, existential, psychological, spiritual, social, financial, and legal needs of dying patients and their families (Last Acts National Coalition, 2002). These services could be accessed and/or provided within a

hospice care or palliative care framework. To provide a deeper understanding of these and other terms used in this study, the investigator provides the following definitions.

Adjuvant medications	Non-opioid drugs without intrinsic analgesic effect, capable of producing analgesia in specific situations (Bruera & Kim, 2003).
Advance directives	Documents that record a competent individual's medical treatment preferences should the individual become unable to make medical care decisions in the future. Two common types of advance directives are the <i>durable power of attorney</i> and the <i>living will</i> (Janofsky & Rovner, 1993; Suri, Egleston, Brody, & Rudberg, 1999).
Advanced beginner nurse	Practitioners with marginally acceptable performance who are independent in some aspects of practice. <i>Dryefus skill acquisition model</i> level No. 2 (Benner, 2001; Robinson & Barberis-Ryan, 1995).
Advanced practice nurse	“The advanced practice nurse is an umbrella term given to an RN who has met advanced educational and clinical practice requirements beyond the 2 - 4 years of basic nursing education required of all RNs. Under this umbrella fall four principle types of advance practice: Nurse Practitioner, Certified Nurse Midwife, Clinical Nurse Specialist, and Certified Registered Nurse Anesthetist” (ANA, 2005a, ¶4).
Competence	A multidimensional phenomenon. “The totality of the knowledge, skills, and abilities required for professional practice” (American Academy of Physician Assistants, 1996, ¶2).
Continuing education	Educational initiative designed to help professionals provide higher quality service to clients by improving their knowledge, competence, or performance (Cervero, 1989).
End of life (EOL)	The final phase of a progressive illness, for which there is no treatment that can substantially alter the outcome, which is expected to culminate in death (American Geriatrics Society, 1995).

Evidence-based practice	The integration of individual clinical expertise with the best available data generated from systematic research efforts (Sackett, McRosenberg, Gray, Haynes, & Richardson, 1996). A systematic approach to clinical problem solving (Pravikoff, Tanner, & Pierce, 2005).
Expert nurse	Practitioner who is masterful in problem-solving, has an intuitive grasp of clinical situations, and operates from a deep understanding of the total situation. <i>Dryefus skill acquisition model</i> level No. 5 (Benner, 2001).
Good death	Process-oriented attributes include: pain and symptom management, clear decision making, preparation for death, completion, contributing to others, and affirmation of the whole person. Each of the six themes has biomedical, psychological, social and spiritual components (Steinhauser et al. 2000).
Hospice	A coordinated program provided by an IDC team offering comfort and support services that addresses the physical, emotional, psychological, spiritual, financial, and legal needs of EOL patients and their families (Last Acts National Coalition, 2002). The term is simultaneously used to denote a philosophy or concept of care, as well as an organizational format for delivery of EOL services limited to the final six months of life (Jennings et al., 2003; Picket et al. 1998).
Interdisciplinary care	Care of complex patients that intertwines the skills of several disciplines (e.g., nurse, social worker, physician, clergy, physical therapist, pharmacist) to promote the best patient outcome (Latimer, Kiehl, Lennox, & Studd, 1998).
Nursing	“To assist the individual, sick or well, in the performance of those activities contributing to health or its recovery, or to a peaceful death, that he would perform unaided if he had the necessary strength, will, or knowledge” (Henderson, 1961, p. 2).
Novice nurse	A beginning practitioner with no experience of the situations in which they are expected to perform. <i>Dryefus skill acquisition model</i> level No. 1 (Benner, 2001).

Nurse generalist	Nurse who does not hold an advance practice degree or advanced clinical certification. Nurse who does not identify him/herself as having special training or expertise in a unique clinical area.
Pain management program	A formal program educating staff on management of chronic and acute pain according to accepted guidelines (Last Acts National Coalition, 2002).
Palliative care	A form of comprehensive management of the physical, psychological, social, spiritual, and existential needs of patients that is uniquely suited to the care of people with incurable, progressive conditions (Last Acts National Coalition, 2002). The active total care of patients, at any point in their illness, whose disease is not responsive to curative treatment (World Health Organization, 1990a).
Quality EOL care	The care of the dying, directed toward achieving the best quality of life for the patient and his or her loved ones (World Health Organization, 1990b).
Quality of care	The degree to which healthcare that is consistent with current professional knowledge increases the likelihood of desired health outcomes (Field & Cassel, 1997).
Quality of life	A subjective state or experience—a multidimensional construct encompassing the dimensions of functional status, spirituality, physical symptoms, social functioning, and emotional functioning (Pickett et al., 1998).
Web-based survey	HTML form-based survey data collection method through a self-administered series of questions on the Internet (Dillman, 2000; Solomon, 2001).

Theory

Induction

The concept of induction frames this research inquiry and is frequently associated with qualitative research (Newman, Ridenour, Newman, & DeMarco, 2003); yet, “It is in principle as relevant to quantitative and mixed methods approaches” (Newman et al., p.

428). Inductivist research models begin with the collection of empirical observations and follow with development of general rules, so that the context of discovery can lead to logical reasoning, “That can be made subject to methodological reflections” (Newman et al., p. 465). Detailed descriptive data form the basis for an inductive analysis, so that theory is developed to explain the data (Locke, Spirduso, & Silverman, 1993). Johnston and Pennypacker (1980) noted that inductive approaches result in the identification of facts that are foundational in empirical approaches toward understanding phenomena. Furthermore, the discovery of a unifying tenet from amongst a set of diverse observations resulting from an inductive approaches “Is always a major event in science” (Locke et al., p. 30).

Paradigm

The research paradigm employed in this work could be viewed as, “Under the generic umbrella of qualitative research” (Locke et al., 1993, p. 98), although experts voice differing opinions as to the appropriate labels associated with descriptive and exploratory projects. For example, Locke et al. and Miller (2003) explicitly labeled work similar to the present research as *quantitative exploratory studies*. Both paradigms have been identified as appropriate for research designed to understand phenomena and to generate new ideas (Newman et al., 2003). Locke et al. defined qualitative research as, “A systematic, empirical strategy for answering questions about people in a bounded social context” (p. 99). In the present study, the focus is on nurses’ self-assessments of knowledge, skill, attitude, competency, and overall ability. These are nurses’ expressed realities. Understanding these realities was essential to answering the underlying research

question, “What’s going on here?” (Locke et al., p. 99). In this way, the question posed in the present work and the selected research paradigm was well aligned (Newman et al.).

Typology

Newman et al. (2003) categorized the typology of research purpose for inquiry similar to the present research, as one designed to understand complex phenomena and to generate new ideas (e.g., to explore phenomena) and noted categories of research purpose often overlap. Some view descriptive and exploratory research as one in the same (Fawcett & Downs, 1992).

Exploration

Exploratory research, a nonexperimental design, supports the identification and description of phenomena under study and is useful in early stages of inquiry when little is known in relation to a topic (Talbot, 1995). Both qualitative and quantitative designs, and their associated methodological goals, are aligned with exploratory research projects (Talbot). Additionally, both qualitative and quantitative techniques can be used to gather descriptive data (Talbot). Exploratory designs may be used to uncover relationships between variables (Talbot). Although exploratory and descriptive research designs are advantageous during preliminary research on a topic (e.g., variable identification and hypothesis generation), the obtained information is limited and the strength of the design in establishing causal relationships or inferring causality has been described as “weak” (Shadish, Cook, & Campbell, 2002; Talbot,).

Description

Descriptive research, also nonexperimental in nature, promotes a systematic description of phenomena and is useful when a phenomenon has been identified, but little

else is understood about it (Martella, Nelson, & Marchand-Martella, 1995; Talbot, 1995). Qualitative and quantitative designs, and associated methodological goals, are also aligned with descriptive research projects (Talbot). Qualitative and quantitative techniques can be used to gather these types of data; questionnaires (e.g., surveys) are often utilized in descriptive approaches (Fawcett & Downs, 1992; Locke et al., 1993; Talbot). Descriptive designs may be used to examine relationships between variables (Talbot). Martella et al. noted descriptive research is often considered to be qualitative; however, descriptive research can also be considered as quantitative depending on the data collection format employed (e.g., questionnaires or surveys).

Survey

The present inquiry could also accurately be described as survey research. Surveys are often used to describe particular populations with the goal being the identification of members' characteristics, attributes, or traits (Martella et al., 1995). Fawcett and Downs (1992) observed surveys can, "Develop accurate descriptions of an intact phenomenon, such as attributes, attitudes, knowledge, and opinions" (p. 8). Surveys are also used to explain phenomena and explore relationships amongst variables of interest (Martella et al.).

Learning Styles

From the adult education perspective, *Kolb's learning styles model* and *experiential learning theory*, have been influential in supporting much work in the area of adult learning (Brookfield, 1995). Considered seminal work, Kolb's notions of four distinct learning styles or preferences, are the result of choices a student makes as learning experience are *grasped* (e.g., student's preference to *do* or *watch*) and then

transformed (e.g., preference to *think* or *feel*) into something meaningful and usable (Kolb & Chapman, 1995). Thus the adult learner will be able to maximize learning opportunities when curriculum designers collect data reflecting students' desires for concrete experiences vs. abstract conceptualizations and requirements for reflective observation opportunities vs. active experimentation. Data of these type support curricular designs that are oriented according to the preferred learning styles of the target audience (Kolb & Chapman).

Competency Assessment

The notion of professional competence has evolved to represent, “the totality of the knowledge, skills, and abilities (competencies) required for professional practice” (American Academy of Physician Assistants, 1996, ¶ 2). A competency or proficiency assessment framework provides one element of support for the professional model of nursing practice. Such assessment frameworks promote appropriate staffing assignments in the clinical setting, development of long and short-term workplace goals, identification of professional educational needs, and allocation of resources for educational initiatives (Robinson & Barberis-Ryan, 1995).

Joint Construct

Although Rogers (1989) noted, “Most professional qualifications are heavily biased toward knowledge rather than skill, the medical profession notoriously so” (p. 50), in this study, clinical competency arising from knowledge and skill was measured as a joint construct. This approach has been suggested for assessment in the medical professions (Neufeld, 1985; Willis & Dubin, 1990) and supports the belief that the measure of a phenomenon is dependent on its conceptualization and definition (Kuhn,

1970). Elman and Lynton (1985) noted professional knowledge includes three components that described the relationship between knowledge and skills as a continuum (e.g., basic knowledge, applied knowledge, and skills), supporting measurement of the two as a joint construct.

Assessment Framework

The widely utilized Novice to Expert Scale is one assessment framework utilized to support the listed activities. The *Dreyfus skill acquisition model* (Dreyfus & Dreyfus, 1986; Robinson & Barberis-Ryan, 1995), providing an assessment continuum for competency extending from novice to expert, has been refined and widely applied to nursing practice (Benner, 1982, 1984, 2001; Shulman & Lovejoy, 2004). In the model, students pass through five levels of proficiency in the processes of skill acquisition and development: *novice*, *advanced beginner*, *competent*, *proficient*, and *expert* (Benner; Dreyfus & Dreyfus). The different levels represent points on a continuum of improvement in skilled performance. In this study, the novice to expert framework was initially utilized in the *End of Life Care—Educational Needs Survey* allowing respondents to self-rate their overall skill and knowledge in the delivery of EOL care and to rate their knowledge/skill level across specific EOL topical areas.

Common Meaning

Benner (2001), widely recognized in nursing for her novice to expert work, observed that little was known about the knowledge that accrued over time in the practice of the applied discipline of nursing. This knowledge, embedded in actual nursing practice, or *practical knowledge* Benner described, was a requisite for the development of expertise (e.g., level 5 of the *Dreyfus skill acquisition model*). Yet, Benner claimed that

the difference between *theoretical knowledge* and practical knowledge, or *know-how*, has been poorly understood in nursing.

Expertise in nursing develops when the nurse, “tests and refines propositions, hypotheses, and principle-based expectations in actual practice situations” (Benner, 2001, p. 3). This kind of clinical knowledge grows over time, therefore nurses need strategies to help them extend and refine this knowledge. Developing *common meaning*, one of six areas of practical knowledge identified by Benner, allows nurses working in different situations with common issues, like death, to develop universal meanings about responses, options, and coping. “These common meanings evolve over time and are shared among nurses. They form a tradition” (Benner, p. 6). A foundation of EOL care knowledge, skills, and competencies, that begins as an essential element of nursing education and extends and evolves over time in actual practice situations, is well represented by Benner’s notions of common meaning. “There is much to learn and appreciate as practicing nurses uncover common meanings acquired as a result of helping, coaching, and intervening in the significantly human events that comprise the art and science of nursing” (Benner, p. 12).

Previous Research

Few studies exploring the EOL care education needs of nurse generalists, across an entire state, could be found. In South Carolina, a neighboring southeastern state, Brown and Timms (2004) surveyed members of the South Carolina Nurses Association (n = 1,100) with a brief, self-designed survey to explore nurses generalists’ perceptions, knowledge and attitudes on EOL issues. Generating 382 responses (35% response rate), the survey revealed 80% of respondents were comfortable discussing death/dying, 65% to

68% were knowledgeable about advance directives, and 58% to 62% were knowledgeable about EOL care.

Marra (1999) described a RWJF supported project—this one orchestrated by the West Virginia Initiative to Improve EOL Care—exploring EOL care issues amongst nurse generalists. A random sample (n = 588) of West Virginia nurses received the survey; 190 returns resulted in a response rate of 32%. Seventy-two percent of the sample reported receiving one to two weeks of EOL experience during educational preparation. Respondents rated the overall quality of EOL care in West Virginia at 2.5 on a 5 point scale (*1 = poor* and *5 = excellent*). Barriers to quality EOL included a “lack of health care provider education” prompting the author to call for improved educational efforts related to EOL care for clinicians (Marra).

During 1993 Becker, Chesley, and Miller (1994), in an effort to identify continuing education (CE) priorities in oncology nursing care, surveyed a stratified random sample of nurse generalists across Texas (n = 3,714). The investigator-designed survey, consisting of 61 topics categorized into seven subscales (e.g., cancer prevention/detection, nursing management, psychosocial issues, treatment modalities, symptom management, education, and other topics), was completed and returned by 378 nurses with a resultant response rate of 10% (Becker et al.). Overall, data suggested that 67% of nurses perceived a *moderate* need for education and nurses self-rated their existing skills in all oncology topics, other than *grief, loss, and dying* as *moderately low*. The authors noted, irrespective of practice setting or institutional or community-related variables, Texas nurses expressed great need for EOL CE, especially in clinical areas (Becker et al.).

Focusing again on nurse generalists and utilizing *The Educational Needs Survey*, Meraviglia, McGuire, and Chesley (2003), further refined their earlier survey (Becker et al., 1994) and included new items to assess needs for EOL education on symptom management and culturally sensitive emotional and spiritual support for EOL patients. In 2000 the survey was mailed to a randomly selected sample of Texas nurse generalists (n = 4,227) and returned by 352 participants for a response rate of 8.3%. Investigators found a significant proportion of nurses rated their EOL care knowledge level as *poor* or *fair* across the 20 cancer nursing topics (e.g., pediatric cancer [85%], clinical trials [79%], genetic issues [78%], EOL care [66%], and pain management [62%]). Findings suggested cancer care and EOL care CE programs should be developed with an awareness of nurses' expressed learning needs and interest in educational topics (Meraviglia et al.).

Availability of Data

The president and the chief executive officer of the GNA, along with the chair of the Association's Commission on Nursing Practice (CNP), granted permission to the researcher to collect, archive, and analyze data on EOL care educational needs of the state's nurses through utilization of the GNA's communication instruments (e.g., GNA Website and GNA quarterly newsletter) and an investigator-designed, anonymous survey instrument.

Limitations

The results of this study are limited to nurses who responded to the EOL care survey. Although the nurse respondents in this work may be similar to other RNs in Georgia, and/or RNs in other states, the results are not necessarily generalizable.

CHAPTER II

Literature Review

Chapter 2 serves as a literature review, and is divided into the following sections:

- registered nurses,
- the state of EOL care,
- the state of EOL care nursing education,
- studies of nurses' educational needs related to EOL care,
- the role of professional organizations in EOL education,
- continuing education for nurses,
- educational needs assessment, and
- utilization of a Web survey.

Registered Nurses

Population

The provision of and the context for healthcare, including EOL care, in the U.S. can not be considered without an understanding of the current status of nursing. Data from the 2000 National Sample Survey of Registered Nurses supplied by the U.S. Department of Health and Human Services (USDHHS, 2001a) revealed a considerable amount of information on the nation's 2.7 million licensed RNs. Seven percent of all nurses practice in at least one advanced practice role, employed as either a nurse practitioner, clinical nurse specialist, nurse mid-wife, or nurse anesthetist. Roughly 82% of nurses are employed in nursing; of these, 72% are employed full-time. The average

age of the RN population was 45 years, only 5.9% of nurses were male, and 87% were white (non-Hispanic).

Shifts in the educational preparation for nurses have been noted over the last 20 years to include a reduction of 33 percentage points in the number of diploma graduates, an increase of 21 percentage points in the number of associate degree graduates, and an increase of 12 percentage points in number of baccalaureate graduates (USDHHS, 2001a). In 2000, 19% of the RN population stated they had completed some form of additional nursing education. In data reflecting the highest nursing education attained, 22% of nurses held diplomas, 34% held associate degrees, 33% earned baccalaureate degrees, and 10% reported having a master's or doctorate (USDHHS).

Employment setting data suggested 59% of nurses were hospital-based (USDHHS, 2001). The national average yearly salary for a hospital staff nurse was \$47,759 in 2000 (GNA, 2005). The United States continues to experience a severe shortage of nurses; approximately 126,000 nursing jobs went unfilled during 2000 (Steinbrook, 2002). The deficit is projected to grow to 400,000 RNs by the year 2020 (Joint Commission on Accreditation of Healthcare Organizations, 2002).

Consistent with the tenets of a profession, a variety of professional organizations represent nurses at both the state and national levels. The ANA, a professional association with a current membership of 150,000 nurses (Danielle Steele, personal communication, May 16, 2005), fosters excellence in nursing practice, advocates on workplace issues, realistically represents some 2.7 million nurses to the community, and lobbies elected officials and agencies on health care issues affecting nurses and patients alike (ANA, 2005b). The ANA has 54 constituent members including the American

Nurses Foundation, United American Nurses (AFL-CIO), ANA Political Action Committee, and the American Academy of Nursing.

Specific data on nurses in Georgia reflected some of the trends noted at the national level. The GNA (GNA, 2005) reported the South Atlantic region of the U.S. (e.g., Delaware, District of Columbia, Florida, Georgia, North Carolina, South Carolina, Virginia, and West Virginia) had more RNs than any other region in the nation during 2000 and also had the highest percent of RNs from a Black/African American descent (8.6%). Additional data were reported by the Georgia Board of Nursing. This Board is responsible for regulation of both registered professional nurses and advanced practice registered nurses (APN) in the state (Georgia Board of Nursing, 2005). The Board develops rules and regulations that establish standards for nursing practice and education in the state.

The GNA, the state's largest professional nursing association for RNs, founded almost a century ago, supports the estimated 85,000 licensed RNs in the state (employed/non-employed) and establishes task forces to work on practice issues that advance the profession, such as EOL care (GNA, 2005). Currently the Association has approximately 2,200 dues-paying members (Danielle Steele, personal communication, May 16, 2005). The *Georgia Nursing* publication, providing news coverage of national, state, and regional interest to nurses, is the official publication of the GNA and is mailed quarterly to all RNs licensed in the state.

State level data from the *2000 National Sample Survey of Registered Nurses* (USDHHS, 2001b) and the 2001 *Georgia Nursing Workforce Study* (Georgia Health Workforce Cooperative, 2001) estimated 51,000 Georgia RNs were actively employed in

nursing with the majority working full-time. Data from 2003 suggested the vacancy rate for RN positions in the state ranged from 10 – 15% (Health Care Workforce Policy Advisory Committee, 2003).

The Georgia workforce data revealed 57% of the RNs licensed in the state were in the 40-59 year old age group, 94% were female, 81% were White, non-Hispanic, 89% were employed in-state, and 87% were residing in Georgia. Related to nursing education, 69% began nursing with either a diploma in nursing or an associates degree, 46% listed bachelor's/master's/doctorate as "highest degree held", 56% pursued the initial nursing education in Georgia, and 40% intend to pursue additional education within the next five years. Data on practice patterns revealed 64% had been in practice from 15 -25 years, 72% spent the majority of their work day engaged in direct patient care, 63% practiced in hospital settings (Georgia Health Workforce Cooperative, 2001) and 32% to 45% intended to retire within 1 -10 years (Georgia Health Workforce Cooperative; Health Care Workforce Policy Advisory Committee, 2003). Data from the Health Care Workforce Policy Advisory Committee for 2003 indicated a serious shortfall of nurses; 30,000 new and replacement nurses will be needed in Georgia by 2010.

Nurses and Research

Developing an accurate understanding of the role of RNs in EOL care also requires an awareness of the myriad of sources for acquisition of nursing knowledge and skill. Along with initial educational preparation in nursing, nurses must continually refine and expand their knowledge base through the inclusion of new information on which to develop *best practices* in nursing care. This new knowledge, empirically-based knowledge, arises from ongoing research and supports evidence-based nursing care.

Nurses' utilization of research-based evidence has been explored in relation to a variety of issues (Pravikoff et al., 2005). Funk, Champagne, Wiese, and Tornquist (1991) examined data related to some of these issues to identify and classify barriers to research utilization amongst nurses as (a) characteristics of the adopter (e.g., nurse's awareness of research), (b) characteristics of the organization (e.g., available facilities), (c) characteristics of the innovation (e.g., quality of the research), and (d) characteristics of the communication (e.g., availability and clarity).

Although proponents of evidence-based clinical decision making and practice have noted, "The primary motivation for engaging with research-based information is to reduce clinical uncertainty" (Thompson et al., 2004, p. 68), evidence can be found that documents substantive problems with the implementation of nursing research into clinical practice (Cavanagh & Tross, 1996). This phenomenon is known as the *research-practice gap* (Hughes & Addington-Hall, 2005). Bostrom and Suter (1993) suggested nurses' involvement in research, such as data collection efforts, was the best predictor of adoption of findings and a subsequent change in bedside practice. A recent study by Pravikoff et al. (2005) illustrated this reported gap. In a stratified random sample of 3000 RNs across the U.S., investigators found that fewer than half (46%) of nurses stated they were familiar with the term *evidence-based practice* which "has appeared in the titles of hundreds, if not thousands, of journal articles in recent years" (Pravikoff et al., p. 49). Of this same group of nurses, 82% had never utilized a hospital library, 67% had never searched a nursing literature database—although 83% considered themselves successful when searching the Internet, and 39% stated that they "needed information" only "occasionally" or "seldom" (p. 48).

Using factor analysis on data derived from a survey of 400 nurses practicing at a teaching hospital in Australia, Retsas (2000) identified 29 barriers for nurses related to the integration of research into clinical practice, and grouped these into four factors that loaded in the following order: (a) Access of research findings, (b) expected outcomes of research implementation, (c) institutional support for the use of research, and (d) support from others for the use of research. Barriers to the implementation of research at the level of the clinician nurse have also included: (a) Lack of time, (b) lack of knowledge of the research process, (c) perceived lack of autonomy, (d) lack of prior personal participation in research, (e) low priority assigned to research, (f) lack of research in educational preparation, (g) lack of staff experience and motivation toward research, (h) lack of institutional/administrative support, (j) lack of skills in evaluating research findings (Cavanagh & Tross, 1996), and (k) a preference for human-sources of information (Thompson et al., 2004).

Closs and Cheater (1994) explored utilization of nursing research in practice and observed the task to be a, “highly complex process” (p. 762). Suggesting substantive difference between clinicians and researchers, the authors observed these two groups represent oppositional subcultures in nursing—each with a unique set of goals, values and verbiage (Closs & Cheater). In a review of the salient literature, these investigators found essential interest, support, and a positive research culture were necessary prerequisites for the successful integration of the research mind-set into the nursing practice setting. They suggested integration of the research mindset at the level of the practicing nurse would more likely occur when nurses believed research was an, “expected, valued, and rewarded activity” (p. 762).

Nurses appear to have other research-related issues that likely influence their ability to acquire evidence-based information. Barribal (1999) collected data from nurses (n = 43) who refused to cooperate in the main data collection phase of a study exploring issues related to professional development. The investigator found a variety of reasons given by non-respondents for not participating in the project including too few hours worked each week [27%]; dislike being questioned [19%]; no reason given [17%]; issue not relevant because of retirement; pressure of work; research topic inappropriate; and poor English comprehension. It was suggested that “the nature of the saliency of research topics to potential respondents”, rather than the “saliency of the topic per se” played a role in nurses’ non-response rate in survey research (Barribal, p. 903). Not surprisingly, Barribal’s data also identified significant differences between nurses responding and not responding to survey research projects across multiple nurse variables such as educational background, employer categories, and continuing education utilization patterns. Some noted that a source of problems amongst nurses in relation to research was a failure to create ownership of data across the profession (Hughes & Addington-Hall, 2005). “The importance of professionals owning findings raises considerations for the research process as a whole: from commissioning to collecting, analyzing and interpreting data and through to feeding back findings” (Hughes & Addington-Hall, p. 454).

Hicks, Hennessy, Cooper, and Barwell (1996) explored clinician attitudes toward research and described barriers to the development of a *research culture* (p. 1034) such as confidence levels, psychological obstacles, gender, and traditional role expectations. In their work, the team found the majority of respondents believed research was

unimportant, peripheral to their work, a non-essential part of their job, and the responsibility of others healthcare team members. Moreover, respondents believed research was, “a discrete activity and not integral to their roles” (p. 1038). Hicks et al. defined these as research-resistant, negative attitudes and labeled these as, “fundamental and deep-seated” (p. 1033). In this study, 75% of nurse respondents held these adverse views. In earlier work (Hicks, 1994; Smith, 1994) the team found evidence suggesting attitude/behavior misalignment amongst nurses in relation to research as demonstrated by a public valuing of research juxtaposed with a paucity of nurse-driven research initiatives and publications. Thompson et al. (2001), with an alternate explanation, suggested “It is not research knowledge per se that carries little weight in the clinical decision of nurses, but rather the medium through which it is delivered” and observed that nurses utilize “other trusted sources” to provide a crucial translation of research findings for application at the bedside” (p. 387).

The State of EOL Care

A National EOL Perspective

The formal provision of EOL care in the U.S. has been linked with the development of the hospice movement in the late 1970s, with St. Christopher’s Hospice in Great Britain serving as the prototype for the initial hospices in America (Pickett et al., 1998). Hospice care has been accepted in the U.S. and has been funded, in large part, by the government via the Medicare Hospice Benefit (MHB). Congress established the MHB following bipartisan support in 1982 with the elective benefit being treated as a *carve out* for all Medicare programs (National Hospice and Palliative Care Organization [NHPCO], 2002a). Covering medical and palliative care for the terminally ill, the benefit

provides for a range of core services. “Today, Medicare Part A insurance provides virtually unlimited hospice coverage to eligible beneficiaries who are terminally ill” (Gage, Miller, Mor, Jackson, & Harvell, 2000, p. 11).

Hospice care, as we recognize it in the nation today, is hospice as specifically defined by the benefit (Billings, 1998). Moreover, as observed by the NIH in a 2004 State-Of-The-Science Conference on Improving EOL Care, “EOL is usually defined and limited by the regulatory environment rather than by the scientific data” (NIH, 2004, p. 4). Jennings et al. (2003) commented that current EOL care and its associated shortfalls arise from artifacts of Medicare policy via the MHB that inappropriately limits utilization of existing EOL services. Narrow interpretations of laws, policies, and regulations associated with the MHB have created several barriers to utilization of existing EOL care: (a) Scientifically unsound MHB eligibility criteria, (b) “fiscally punitive regulatory oversight” of the program (p. 29), (c) flat per diem provider reimbursements under the benefit, and (d) stringent regulatory compliance monitoring of the EOL care industry (Jennings et al.).

Care of the dying says much about our society (Last Acts National Coalition, 2002). The most extensive and widely reported research on EOL care in the United States, the Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatment, known as the SUPPORT study (SUPPORT Principal Investigators, 1995), made clear that, “Dying in America was unnecessarily painful and isolating, physicians did not understand patients’ wishes, and it was costly” (Last Acts National Coalition, 2002, p. 2). The first observational phase of the eight year SUPPORT study that began in 1989 explored EOL decision making, treatment patterns, and outcomes for almost 10,000

critically ill patients in five leading academic health centers across the United States (SUPPORT Principal Investigators). The second phase was a randomized interventional trial designed to improve EOL care through increased attention to pain management, communication, life-expectancy estimates, and patient/surrogate decision making (SUPPORT Principal Investigators). The landmark report emerging from this study was pivotal in stimulating EOL research and a widespread drive to improve EOL care (Reb, 2003). Many believe the attention and efforts directed at improving care for the dying is a legacy of SUPPORT (Weisfeld et al., 2000).

The SUPPORT study (SUPPORT Principal Investigators, 1995) identified shortfalls in EOL care, communication, utilization of aggressive treatments during the terminal stages of life, and problems in characteristics of deaths. The subsequent Institute of Medicine report in 1997 edited by Field & Cassel found (a) many suffered needlessly at the EOL because of errors in care omission and from errors of commission, (b) a variety of obstacles conspired to thwart excellent EOL care, (c) the education of healthcare professionals failed to provide clinicians with the attitudes, knowledge and skills for EOL care, and (d) the present knowledge and understanding of the EOL phase was unable to support evidence-based practice in EOL care. This report represented the first comprehensive, evidence-based, national treatise on EOL issues (Foley & Gelband, 2001).

Despite an improved dialogue addressing the needs of the dying over the last decade brought about in response to SUPPORT (SUPPORT Principal Investigators, 1995) findings, the state of EOL care in America today suggests that substantive shortfalls in quality EOL care for patients and families during the EOL phase continue as

a pressing social problem (Field & Cassel, 1997; Foley & Gelband, 2001; Jennings et al., 2003; Last Acts National Coalition, 2002; Lunney et al., 2003; Meier, 2004; NIH, 2004; Reb, 2003; SUPPORT Principal Investigators, 1995). Unfortunately, definitions of quality EOL care abound (Hanson, Danis, & Garrett, 1997; Steinhauser, Christakis et al., 2000), and measures of quality of care appropriate to the special circumstances of the dying present particular problems (Cohen & Mount, 1992).

In a recent report on dying in America, it was noted, “Americans at best have no better than a fair chance of finding good care for their loved ones or for themselves when facing a life-threatening illness” (Last Acts National Coalition, 2002, p. 3). In a statement that appeared to foreshadow this alarming revelation, Picket et al. (1998) reported there was little evidence to suggest that clinicians were committed to providing EOL care, although the Code of Ethics for Nurses served as a reminder that, “In each instance the nurse retains accountability and responsibility for the quality of practice” (ANA, 2001, p. 19).

McPhee et al. (2000) substantiated patients’ dissatisfaction with the quality of EOL care. Years of public opinion polls confirmed Americans’ fears about the circumstances of dying and the EOL care they would receive (Jennings et al., 2003); sometimes they feared this more than death itself (Steinhauser, Clipp et al., 2000; Tyler, Perry, Lofton, & Millard, 1997). Jennings et al. noted that the range of EOL care should be representative of the concerns and priorities of the society. Yet, identifying these concerns and priorities becomes more complex because clinicians and patients do not always define “quality” EOL care in similar fashion (Singer, Martin, & Kelner, 1999).

Problems with access to EOL care have been described to include limited utilization of available services by specific racial/ethnic populations (Adams, Horn, & Bader, 2005; Crawley et al., 2000; Jennings et al., 2003; Krakauer, Crenner, & Fox, 2002; NIH, 2004; Reb, 2003; Tyler et al., 1997; Winston, Leshner, Kramer, & Allen, 2005). Data suggested that the percentage of racially diverse populations over the age of 65 in the U.S. will increase by as much as 25% by the year 2030 (Jennings et al.). Recent data from the U.S. Census Bureau (2005) found that in four states and the District of Columbia, the majority of residents were some ethnicity other than white, non-Hispanic. An additional five states are expected to be added to that list by the year 2010 (U.S. Census Bureau). Yet, data suggests that less than 8% of hospice eligible African Americans, compared with 83% of white, non-Hispanic Americans, actually take advantage of hospice care during the EOL phase (Winston et al., 2005).

Problems with access to EOL care must be viewed from two perspectives—financing of programs and delivery of services. Data from a 2003 Hastings Center Report suggested that equitable access, while a lofty goal, had not been achieved in EOL care (Jennings et al., 2003). To promote improved access, experts have called for relaxing eligibility criteria for admission and insurance coverage of EOL services, lengthening time spent in hospice through earlier referral for EOL care, and promoting quality EOL care through rigorous case management (Jennings et al.). Furthermore, experts noted adequate financing of EOL care necessary to support a “just system of access” should not require a blank check, written at the expense of tax-paying Americans, rather, justice requires that sufficient funds be allotted for appropriate care (Jennings et al.).

In 2002, a national coalition to improve EOL care supported by the RWJF released a comprehensive state-by-state report on the conditions of dying in America (Last Acts National Coalition, 2002). Exploring data from the 50 states and the District of Columbia, eight criteria were used for assessing EOL care and describing outcomes at both the national and state levels. States' advance directives policies from 2002 were evaluated for conformance to essential elements of the Uniform Health Care Decisions Act; all 50 states had created and passed laws recognizing health care powers of attorney. Twenty-eight of these states also had laws specifying the types of decisions that could be made by those holding health care proxies (Last Acts National Coalition). Unfortunately, national data from 1997 suggested much of the terminology associated with EOL planning and advance directives, like the living will and durable health care power of attorney, was unclear or entirely misunderstood by the average American (Silveira, DiPiero, Gerrity, & Feudtner, 2000; Tyler et al., 1997). It could be argued that dying patients might mirror the general public in this confusion (Silveira et al.). A 2004 statement from NIH experts suggested that to improve EOL care and reduce the clinical uncertainty created by confusion over EOL terminology, attention must be focused on "advanced-care planning" rather than simply on advance directives (NIH, 2004).

Clear decision making at the EOL is a central concern amongst patients (Steinhauser, Clipp et al., 2000) and a variety of problems associated with EOL advance directive and EOL decision making have been observed (Baker et al., 2000; Ferrell, 1999; Field & Cassel, 1997). In a secondary analysis of data from the 1995 SUPPORT study (SUPPORT Principal Investigators, 1995), Teno et al. (2000) found prognostic models reflecting the short-term risk for mortality were not useful in guiding EOL care decision

making. They recommend that in EOL care decision making, clinicians rely on the informed desires of patients and families (Teno et al.), a strategy that would necessitate patient advocacy and would presuppose implementation by way of nurses who were fully prepared to deliver expert EOL care.

In data that appeared to reflect Americans' awareness of potentially useful interventions to support EOL care planning, a 2002 national poll revealed 88% of Americans believed EOL patients would benefit from consultations with EOL clinicians (The Harris Interactive Poll, 2002). This appeared to argue for nurses' essential role in patient advocacy for efficacious EOL care (NHPCO, 2002b) but also made a flawed assumption that nurses were adequately prepared for this essential yet complex role. The Joint Commission on Accreditation of Healthcare Organization's (1996) current standards included new advance care planning requirements for EOL patients. These standards were inarguably necessary—data from 1997 indicated Americans believed “vague comments” about “not wanting to be hooked up to machines” were adequate and sufficient forms of EOL advance planning (Tyler et al., 1997, p. 3). In the clinical arena, these vague comments are inadequate and lack prescriptive detail that is necessary to fully address the multifaceted needs of the dying that often present as sentinel events and rapidly take on crisis trajectories.

The evidence suggesting deficiencies in EOL care continued to accrue. Dissatisfaction with communication appeared as a frequent complaint associated with EOL care in the U.S. (Baker et al., 2000; Bradley et al., 2001; Field & Cassel, 1997; Hanson et al., 1997; NIH, 2004; Pierce, 1999). In sample data emerging from a mortality follow-back survey exploring EOL care outcomes for 1.97 million Americans (n = 1578)

who died in 2000, 25% of all family members described problems in communicating with physicians (Teno et al., 2004).

Communication problems at the EOL frequently resulted in unintended outcomes, from the perspectives of patients and clinicians alike. Many viewed death in an institution as one such untoward outcome. In 1997, approximately 50% of patients over the age of 65 died in hospitals; nursing homes accounted for another 20% to 25% of institutional (Last Acts National Coalition, 2002). Reb (2003) reported 1999 statistics suggesting 70% of nursing homes had no patients listed as actively receiving formal hospice care. Although other data indicated the majority of patients stated their desire to die at home (Tyler et al., 1997; Jennings et al., 2003; NHPCO, 2002b), only 24.9% did in fact die at home during 1997 (Last Acts National Coalition). In sample data emerging from a mortality follow-back survey exploring EOL care outcomes for 1.97 million Americans (n = 1578) who died in 2000, the last place of care was an institution for 67.1% (Teno et al., 2004).

Even as the hospice care ideology penetrated local healthcare markets, significant gaps in hospice utilization persisted (Henig, 2005). Overall, enrollment in hospice care amongst EOL patients had increased, largely because of the MHB, although a 2002 NHPCO sponsored poll conducted by Harris Interactive found that 85% of Americans were mistaken in their beliefs concerning sources of funding for EOL care. Additional studies have confirmed misunderstandings in financing of EOL care (Reb, 2003) even amongst health care professionals (Schlairet, 2004). In 1975, the year hospice care was introduced in the U.S., enrollment stood at 1,000 patients per year (Last Acts National Coalition, 2002); figures for 2001 evidence an enrollment of 775,000 patients (Jennings

et al., 2003). In year 2000 data, findings suggested 21.5% of people over 65 utilized hospice during their last year of life. An enormous number of deaths in America are anticipated, and although the numbers of EOL patients utilizing hospice services has increased, in 2003 there were still more than one million *hospice appropriate* Americans who died without hospice care—services that would have benefited them as well as their families (Jennings et al.).

The literature is replete with evidence suggesting that, “Deaths outside of hospice care do not go well” (Jennings et al., 2003, p. S31). In a study exploring how the “gravely ill” become EOL patients, Finucane (1999) stated existing *probability of survival models* provided little accuracy in identification of patients who had transitioned into the EOL phase. The author noted that using a model with the most lenient criteria, 70% of patients labels as *terminal* were still alive at six months; and 58% of patients who died during the study had not been labeled as terminal. It appeared use of predictive models for the targeting of EOL care services had not assisted in the precise identification of patients who might best benefit from EOL care.

The failure of these predictive models in identification of hospice-appropriate patients sheds some light on another problem: hospice utilization. One measure of hospice utilization, average length of stay in hospice, deemed by experts to be essential for optimization of hospice care, has fallen from 70 days in 1983 to a mere 25.3 days in 2001 (Jennings et al., 2003; Last Acts National Coalition, 2002; Walsh, 1998). Hilden et al. (2001), reporting on the use of IDC teams, another component and measure of expert EOL care, noted a lack of readily available and easy-to-use palliative care teams.

Problems have also been identified in our inability to offer EOL patients the full range of services that are consistent with the principles of the interdisciplinary team approach and necessary to meet the multi-faceted needs of the dying. Evaluating hospital-based EOL services in 2000, data gathered from the American Hospital Association found only 42% of institutions offered formal pain management programs, 23% offered formal hospice services, and 14% provided palliative care programs (Last Acts National Coalition, 2002). However, some recent improvement has been observed. Meier (2004) noted an increase in the number of palliative care programs, with more than 950 programs identified in a 2002 American Hospital Association survey—an increase of 45% from numbers reported in 2000.

Fears related to the provision of EOL care also include concerns of *over treatment* or treatment that stands in opposition to patients' expressed wishes. Reports revealed many adults feared spending their final days in discomfort “hooked to machines” that were unwanted (Tyler et al., 1997). National data from 2000 suggested 10% of people over the age of 65 spent seven or more days in hospital intensive care units during the final six months of life (Last Acts National Coalition, 2002). Data suggested that 20% of patients in the intensive care unit did not live to be discharged from the hospital (Dracup & Bryan-Brown, 1995). Other data from the SUPPORT study (SUPPORT Principal Investigators, 1995) found of those patients who had a preference for a palliative approach to EOL care, only 29% believed the hospital care they received was consistent with that preference (Teno et al., 2000). In a 1997 report of data from a randomly selected national sample of Americans, it was noted that few believed the current health care system supported their ideal notions of EOL care (Tyler et al.). Additionally, and

perhaps more tragically, respondents believed “the relentless pursuit of profit drives healthcare decisions at the EOL” (Tyler et al., p. 2).

Lack of continuity in the delivery of EOL services has also been reported (Ferrell, 1999; Field & Cassel, 1997; NIH, 2004). The essential role of nurses in the development and provision of continuity of EOL care was captured in the solitary significant finding observed in the intervention phase (Phase 2) of the landmark SUPPORT study (SUPPORT Principal Investigators, 1995). Investigators found positive effects of EOL nursing care interventions on family satisfaction ratings. This EOL nursing care-related finding takes on added significance today because of the shift in the point-of-care from inpatient to outpatient settings that has taken place since the Phase 2 data collection of the SUPPORT study (SUPPORT Principal Investigators, 1995).

There is little disagreement over the most essential and indispensable component of professional EOL care—the abatement of pain and the reduction of all forms of suffering (Jennings et al., 2003; Joint Commission on Accreditation of Healthcare Organizations, 1996). Pain control at the EOL is a central concern amongst patients (Steinhauser, Christakis, et al., 2000). Abraham (2003) observed the assessment and management of pain during the EOL phase was essential in allowing the dying to identify and meet needs in the final days of life.

Although medical experts concurred that 90-95% of pain could be treated successfully using comprehensive pain management guidelines (World Health Organization [WHO], 1990b), data from 1996 suggested half of dying patients reported being in pain (Portenoy, 1996) and similar shortfalls in EOL pain management have been consistently reported in the literature (American Pain Society, 2005; Jacox et al., 1994;

Ferrell, 1999; Meier et al., 1997; Mercadante, 1999; Portenoy; Reb, 2003; Steinhauser, Clipp et al., 2000). In the 2001 Institute of Medicine report on EOL care, Foley and Gelband reported, “Much of the suffering could be alleviated if currently available symptom control measures were used more widely” (p. 5). In sample data (n = 1578) emerging from a mortality follow-back survey exploring EOL care outcomes for 1.97 million Americans who died in 2000, 25% of all patients with pain did not receive adequate pain management (Teno et al., 2004).

Rating the strength of the nation’s pain policies in 2001 by state, according to six criteria, 13 states failed to earn even passing scores (Last Acts National Coalition, 2002). Not surprisingly, in a national survey of members of the Society of Clinical Oncology, clinicians identified a scarcity of EOL pain services (Hilden et al., 2001). Studies focusing on nurses’ knowledge of EOL pain management found significant deficiencies, most likely resulting from inadequate educational preparation (Ferrell & McCaffery, 1997; McCaffery & Ferrell, 1995).

Unmanageable EOL symptoms, like pain, can force patients and families to seek institutional settings during the EOL phase—believing that EOL symptom management would be better addressed within a healthcare facility. However, data suggested pain management issues in these settings are also of concern. Across the nation in 1999, 1.6 million patients were living in nursing homes and data suggested one sixth experienced daily pain (Last Acts National Coalition, 2002). Agency for Healthcare Research and Quality (AHRQ) data, in the 2004 National Healthcare Quality Report, suggested 6% of the nation’s long-stay nursing home residents had moderate to severe pain (AHRQ, 2004). In a secondary analysis of data collected in the 1994 Hospitalized Elderly

Longitudinal Project (HELP), experts found one in three patients on study died in severe pain (Somogyi-Zalud, Zhong, Lynn, & Hamel, 2000).

The ANA, in a brief about patient advocacy at the EOL, drafted a position statement for all nurses on the management of pain and other distressing EOL symptoms (ANA, 2003). McPhee et al. (2000), focusing on EOL care in intensive care units, identified that nurses were concerned over their abilities to adequately manage severe pain and other terminal symptoms. Although certification in palliative care is available, few who provided EOL care acquire this training (Ferrell, 1999). In a 2004 State-of-the-Science Conference Statement emerging from the NIH, it was noted that the level of EOL care ability varied amongst settings and specific types of care (Latimer et al., 1998; NIH, 2004). Reb (2003) observed certification is essential in setting standards and documenting both educational and bedside EOL care expertise. As of 2002, the nation had 7,623 nurses certified in hospice and palliative care. Accreditation standards for medical schools include EOL education, but only 0.33% of general primary care and primary care subspecialty physicians were certified in palliative medicine (Last Acts National Coalition, 2002).

The Georgia EOL Perspective

Yearly data emerging from the congressionally mandated National Healthcare Quality Report provides state *snapshot reports* on Georgia and revealed below-average ratings in state health care quality in 34 of 106 measures. Insufficient state-level data needed to support analysis prevented scrutiny of an additional 20 measures (AHRQ, 2004). In regard to EOL care in particular, the Last Acts National Coalition Report (2002) findings on Georgia mirrored many of the trends observed at the national level.

Given the current below-average ratings in state healthcare quality, additional changes in population characteristics amongst the state's residents (i.e., a majority of residents of some ethnicity other than white, non-Hispanic, by the year 2010) may create healthcare needs that will be difficult to appropriately address (U.S. Census Bureau, 2005).

Data from the Last Acts National Coalition Report (2002) indicated the state of Georgia earned a "B" grade (equivalent to 3.4 on a scale from 0 to 5) for quality of advance directive laws. However, data from 2002 revealed the pattern for "location of death" in Georgia was less encouraging than national figures, with a full 80.7% of Georgians dying in institutional settings (e.g., hospitals and nursing homes). In 2000, 24.2% of Georgia's Medicare-eligible EOL patients received hospice care at the time of death with a median length of stay of only 25.4 days. In 2000, of the 171 hospitals in Georgia, only 40.4% reported having pain management programs, 14.6% reported hospice programs, and 10.5% reported having palliative care programs—failing to meet national levels across all three EOL hospital-based services. Hospital statistics for the state in 2000 revealed that 32.7% of Georgia Medicare beneficiaries experienced a hospital intensive care unit stay during their final 6 months of life, significantly higher than the national average of 10%. Data from 1999 on nursing home residents in the state revealed that 44.4% of patients reported being in "moderate" daily pain at both an initial and follow up assessments. AHRQ data from the 2004 National Healthcare Quality Report suggested 8.9% of Georgia's long-stay nursing home residents had moderate to severe pain (AHRQ, 2004). Exploring state data for 2001 on the "pain policy environment" in Georgia, the state scored a +1 rating (national range -3 to +9) with 31 states achieving higher scores on this measure of quality. As of 2000, amongst Georgia's

49,000 full-time equivalent nurses, only 0.33% were certified in palliative care (n = 165) and of the state's 8000 physicians in general primary care and primary care subspecialties, only 0.14% were certified in palliative care (n = 11). These data on EOL providers fail to capture actual availability at local levels (Last Acts National Coalition).

In a 1999 report entitled *A Silent Anguish* by Georgia Health Decisions, a non-profit partner in the Georgia Collaborative to Improve End of Life Care, advocating on health issues from a consumer-oriented perspective, experiences and attitudes of family members of EOL patients were captured. The findings of the study painted a bleak picture of EOL care for patients hospitalized in Georgia including: (a) Poor communication with clinicians, (b) feelings of "abandonment" following a terminal diagnosis, (c) difficulty in making treatment decisions, (d) receiving unnecessary or unwanted care, (e) neglect because of insufficient staffing of nurses and aides, (f) inadequate pain management, and (g) deficiencies in hospice referrals (Georgia Health Decisions, 1999).

Not all the news in Georgia related to EOL care was negative; local initiatives focusing on a variety of EOL issues have been noted. Developed in 1997, the Georgia Collaborative to Improve End of Life Care focused on public awareness, education, and planning for EOL care, institutional/system EOL policy review, and improved availability and participation in EOL education for healthcare professionals at all levels. The Collaborative consisted of 18 partners working alone and in tandem on EOL projects targeting Georgia (Georgia Collaborative, 2004).

Attitudes Toward EOL Care

Interpretations of the state of EOL care often include the role of clinician attitudes on the provision of care for the dying, prompting suggestion that provider attitudes toward death and dying affect the ability to deliver valuable, compassionate EOL care. In a message described as a profound lesson for the living, Kübler-Ross (1969) identified clinicians' attitude toward death and dying as the primary obstacle in the delivery of empathetic EOL care.

There is no *one* American attitude toward death—some suggested surveys tend to identify only those attitudes that are easily *hit* by pollsters (Koenig & Gates-Williams, 1995). The determinants of attitude toward EOL care are varied and complex (Rooda, Clements, & Jordan, 1999). Miles (1980), describing one such determinant, suggested that nurses' early career experiences with EOL patients were often stressful because of a professional education that did not prepare them to cope appropriately. Nurses subsequently controlled their discomfort associated with death and dying by developing professional detachment and withdrawing emotionally from EOL patients. It has been observed that improvement in EOL care will require fundamental shifts in attitudes toward the EOL phase amongst the public, patients, and healthcare providers (Bradley, et al., 2000). Mooney (2005) observed that attitudes toward death and dying are learned through the process of socialization; therefore, re-education initiatives may be useful in modifying these learned negative attitudes. Evidence in the literature supports this notion (Durlak & Riesenber, 1991; Murray-Frommelt, 2003; Shoemaker, Burnett, Hosford, & Zimmer, 1981).

Attitudes amongst healthcare providers about death, dying, and caring for those at the EOL have been explored (NIH, 2004). Merrill, Dale, and Thornby (2000) explored attitudes toward caring for EOL patients amongst hospice and non-hospice nurses, physicians, and medical students (n = 598) and observed more positive attitudes toward EOL care amongst hospice nurses in comparison to other clinicians. They hypothesized these findings endorsed those with positive attitudes as highly suited for the provision of EOL care. Similarly, studying nurses randomly selected from six community hospitals (n = 180), Cramer, McCorkle, Cherlin, Johnson-Hurzeler, and Bradley (2003) observed relationships between nurses' positive attitudes toward EOL care and improved ability to communicate with EOL patients and families in ways that enhanced EOL care. Rooda et al. utilized the Attitude Toward Care of the Dying Scale (Murray-Frommelt, 1991) with a sample of 403 nurses and observed that attitude toward death was predictive of attitude toward delivery of EOL care.

The efficacy of educational initiatives targeting provider EOL attitudes, along with the tactic knowledge and skills for clinicians in EOL care, has been explored for evidence suggesting attitudinal change. Working with a cohort of 93 adult education students who desired to work with EOL patients, Shoemaker et al. (1981) observed improved attitudes toward EOL concepts following participation in an 11-week course that was designed to promote attitudinal changes related to death and dying. Durlak and Riesenber (1991) found programs on death education produced a decrease in death fears and anxieties amongst junior high, high school, and college students (n = 25). Murray-Frommelt (2003) also noted significant positive change in attitudes toward death and

dying amongst 49 undergraduate students following a 15-week course covering topics related to the EOL phase such as loss, grief, bereavement, death, and dying.

This type of exploration has also targeted medical professionals. In a controlled comparison of 71 medical students, Kay, Gracely, and Loscalzo (1994) observed improved attitudes toward treating EOL patients and toward interactions with patients' family members following participation in a course exploring the ethical, cultural, and emotional facets of death and dying.

Working with 420 graduate and undergraduate nursing students, Brent, Speece, Gates, Mood, and Kaul (1991) found educational experiences made a small but significant contribution toward positive attitudes in the provision of EOL care. Mooney (2005) utilized a 13-week course and didactic/experiential approach to improve students' attitudes toward death and dying through a better, "understanding of self and one's meaning, purpose, and place in life" (p. 429). A clear improvement in post-test scores across four test sub-scales was noted amongst treatment group members, signifying a change in overall attitude toward death. Mallory (2003) observed positive change in nursing students' (n = 45) attitudes toward EOL care following participation in an experiential 6-week course on death education employing transformative learning theory. Durlak and Riesenber (1991) utilized a meta-analytic approach in a review of published outcome research on the effect of death education toward improving attitudes of nursing students and other health care workers (n = 20) on EOL issues. In a review of 47 studies, results suggested experiential programs, versus didactic programs void of any experiential features, produced a decrease in death fears and anxieties (Durlak & Riesenber). In a similar review of existing research, Mooney reviewed findings from 51

death re-education programs and found, “outcomes overwhelmingly indicated a decrease in death anxiety” (p. 428).

Research of this type has also focused specifically on nurses’ attitudes about the EOL. Murray-Frommelt (1991) explored the effectiveness of a 2-hour educational program focused on the hospice care concept for nurses (n = 34) and observed improved attitudes toward EOL care following participation. Attitudes of nurses working in high-risk death areas have also been explored. Miles (1980) found improved attitudes toward death and dying amongst nurses (n = 48) who participated in a 6-week CE course consisting of small-group counseling and education on EOL care issues. Despite this type of research and a growing dialogue on EOL care that has occurred over the last several decades, some claimed these efforts have not significantly improved attitudes toward death and dying and have argued that we have only achieved “a more sophisticated level of denial” (Wass, 1995, p. 328).

The State of EOL Care Nursing Education

A National Educational Perspective

Considering the apparent shortfalls in the provision of EOL care, it is reasonable to examine the state of EOL care education and to look for evidence that might link the wide-spread deficiencies with educational interventions that were designed to promote nurses’ ability to care for the dying.

Pierce (1999) interviewed a random sample of EOL patients’ family members (n = 18) and found more than half commented on a lack of personal attention and “expressions of human caring” and attributed this failure, partly, on inadequate training of caregivers (Pierce, p. 8). Supporting these disturbing revelations, findings emerging

earlier from a 1998 national survey of American Society of Clinical Oncology members suggested a lack of formal EOL educational preparation for healthcare providers, a high reliance on “trial and error” in the provision of EOL care, and a scarcity of EOL clinical role models (Hilden et al., 2001). Responding to findings similar to those generated by the Hilden et al. 1998 survey, the Committee on the Judiciary of the U.S. Senate (2000) called for the promotion of activities that would advance the science supporting the collective understanding of EOL care and the NIH called for increased federal funding to support EOL educational initiatives for health care providers (NIH, 2004).

Jennings et al. (2003) noted the imperative for caring for the needs of EOL patients must translate into tangible organizational structures and policy mandates, such as in professional EOL education. In an attempt to call attention to this plan, Lunney et al. (2003), in a recent Institute of Medicine report, called on healthcare providers to survey and collect information on the quality of existing EOL care from the clinicians’ perspective.

From the perspective of nursing, there is no scarcity of information on the quantity and quality of educational preparation supporting the delivery of EOL care. Shortfalls in EOL educational preparation for nurses have been well described in the literature (Bradley et al., 2001; Ferrell, 1999; Field & Cassel, 1997; Foley & Gelband, 2001; Hilden et al., 2001; Jennings et al. 2003; Kazanowski, 1997; Meier et al., 1997; McPhee et al., 2000; Reb, 2003). In an Institute of Medicine report, Foley and Gelband (2001) described EOL care educational deficiencies across curricula, educational materials, and clinical experiences.

Rushton et al. (2003) noted one of the most demanding roles nurses fill is in the provision of care to EOL patients. Pickett et al. (1998) viewed nurses as occupying a key position in EOL care related to their ability to coordinate and promote EOL care across settings to foster essential continuity of services to the dying and their families. Finding that the general public has a poor understanding of common EOL terminology and a limited comprehension of EOL care options, as noted by Silveira et al. (2000) and Tyler et al. (1997), suggest that nurses' need for accurate EOL care information is a foundational concern in the operationalization of any EOL care improvements.

Kirchhoff et al. (2000), exploring nurses' experiences with EOL care, found that nurses believed that family members of the dying relied on them for the "real answers" in EOL decision making because of nurses' presence with them at the bedside of the dying. Yet, exploring nurses' perceptions of their own preparedness for the delivery of competent EOL care, Kirchhoff et al. found that even highly skilled and experienced intensive care nurses believed they learned EOL care from "trial and error" (p. 40); similar findings amongst nurse generalists have been reported (Glajchen & Bookbinder, 2001; Roberts, 2004). In a study by the City of Hope, supported by the RWJF, Ferrell (1999) found oncology nurses (n = 2,333) described frequent EOL care dilemmas and barriers to EOL care. In a study of 300 members of the American Association of Critical Care Nurses, Kirchhoff and Beckstrand (2000) found that amongst a list of obstacles associated with the provision of EOL care to dying patients and families, nurses perceived lack of nursing education in EOL care as an obstacle to care delivery. Working again with experienced intensive care unit nurses, McPhee et al. (2000) found nurses actually had little confidence in their abilities to provide EOL care (Bradley et al., 2001).

In a 2004 State-of-the-Science Statement on EOL Care, experts noted although EOL curricula have been developed, they have been utilized inconsistently to educate health care professionals (NIH, 2004). In a 1999 survey of faculty and deans of nursing programs and state boards of nursing experts across the United States, gaps in all facets of EOL nursing curricula were noted (Ferrell, 1999). In response Jacox et al. (1994), in national guidelines addressing the management of cancer pain, noted curricula for all healthcare professionals should include sufficient content to prepare clinicians to provide the best possible care to those who are suffering with EOL symptoms (e.g., pain). Kazanowski (1997) and others have called for an addition or increase in EOL content in undergraduate and graduate nursing programs with specific emphasis on pain and symptom management and palliative care concepts (Bradley et al., 2001). Zech, Grond, Lynch, Hertel, and Lehmann (1995) and others have called for widespread dissemination of comprehensive pain management guidelines (World Health Organization, 1990b) amongst all healthcare clinicians serving EOL patients (Mercadante, 1999).

The Georgia Educational Perspective

Educational initiatives for healthcare providers in the state have been developed at various levels. For example, Georgia Health Decisions, an organization affiliated with the national coalition of American Health Decisions, sponsors local EOL educational programs (Tyler et al., 1997). Also, the RWJF Community-State Partnership to Improve EOL Care (RWJF, 1997) funds states working to improve EOL care and Georgia is one of 16 states to develop an EOL Task Force as a part of the \$11.25 million dollar RWJF program.

Essential EOL Education

Kübler-Ross (1969) observed, “Our goal should not be to have specialists for dying patients, but to train our hospital personnel to feel comfortable in facing such difficulties and to seek solutions” (p. 21). The Code of Ethics for Nurses, which identified standards for ethical nursing practice, consists of nine provisions and associated interpretative statements that succinctly address ethical care of the dying. The provisions speak to nurses’ values, commitments, duty, and loyalty while the interpretative statements supply specificity for practice and contextual authenticity (ANA, 2001). Taken together, the Code of Ethics and the words of Kübler-Ross appear to support the beliefs of Picket et al. (1998) and many others who think a unique opportunity now exists to disseminate a core set of EOL care skills and knowledge to healthcare providers practicing in locations outside of typical EOL settings (AACN, 1998a; AACN, 2002; Jacox et al., 1994; Joint Committee on Health Care, 1997; Lunney et al., 2003; Lynn, 1997; National Consensus Project, 2004; National Hospice Organization & Accreditation Committee, 1997; Reb, 2003; Teno et al., 2001; Weisfeld et al., 2000).

Efforts to develop and disseminate this essential set of core EOL educational content began in earnest during the mid 1990s following release of SUPPORT study findings (SUPPORT Principal Investigators, 1995). In a Report of the Special Subcommittee on the Management of Acute and Terminal Pain (Joint Committee on Health Care, 1997), experts called nursing education to examine issues related to the preparation of nurses with adequate EOL care knowledge. Additionally, following reviews of components of EOL curricula, they requested roundtable discussions amongst deans of educational

institutions to identify improved strategies in preparing healthcare professionals for the delivery of EOL care (Joint Committee on Health Care).

The outcome domains for EOL care have been delineated by a variety of organizations and through specific projects designed to improve EOL care such as the Institute of Medicine and the National Consensus Project (NCP) for Quality Palliative Care (Lunney et al., 2003; NCP, 2004). The core elements of EOL care, as defined by the NCP, to be addressed in EOL curricula include:

- patient population inclusive of those with debilitating chronic or life-threatening illness;
- patient and family as the *unit of care*;
- timing of care inclusive of diagnosis through cure or until death and into bereavement;
- comprehensive care;
- IDC team approach;
- attention to relief of all forms of suffering;
- communication skills;
- skill in care of EOL patients and families;
- continuity of care across settings;
- equitable access;
- addressing regulatory barriers; and
- quality improvement (NCP).

In the view of Teno et al. (2001), the needs of the dying are too important to ignore; preliminary recommendations for accountability in EOL care were called for and, echoing many of the core elements of care as defined by the NCP (NCP, 2004), the measurement domains were to be inclusive of EOL communication techniques, shared decision making, symptom management, and coordination/continuity in EOL care. The RWJF, a leader in supporting improvements in EOL care for Americans, in response to disturbing findings that emerged from the SUPPORT study (SUPPORT Principal Investigators, 1995), also identified specific EOL knowledge deemed essential for clinicians including pain and symptom control, communication, spiritual issues, grief and bereavement, and identification of EOL resources (Weisfeld et al., 2000). Glajchen and Bookbinder (2001) suggested guidelines such as these promoted the benchmarking of nursing knowledge and skills against those identified with excellence in professional practice, providing an index of the essential domains EOL care education required by nurses for the delivery of expert, compassionate EOL care.

The AACN, with support by the RWJF, began scholarly inquiry designed to develop outcome domains to foster improvements in EOL care in 1997 (AACN, 1998b) and developed EOL curricular guidelines for nursing education and EOL competencies for all nurses (Reb, 2003). In a 1998 Report on the Essential Guidelines for Nursing Education, the AACN addressed the professional values, core competencies, essential knowledge, and role development required for professional nursing practice (AACN). In 2000, further developing these essential EOL educational domains, experts convened by the AACN developed a specific list known as the Peaceful Death Competencies and Guidelines that must be achieved through nursing curricula (AACN, 2000a). The AACN

designed the list to allow nurse educators to better incorporate EOL content into the curricula, and noted all undergraduate nursing students should attain the following EOL competencies:

- identify the dynamics requiring improved preparation for EOL care;
- promote EOL care as an integral component of nursing care;
- communicate effectively about EOL issues;
- recognize one's own attitudes about death and the diversity existing in beliefs;
- demonstrate respect for patient's views and wishes in EOL care;
- collaborate with IDC team members;
- utilize standardized tools to assess EOL symptoms;
- use assessment data to plan/manage EOL symptoms;
- evaluate impact of therapies on patient-centered outcomes;
- assess and treat needs arising from multiple dimensions;
- assist with coping related to suffering, grief, and loss;
- apply legal/ethical principles in analysis of EOL issues;
- promote utilization of EOL resources;
- demonstrate skill in implementing EOL care plans; and
- apply research findings to EOL education and care (AACN, 2000a).

The End of Life Nursing Education Consortium (ELNEC), another national RWJF funded EOL education program designed to promote the training of nurse faculty in EOL care (AACN, 2002; Reb, 2003) resulted in development of a list of recommended competencies and curricular guidelines for EOL care. This foundational EOL nursing

care knowledge was viewed by experts as *essential competencies* and was further categorized into nine discrete areas:

- nursing care at the EOL,
- pain management,
- symptom management,
- ethical/Legal issues,
- cultural issues in EOL care,
- EOL communication,
- grief, loss, and bereavement,
- quality EOL care, and
- time of death care (AACN, 2002).

Often, the guidelines developed by the various expert groups consisted of more general, overlapping content. Sometimes, however, guidelines were specific to particular EOL issues or symptoms. For example, in regard to specific EOL pain outcome guidelines, the AHRQ drafted cancer pain management guidelines appropriate for EOL patients (Jacox et al., 1994). The NHPCO produced a set of outcome-based guidelines to be utilized specifically by hospice providers in the delivery of EOL care (National Hospice Organization & Accreditation Committee, 1997). These guidelines address outcomes in, “Self-determined life closure, safe and comfortable dying, and effective grieving” (Lunney et al., 2003, p. 23). The American Geriatrics Society (Lynn, 1997) created a list of EOL care domains suitable for use in performance measurement assessing quality of EOL care. The American Geriatrics Society list has received endorsement of more than 40 professional organizations (Teno et al., 2001). Rushton et

al. (2003), in a survey of 24 organizations participating in the Nursing Leadership Consortium on End of Life Care (NLEC) EOL initiative, found 40% of the participating organizations offered active projects addressing EOL issues (e.g., standards of practice, care guidelines, and position statements).

The essential role of assessment in EOL care education has also been investigated; and, the link between professional certification testing and essential EOL curricular content has also been challenged. Some have questioned if current specialty nursing certification exams and supporting materials have sufficiently addressed essential EOL competencies. Content germane to EOL nursing care appeared on the National Council Licensure Examination (NCLEX) for RN licensure as early as 1998 (Wendt, 2001) and was integrated throughout the ten subcategories of the test (National Council of State Boards of Nursing, 2003). As of 2001, a total of 15 EOL competencies established by the AACN Taskforce were incorporated into the NCLEX-RN test plan (AACN, 2001). In regard to specialty nursing certification, Miller-Murphy, Esper, and Lockhart (2002) explored the degree to which nursing certification exams addressed nine EOL content areas (e.g., concepts of care, communication, grief and loss). One goal of their work was to improve EOL content in CE programs that nurses utilized to prepare themselves for certification exams. In an examination of detailed content outlines of 38 certification exams, 18 specialty organizations' "standards of practice" documents, and 28 core curriculum textbooks, the investigators found substantive shortcomings in both the quantity and quality of EOL content across all three measured areas. EOL content was included in 37% of certification exams; 25% of textbooks devoted entire chapters to EOL care (Miller-Murphy et al.).

Existing EOL Educational Initiatives

Braun and Kayashima (1999) observed that death education came into vogue during the late 1960s and 1970s and noted that *thanatology* (i.e., the study of death and dying) was only recognized as a legitimate field of study during the last few decades. Despite this delayed beginning, across the profession, nursing was focusing on EOL issues through a wide-range of efforts, such as educational programs and initiatives (Ferrell, 1999; Rushton et al., 2004). Bradley et al. (2001) noted nurses had promoted EOL care principles in nursing education for two decades. Knebel (2002) described an “explosion of initiatives” targeting improvements in EOL care within the last five years (p. 5), many spearheaded by nurses themselves (Reb, 2003). The framework to further support these initiatives was being developed as well—as evidence by the American Academy of Nursing’s Palliative and End of Life Care Expert Panel’s (2001) call for the integration of EOL care throughout the curriculum for acute and chronic illness.

Rushton et al. (2003) noted in 1999, the Open Society Institute’s Project on Death in America (PDIA) prepared nursing leaders to spearhead EOL projects in their respective specialty groups (Foley & Gelband, 2001). Created in 1994 and distributing \$45 million as of 2003, the project has funded and supported EOL care educational initiatives such as *the Faculty Scholars Program* (Open Society Institute, 2004). Also through the PDIA efforts, the previously mentioned NLEC was forged. As noted, the goal of the NLEC consortium was to make official a shared nursing effort focusing on improvement in EOL care. These efforts included EOL educational initiatives such as: (a) Ensuring EOL content in nursing education through inclusion of EOL content in NCLEX /certification exams and changing accreditation standards; (b) developing IDC models for

teaching effective communication, conflict resolution, and decision making in EOL care; and (c) dissemination of national nursing standards and guidelines for EOL care across nursing education programs (Rushton et al.). A meeting of the consortium in 1999 resulted in the drafting of a list of 170 anticipated needs for EOL care in the 21st century—the integration of EOL care into all nursing curricula was ranked number one (AACN, 1999).

Advancing the work of the NLEC, in collaboration with the School of Nursing at Johns Hopkins University, the Nursing Leadership Academy for Palliative and EOL Care focused on educating and organizing a network of nursing leaders to transform EOL care. The academy was comprised of experts from 22 national nursing organizations who represented over 463,000 nurses (Reb, 2003; Rushton, Sabatier, & Spencer, 2002).

The City of Hope National Medical Center's Beckman Research Institute founded the City of Hope Pain and Palliative Care Resource Center (COHPPRC) in 1995. The Center continues today as a clearinghouse for EOL education, information, and resources (City of Hope, 2005a). The clearinghouse provides a wealth of useful resources to assist those working to improve EOL care ranging from professional competencies, patient education, quality improvement, and assessment tools and research instruments (City of Hope). The International Association for Hospice and Palliative Care (IAHPC), a non-profit group focused on improving availability and access to EOL care throughout the world, facilitated EOL education for clinicians, policy makers, and patients (IAHPC, 2005).

Private foundations, like the RWJF, have underwritten a variety of EOL educational projects—investing upwards of \$148 million from 1996 to 2002 (Bronner,

2003). The foundation mobilized its resources in 1995 in response to findings emerging from the SUPPORT study (SUPPORT Principal Investigators, 1995) and targeted improved attitudes toward care of the dying through professional education, institutional change, and public engagement to advance the quality of EOL care in America (Bronner). Initial foundation efforts saw the establishment of the Last Acts National Coalition Campaign to promote improved EOL care and the development of the Precepts of Palliative Care, published in 1997 (Rushton & Sabatier, 2001). Today, Last Acts National Coalition works with more than 1,200 partners as the Last Acts National Coalition Partnership and continues to educate and advocate on EOL care issues (RWJF, 2003). The RWJF also funded the Center for Palliative Care at Harvard Medical School where physicians and nurse educators were trained to become EOL care experts—and then to train others.

Another national RWJF program developed to promote the education of nurse faculty in EOL care from the End of Life Nursing Education Consortium, known as the ELNEC Project (AACN, 2002; Reb, 2003). The goal of this program was the development of a core of nurse educators to promote coordination of EOL nursing care education efforts at the national level (AACN). The 13 different ELNEC courses, with components designed to address learners' cognitive, affective, and psychomotor domains (Matzo, Sherman, Penn, & Ferrell, 2003), were designed with the unique needs of nursing faculty, CE, and clinical staff development providers in mind (AACN).

The foundation has also funded the Hertzberg Institute and the Center to Advance Palliative Care at Mount Sinai School of Medicine—focusing on integrating EOL care into hospital settings (Bronner, 2003; RWJF, 2003). Also in 1997, the RWJF funded the

Promoting Excellence in EOL Care Program (Missoula Project) addressing the EOL care needs of special populations, those with specific diseases, and on provision of EOL care in challenging clinical settings (Bronner). A well-received PBS documentary with Bill Moyers on dying in America represented the foundation's largest public education project; *On Our Own Terms* won public acclaim (Bronner). Northwestern University is the home of another RWJF EOL project—Education for Physicians on End of Life Care (EPEC)—which is a *train the trainer* effort that has been consistently oversubscribed since its inception (Weisfeld et al., 2000). RWJF grant monies were also utilized by the Joint Commission on Accreditation of Healthcare Organizations in an effort to develop pain management standards that have been instituted and monitored in the framework provided by the mandated components consistent with the highly regulated health care industry (Weisfeld et al.).

With continuing RWJF funding, teams at the University of Illinois, the University of Washington, and the Institute of Health Professions at Massachusetts General Hospital (Cancer Pain & Symptom Management Nursing Research Group, 2004) developed the Toolkit for Nurturing Excellence at End of Life Transitions (TNEEL). This educational initiative was an easy-to-access package of six electronic EOL care modules that were distributed free of charge on CD-ROM to every academic nursing program in the United States (n = 1,236) and to educators in other academic and clinical agencies (n = 6,000). In experiential workshops designed to help educators (n = 94) learn to use TNEEL, Wilkie et al. (2004) found computer expertise amongst faculty members functioned as an important barrier to adoption of the TNEEL education modules.

Collaborative efforts to improve EOL care through education and other initiatives continue today through the newly formed NIH EOL Interest Group—a joint NINR and National Cancer Institute effort, the National Institute on Aging, and the National Center for Complementary and Alternative Medicine (Rushton & Sabatier, 2001).

The Influence of Education on Attitudes Toward EOL Care

Recognition of the importance of provider attitude in EOL care education has led to educational initiatives that promoted care-giving ability amongst those serving the dying. Bradley, Johnson-Hurzeler, Kasl, et al. (2000) recommended EOL educational initiatives focus not only on the knowledge and skill domains, but also on the providers' fundamental attitudes toward EOL care. They developed and tested a short survey measuring physicians' and nurses' attitudes towards EOL care. With a small sample of 25 physicians and 25 nurses in a cross-sectional study, the investigators pilot-tested the 12-item survey that explored views toward professional responsibility in EOL care, efficacy of hospice, and EOL communication. The instrument was found to possess good to excellent reliability via the weighted kappa coefficients and evidenced construct validity. The authors suggested the survey could be incorporated as pre/post testing of EOL educational programs and other initiatives to evaluate their efficacy. Additionally, they suggested EOL educational interventions must be inclusive of techniques that have proven efficacious in overcoming attitudinal barriers to EOL care (Bradley et al.).

Exploring the influence of provider attitudes on comfort with EOL care, Merrill, Lorimor, Thornby, and Woods (1998) developed a survey to analyze attitudes of health care providers toward caring for EOL patients. The investigator-designed, 110-item survey was completed by college freshman, senior medical students, community-based

primary care physicians, and graduate and undergraduate nursing students (n = 718). Using factor analysis, a thanatophobia score, defined as uncomfortable feelings and sense of helplessness in EOL care, was developed for each respondent. The investigators suggested educators could utilize the scale to aid in identification of students' EOL care angst and recommended that educational initiatives must be inclusive of student counseling related to the provision of EOL care as necessary (Merrill, et al.).

Bradley et al., (2000) noted clinicians play a central role in the treatment decisions during the EOL phase, therefore the attitudes they possess about the EOL phase are essential to guiding expert, compassionate care. Recognizing, "such attitudes mediate the effects of interventions on the delivery of improved care" (Bradley et al.), educational initiatives must target elemental provider attitudes, along with the tactic knowledge and skills, to best prepare clinicians for EOL care (p. 7).

In a prospective controlled study, Thulesius, Petersson, Petersson, and Hakansson (2002) explored the influence of learner-centered EOL education on home care staff in a rural area of Sweden. The goal of the educational initiative was the production of local EOL standards of care. Using a self-designed, 20-item survey, along with a recognized depression scale, the investigators' aim was to measure attitude and mental well-being following participation in lectures, seminars, group work, and discussions. The authors found improved attitudes and well-being following participation in the comprehensive EOL care educational program.

Applying research findings to the regulatory environment of the clinical arena, in a desire to facilitate improved patient care, the Joint Commission on Accreditation of Healthcare Organizations (1996) called for corrective measures that addressed both the

education and attitude of healthcare professionals on the provision of EOL care. Operationalizing this component of EOL care, Pierce (1999) recommended EOL education be focused on attitudinal/cultural change at the level of the staff nurse with accompanying institutional support to facilitate behavioral changes.

Studies of Nurses' Educational Needs Related to EOL Care

Surveys with Healthcare Professionals and Others

A body of work exists that describes the assessment of EOL care-related educational needs amongst health care providers across a variety of settings. For example, Kane, Hamlin, and Hawkins (2004) designed a survey for use with licensed clinical social workers to investigate perceptions of preparedness for work with EOL patients. Using an investigator designed, 28-item survey that was mailed to a random sample of Florida's licensed social workers, the investigators obtained 267 responses (58% response rate). Principal component analysis revealed three factors determined perceptions of preparedness for EOL care: 1) Knowledge of EOL care, 2) knowledge of EOL resources, and 3) attitude toward assisted suicide (Kane et al.). The authors suggested the survey instrument might prove useful in determining EOL care educational needs amongst other professionals.

A pilot, cross-sectional study by Weissman, Ambuel, Norton, Wang-Cheng, and Schiedermayer (1998) explored the competencies of 31 medical students, interns, and residents in EOL care. The investigator-designed survey consisted of four question domains. The first three domains assessed competencies and comfort (e.g., EOL communication topics, EOL medical issues, treatment withdrawal issues) while domain IV presented eight common EOL scenarios to elicit personal concerns. Respondents also

indicated interest in additional EOL learning from a list of 11 EOL topics. Finding that physician trainees lacked competence and comfort in several essential EOL care areas and lacked knowledge concerning current EOL medical ethics and laws, the authors called for the further development of a systematic EOL curriculum for care at the EOL.

Surveys with EOL Nurse Specialists

White et al. (2001), working with oncology nurses in an effort to identify core EOL care competencies and educational needs, mailed an investigator-designed survey to all members of the Oncology Nursing Society (ONS) in four states (n = 2,334) during 1999. None of the participating states had CE requirements for license renewal. The survey response rate was 33%; the final sample consisted of 750 respondents. Ninety-eight percent of nurses indicated that continuing EOL education was important, but only 26% believed they had an “excellent” level of EOL educational preparation. Three fourths had received EOL CE during the prior two years; only half of this group believed the information they received was “current and useful”. The majority noted they were able to use the educational information in their practice setting. Twenty-five percent of those who took advantage of EOL CE offerings rated the experience as “fair” or “poor”. Taken as a whole, the findings of White et al. revealed that almost half of the respondents did not participate in any CE on EOL care, possibly because the CE was viewed as not workplace appropriate, or they participated in EOL educational initiatives that they believed lacked quality. Despite these findings, the investigators noted that the survey allowed for identification of core competencies with a ranking of their importance, thus allowing respondents to indicate EOL care educational needs.

Ferrell, Virani, Grant, Coyne, and Uman (2000a; 2000b) also queried EOL nurses specialists who were members of the ONS using an investigator-designed survey that was published in *Nursing98* (Ferrell, 1998a) and *Nursing Management* (Ferrell, 1998b). These professional journals had a combined circulation of 380,000. This sampling technique resulted in 300 responses from volunteers. To promote a larger sample, surveys were mailed to a random sample of ONS members (n = 5,000). This secondary sampling strategy generated an additional 2,033 surveys for an overall response rate of 40% and a total of 2,333 returns for analysis (Ferrell et al, 2000a; 2000b). Related to EOL education, the investigators found 72% of nurses had the opportunity to care for EOL patients during nursing school, but less than 13% rated all aspects of their EOL nursing education as “very adequate”. Areas of inadequacy by rank were pain management (71%), overall EOL care content (62%), and family caregiver roles/needs (61%). Eighty-nine percent rated the importance of EOL care content in nursing education as “very important” (Ferrell et al, 2000a; 2000b). The results of the research were considered “descriptive only”; the editors of the 2001 Institute of Medicine Report *Improving Palliative Care for Cancer* (Foley & Gelband, 2001) relied significantly on the findings of Ferrell and her co-investigators in their summative remarks on nurses’ preparedness for EOL care.

Gail Havens (1998) conducted an EOL needs assessment with nurses from the National Association of Clinical Nurse Specialists (NACNS). Haven’s survey of EOL care appeared in a publication of the Association and requested that members prioritize 20 EOL care topics according to their individual professional need. Data on preferred learning approaches and interest in participation in an organizational EOL Steering Committee were also gathered. The Association reported that very few completed

surveys were returned; the survey was made available to an unknown number of potential respondents, thus a response rate could not be calculated; and findings were not disseminated (NACNS, personal communication, May 11, 2005a). The survey continues to be available for use by others through the NACNS Website (NACNS, 2005a).

Lehna (2003) assessed APN students' perceptions of EOL educational preparation and skill across nine EOL core competencies. The investigator-designed survey was distributed to a convenience sample of 75 APN students in two classes, achieving a response rate of 57%. Lehna found that students perceived a need for additional EOL education and had identified EOL topics that they believed should be a part of the nursing curriculum (e.g., "Palliative Care," "Ethical Issues," "Care of the Family," and "Giving Bad News"). The author suggested findings justified instituting an EOL educational program or more extensively including EOL content into existing graduate curricula.

The NHPCO (2005) conducted a national online EOL educational needs assessment survey of members prior to the development of EOL educational programming. Members were asked to provide information pertaining to work setting, clinical role, prior CE experiences, learning preferences, and personal demographics. Related to EOL care professional development, members were provided with a list of five categories of EOL care (e.g., physical care, organizational outreach, organizational systems, program management, psychosocial/spiritual/bereavement, leadership, and team) and instructed to indicate the top five educational needs from comprehensive lists under each of the five categories. Findings of the survey were not released but the organization continues to make the survey available to others via their Website for use in EOL educational planning (NHPCO).

A team from Providence Health Systems in Oregon, under the auspices of the RWJF Promoting Excellence in End of Life Care, modified the City of Hope's Professional Questionnaire entitled Supportive Care of the Dying for use with health care professionals (McSkimming, 2004). Providence is a member of a group of Catholic health care organizations located throughout the United States. The in-depth survey explored the experiences of EOL specialists across an array of topics including personal/professional experiences, health care environment, and effectiveness of care. Specialists were also asked to list EOL topics for which they believed they lacked sufficient knowledge and/or skills. Findings of the survey were not released but the survey remains available via the Internet for use in EOL educational planning.

Yates, Hart, Clinton, McGrath, and Gartry (1998) explored empathy as a criterion variable in an assessment for the development of EOL education for nurse specialists. Working from the premise of empathy as a teachable skill, the investigators tested a modified version of the Staff-Patient Interaction Response Scale with 10 nurse specialists. The team's goal was to lay the groundwork for a beginning understanding of the link between potentially modifiable variables, such as empathy, and EOL education to best prepare nurses for the difficult task of caring for the dying.

Surveys with Nurse Generalists

Werrett, Helm, and Carnwell (2001) developed a survey to explore nurse generalists' educational needs related to changing care boundaries. The IDC nature of high-quality EOL care stands as a clear-cut example of changing care boundaries for nurses. The study goal was to identify an educational model that would provide insight into how nurses' roles intersect with those of other healthcare professionals (Werrett et

al.). A 24% response rate was achieved through the return of 172 surveys; the instrument had been designed using importance-performance analysis techniques. Data suggested nurses had clear conceptualizations of their education needs related to changing care boundaries.

Ross, McDonald, and McGuinness (1996) developed and tested a survey designed to measure nurses' knowledge about EOL care, suitable for use with nurse generalists. One goal of the study was to identify frequently held misconceptions about EOL nursing care; the investigators believed the survey could function as an educational needs assessment tool by providing data about practitioners and promoting development of targeted professional education in EOL care. The Palliative Care Quiz for Nursing (PCQN), a 20-item survey measuring three dimensions of EOL knowledge, was distributed to undergraduate nursing students (n = 147), post-RN students studying for baccalaureate nursing degrees (n = 53), RNs (n = 155), and registered practical nurses (n = 41). Although outcome data were not published, the authors suggested the PCQN filled the gap in EOL care measurement and was useful for educational program development and evaluation.

Sharp and Oldham (2004) surveyed the EOL care educational needs of 447 nurse generalists serving in 10 community hospitals in the United Kingdom as part of an effort to improve palliative care outreach services. The response rate across institutions to the investigator-designed questionnaire varied from 8% to 100% with an overall response calculated at 37%. Respondents identified "goals of EOL care," "personal skills/attributes of staff," and "resources" as important elements of EOL care. A majority of nurses (82%) requested "home-based" learning methods for topics such as "pain management" (89%),

“hypercalcemia management” (85%), and “spinal cord compression management” (84%). Disparities were observed between respondents’ confidence and competence in EOL care areas and associated educational needs.

Ferrell, Virani, and Grant (1998a, 1998b), researchers at the City of Hope National Medical Center, explored the educational needs of another group of nurse generalists—home care nurses. The SUPPORT study (SUPPORT Principal Investigators, 1995) and the Institute of Medicine 1997 Report (Field & Cassel, 1997) suggested inadequacies in EOL educational preparation amongst home care professionals were a major contributor to shortfalls in EOL care. With support from the *PDIA*, the investigators undertook a self-designed needs assessment to survey 915 member home care agencies of the California Association of Health Services at Home (Ferrell et al., 1998b). Although 100% of those agencies that responded (n = 134) reported providing care to terminal patients, only 43% actually had hospice programs. The survey resulted in identification of specific EOL care topics (e.g., “pain and symptom management,” “communication issues,” and “dealing with death in the home”). From data derived during the needs assessment, the investigators developed The HOPE Educational Course and piloted the course in two agencies. Following completion of the course, significant improvement was demonstrated in four of seven outcome items for “self” and in six of the seven outcome items for “agency”.

The EOL educational needs of health care providers who do not traditionally have experience with the dying have also been targeted by teams working under the auspices of the RWJF’s Promoting Excellence in End of Life Care project. Collins (2003) and Forman (2004) utilized divergent strategies in research designed to clarify EOL care

issues existing at the community level. From a qualitative perspective, Forman developed focus groups questions for use with community-based health care professionals who traditionally did not serve EOL patients' needs. The focus group questions addressed local strengths and barriers to improving community-level EOL care. Insight voiced by participants could be used to develop targeted EOL education initiatives to meet local concerns related to services for the dying. No outcome data were reported.

From a more quantitative perspective, Collins (2003) developed a mail survey for use in assessing the EOL care needs of community-based nurse generalists related to pediatric EOL care. The author reported the survey was mailed to nurses at pediatric hospitals in St. Louis on a yearly basis; results of these survey efforts were not available. Both the Health Care Professionals End of Life Care Survey (focus group questions) and Nurse Community Needs Assessment remained available on the Internet for use by others interested in improving EOL care.

Surveys for use with nurse generalists on EOL care education have also been developed by investigators from the City of Hope National Medical Center's Beckman Research Institute (City of Hope, 2005b). A team from COHPPRC, the previously mentioned clearinghouse of EOL information and resources, utilizes these and other COHPPRC instruments in EOL research and education projects. The End of Life Attitudes Survey for Home Care Nurses (City of Hope) elicits nurses' perceptions of personal and institutional/employer efficacy across seven EOL domains (e.g., "pain management," "communication," and "cultural issues"). The End of Life Knowledge Assessment for Nurses (City of Hope) consists of 24 fact-based questions pertaining to EOL nursing care addressing topics such as ethical decision making, pain management

techniques, principles of palliative nursing care, terminal symptom management, communication processes, and grief theory. These City of Hope surveys are available for use and can be downloaded from the COHPPRC Website; developers suggest they are best utilized for descriptive purposes or for needs assessments as they lack reliability and validity data.

Surveys with Nurse Generalists in the Region

The Renaissance Research Project explored EOL care in Georgia to aid in the development, implementation, and evaluation of a model of EOL care that addressed EOL decision making and associated EOL care options (Renaissance Project, n.d.). In the study, partnering Emory University and the Georgia Collaborative to Improve End of Life Care, Jenny Perryman explored the attitudes of staff across a variety of disciplines toward EOL issues, current EOL practices, and institutional values affecting EOL issues. Specific details of the survey and the study were not available. The goal was to use the Renaissance Project results as a model for other academic teaching institutions.

Trotochaud (2001a), with the Center of Ethics at Emory University, collected data from 101 representatives of the Health Care Ethics Consortium of Georgia on EOL practices and attitudes of administrators and health care providers from a variety of disciplines and institutions across Georgia in 2000. Utilizing a 130-item survey, Trotochaud (2001b) uncovered several trends in EOL care across Georgia:

- EOL care lacked a common language.
- Only 48% of respondents described current EOL pain management as “effective.”
- The degree to which EOL care conformed to patients’ advance directives was unclear.

- Hospice usage was reported at less than 50%.

A second phase of this survey research focused specifically on Georgia nurses providing EOL care and utilized a 68-item survey mailed to 1,300 nurses selected from the membership lists of professional nursing organizations. Achieving a 26% response rate, Trotochaud's (2004) sample reported a lack of basic professional EOL education. The author recommended improving basic EOL education and improvements in both nursing assessment for and management of EOL pain.

The Role of Professional Organizations in EOL Education

Weissman, Block, Blank, and Cain (1999) and other experts (Last Acts Report, 2002) observed health care professional associations of various kinds can champion improvements in EOL care through placing these issues prominently on the organization's educational agenda. In a recent Institute of Medicine report, it was suggested that professional associations should provide leadership and education in EOL care for nurse generalists, who provide most of the care for the dying (Foley & Gelband, 2001). On a macro level, Field and Cassel (1997) described this type of leadership as, "Keeping the public discussion going" (p. 270). More specifically, experts called for, "continuing education to ensure that practitioners have relevant attitudes, knowledge, and skills to care well for dying patients" (Foley & Gelband, p. 278) and enjoined professional associations to, "assess the educational needs of their members" toward the provision of EOL care (p. 308).

Cervero (1989), adopting a functionalist perspective on the relationship between professions and the larger society, suggested the expertise held by professionals in any given area is highly relevant to the central values of a society. As such, continuing

professional education allows professionals to better serve society by improving knowledge, competence, and performance. Consensus as to the definition of good performance exists within professional groups; thus, CE is used within professional organizations to keep members up-to-date in their respective fields and to remedy deficiencies in existing practice (Cervero). Closs and Cheater (1994) noted that through collaboration with researchers, as described by Armitage (1990), Alexander and Orton (1998) and Hunt (1987), professional associations can work to bridge the practitioner-researcher culture gap by promoting translation of research findings into practice (e.g., educational initiatives and practice guidelines).

Are the educational needs of professional association members aligned with those of non-members? Many have described characteristics of nurses that appeared to differ based on professional association membership. Professional association members differ from non-members by virtue of altruistic need (Denton, 1976); career stage and employment motives (Ferinde, 1979); gender (McKay, 1974); level of professionalism (Kordick, 2002); marital status (Breedon et al., 2000); educational preparation (Breedon, et al.; Hungler, Joyce, Krawczyk, & Polit, 1979; Kordick; Yeager & Kline, 1983); characteristics of employment (Hungler et al.); economic need (Yeager & Kline); job satisfaction (Yeager & Kline); affiliation with other groups of practitioners (Church & Burke, 1993); values and attitudes (Berschied, 1985). Based on these findings, it could be argued that differences across these variables might result in different educational and learning needs amongst RNs by professional association membership status.

Cervero (1989) observed the leaders of most professions believed that design and implementation of CE must be orchestrated by group members; noting professional

associations are one of the four major providers of continuing professional education. In this education role, professional associations provided benefits to members, the profession, and the common good (Brockett, 1989). Interestingly, in the medical professions, half of all CE in healthcare has been provided directly by employers (Cervero).

Experts recognized that many professional associations had identified improvement in EOL care as organizational priorities (Steinhauser, Christakis et al., 2000). In a 2000 position statement, the International Council of Nurses (ICN), comprising more than 124 national nursing associations worldwide, did just this and called for nursing associations to promote EOL education throughout nursing curricula (ICN, 2000). A recent Institute of Medicine report (Lunney et al., 2003) delineated the function of professional organizations in identifying and articulating the roles of professionals in meeting EOL care needs. The Code of Ethics for Nurses (ANA, 2001) echoes these essential functions of professional associations.

Foley and Gelband (2001) recommended professional associations encourage their members to develop EOL standards of care and practice guidelines. The development of these as benchmarks of excellence in EOL care will be useful in the design and development of contextually relevant CE for nurses in EOL care that is reflective of current practice patterns and existing knowledge and skills. This type of development and dissemination of EOL care knowledge reflects an awareness of educational resource utilization patterns among practicing nurses. McPhee et al. (2000) noted that specialty journals and textbooks serve as valuable sources of up-to-date

information on EOL care, but these resources are not often employed by generalist clinicians; clearly, an information gap exists.

Rushton et al. (2003) described the efforts of the NLEC to advance EOL nursing care agenda. They noted professional associations had been called to establish EOL care as an organizational priority, to establish EOL issues for nurses as a research priority, to disseminate EOL nursing care standards and guidelines, and to propagate EOL educational programs (Rushton et al.). Rushton, Spencer, and Johnson (2004), reporting on the NLEC strategies for dissemination of the EOL agenda, noted professional organizations must view EOL care as an initiative that is fully integrated into ongoing professional education, not as a separate or isolated initiative. They also supported the partnering of professional groups with other organizations and institutions, as has occurred in this research project, to advance EOL care improvements, noting more can be accomplished by pooling efforts and resources (Rushton et al., 2004).

The Special Subcommittee on the Management of Acute and Terminal Pain (Joint Committee on Health Care, 1997) recommended that professional organizations disseminate the findings on EOL care management amongst members. Additionally, they requested professional organizations meet with appropriate healthcare regulatory boards to discuss expansion of EOL care knowledge amongst clinicians (Joint Committee on Health Care).

Continuing Education for Nurses

The Code of Ethics for Nurses serves as a reminder to all RNs that, “Educational resources should be sought by nurses and provided by institutions to maintain and advance the competence of nurses” (ANA, 2001, p. 21). To practice in accord with the

principles of bioethics (e.g., beneficence, justice, and respect) requires professional competence (Rancich, Perez, Morales, & Gelpi, 2005). For practicing nurses, these educational resources are often in the form of CE initiatives. Other healthcare professionals have echoed the belief that CE is an important element of any maintenance of competence initiative (Johnson, Austin, & Thompson, 2005); some view this process of lifelong learning as both a right and duty (Rancich et al.). A committee assembled in 2002 by the Council of Medical Specialty Societies recognized effective CE must promote quality care, support professional activities, arise from assessment of clinicians' educational needs, promote professionalism, motivate learners, and result in measurable outcomes (Johnson et al.)

Barriball, While, and Norman (1992) stated the purpose of continuing education, "Is to ensure that nurses are able to critically assess their clinical practice and identify their own continuing education needs" (p. 1130). Historically in healthcare, the emphasis in professional development has been on the development of CE that is germane to the daily practice of clinicians and responsive to the public's health needs (Nahrwold, 2005). Today, CE initiatives must also expressly provide clinicians with information and skill that improves outcomes for particular patients and population groups (Nahrwold). Some describe this as CE that, "Impacts outcomes of care at the patient and population levels" (Kristofco, Shewchuk, Casebeer, Bellande, & Bennett, 2005, p. 222) This type of CE must be inclusive of information on best practices and, "Only through research will the ideal CME (continuing medical education) be identified" (Nahrwold, p. 171).

Using a nominal group technique to identify the attributes of ideal healthcare provider CE, Kristofco, Shewchuk, Casebeer, Bellande, and Bennett (2005) found

strongest support for CE programs that were developed with a focus on (a) gaps in healthcare outcomes, (b) evidence-based content, and (c) needs-based data. Johnson et al. (2005) expanded on these, noting that clinicians want information that is personalized and practice-relevant and they want local access to this information.

At present, 23 state boards of nursing require CE for RN licensure renewal (All Star Directories, 2005) although Georgia has no such requirement. Evidence suggested the health professions, perhaps more than any others, have embraced the notion of lifelong professional education (Cervero, 1989). In a study exploring the importance of different information sources in promoting changes in clinical practice, Kerrison, Clarke, and Doehr (1999) found one of the most important sources for nurses was in-service education. In fact, Kerrison et al. found that compared to other healthcare providers (e.g., general practice physicians and physician specialists), nurses tended to place more emphasis on this education and training.

CE programs for nurses have demonstrated efficacy in improving patient care knowledge and skill. Glajchen and Bookbinder (2001) and Hughes (2005) found the majority of nurses valued professional development and believed continuing education had a positive effect on their practice. Johnson et al. (2005) noted that CE can be used specifically, “for remediation of identified areas of deficiency” (p. 185). Yet, in a sample of nurses from the United Kingdom, Barribal and While (1999) found statistically significant differences in utilization of continuing education activities between nurse non-respondents and respondents in their survey research; this confirmed Clarke and Rees’ (1989) findings that nurses with little or no CE experience were under-represented in studies.

Regarding EOL content, “Continuing education is minimal and inconsistent” (White, Coyne, & Patel, 2001, p. 150). In an Institute of Medicine report on EOL care, Field and Cassel (1997) noted:

Many deficiencies in practice stem from fundamental prior failures in professional education....and continuing education does not sufficiently prepare health professionals to recognize the final phases of illnesses, understand and manage their own emotional reactions to death and dying, construct effective strategies for care, and communicate sensitively with patients and those close to them. (p. 6)

Research has supported the need for EOL care CE for practicing nurses (Reb, 2003) although; data on the influence of education on clinical practice are mixed (Field & Cassel, 1997; Glajchen & Bookbinder, 2001). Hughes (2005) posits problems arise because, “Nurses do not understand the ethos behind professional development” (p. 48). Notwithstanding, in recommendations for public policymakers emerging from a national RWJF EOL initiative, experts called for, “Requirements for continuing medical and nursing education about EOL care” (Last Acts Report, 2002, p. 48). Although Georgia has yet to address this void, other states have responded to the call for EOL nursing care CE. For licensure in Florida, RNs are required to accrue 25 hours of CE during a 24-month renewal cycle. Along with mandated CE addressing HIV/AIDS, domestic violence, and prevention of medical errors, Florida’s RNs may elect to complete a course in EOL or palliative care (Florida Board of Nursing, 2006).

Although Reb (2003) observed that priority in EOL CE should be with those working in underserved and shortage areas, it has been recognized that EOL care needs extend across all areas of nursing practice. Rushton et al. (2004), reporting on the NLEC strategies for dissemination of the EOL agenda, enjoined professional organizations to

determine the EOL relevancy for the patient population served by the organization's members and to use this group-referent information as a guide for development of EOL educational initiatives and strategies. From this same broad perspective, Kazanowski (1997) called for mandatory CE for all nurses on EOL pain management, issues of death and dying, and philosophy of hospice and palliative care. Mirroring this call for continuing EOL education on symptom management, the Special Subcommittee on the Management of Acute and Terminal Pain (Joint Committee on Health Care, 1997) recommended inclusion of EOL pain management as a component of CE requirements for nurses. Additionally, they requested the boards of registration in nursing modify their regulations to require a biannual minimum number of CE contact hours in EOL care techniques (Joint Committee on Health Care). The Last Acts National Coalition Report (2002) included actions for public policymakers—specifically encouraging policy agents to establish requirements for continuing medical and nursing education on EOL care.

The literature provides additional evidence of nursing's efforts, at several levels, in relation to the development of CE on EOL care. Glajchen and Bookbinder (2001), in a national survey of homecare nurses (n = 1229) exploring CE practices, found significant discrepancies between measurement of nurses' pain management knowledge and their subjective competence ratings. To remedy this type of incongruity the authors recommended the use of creative CE initiatives such as the Train the Trainer programs and skills laboratories to strengthen nursing care abilities (Glajchen & Bookbinder). Grant, Ferrell, Rivera, and Lee (1995) described an effective CE format for nurses involving didactic programs and mentorship opportunities in pain management techniques. Reporting on a longstanding educational initiative, Latimer et al. (1998)

described 10 years experience with an interdisciplinary CE course in palliative care, noting the format was useful in meeting EOL care educational needs of practicing health care professionals.

Sources of EOL CE have varied widely. Rushton et al. (2003), in a survey of 24 organizations participating in the NLEC 1999 EOL initiative, found most included plans for development of CE credits on EOL issues. Knebel (2002) reported on EOL CE initiatives established by the NINR that brought together expert nursing educators and NINR-funded investigators. Continuing EOL education for practicing nurses has also been designed and implemented by staff development educators in the ELNEC project (AACN, 2002b). Even at the level of the individual nurse, clinical nurse specialists and other advance practice nurses with EOL experience can fill essential roles in the development and provision of CE for nurses in the field (Reb, 2003).

Educational Needs Assessment

Glajchen and Bookbinder (2001) suggested utilization of a needs assessment prior to the design of CE for nurses. The utilization of the needs assessment process has been recognized as an important component within the overall strategy of education and staff development in nursing (Furze & Pearcey, 1999). Needs assessment instruments for use in nursing have been developed to promote data collection in clinical settings and to capture data from stakeholders commonly associated with healthcare settings (Almquist & Bookbinder, 1990; Courtemanche, 1995). Given the often unique educational needs, desires, and goals of adult learners in the healthcare professions (Bowden & Merritt, 1995; Brookfield, 1984; Burns, 1995; Cranton, 2000; Rogers, 2002; Van Tilburg & Moore, 1989), an educational needs assessment offers a rational approach for

identification of complex needs existing in rapidly changing environments (Witkin & Altchuld, 1995; Queeney, 1995). Commenting specifically on EOL educational initiatives, Ury et al. (2000) observed that although EOL curricula can serve as *guideposts*, these existing documents do not address the specific needs and cultures of individual learners. The authors recommend utilizing a needs assessment in the development of EOL educational initiatives.

In 1999, working at the institutional level, Greiner, Buhr, Phelps, and Ward (2003) conducted an EOL care needs assessment using an investigator-designed 45-item survey that was mailed to 881 healthcare institutions in Wisconsin. A total of 318 surveys (36%) were returned; 43% of the returns came from long-term care facilities (e.g., nursing homes) and 60% of all responders described the location of their institution as “rural”. Reporting on CE offered during the previous year, “pain management” and “advance directives” were cited by respondents most frequently. Lack of provider knowledge of EOL pain and symptom control was identified as a significant barrier to good EOL care. Additionally, Greiner et al. observed that along with deficiencies in EOL pain and symptom management, shortfalls in clinician EOL knowledge and skill were cited across multiple EOL topical areas.

Examples of CE on EOL care for physicians could also be found. Ury et al. (2000) conducted an institution-specific needs assessment for palliative care education amongst internal medicine residents at an 800-bed tertiary care facility. Using an investigator-designed, 71-item, anonymous survey with 51 incoming interns in 1996, the team found the physician trainees had little clinical exposure or formal classroom education in EOL care. The authors suggested that identification of learners’ EOL

education needs, as well as the views of other clinicians and medical educators, was essential for the development of targeted EOL educational interventions.

A team from the University of California at Davis, under the auspices of the RWJF's Promoting Excellence in End of Life Care initiative, developed A Palliative Educational Needs Assessment for use with health care professionals (Blais, 2004). The instrument, a 15-item survey, was mailed to rural community physicians. The survey addressed EOL topics such as symptom identification and management, EOL resources, advance directives, quality of life measurement instruments, EOL communication, and confidence in EOL care expertise (Blais). Response rate and outcome data derived through use of this needs assessment tool with a sample of physicians were not reported.

In a review of the nursing literature dealing with educational needs assessment, Gould, Kelly, White, and Chidgey (2004) analyzed findings from 23 studies focused on either macro-level (e.g., nurses in a professional association), or micro-level (e.g., nurses in a single institution) educational needs assessment. The authors found micro-level educational need assessments provided the greatest likelihood of contributing to improved service provision and quality of patient care. The inclusion of stakeholder perspective and the ability to implement outcome-based educational initiatives were cited by the authors as beneficial characteristics of micro-level educational needs assessment (Gould et al.). In another educational needs assessment, this one a survey of 300 intensive care nurses, Kirchhoff and Beckstrand (2000) found that although nurses perceived a lack of EOL nursing education as an obstacle to care delivery, they failed to select "EOL educational interventions" from a list of 23 available "helps" they assumed might improve their EOL care ability.

Examples could be found in the literature whereby investigators paired a variety of EOL educational initiatives for healthcare professionals with needs assessment techniques. Linder, Blais, Enders, Melberg, and Meyers (1999) developed three unique EOL educational modules addressing the divergent EOL care needs of diverse health care providers, correctional custody staff, and volunteers serving EOL patients in differing settings. Utilizing a 33-item, self-designed pre/post questionnaire administered to 139 participants, the authors found the three educational modules enhanced EOL care. They suggested effective EOL educational interventions are those that are flexible, case-based, experiential in nature, rely on interdisciplinary discussion, and address providers' EOL attitudes as well as knowledge.

Kristjanson, Dudgeon, Nelson, Henteleff, and Blaneaves (1997) explored the effects of an interdisciplinary training program in EOL care on nurses, social workers, physicians, and volunteers. Following an intense EOL care training course with four teams of participants, the authors utilized five existing surveys and one novel survey to measure EOL care knowledge and attitudes toward EOL care. A repeated measures design revealed improved EOL knowledge and attitudes amongst participants following completion of the course and at three months post intervention.

Rawlinson and Finlay (2002), evaluating the efficacy of the Association for Palliative Medicine's (APM) Core Curriculum for Palliative Medicine, mailed a self-designed survey to 304 physicians who had completed the APM. The survey required participants to rate their EOL knowledge across 20 EOL care topics categorized into six domains (e.g., palliative care, clinical issues, psychosocial issues, cultural/religious issues, ethical issues, and legal issues). Achieving an 87% response rate, the investigators

found the majority of respondents agreed that all components of the APM curriculum were of great importance to their current clinical practice.

Utilization of a Web Survey

A survey approach is one format for collection of data to support an educational needs assessment and Web-based surveys have been described as advantageous in some areas (Duffy, 2002; Fowler, 2002). Researchers began exploring the utility of E-mail as a survey mode in the late 1980s, but the rapid development of the Web survey format quickly replaced E-mail as the typology of choice in Internet-based research methodology (Schonlau, Fricker, & Elliott, 2001; Solomon, 2001). Dillman (2000) described electronic surveys as one of, “the three most significant advances in survey technology in the twentieth century” (p. 352), although problems have been observed in relation to relative response rates, efficiency gains, and data quality (Couper, Blair, & Triplett, 1999).

A variety of advantages associated with utilization of Web-based surveys have been described. Fowler (2002) posited the format offered all the advantages of a self-administered instrument and all the benefits of a computer-assisted instrument. Duffy (2002) noted participants were less apt to experience injury in online data collection methods, in comparison to more traditional forms of data collection (e.g., face-to-face). Many noted the ability to gather large amounts of data via Web surveys (Business Research Lab, 2005; Dillman, Tortora, & Bowker, 1998). Others described the ability to easily access geographically and culturally divergent respondents (Duffy). They also suggested Internet surveys afforded respondents time for generating thoughtful answers.

From a cost perspective, evidence exists that both supported the method as a cost reducing technique (Dillman, 2000; Fowler, 2002; Jones & Pitt, 1999; Schleyer & Forrest, 2000; Shannon, Johnson, Searcy, & Lott, 2002) and refuted the claims of cost savings (Couper et al., 1999). Farmer (1998) claimed Internet data collection was 50% less expensive than telephone methods. Some described a financial *break-even-point* for Web surveys and noted savings were likely in the Web-based mode for projects with more than 347 respondents; data were less conclusive for studies where the number of responses was between 189 and 347 (Business Research Lab, 2005; Schonlau et al., 2001).

Related to overall time required to conduct a Web survey, data both supported (Business Research Lab, 2005; Dillman, 2000; Fowler, 2002; Schaeffer & Dillman, 1998; Tse, 1998) and refuted claims of improved timeliness. Farmer (1998) claimed the overall data collection window was significantly reduced for Internet surveys. Time savings were noted associated with the almost immediate display of data output files following survey submission (Dillman). Others noted time savings related to the ability to rapidly download these output files and to then effortlessly import data into statistical analysis programs (Dillman; Shannon, Johnson, Searcy, & Lott, 2002).

Issues of data control and security in the Web environment have also been explored. Many suggested the Website could provide secure data access (e.g., password and PIN), transmission (e.g., encoding), and archival environment (Business Research Lab, 2005). Some viewed the level of anonymity afforded to Web responders as a decided advantage of the format (Business Research Lab).

The Web survey also provides useful control features for researchers including making specific survey questions required (e.g., forced response), allowing algorithms to control ranking techniques, and preventing multiple submissions of the survey by individual respondents (Business Research Lab, 2005). Improved control in the data entering process associated with Web surveys have been achieved through permitting entry of only legal responses, checking entries for consistency, eliminating transcription errors, and improving handling of contingency questions (Business Research Lab; Dillman et al., 1998; Fowler, 2002; Schonlau et al., 2001).

Dillman and Bowker (2001) noted that some organizations, like professional associations, do not exhibit large coverage problems when Web surveys are implemented, although others noted the surveying members of professional associations may present unique challenges (Janota, Baum, & Slater, n.d.). Web surveys may be most effectively used for targeted populations such as these (Shannon et al., 2002; Couper et al., 1999) allowing members to link to various database websites (Duffy, 2002). Yun and Trumbo (2000), in an analysis of 360 randomly selected members of the 900 members of the National Association of Science Writers, suggested no influence of survey mode (e.g., postal, E-mail, or Web) in their analyses of survey response rates. They believed using multi-mode survey techniques improved the representativeness of the sample without contributing bias and recommend utilizing all three survey modes when the target population is a large public (Yun & Trumbo). Corroborating this, Janota et al. suggested combining a mail survey with a Web survey may produce more robust response rates for members of an association when significant numbers are known to have Web access.

The Web-based survey format has some disadvantages as well. Dillman (2000) and Duffy (2002) noted that the decision to participate in a Web-based survey is likely to be made more quickly than for other survey modes and respondents are not observed or prompted while completing a Web survey (Farmer, 1998). Swoboda, Muehlberger, Weitkunat, and Schneeweiss (1997) suggested electronic surveys may raise ethical concerns related to invasion of privacy (e.g., unsolicited E-mail), failure to observe “netiquette,” and concerns of “receiver burden”—when downloading long surveys results in costs incurred to potential respondents. Dillman et al. (1998) suggested a variety of problems stemming from a belief that many Web surveys have been poorly designed and Duffy noted Web-based samples were highly unrepresentative because of self-selection.

Dillman et al. (1998) cited sources of error commonly associated with Web survey techniques including (a) coverage error, (b) sampling error, (c) measurement error, and (d) non-response error. Dillman et al. suggested many Web survey respondents are guided by questionnaire logic rather than computer logic when completing Internet surveys, and the authors observed a failure to attend to this concern may result in errors in measurement and non-response.

Describing data quality, experts’ claimed that significant debate existed over the Internet’s utility in the collection of quality data (Couper et al., 1999; Duffy, 2002; Farmer, 1998; Shannon et al., 2002). Mischievous responding and multiple submissions have been described related to Web surveys (Duffy). Some noted Internet surveys, compared with other survey formats, may exhibit higher percentages of *missed items* with a negative influence on data quality (Paolo, Bonaminio, Gibson, Partridge, & Kallail, 2000; Schonlau et al., 2001).

With respect to response rate, lower rates for the Web survey mode have been noted (Couper et al., 1999; Medlin, Roy, & Chai, 1999; Solomon, 2001), although Janota et al. (n.d) suggested survey response rates have been declining across all modes. This has been attributed to a *questionnaire fatigue* phenomenon (Mandal et al., 2000). In general, low response rates generate questions about non-responders; non-response reduces the effective sample size and may introduce bias (Edwards et al., 2002). Some experts have distinguished between forms of survey non-response to include (a) non-coverage, (b) unit non-response, and (c) item non-response (Barribal & While, 1999). Diamond (1994) cautioned, based on guidelines from the former U.S. Office of Statistical Standards, when response rates are below 50%, precise statements about populations from which the sample was drawn should be made with caution (Diamond). In relation to Web surveys, Mandal et al. (2000) posited a more demanding criterion, suggesting that non-response biases are likely with survey response rates of less than 70%.

Comparing Internet surveys to mail response surveys, Schonlau et al. (2001) found E-mail and Web-based surveys had lower response rates (7% to 44% and 6% to 68% respectively). Couper et al. (1999) described similar response rates between the two electronic modes and, hoping to identify the underlying mechanism in low response to Internet surveys, suggested distinguishing between *access failure* and *respondent resistance*. Dillman and Bowker (2001) stated response rates to Web surveys are likely to be very low and are greatly affected by potential respondents' interest in the topic or interest in the Web based technology. Others suggested the less than robust response rates occurred because potential respondents did not have powerful technology at their disposal (Dillman et al., 1998). Response rates may also be a function of time of year.

Queeney (1995) described less robust response rates for surveys during June, July, and August because of vacations and truncated academic sessions. Specific to educational research, Morris, Fenton, and Mercer (2004), exploring Web surveys utilized in education settings, corroborated earlier findings on discouraging survey response rates during school holidays, spring break, and summer sessions.

Yun and Trumbo (2000) noted validity of Web survey results may be threatened by traditionally low response rates associated with electronic surveys. Electronic surveys may be subject to low response rates because E-mail messages can be discarded very easily, messages may fail to get the receiver's attention, E-mail replies are not anonymous, and messages may be filtered out and deleted when viewed as either "spam" or "junk" mail (Yun & Trumbo).

Irrespective of survey mode, researchers have explored methods to bolster data collection amongst all groups of potential respondents. Edwards et al. (2002), in a review of 292 randomized controlled trials of strategies to promote improved survey response rates across all modes of surveys, identified 75 techniques for consideration. In this largest review of its kind, the Edwards et al. found response rates were improved with monetary incentives, short surveys, personalized surveys, use of colored ink, first-class postage, multiple respondent contact, and using topics of potential interest to respondents.

Fox, Crask, and Kim (1988) conducted a meta-analysis of 40 experimental studies exploring techniques to improve survey response rates across all survey modes. The investigators examined pre-notification, follow-up, postage, cutoff date, sponsorship, paper color, postscripts, and incentives. Statistically significant estimated effect size at the $p < .01$ level were observed for university sponsorship (.089 ES), pre-notification via

letter (.077 ES), first-class stamped postage (.062 ES), and postcard follow-up (.035 ES). Small but significant effects ($p < .05$) were observed with the use of light green paper (.020 ES) for printing the survey instrument. The synergistic effects of these techniques were not explored.

Many noted it was not possible to gather data that was representative of the general population over the Internet (Farmer, 1998; Shannon et al., 2002). Reaching certain target audiences with a Web-based survey proved to be difficult; not every home had Internet access (Dillman, 2000; Solomon, 2001). Dillman et al. (1998) noted that although the number of United States households with computer access had risen from 24% in 1994 to 41.5% in 1999, coverage problems persisted (Dillman & Bowker, 2001; Shannon et al.). Yet, very recent data that suggested 77 million homes in America now have Internet access (Levinson, 2006). Nonetheless, potential respondents who are elderly, less educated, marginalized, lower-income, female, ethnic minorities, and those who hold negative attitudes toward the focus or topic under investigation may continue to be underrepresented (Business Research Lab, 2005; Couper et al., 1999; Dillman; Solomon).

Yun and Trumbo (2000) also voiced concerns about sample representativeness with electronic surveys. They noted that sampling is limited to those with computer access and expertise and the obtained samples may over-represent some groups; although normalization of the gender ratio, salient in a study targeting nurses, and evolving user-demographics on the Internet have been observed and may support claims of improved representativeness (McPhee & Lieb, 1999). Yet another challenge associated with the Web survey mode is the inability to obtain a projectable sample (Business Research Lab,

2005). Many Web surveys utilized convenience samples that depended on the solicitation of volunteer respondents.

Technical problems associated with the Web environment may be significant. Computer hardware and software, which varies by respondent, can cause significant distortions of screen configurations (Dillman, 2000). System incompatibilities and differing levels of technical expertise (Couper et al., 1999) can result in “an indeterminable amount of variation in stimuli between and amongst respondents” (Dillman & Bowker, 2001, p. 9). Dillman et al. (1998) noted screen space may result in a question context that differs considerably between respondents utilizing a Web-based versus paper-and-pencil format of the same survey resulting in errors of coverage, measurement, and non-response.

Data security issues associated with Web-surveys include the possible distribution of confidential information (Farmer, 1998; Shannon et al., 2002) and potential violation of respondent anonymity (Farmer). Commenting on log-on access procedures, which may take up to 3-4 minutes, Farmer noted requiring participants to actively search for a URL and then log-on for survey access, a technique often employed to limit malicious or multiple survey submissions, might be viewed as a decided drawback.

Without the use of a security PIN, password, or identification number to gain access to the survey, Dillman et al. (1998) claimed errors of sampling and coverage must be considered. Taking this a step further, others claimed the use of unrestricted sample surveys allowing access to anyone were unacceptable and stated responses should be carefully examined in cases where passwords or PIN numbers were not used, with

elimination of ineligible responses to maintain consistency with the sampling design and to promote credible results (Shannon et al., 2002).

On balance, the potential efficacy of utilizing an Internet-based survey must be weighed against the possible costs associated with this survey mode in relation to specific research project goals, resources, and project constraints. Online survey methodologies have provided nurse researchers with new tools for exploration. Duffy (2002) examined methodological issues associated with Internet-based research techniques in nursing research and confirmed that the prospective benefits must be considered alongside specific validity threats often associated with the method. For example, although the Internet format has been touted as a “time saving” approach, to achieve an adequate response rate, it may be necessary to keep a Web-based survey in the field for a prolonged period.

Morris et al. (2004) argued that few online surveys appeared in the nursing literature, although large organizations such as the National League for Nursing and the American Association of Colleges of Nursing, as well as independent nurse investigators (Cribb, 2004), have utilized the online survey research format. Morris et al. conducted their online survey to explore the integration of holistic, complementary, and alternative nursing modalities into nursing curricula in U.S. schools. Despite a low response rate (21%), the authors found the identification of specific trends was facilitated by the use of the Web survey format. Moreover, their findings suggested the Web mode would be suited to local, regional, state-wide, and national data collection projects and would also be a useful source of up-to-date data for policy makers and legislators.

Morris et al. (2004) also noted Web-based surveys could allow nursing educators and professional organizations to quickly identify trends and changes, and accrue state and national data to support educational initiatives and program development. Unfortunately however, Shannon et al. (2002) noted there was little agreement as to the principles that should guide the design and implementation of electronic surveys.

Remedies addressing some of the problems associated with Web-based surveys have been proposed. Dillman et al. (1998) suggested: (a) Using a conventional questionnaire format, (b) keeping questions short and simple to limit measurement error; (c) restricting the length of the entire survey, (d) providing specific instructions related to the computer context of the survey, (e) avoiding a forced response to every question to reduce non-response error; (f) designing survey to allow scrolling from question to question, (g) and using a graphic symbol allowing respondents to see where they are in the survey completion process to reduce errors of coverage, measurement, and non-response. Other proposed design considerations include maximizing speed of page loading by keeping Web graphics to a minimum, preventing multiple survey submissions, and collecting demographic information to enable weighting of data if required (Business Research Lab, 2005). Dillman (2000) offered other design guidelines for Web-surveys, including:

- keep questions and corresponding answers visible on screen at one time;
- introduce the survey with a welcome screen containing simple survey instructions; and
- pilot the survey using different browser and computer configurations.

Farmer (1998) suggested restricting Web surveys to those that can be completed within 15 minutes and also recommended the use of single response, dichotomous or

multichotomous questions, scaled questions (e.g., Likert), and paired comparisons.

Dillman et al. (1998) advised creating *respondent-friendly* Web questionnaires—designs that reduced the occurrence of sample error and recommended creating simple questionnaires requiring less computer memory; utilizing visual layout and design techniques that assist respondents in linking computer use with the logic of questionnaires; and when utilizing both Web and paper-and-pencil formats for a survey, work to create a similar questionnaire context across survey modes.

Dillman et al. (1998) also recommend introducing the Web survey with an information screen instructing potential respondents that they have arrived at the correct site for the survey, informing them about the ease of participating, and providing simple instructions for completing and submitting the survey. Solomon (2001) advised survey designers to place “easy” questions early in the survey item sequence and to avoid requesting any participant identifiers (e.g., E-mail address).

CHAPTER III

Methodology

With an understanding of the reported shortfalls in EOL nursing care, and an appreciation of the potential role of professional organizations in providing CE to remedy deficiencies in existing practice, it was of no surprise that GNA had EOL care education at the top of their agenda.

The GNA, the largest professional association of RNs in the state of Georgia, gathered at their 2004 convention and adopted a variety of *Action Reports*; one report focused on palliative and EOL care. The CNP of the GNA, just one of many GNA working commissions, was tasked to focus on nursing's approach to developing trends in nursing through the creation of standards and initiatives. The CNP collaborates with health professionals on matters germane to nursing (e.g., education, research, practice), communicates with its constituents, coordinates and disseminates information, and facilitates continuing education (GNA, 2005).

The CNP, in the November 2004 issue of the Association's newsletter, called for, "A concentrated effort to enhance access to quality palliative and EOL care information, education and services for Georgia's nurses, other health care professionals, as well as the public" (p. 13) and resolved that the GNA would, "Survey Georgia's nurses on the learning needs/challenges faced while caring for patients near the EOL" (p. 13) in order to develop targeted EOL care CE to effect state-wide improvements in EOL nursing care (Balkstra & Warren, 2004).

In response to the GNA commission's plan to survey the state's nurses in relation to EOL educational needs, I began the development of this research project. "Consistent with Valdosta State University's mission, this research is responsive to defined needs of Georgia residents and may prove useful for investigators exploring nurses' EOL educational needs in other states" (Schlairet, 2005a). Working with information provided by the Chair of the CNP, it became clear that the nurse survey had not occurred; but, the Association and Commission were amenable to working in concert with this investigator to accomplish the essential survey and data collection/analysis task. This type of collaborative effort was well-described by Closs and Cheater (1994), Armitage (1990), Alexander, and Orton (1998), and Hunt (1987).

I proposed to collect data utilizing a survey research technique that would support a descriptive analysis of nurses' attitudes and beliefs, knowledge and skills, and training and education related to the provision of end of life care. The utility of survey research techniques has been explained and supported in the literature (Alreck & Settle, 1995; Ary, Jacobs, & Razavieh, 1996; Fowler, 2002; Huck, 2004; Shadish, Cook, & Campbell, 2002; Tashakkori & Teddlie, 2003; Thorndike & Dinnel, 2001). It was hoped that the resulting findings would guide the state association in their efforts to develop EOL continuing education for nurses (Field & Cassel, 1997; Foley & Gelband, 2003).

With an understanding that research would promote the forecasting of needs and that consultation and agreement about what was to be accomplished should occur (Cavanagh & Tross, 1996), a dialogue began. Following an information sharing and survey project development and negotiation process, I drafted a project Letter of Intent (Appendix A) and subsequently received a Site Permission Letter from the GNA

(Appendix B). Approval from the Valdosta State University Institutional Review Board (IRB) for this phase of research was obtained (Appendix C).

After extensive discussions with the CNP Chair and Commission, a thorough review of the salient literature, and an analysis of 30 EOL surveys that were deemed relevant to the study topic (Appendix D), all parties involved agreed that utilization of an existing survey, or modification of one of the reviewed instruments, would fail to develop the data determined to be essential for the task at hand. Therefore, employing a quantitative research design with a descriptive, cross-sectional approach, I designed a survey to explore EOL nursing care attitudes, knowledge, education, and learner characteristics of RNs across Georgia (Ary, Jacobs, & Razavieh, 1996; Huck, 2004; Shadish, Cook, & Campbell, 2002).

Participants

In Georgia, approximately 85,000 registered nurses (employed and non-employed) held active licensure during 2004 (Georgia Board of Nursing, 2005). For this study, the accessible population was defined as the estimated 51,000 Georgia RNs who were licensed and working in nursing, either full-time or part-time during 2004 (USDHHS, 2001). Nurse participants were recruited using the GNA official publication, although the efficacy of this practice has been questioned (Witkin & Altschuld, 1995). The quarterly newspaper, *Georgia Nursing*, in which the *End of Life Care—Educational Needs Survey* (Schlairet, 2005b) was published in May of 2005, was mailed to all RNs holding state licensure in Georgia. Random sampling of this group was not attempted—historically, state boards of nursing rarely grant access to any individual-level information or licensees' data. As random sampling was not utilized, recruiting

participants through the use of the GNA publication appeared to provide an opportunity to access as diverse a sample as possible and planned collection of demographic data would provide for later analysis of confounding variables (Lazar & Preece, 1999).

It was recognized that this type of sampling strategy, utilizing an organizational newsletter or publication, had been linked with potential problems, including low response rates and a self-selected sample of respondents who may not be representative of the population (Witkin & Altschuld, 1995). Additionally, it was recognized that it would not be possible to compute a response rate if survey participants were recruited through the organizational newspaper and that the sample would represent a convenience sampling technique (Schonlau et al., 2001).

Instrument

Survey Instrument

The *End of Life Care—Educational Needs Survey* (Schlairet, 2005b) represented a compilation of EOL nursing care and EOL educational constructs that were identified during a thorough review of medical, sociological, and nursing literature and an analysis of 30 relevant EOL care surveys that had been designed by nurse educators, EOL clinical experts, and nurse researchers (Appendix D). This careful review promoted the identification of essential dimensions of knowledge (Alreck & Settle, 1995; Ary, Jacobs, & Razavieh, 1996; Fowler, 2002; Huck, 2004; Shadish, Cook, & Campbell, 2002; Tashakkori & Teddlie, 2003; Thorndike & Dinnel, 2001) central to EOL care and the ultimate development of survey items—a process that Nunnally (1978) viewed as foundational for the development of content validity.

The final version of the self-administered survey (Appendix E) consisted of six sections. A survey code book was developed following the adoption of the final version of the instrument to augment the eventual data analysis phase of the project (Alreck & Settle, 1995). Survey Section A contained 5-point Likert-type items with responses *strongly disagree* (scored as 1) to *strongly agree* (scored as 5). Of the 21 single-response items in this section, nine items addressed nurses' *attitude/belief* toward EOL care, four items addressed nurses' *subjective EOL care knowledge/skill*, and eight items addressed nurses' *objective EOL care knowledge/skill*.

Assessment across the cognitive and affective domains has been well-described in the existing EOL care literature (Brown & Timms, 2004; Ferrell, Virani, Grant, Coyne, & Uman, 2000; Glajchen & Bookbinder, 2001; Havens, 1998; Lehna, 2003; Ross, McDonald, & McGuinness, 1996). Elman and Lynton (1985) described the relationship between professional knowledge and skills as a continuum (e.g., basic knowledge, applied knowledge, and skills), giving credence to measurement of the two in this research as a joint construct. This approach has been supported for assessment purposes in the medical professions (Neufeld, 1985; Willis & Dubin, 1990).

In Section A of the survey, each item was scored individually, while adding scores created global measures. Interest in obtaining a global score for this section of the survey was grounded in, "Research on the characteristics" of EOL nursing care that, "supported an affective skill set and affirms their use of a holistic care model" (Dobratz, 2005, p. 117). Six of these 21 survey items were reverse-coded so that higher attitude/beliefs score, subjective EOL knowledge/skill score, objective EOL knowledge/skill score, *total knowledge/skill* score, and *total Section A* scores consistently

reflected more positive EOL care attitudes/beliefs and better EOL care subjective/objective knowledge.

Survey Section B allowed respondents to describe *personal goals* for EOL education (11 possible responses to identify respondent motivation and choice), type of EOL *instruction desired* (5 possible responses), preferred *learning format* (12 possible responses), employer/institutional *support for EOL education* (3 possible responses), and *barriers to EOL education* (21 possible responses subdivided into situational, program, and learner-derived barriers) as described by Queeney (1995). From an educational needs assessment perspective, the five multiple-response items in this section of the survey were designed to elicit specific information from nurses as stakeholders (Witkin & Altschuld, 1995) in a process that would ultimately culminate in the development of an EOL care CE initiative.

The theoretical framework supporting this survey research, Kolb's learning styles model and experiential learning theory, provided the basis for development and inclusion of items in survey Section B that sought to elicit respondents' learning styles and preferences. Kolb's model suggested that the curricular design of the GNA's to-be-developed EOL CE would best serve nurses' learning needs and maximizes learning opportunities if it was responsive to target audience desires (Kolb & Chapman, 1995).

In Section C, respondents self-rated their current EOL care knowledge/skill on a 5-point continuum with single-response options ranging from *not competent* (scored as 1) to *very competent* (scored as 5) across 23 EOL topical areas that were listed in table-format on the survey. These 23 topics were selected for inclusion in that they had been determined to represent the *essential competencies* or *core content* for EOL nursing care

by national experts (AACN, 1998a, 1998b; 2000a; American Association of Critical Care Nurses, 1999; American Geriatrics Society, 1995; ICN, 2000; NIH, 2004). In this survey section, the following scores could be calculated for each respondent: (a) Self-rated *knowledge/skill competency* score (range 1 – 5) for each of the 23 EOL topics and (b) *total self-rated knowledge/skill competency* score (range 23 – 115) across all 23 EOL topics.

The 5-point Likert-style response format, ranging from *not competent* to *very competent*, was utilized in survey Sections C and D as a modification of the novice to Expert scale (Dreyfus & Dreyfus, 1986; Benner, 1982, 1984, 2001). This modification was a result of survey field-testing which identified respondents were proficient in using levels to describe a continuum of improvement in performance, but found Benner's terminology (e.g., novice, advanced beginner) unclear. The inclusion of a competency or professional assessment framework in these sections of the EOL survey provided support for the professional model of nursing practice. Such competency assessments have been identified in promoting sound clinical decision making, developing professional goals, identifying educational needs, and allocating resources for educational initiatives (Robinson & Barberis-Ryan, 1995).

Additionally, in Section C of the instrument, using single-response options of *Yes* or *No*, respondents indicated if any of the 23 topical EOL areas were *workplace appropriate* and if they had a *desire for education* on any of the 23 EOL topics (Queeney, 1995). In this section, the following scores could be calculated for each respondent: (a) Total score on workplace appropriateness across all EOL topics (range 1 – 23), and (b) total score on desire for education across all EOL topics (range 1 – 23). Throughout

Section C, higher scores consistently reflected better self-ratings for knowledge/skill, viewing EOL topics as more workplace relevant, and desiring more EOL education across the 23 topical areas.

Survey Section D consisted of two single-response items that utilized a 5-point response scale to derive nurses' *overall self-rating on skill in the delivery of EOL nursing care* and *overall knowledge level of EOL nursing care*. In this portion of the survey, along with a skill score (range 1 – 5) and a knowledge level score (range 1 – 5), a *total overall self-rating skill and knowledge level* score could be calculated (range 2 – 10). Again, higher scores for the individual items and for the total consistently reflected better self-ratings on EOL skill and knowledge.

Survey Section E contained 12 single-response demographic-type items (e.g., age, rural-urban classification system). In this section, five items had fixed response options, four items required respondents to enter either whole numbers or percentages into blank text fields/boxes, and three items utilized fixed response options with an *other* option that permitted respondents to enter their own text into a blank text field/box.

Lastly, Section F, utilized one item with an open-ended format (blank text field/box), and allowed respondents to share their views on specific EOL topics they wanted to learn more about to better care for patients and families in the end of life phase. Although open-ended items in self-administered surveys seldom produce data amenable to coding (Fowler, 2002), respondents may have a desire to *voice* issues that were not included on the survey. Benner's (2001) work, one element of the theoretical framework for this research, acknowledged nurses' need to extend and refine knowledge that develops for nurses as they work in different settings with common issues (e.g., death and

dying). The open-ended format thus provided respondents a forum for sharing their, “common meanings acquired as a result of helping, coaching, and intervening in the significantly human events that comprise the art and science of nursing” (Benner, 2001, p. 12). Twinn (2003) suggested this effort toward, “understanding of human experiences is fundamental to the process of nursing across this spectrum and therefore plays an implicit role in the development of nursing knowledge” (p. 541).

Morse (2003) described this approach as the use of, “supplemental research strategies to collect data that would not otherwise be obtainable by using the main method and incorporating these data into the base method” (p. 191) to aid in understanding, description, and explanation of reality. These supplemental data are, “not saturated and cannot stand alone” (p. 193) and can therefore provide, “only a glimpse of another perspective” (p. 192).

Reliability of Constructs

Reliability was assessed for survey sections A, C, and D with calculation of Cronbach alpha scores. Cronbach alpha scores of 0.80 (20 items, Section A), 0.97 (23 items, Section B), and 0.94 (2 items, Section C) for the three survey constructs supported the finding of internal consistency for nurses attitudes’ toward EOL and the EOL knowledge/skill constructs. A coefficient alpha of 0.96 was calculated across all three sections of the survey (45 items). Using Nunnally and Bernstein’s (1994) criteria for affective measures, the score reliability estimates for all three constructs and the overall survey were more than adequate.

Validity

Following initial development of the survey, an iterative process of instrument review and extensive revision occurred as recommended by survey research experts (Fowler, 2002; Mandal et al., 2000). Early drafts of the instrument were reviewed by faculty having expertise in EOL nursing care, educational research, survey research design, nursing education, sociology, and curriculum design. The survey was field tested with student nurses (n = 7), nurse generalists (n = 6), and nurses with EOL care expertise (n = 8) to test phraseology, item sequencing, content, clarity, terminology, item difficulty, response burden, and to generate participants' general comments on the developing instrument (Alreck & Settle, 1995; Ary, Jacobs, & Razavieh, 1996; Fowler, 2002). Modifications in the survey resulted from these efforts.

To develop evidence supporting survey instrument validity, a process of expert review was initiated (Alreck & Settle, 1995; Ary, Jacobs, & Razavieh, 1996; Fowler, 2002; Huck, 2004; Shadish, Cook, & Campbell, 2002; Tashakkori & Teddlie, 2003). A member of the CNP who had networked extensively amongst EOL care experts, provided contact information for individuals viewed as likely sources of expert review for the newly designed survey instrument. Twelve EOL care experts with extensive backgrounds in clinical, research, and education settings were contacted via an E-mail greeting from the CNP executive who was known to them. A brief description of the survey project followed in the body of the E-mail. A request for expert review of the EOL survey instrument, as well as the instrument, was attached to the electronic greeting. Experts were asked to examine the survey instrument and determine if (a) survey items under each section of the survey represented the domain under which they were listed, and (b)

survey items under each section represented adequate coverage of the domain. Experts were asked to note any discrepancies, omissions, or redundancies and were invited to comment on survey content, format, and item construction—a process previously described by Ferrell, Virani, Grant, Coyne, and Uman (2000a; 2000b). Feedback was received from 50% of the experts who were initially contacted and these experts offered useful comments that were incorporated into the survey instrument to support content validity.

Pilot Testing

The survey was pilot tested in four healthcare settings with local nurses who included nurse generalists, RNs enrolled in a graduate nursing program, and nurses with EOL care expertise (Alreck & Settle, 1995; Ary, Jacobs, & Razavieh, 1996; Fowler, 2002). Following a distribution of 105 surveys, a 76.2% response rate was achieved. Reliability was assessed for two survey sections with calculation of Cronbach alpha scores. Cronbach alpha scores of 0.70 (9 attitude/beliefs items, Section A) and 0.82 (13 knowledge/skill items, Section A) for the two survey constructs supported the finding of internal consistency for nurses attitudes' toward EOL and the EOL knowledge/skill constructs. Using Nunnally and Bernstein's (1994) criteria for affective measures, the score reliability estimates for both constructs were acceptable; however, this earlier draft of the survey differed somewhat in content and format from the final version that was utilized in the project.

The early draft of the survey was also reviewed by a panel of experts in survey research in education at the American Education Research Association (AERA) April 2005 meeting in Montreal. Comments from the survey experts included potential

concerns related to sampling strategy, self-selection problems, non-response bias, potential response rate concerns, vertical spacing utilized in the survey instrument, excessive demographic items collected, potential response burden, latent data-entry burden, use of section headers, definition of terminology, utility of various measurement scales, and survey section sequencing. This useful feedback was influential in developing the final version of the survey instrument and was believed to promote design integrity.

Procedure

The *End of Life Care—Educational Needs Survey* (Schlairet, 2005b) was published in May of 2005 (Appendix E) in the GNA's official quarterly newspaper and mailed to all RNs holding state licensure in Georgia. Copies of the quarterly newspaper were also delivered in bulk to 34 educational institutions in Georgia offering basic nursing education preparation through an Associate and/or Bachelor's degree in nursing (Georgia Board of Nursing Program Directory, 2003). Use of the quarterly newspaper for survey distribution followed the suggestion of GNA executives in consultation with CNP members. The decision to publish the survey in the summer issue of the newspaper was supported by the CNP's data requirements and my project timeframe (Morris, Fenton, & Mercer, 2004; Queeney, 1995). A descriptive article (Appendix F) explaining the survey project and the Association's plans for development of EOL care continuing education offerings accompanied the published survey (Alreck & Settle, 1995; Fowler, 2002; Tashakkori & Teddlie, 2003). In the publication, potential respondents were instructed to complete the survey using paper and pencil, and to mail or fax the completed instrument back to the researcher (Dillman, Tortora, & Bowker, 1998; Riva, Teruzzi, & Anolli, 2003).

Alternatively, potential respondents were encouraged to access the Web-based version of the survey through a link to a URL, providing an electronic format for data submission. Many have noted the utility of Web-based surveys (Business Research Lab, 2005; Dillman, Tortora, & Bowker, 1988; Duffy, 2002; Fowler, 2002; Schaeffer & Dillman, 1998; Schleyer & Forrest, 2000). Web surveys have been effectively used for targeted populations like the GNA (Dilman & Bowker, 2001; Duffy, 2002; Janota, Baum, & Slater, n.d.; Yun & Trumbo, 2000). Yet, Riva et al. (2003) observed, “Very little is still known about differences in psychometric properties of the Internet survey format and the traditional survey format of an identical instrument” (p. 168), the technique utilized in this study. The survey could be accessed at <http://education.valdosta.edu/nurse>.

Website visitors were greeted with an opening screen that briefly described the study and explained the Web-based survey submission process (Business Research Lab, 2000; Dillman, 2000; Dillman et al., 1998). Access to the survey was not limited by use of PIN, password, or other authentication procedures (Business Research Lab; Dillman et al.; Duffy, 2002; Farmer, 1998; Shannon et al., 2002). The output file created from the Web survey site was designed to allow the investigator to examine IP addresses associated with survey submissions to identify multiple or duplicate survey submissions (Business Research Lab). An IP address is a unique identifier (e.g., 32-bit numeric address) for a particular computer on a network (Jupitermedia Corp., 2005).

The Web form of the survey was written in ASP (e.g., Active Server Pages for code generating syntax) and housed on a Windows 2000 server running on an Internet Information Server 6.0 behind a campus-wide firewall (M. Swift, personal communication, August 15, 2005). Data submitted via the Web survey were

automatically saved into a database and archived on the University server. This time-saving design element has been promoted as a decided advantage of Web-based data collection (Dillman, 2000; Shannon, et al., 2002). Periodically during the data collection phase, the database was reviewed, tested, and backed-up to insure that the data were being captured correctly (Alreck & Settle, 1995). At the conclusion of data accrual, the entire dataset was exported to Microsoft Excel and then imported into SPSS Version 9.0 for analysis.

In addition to the above efforts, members of the GNA executive staff, the CNP Chair and members, and the investigator utilized various formal and informal professional *networks* to disseminate information about the nurse survey to bolster survey participation as suggested by Yun and Trumbo (2000) for professional associations. The EOL nurse survey project was highlighted on the GNA's official Website and featured as a hotlink to the Web-survey, allowing visitors to complete and submit survey data directly. E-mails providing information and containing a link to the survey were sent on two occasions to faculty members (n = 600) in all nursing education programs in Georgia to promote survey participation. Paper-and-pencil forms of the survey were also distributed to a group of nurses (n = 575) at two health care facilities in one geographic region. Yun and Trumbo (2000) observed a multi-mode survey approach may improve the representativeness of the sample without contributing bias.

The initial data collection phase remained open for eight weeks (Couper, Blair, & Triplett, 1999; Duffy, 2002; Farmer, 1998; Shannon, Johnson, Searcy & Lott, 2002) resulting in return of 500 useable surveys. In an effort to improve the slow data accrual, the investigator mailed oversized postcards to all GNA members (n = 2,121) using a

mailing list provided by the Association, inviting members to log on to the EOL survey site URL and to complete and submit the Web-based survey. Those who had already completed the survey were asked to disregard the mailing. Forty of the mailed postcards (1.8%) were returned as “not deliverable” using the address provided by the GNA. As a result of the mailing, an additional 75 survey were submitted via the Web.

Data Analysis

SPSS Version 9.0, a comprehensive software system for data analysis, was used to explore and understand the data set. The analysis at the univariate and bivariate levels relied primarily on descriptive statistics (e.g., frequencies, means, correlations, and crosstabs); this was consistent with the inductive research paradigm supporting this descriptive analysis. The utility of descriptive statistical techniques has been noted in research designed to describe, classify, and explore the aspects of a situation or the dimensions of phenomena (Polit & Hungler, 1993). Multivariate analysis techniques such as linear regression, MANOVA, and factor analysis were also employed to examine relationships amongst variables and support the exploratory component of the research design (Martella et al., 1995).

Study Limitations

No matter how well constructed, every research study involves decisions and tradeoffs associated with selected methodological techniques and approaches (Polit & Hungler, 1993). In the present study, the following were viewed as general limitations:

- Dillman et al. (1998) suggested that *check-all-that-apply* questions, as utilized in 4 of the 5 items in survey Section B, can result in measurement and non-

response by way of a bias produced against items that appear later in a list of choices.

- Poor design of the survey item addressing *grief* in Section A, may have resulted in a loss of essential data related to measurement of respondent subjective EOL knowledge in the area of the grief process occurred.
- The potential for response bias amongst participants may have resulted in a sample of nurses who were very different from those nurses not responding to the survey in regards to the issues of interest (Price, Dake, Murnan, Dimming & Akpanudo, 2005).
- Poor design of the survey item addressing *conflicting views on EOL care* in Section A (double-barreled question), may have resulted in a loss of essential data related to measurement of respondent attitude toward respecting and advocating for patients care preferences (Mandal et al., 2000).
- In as much as this survey solicited volunteer respondents, sampling bias may have resulted (Price et al., 2005), and generalizations from this sample to a larger population of the state's nurses through inferential statistics would be unjustified (Duffy, 2002; Dillman et al., 1998; Mandal et al., 2000; Shannon et al., 2002).
- Nurses' self-ratings on particular survey items were purely subjective and not validated; therefore, these ratings may not accurately reflect nurses' EOL care acumen.
- The utilization of non-traditional elements of the research process, including sample selection (e.g., sampling all RNs in Georgia), sample recruitment (e.g.,

publication of survey in Association newsletter), and data collection (e.g., investigator-designed instrument lacking pre-established reliability and validity (Barriball & While, 1999) may result in a devaluing of the research effort from the logical positivist perspective (Hicks et al., 1996).

- Nurses' self-ratings using the Likert-scale format may result in gaps between categories that are different than as suggested by the words or number utilized to describe the category. For example, the difference between a "5" and a "4" on EOL knowledge may be different than the difference between a "4" and a "3" on the same construct (Fowler, 2002).
- Respondent burden amongst survey participants may have existed because of excessive survey length, effort requirement on respondent associated with participation, and stress related to examination of a difficult/sensitive topic (Bradburn, 1977).
- Low survey response rate in this research may be systematic, making the sample unrepresentative of the RNs across the state and resulting in a serious threat to external validity (Barribal & While, 1999). Utilizing Barribal & While's notion of non-response occurring at different stages of the research process, it could be suggested that the problems in this study that occurred during sample selection (e.g., sample size, study design, sampling frame) resulted in non-coverage and problems that occurred during sample recruitment (e.g., method of contact and method of data collection) resulted in unit non-response.

- The interpretation of MANOVA F -tests can be problematic whenever the compared groups have been formed in a non-random fashion (Huck, 2004).

CHAPTER IV

Results

A total of 567 valid surveys were returned by nurse respondents. Fifteen percent of respondents utilized the paper and pencil survey format ($n = 88$); these were returned via the U.S. mail ($n = 23$) and in-person ($n = 65$). The Web-based survey was the submission format of choice for the majority of nurses ($n = 479$). Using an estimate of 51,000 working RNs who were licensed in Georgia (USDHHS, 2001), the overall survey response rate was 1.1%. The response rate from the 2,114 GNA members was higher at almost 12%. No attempt was made to contact survey non-responders or to compare non-responders to those participating in the survey.

Interval Level Statistics and Ordinal Data

Analysis of this data set involved the use of interval level statistics on ordinal level data. The use of interval level statistics on ordinal level data as posited by Labovitz (1970), although a notion not without its detractors, has been viewed as a reasonable technique resulting in negligible error. This appears true even when, as in this work, there are as few as three categories in the scale and the distributions of the data are non-normal.

Demographic Information

Nurses in Georgia

Nurse respondents were primarily female (93%), and White, non-Hispanic (84%), with an average age of 47 years ($SD 10.89$). Ethnicity of the sample is reported in Table 1.

Table 1

Ethnicity of sample by sub-group (N = 554).

<u>Sub-group</u>	<u>N</u>	<u>Percent</u>
American Indian/Alaska Native	3	.5%
Asian	5	.9%
Black/African American	58	10.5%
Hispanic	4	.7%
Mixed	9	1.6%
White, non-Hispanic (Caucasian)	475	83.8%

Survey responses were received from nurses residing in 26% of the 982 Georgia zip code zones. Figure 1 depicts the locations across Georgia listed by respondents as their primary residence. An additional five responses were associated with non-Georgia zip codes. Describing their community, slightly more than half of respondents selected “urban” as the appropriate population size identifier for their area (Table 2).

Table 2

Respondent community population size classification (N = 556).

<u>Classification groups</u>	<u>N</u>	<u>Percent</u>
Urban (> 50,000)	285	51.3%
Large town (10,000 – 49,999)	149	26.8%
Small town (2,500 – 9,999)	80	14.4%
Rural (< 2,500)	42	7.6%

Almost 40% of nurses in the sample (n = 218) received the bachelor's degree as their initial nursing education; yet when combined, diplomas (n = 118) and associate degrees (n = 189) represented almost 56% of all initial degrees. On average, nurse respondents had completed their initial nursing preparation 21 years earlier (*SD* 12.72). Many nurses pursued education beyond the initial degree (Table 3).

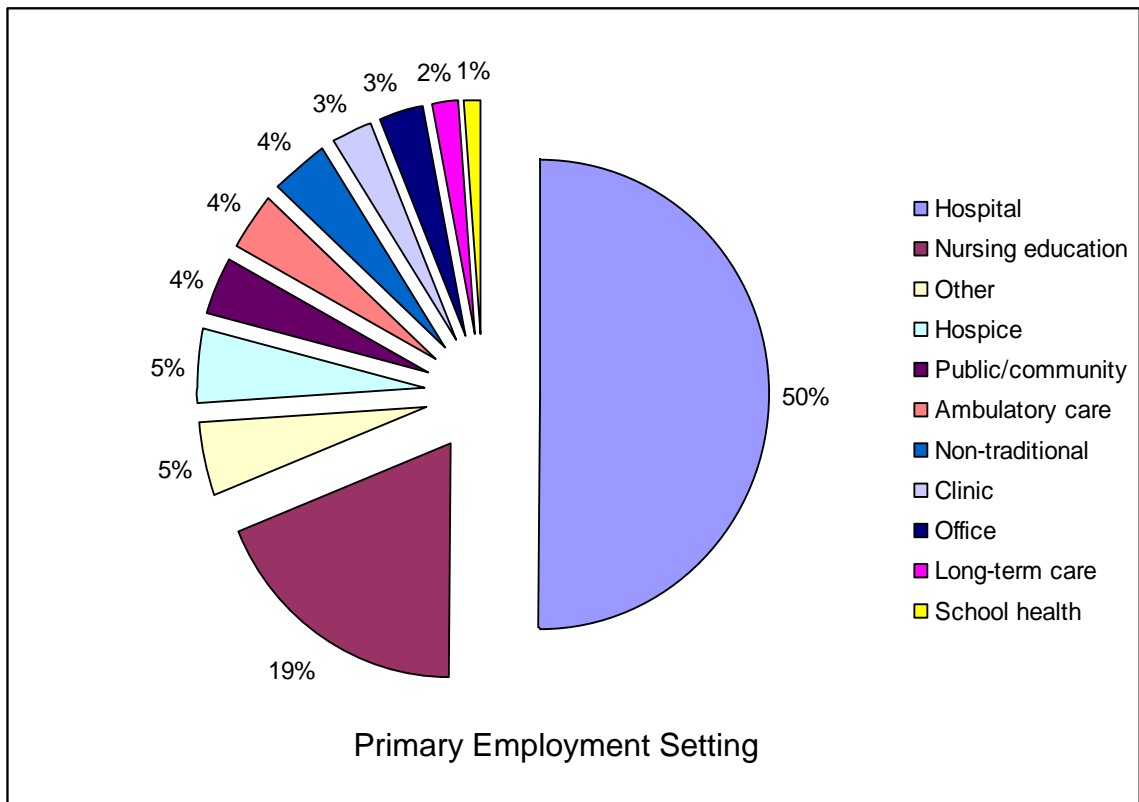
Table 3

Respondent highest degree earned in any field (N = 557).

<u>Degree</u>	<u>N</u>	<u>Percent</u>
Diploma	43	7.7%
Associate degree	86	15.4%
Bachelor's degree	181	32.5%
Master's degree	196	35.2%
Doctorate	51	9.15%

Nineteen percent of respondents identified themselves as advance practice nurses (e.g., nurse practitioner, certified nurse midwife, clinical nurse specialist, or certified registered nurse anesthetist). Employment in either a hospital (49.6%) or nursing education environment (19.7%) accounted for almost 70% of respondents' primary work settings. Hospice nurses accounted for 5% of the sample (Figure 2). Although hospice nurses reported providing care exclusively to the dying, amongst all responding nurses, patients in the EOL phase represented 18% (*SD* 26.76) of their patient loads.

Figure 2. Respondent primary employment setting (N = 552).



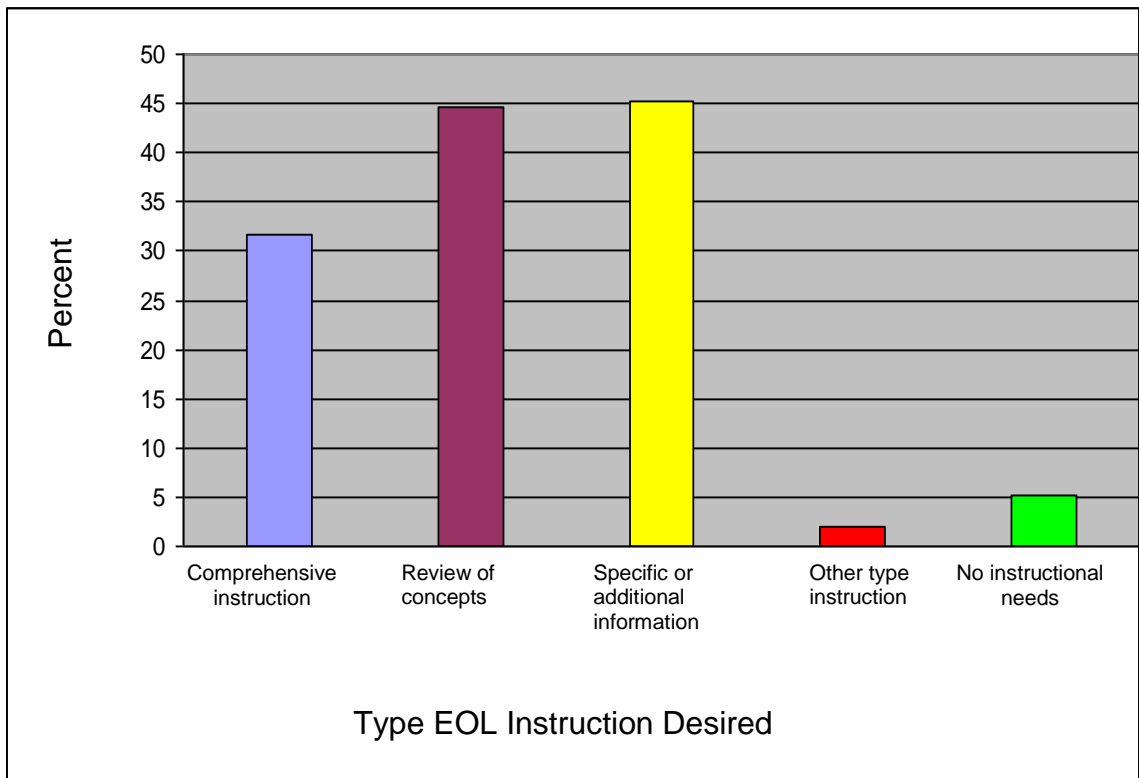
Note. Employment settings designated in figure as 'Other' included urgent care center, research facility, correctional institution, legal practice, employee health, massage therapy, ministry, small business, consulting field, paramedic facility, CPR training industry, counseling facility, long-term acute care, and homeless clinic.

Nurse Learner Characteristics

Survey data promoted identification of learner characteristics such as educational expectations, learning goals, learner preferences, and perceived educational barriers. The majority of RNs did not experience formal EOL instruction during their initial nursing education (67.2%) although a high proportion (62%) reported possessing the requisite knowledge/skill to provide quality EOL nursing care. Thirty-nine percent of the sampled RNs had participated in EOL CE during the last five years.

Nurses were asked to identify the type(s) of instruction required, amongst five possible choices, to improve their ability to care for EOL patients (Figure 3) and to identify their preferred learning format(s) from a list of choices (Table 4). Almost half expressed a desire for a review of EOL care concepts (n = 253) or specific EOL information (n = 257). Group and face-to-face learning formats were favored by 20% to 47% of nurses; individual or independent formats were desired by 6% to 38% of nurses.

Figure 3. *Percent of respondents selecting desired EOL instruction by type (N = 567).*



Note. Type of desired EOL instruction designated in figure as ‘Other’ included current information and trends, preparation for certification/advanced practice, physician focused education, administration focused education, continuing education, setting-specific instruction, disease-specific instruction, and topic-specific EOL instruction. Percentages add up to over 100 because nurses were allowed to respond to more than one format.

Table 4

Respondent preferred learning format(s) by percent (N = 567).

<u>Format</u>	<u>Percent</u>
Classroom session	46.9%
Print material	37.9%
Video	33.5%
Computer-based method	31.2%
Hands-on method	24.2%
Interactive, Web on-line	22.8%
Independent study	19.9%
Compact/digital video disk	19.8%
Group study	19.4%
No format preference	10.1%
Audio	6.0%
Other format	1.8%

Note. Preferred learning formats designated in table as ‘Other’ included discussion, work shop, lunch/dinner format, variety of formats, conference, seminar, expert discussion, presentation, and interdisciplinary group format.

Respondents also identified their purpose(s) or goal(s) for seeking EOL education by selecting from a list of potential purposes. On average, respondents identified three purposes for seeking EOL education (*SD* 1.78) as displayed in Table 5. The three primary purposes for seeking EOL education could be described as personal development, role improvement, and instructional remediation.

Table 5

Respondent purpose(s) or goal(s) for seeking EOL education by percent (N = 567).

<u>Purpose</u>	<u>Percent</u>
Individual improvement	64.2%
Enhance performance of specific role/job	54.1%
Fill gaps in prior education	32.6%
Innate joy in learning	28.4%
Fulfill professional obligation	27.2%
Fulfill social/moral obligations	25.9%
Investigate options/identify choices	19.6%
Improve employment prospects	11.1%
Accomplish pre-determined goals	8.8%
Not interested in EOL learning experiences	4.2%
Other purpose(s) or goal(s) for EOL education	3.4%

Note. Purpose(s) and goal(s) for seeking EOL education designated in table as ‘Other’ included educating nursing students; serving as information resource for colleagues; providing quality EOL care; understanding EOL concerns, responses, and beliefs; fulfilling religious obligations; assisting patient/family understanding and coping; implementing institutional palliative care program; continuing education; conforming to local requirements; enhancing patient EOL journey; performing ministry work; caring for family member; and love for EOL clients.

Over 75% of the sample indicated that employer/institutional support for continuing education existed within their work setting (n = 548); when identifying barriers to professional education specific to EOL care, 8% of nurses identified lack of employer support as a perceived barrier (n = 567). Respondents identified other barrier(s) to professional education on EOL care including situational barriers (Table 6), learning program barriers (Table 7), and learner-derived barriers (Table 8). Almost 20% of the sample denied having any barriers to EOL education. The average number of barriers to professional education was 2.67 (*SD* 1.92).

Table 6

Percent respondents selecting situational barriers to EOL care professional education

(N = 567).

<u>Barrier</u>	<u>Percent</u>
Scheduling conflicts	40.0%
Family obligations	21.5%
Professional obligations	20.1%
Cost	20.1%
Lack of employer/institutional support	8.3%
Employment status	7.2%
Full time student	5.8%
Poor health	.5%

Note. Percentages add up to over 100 because nurses were allowed to respond to more than one barrier format.

Table 7

Percent respondents selecting learning program barriers to EOL care professional education (N = 567).

<u>Barrier</u>	<u>Percent</u>
Availability of education	29.5%
Time	25.7%
Awareness of educational opportunity	24.7%
Distance	15.7%
Access to education	11.3%
EOL topic not workplace appropriate	5.5%
Disappointed with prior CE experience	1.4%

Note. Percentages do not add up to 100 because nurses were allowed to respond to more than one barrier format.

Table 8

Percent respondents selecting learner-derived barriers to EOL care professional education (N = 567).

<u>Barrier</u>	<u>Percent</u>
No barriers to education	19.8%
No mentor/role model	2.6%
Anxiety about EOL topic	1.9%
Other barriers to education	1.8%
Technology issues	1.6%
Lack of interest in EOL care	1.2%
Anxiety about learning	.7%

Note. Learner-derived barriers to EOL care professional education designated in table as ‘Other’ included lack of administration support; lack of physician participation, concern, education, and compliance with patient EOL wishes; no personal motivation; EOL knowledge/skills not commonly required; and EOL knowledge/skills not a substantive component in existing nursing curriculum. Percentages do not add up to 100 because nurses were allowed to respond to more than one barrier format.

Nurse Association Member Characteristics

Forty-three percent of respondents indicated current GNA membership (n = 244). Disaggregating the entire sample by GNA member status (member compared to non-member) highlighted group-level differences across the aforementioned variables of gender, age, ethnicity, community size (Table 9); professional status and EOL patient care load (Table 10); respondent initial degree, average number years since earning initial degree, and highest degree (Table 11). Chi-square tests revealed significant associations between respondent highest academic degree, employment site, and professional status and active GNA membership status. Effect size for these relationships were classified as small to moderate per Cohen's (1988) criteria (Table 12). Independent samples *t*-tests revealed significant associations between respondent ages, years since initial nursing education, and percent of EOL patients cared for in primary work setting by active GNA membership status (Table 13). Effect sizes for these relationships were small to moderate per the criterion for Cohen's *d* (Cohen, 1988). GNA members tended to be older and had completed initial nursing education earlier. Members were more often advance practice nurses, employed in nursing education, and held more advanced terminal degrees. Additionally, members provided nursing care for a smaller percentage of EOL patients in their primary work setting.

Table 9

Comparison of respondent gender, age, and ethnicity, and community size by GNA membership status (N = 554).

<u>Variable</u>	<u>Members</u> <u>(n = 244)</u>	<u>Non-members</u> <u>(n = 310)</u>
Gender		
Female	94.6%	94.5%
Male	5.4%	5.5%
Age (M)	50.21 (SD 10.05)	44.88 (SD 10.91)
Ethnicity		
American Indian/Alaskan Native	0.8%	0.3%
Asian	0.8%	1.0%
Black/African American	12.0%	8.9%
Hispanic	0.4%	0.7%
Mixed	1.2%	2.0%
White, non-Hispanic (Caucasian)	85.1%	86.8%
Community size		
Urban (> 50,000)	56.5%	46.8%
Large town (10,000 – 49,000)	23.0%	30.2%
Small town (2,5000 – 9,999)	13.0%	15.6%
Rural (< 2,500)	7.4%	7.5%

Table 10

Comparison of respondent current professional status and percent EOL patient care involvement by GNA membership status (N = 554).

<u>Variable</u>	<u>Members (n = 244)</u>	<u>Non-members (n = 310)</u>
Professional status		
Advance practice RN	29.6%	11.0%
RN	70.0%	84.5%
Employment site		
Hospital	38.6%	58.6%
Hospice	3.0%	5.9%
Nursing education	29.2%	12.4%
Other	7.2%	3.9%
EOL patients in work setting	14.21% (<i>SD</i> 24.33)	20.47% (<i>SD</i> 28.44)

Note. Employment site designated in table as ‘Other’ included urgent care center, research facility, correctional institution, legal practice, employee health, massage therapy, ministry, small business, consulting field, paramedic facility, CPR training industry, counseling facility, long-term acute care, and homeless clinic.

Table 11

Comparison of respondent initial degree, average number years since earning initial degree, and highest degree by GNA membership status (N = 554).

<u>Variable</u>	<u>Members (n = 244)</u>	<u>Non-members (n = 310)</u>
Initial degree		
Diploma	23.3%	19.5%
Associate degree	28.3%	39.4%
Bachelor's degree	44.6%	35.8%
Master's degree	2.5%	3.6%
Other degree	1.7%	1.3%
Years since nursing education (M)	24.57 (SD 12.37)	18.40 (SD 12.30)
Highest Degree any field		
Diploma	4.1%	10.1%
Associate degree	8.3%	20.9%
Bachelor's degree	22.0%	40.5%
Master's degree	49.4%	24.5%
Doctorate	16.2%	3.9%
EOL patients in work setting	14.21% (SD 24.33)	20.47% (SD 28.44)

Table 12

Chi-square analysis of group differences associated with active GNA membership status.

<u>Variable</u>	<u>Pearson</u>				
	<u>Chi-Square</u>	<u>df</u>	<u>N</u>	<u>Sig.</u>	<u>Effect size</u>
Highest degree	79.96	4	547	.000***	.35
Employment site	53.19	14	543	.000***	.12
Professional status	36.91	2	553	.000***	.26

***Relationship is significant at the 0.001 level.

Table 13

Independent samples t-tests of mean differences associated with active GNA membership status.

<u>Variable</u>	<u>t</u>	<u>df</u>	<u>M</u> <u>difference</u>	<u>Std.</u> <u>error</u>	<u>Sig.</u> <u>(2-tailed)</u>	<u>Effect size</u> <u>(d)</u>
Age	5.933	533	5.32	.8981	.000***	.49
Years since nursing education	5.777	539	6.16	1.067	.000***	.50
Percent EOL patients	-2.685	505	-6.26	2.331	.007**	.22

***Relationship is significant at the 0.001 level (2-tailed).

** Relationship is significant at the 0.01 level (2-tailed).

Univariate Analysis

The Section A component of the survey generated individual scores for 21 items exploring nurses' EOL attitude/beliefs and knowledge/skills; these items were also summed to create section sub-totals (e.g., EOL attitude/beliefs score, subjective EOL knowledge/skill score, objective EOL knowledge/skill score). Higher scores on the scale reflected more positive EOL care attitudes/beliefs and better EOL care subjective and objective knowledge/skill.

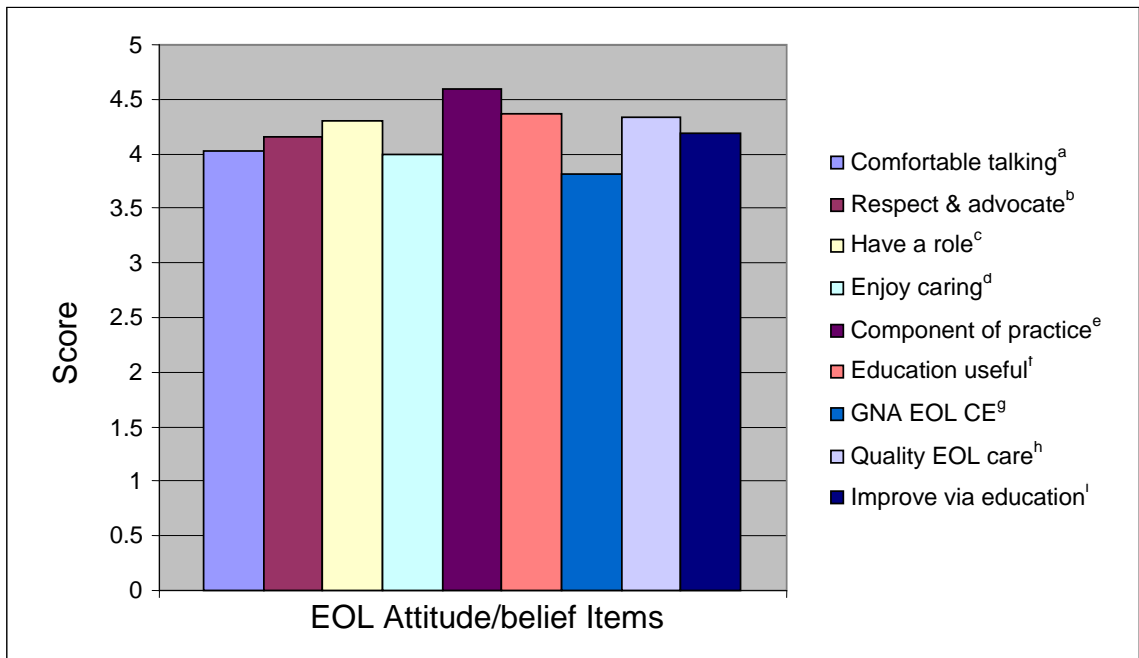
Scores generated from survey Sections A, C (knowledge/skill competence rating on 23 EOL topics), D, and E of the survey were reasonably normally distributed. Section C scores for EOL topic workplace appropriateness score and desire for EOL topic education were bimodal in nature. Nurses' total EOL attitude/belief scores (Table 14) and scores for each of the nine EOL attitude/belief items are depicted (Figure 4). The mean score for the attitude/belief items was 4.19 (out of a maximum possible score of 5.00) across the nine items, reflecting positive EOL attitude/belief.

Table 14

Section A mean scores for attitude/belief items, subjective knowledge/skill items, and objective knowledge/skill items.

<u>Survey sub-sections</u>	<u>N</u>	<u>M (scale)</u>		<u>SD</u>
Attitude/belief	553	37.86	(5 – 45)	4.76
Subjective knowledge	557	11.55	(5 – 20)	3.16
Objective knowledge	546	27.63	(5 – 35)	3.62

Figure 4. Mean scores on nine EOL attitude/belief survey items (N = 565).



^aComfortable talking about death and dying with patients who are in the EOL phase.

^bRespect/advocate for patient EOL preferences when their views conflict with my beliefs.

^cBelieve I have a role in EOL patient care.

^dEnjoy caring for patients whose disease process is unlikely to respond to treatment.

^eEOL care is a component of professional nursing practice.

^fIn work setting, EOL education would be useful.

^gWant to participate in GNA sponsored continuing education on EOL care.

^hInterested in delivering quality EOL nursing care.

ⁱWant to improve level of EOL knowledge through education.

Nurses' total EOL subjective knowledge/skill scores are also noted in Table 14 and scores for the four EOL subjective knowledge/skills items are shown in Figure 5. The mean for the subjective knowledge/skill items was 2.88 across the four items. Respondents reported that they possessed EOL care knowledge, yet also indicated they did not have knowledge of the MHB and had not participated in either formal EOL instruction during initial nursing education or EOL CE within the last five years. Respondents' total EOL objective knowledge/skill scores are also noted in Table 14 with scores for the seven EOL objective knowledge/skills items depicted in Figure 6. The mean for the objective knowledge/skill items was 3.94 across the seven items reflecting correct answers on the EOL nursing care fact-type survey items, with the exception of the sedation item.

Figure 5. Mean scores on four EOL subjective knowledge/skills survey items (N = 563).

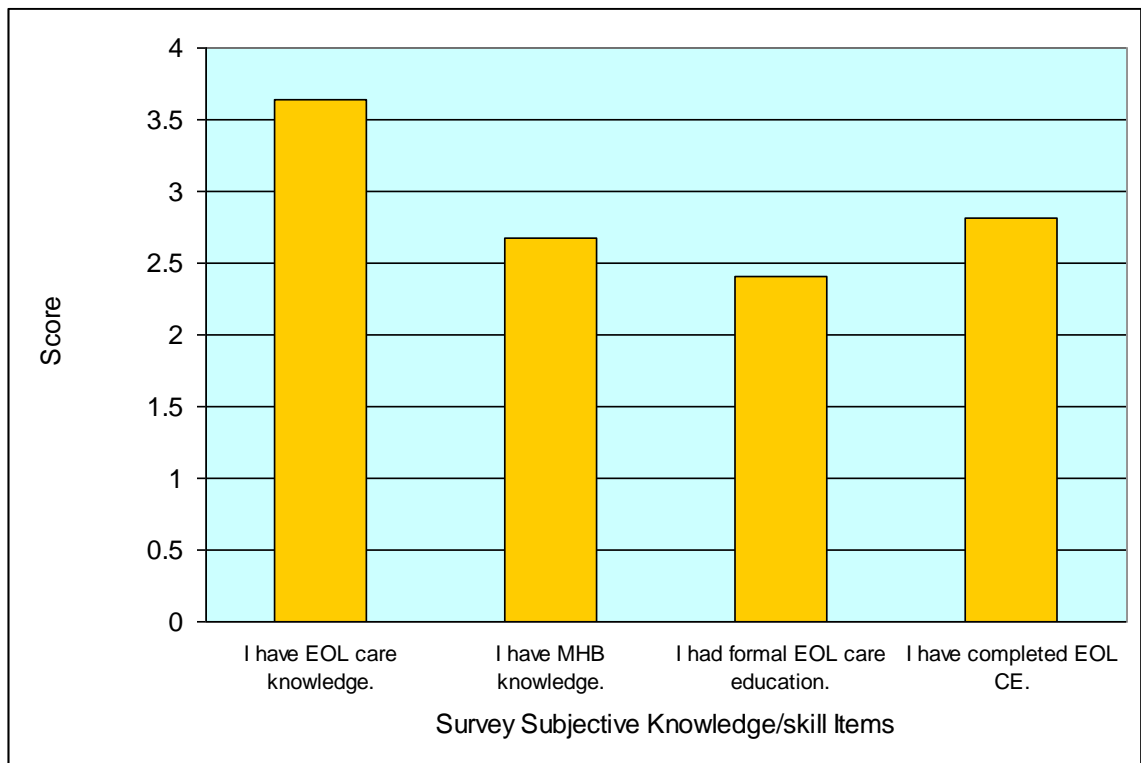
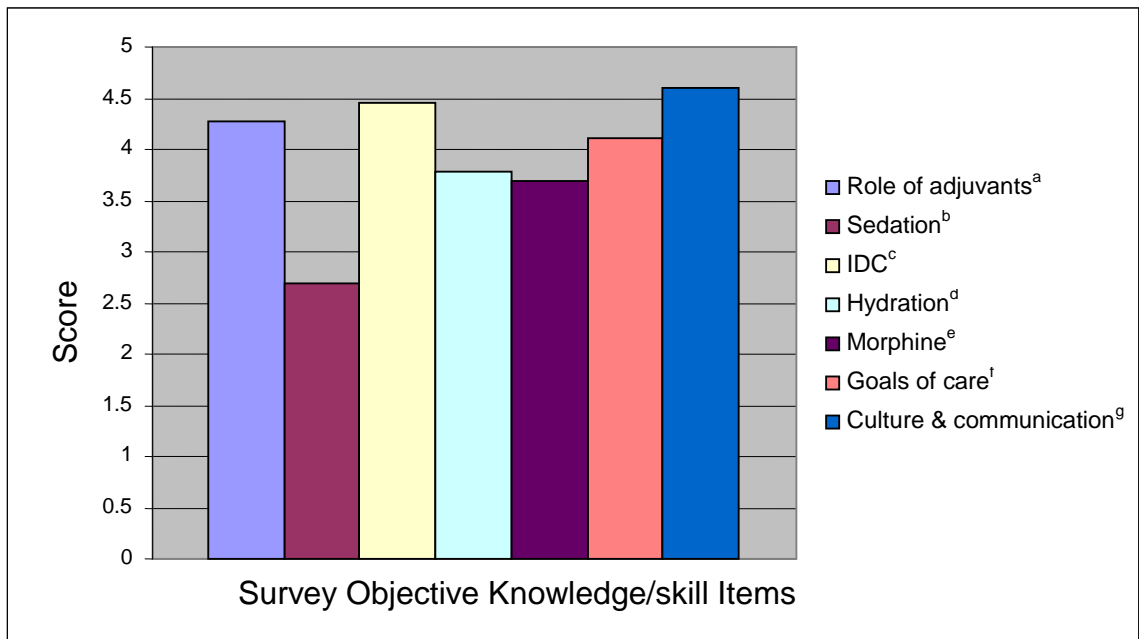


Figure 6. Mean scores on seven EOL objective knowledge/skills survey items (N = 565).



^aAdjuvant analgesics have an important role in pain treatment.

^bDrowsiness from electrolyte imbalance/physiologic changes reduces sedation needs.

^cEOL care utilizes an interdisciplinary approach to patient treatment.

^dMedically provided hydration/nutrition may not be appropriate in EOL care.

^eMorphine is appropriate for treatment of dyspnea in the terminal illness phase.

^fStopping disease progression is not a goal of EOL care.

^gCultural factors may influence attitudes toward communicating feelings and needs.

Survey Section D consisted of two items allowing for an overall self-rating on skill in the delivery of EOL nursing care and knowledge level of EOL nursing care. These were summed for an overall self-rating skill and knowledge level score. Again, higher scores for the individual items and for the overall self-rating consistently reflected better self-ratings on EOL skill and knowledge (Table 15).

Table 15

Respondents' mean scores (1 – 5) on overall self-rated competence for EOL nursing care.

<u>Self-rated competency item</u>	<u>N</u>	<u>Score</u>	<u>SD</u>
Overall skill in delivery of EOL nursing care	551	3.16	1.08
Overall knowledge level of EOL nursing care	553	3.15	1.04

In Section C of the survey, respondents self-rated their current EOL knowledge/skill competency across 23 EOL topic areas. This section of the survey generated individual competency scores for each of the 23 topics (Table 16); these items were also summed to create a knowledge competency section sub-total. Higher scores reflected more positive EOL knowledge/skill competency across the topical areas. The section sub-total (range 0 – 115) mean score was 69.38 (*SD* 20.55).

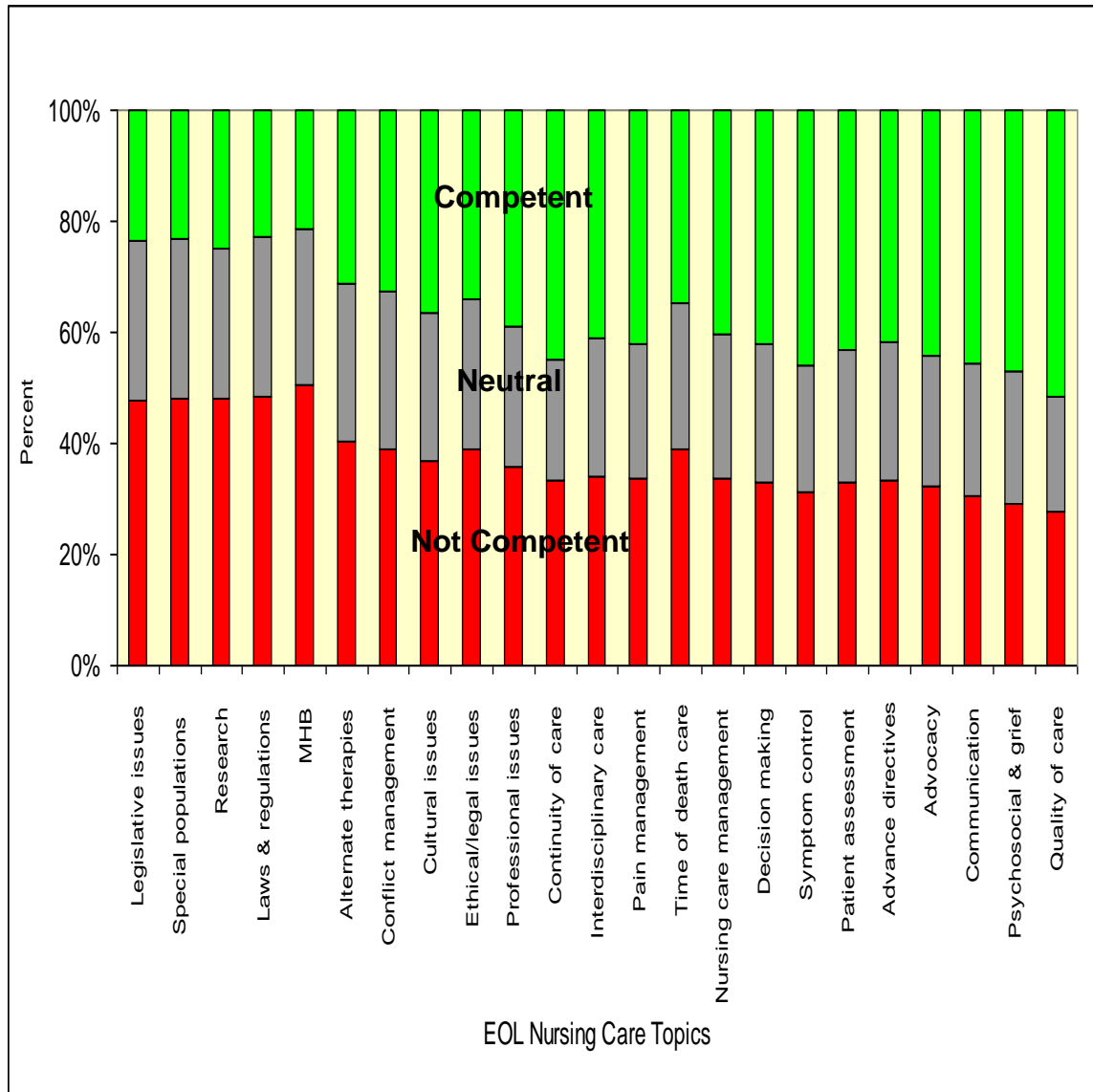
Table 16

Respondent EOL knowledge/skill competency scores (1 – 5) for 23 EOL content areas.

<u>EOL topics</u>	<u>N</u>	<u>Knowledge/skill score M</u>	<u>SD</u>
Quality of care	549	3.44	1.07
Advance directives	554	3.42	1.13
Time of death care	552	3.40	1.24
Patient/family communication	550	3.39	1.07
Patient/family advocacy	551	3.37	1.10
Psychosocial/spiritual/grief	555	3.34	1.02
Nursing care management	551	3.27	1.09
Patient assessment	548	3.27	1.11
Patient/family decision making	567	3.26	1.08
Pain management	553	3.21	1.11
Symptom identification/control	567	3.19	1.06
IDC care concepts	551	3.15	1.10
Continuity/coordination of care	555	3.03	1.10
Professional issues for nurses	552	3.00	1.11
Ethical/legal issues	549	2.95	1.15
Cultural issues	552	2.87	1.06
Conflict management	549	2.86	1.10
Alternate/non-drug therapies	548	2.79	1.09
Medicare Hospice Benefit	549	2.54	1.24
State/local EOL law/regulation	547	2.41	1.11
Research in EOL	547	2.30	1.06
Special populations	551	2.27	1.01
Legislative issues	541	2.22	1.01

Figure 7 depicts the percent of respondents who rated themselves as *not competent*, *neutral*, or *competent* across the 23 EOL topical areas. The EOL topics with lowest reported competence levels were: EOL legislative issues, special populations and EOL, EOL research, state/local EOL law/regulation, and MHB.

Figure 7. Percent respondents rating themselves “not competent”, “neutral” or “competent” on 23 EOL topics (N = 567).



Additionally, in this section of the survey, respondents indicated the workplace appropriateness or relevance of the 23 EOL topics (Table 17) and personal desire for additional education on any of the topics (Table 18). Along with identification of nurses' views on appropriateness and desire for education on EOL topics, section sub-totals (range 0 – 23) for appropriateness and education were calculated. Higher scores reflected more positive views of EOL workplace appropriateness and greater desire for EOL education across the topical areas.

Table 17

Percent respondents viewing EOL topics as “non-workplace appropriate” (N = 567).

<u>EOL topic</u>	<u>EOL topic not workplace appropriate</u>
Research in EOL	56.8%
Special populations	55.0%
Legislative issues	53.4%
Medicare Hospice Benefit	52.2%
Time of death care	51.9%
Alternate/non-drug therapies	50.1%
Nursing care management	50.1%
Patient assessment	49.9%
State/local EOL law/regulation	49.7%
IDC care concepts	49.6%
Conflict management	49.4%
Quality of care	49.4%
Professional issues for nurses	48.9%
Advance directives	48.7%
Patient/family communication	47.6%
Cultural issues	47.4%
Patient/family advocacy	47.3%
Psychosocial, spiritual, grief, & bereavement	47.3%
Ethical/legal issues	47.1%
Pain management	47.1%
Continuity/coordination of care	46.4%
Patient/family decision making	46.4%
Symptom identification & management	45.7%

Table 18

Percent respondents indicating “no desire” for individual EOL care topic education.

<u>EOL topic</u>	<u>No desire for EOL topic education</u>
Time of death care	63.7%
Advance directives	61.2%
Nursing care management	60.8%
IDC care concepts	60.3%
Continuity/coordination of care	60.3%
Quality of care	59.3%
Patient/family advocacy	58.4%
Patient/family communication	58.4%
Patient assessment	58.0%
Psychosocial, spiritual, grief, & bereavement	57.7%
Symptom identification & management	56.6%
Patient/family decision making	56.6%
Research in EOL	55.9%
Conflict management	54.9%
Medicare Hospice Benefit	54.9%
Pain management	54.0%
Special populations	54.0%
Alternate/non-drug therapies	52.4%
Legislative issues	52.0%
Professional issues for nurses	51.7%
Cultural issues	51.5%
Ethical/legal issues	50.8%
State/local EOL law/regulation	49.4%

The EOL workplace appropriateness mean score ($n = 567$) was 11.62 ($SD 10.60$) and the desire for education mean score ($n = 567$) was 10.07 ($SD 9.80$). A bimodal distribution was observed in the analysis of the EOL workplace appropriateness scores (Figure 8). Thirty-seven percent of respondents indicated none of the 23 EOL topics were appropriate to their workplace, and 34% indicated that all 23 topics were workplace appropriate. Seven of the 23 EOL topics were viewed as “not workplace appropriate” by more than half of all respondents (Figure 9).

Figure 8. *Percent of respondents indicating “none” or “all” EOL topics as workplace appropriate (N = 567).*

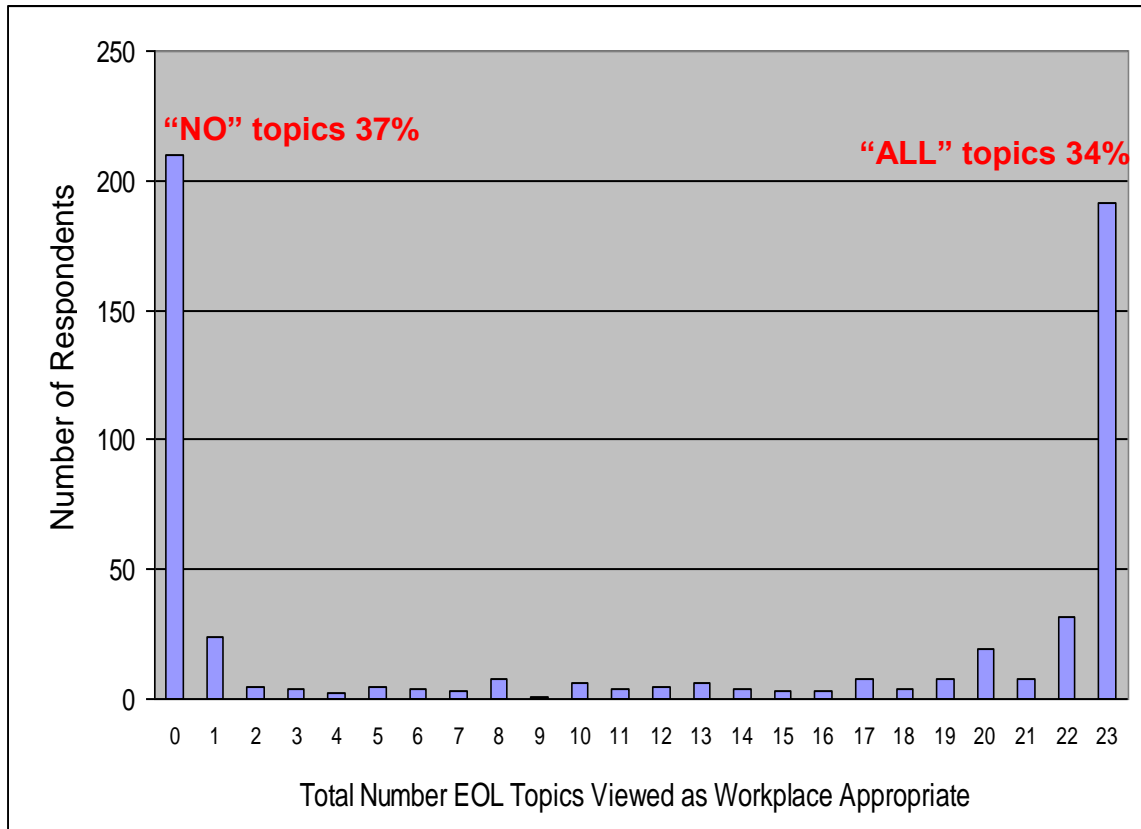
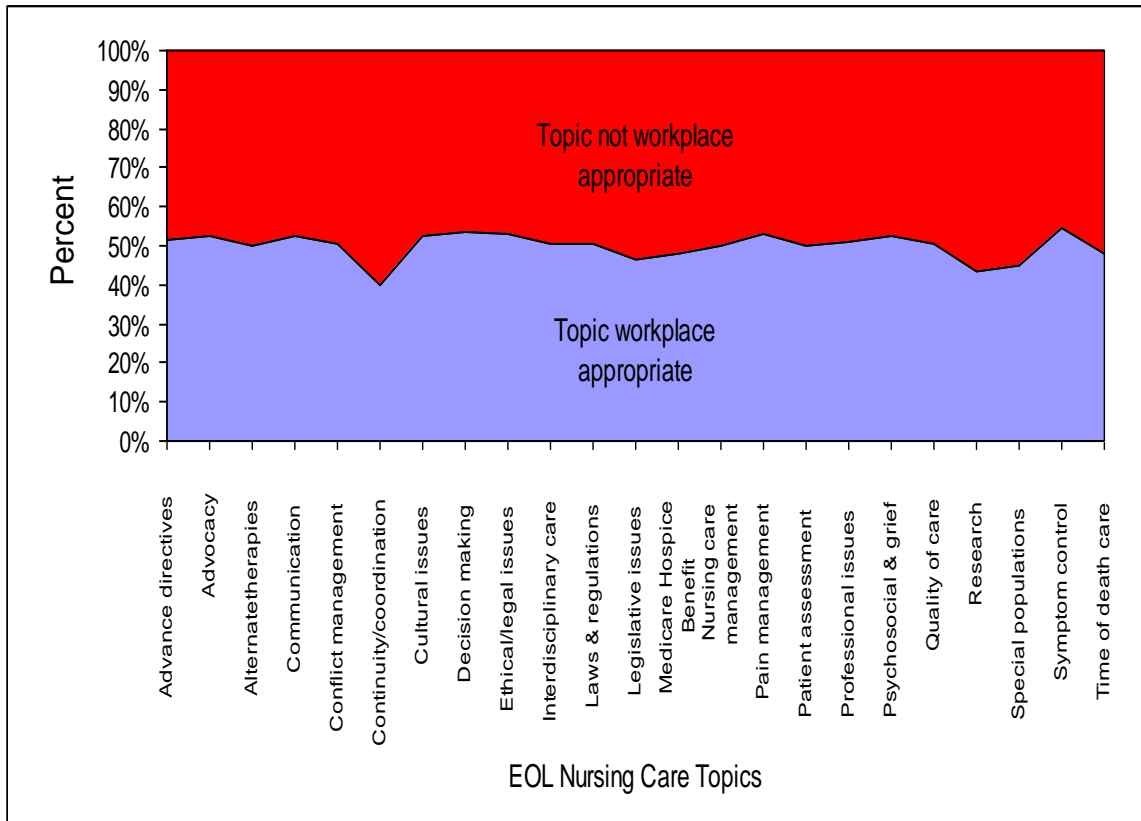
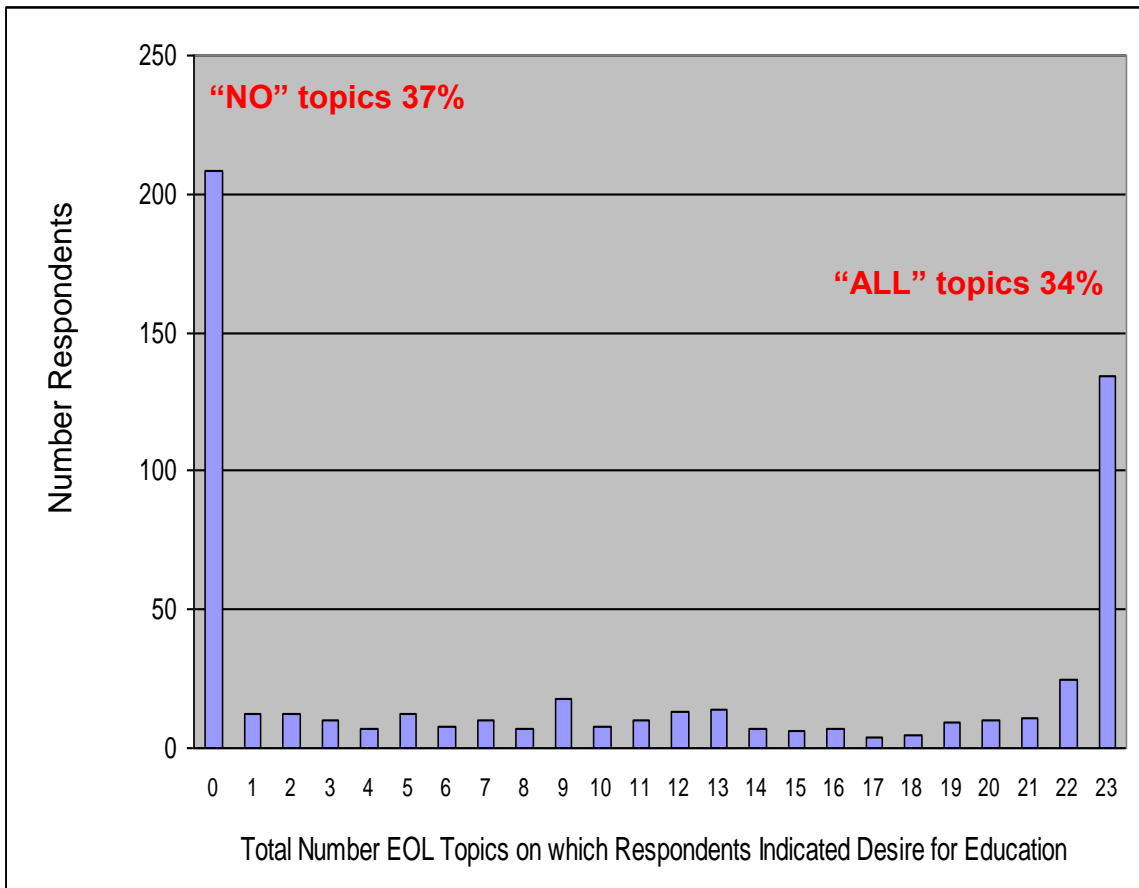


Figure 9. Percent of nurse respondents indicating specific EOL care topics as work appropriate on not work appropriate (N = 567).



Analysis of the EOL education desire scores also demonstrated bimodal distribution with respect to the question of whether the respondents' desired EOL education. As Figure 10 depicts, 37% responded *No* on every topic, and 24% responded "Yes". Topics viewed by respondents as the most workplace appropriate were symptom identification and management; patient/family decision making; continuity/coordination of care; pain management; ethical/legal issues; psychosocial/spiritual concerns and grief/bereavement; patient/family advocacy; and cultural issues. The most desired EOL topics for education were: State/local EOL law/regulation, ethical/legal issues, cultural issues, professional issues for nurses, legislative issues, alternate/non-drug therapies, special populations, and pain management.

Figure 10. Respondents desiring education on None or All EOL topics (N = 567).



Bivariate Analysis

Nurses' EOL Attitude/belief

Small to moderate positive associations were observed between nurses' attitude/belief section sub-totals and sub-totals for other sections of the survey (Table 19). More positive EOL attitude/belief associated were associated with better subjective and objective knowledge, better knowledge/skill competency rating across 23 EOL topics, viewing more of the 23 EOL topics as workplace appropriate, desiring education on more of the 23 EOL topics, and better overall self-rating on EOL skill and nursing knowledge. Relationships were statistically significant with effect sizes ranging from small to large per Cohen's (1998) criterion.

Table 19

Pearson Product Moment correlations for attitude/belief section total with other survey section totals (N = 567).

<u>Survey sub-section total</u>	<u>Attitude/belief section total</u>
Objective knowledge	.444**
Subjective knowledge	.371**
Knowledge 23 ^a	.375**
Appropriate 23 ^b	.392**
Education 23 ^c	.259**
Overall skill	.388**
Overall knowledge	.396**

^aKnowledge/skill competence total score across 23 EOL topic areas.

^bWork appropriateness total score across 23 EOL topic areas.

^cDesire for education total score across 23 EOL topic areas.

** Correlation is significant at the 0.01 level (2-tailed).

Relationships were also observed amongst the nine individual Section A survey items that addressed nurses' EOL attitude/beliefs. Significant medium to large relationships were noted between nurses' willingness to improve EOL knowledge/skill through education and a desire to deliver quality EOL nursing care ($r = .614, p < .01$); interest in participating in a GNA-sponsored EOL CE ($r = .596, p < .01$); viewing EOL care as a component of professional nursing practice ($r = .329, p < .01$); and believing in a personal role for EOL patient care ($r = .326, p < .01$). Effect sizes were moderate to large per Cohen's (1988) criteria.

Viewing EOL care as a component of professional nursing practice was positively related to belief in a personal role for EOL patient care ($r = .547, p < .01$) and belief in an ability to respect and advocate for patient/family EOL care preferences ($r = .435, p < .01$). The effect sizes ranged from moderate to large.

Positive relationships were noted between desire to deliver quality EOL nursing care and viewing EOL care as a component of professional nursing practice ($r = .481, p < .01$); believing in a personal role in EOL patient care ($r = .471, p < .01$); interest in participating in a GNA sponsored EOL CE ($r = .429, p < .01$); believing that EOL education would be useful at work/school ($r = .318, p < .01$); and belief in an ability to respect and advocate for patient/family EOL care preferences ($r = .309, p < .01$). Effect sizes were moderate per Cohen's (1988) criterion.

Positive associations were also observed between nurses' belief in an ability to respect and advocate for patient/family EOL care preferences and belief in a personal role for EOL patient care ($r = .468, p < .01$); comfort in talking about death with EOL patients and a belief that providing care to EOL patients could be enjoyable ($r = .375, p < .01$);

and believing that EOL education would be useful at work/school and interest in participating in a GNA sponsored EOL CE ($r = .315, p < .01$). Again, effect sizes were moderate per Cohen's (1988) criterion.

As noted in Table 20, significant positive relationships were also observed between all nine individual EOL attitude/belief items and higher scores on four of seven individual objective knowledge/skill items. A similar positive relationship with attitude/belief was observed in two of four individual subjective knowledge/skill items in Section A. Effect size for the entire matrix ranged from small to moderate by Cohen's (1988) criteria.

Table 20

Pearson Product Moment correlations for attitude/belief item scores and subjective and objective knowledge/skill item scores on survey Section A (N = 567).

<u>Attitude item</u>	<u>Objective knowledge/skill</u>				<u>Subjective knowledge/skill</u>	
	Adjuvants ^a	IDC ^b	Morphine ^c	Culture ^d	Existing ^e	MHB ^f
Talking ^g	.211**	.191**	.243**	.153**	.423**	.298**
Advocate ^h	.309**	.070	.107*	.243**	.285**	.133**
Care role ⁱ	.380**	.158**	.181**	.305**	.385**	.156**
Enjoy role ^j	.154**	.213**	.185**	.114**	.300**	.256**
Component ^k	.390**	.184**	.179**	.392**	.302**	.099*
Useful ^l	.093*	.203**	.113**	.094*	.299**	.181**
GNA CE ^m	.165**	.109**	.123**	.208**	.142**	.091*
Quality ⁿ	.307**	.168**	.236**	.326**	.361**	.197**
Improve ^o	.253**	.127**	.143**	.283**	.146**	.098*

^aAdjuvant analgesics have an important role in pain treatment.

^bEOL care utilizes an interdisciplinary approach to patient treatment.

^cMorphine is appropriate for treatment of dyspnea in the terminal illness phase.

^dCultural factors may influence attitudes toward communicating feelings and needs.

^eKnowledge to provide quality EOL nursing care to the dying.

^fKnowledge of the policies/services available under the MHB.

^gComfortable talking about death and dying with patients who are in the EOL phase.

^hRespect/advocate for patient EOL preferences when their views conflict with my beliefs.

ⁱBelieve I have a role in EOL patient care.

^jEnjoy caring for patients whose disease process is unlikely to respond to treatment.

^kEOL care is a component of professional nursing practice.

^lIn work setting, EOL education would be useful.

^mWant to participate in GNA sponsored continuing education on EOL care.

ⁿInterested in being able to deliver quality EOL nursing care.

^oWant to improve my level of EOL knowledge through education.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Nurses' EOL Knowledge/skill

Moderate to large significant relationships were observed between sub-totals from sections of the survey that explored EOL knowledge/skill and related EOL competency (Table 21). Effect sizes ranged from moderate to large per Cohen's (1988) criterion. These scores represented Section A sub-totals (objective and subjective knowledge/skill), Section C sub-totals (self-rated competency on knowledge/skill across 23 EOL topics), and Section D sub-totals (overall self-rated competency for EOL nursing skill and knowledge of EOL nursing care). A significant positive relationship was noted between nurses' subjective EOL knowledge/skill and objective knowledge/skill section sub-totals.

Table 21

Pearson Product Moment correlations for EOL knowledge/skill sub-section scores
(*N* = 576).

<u>Section</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1. Overall EOL skill	.887**	.302**	.595**	.821**
2. Overall EOL knowledge	--	.306**	.627**	.852**
3. Objective knowledge	--	--	.301**	.330**
4. Subjective knowledge	--	--	--	.664**
5. Knowledge 23 ^a	--	--	--	--

^aKnowledge/skill competence total score across 23 EOL topic areas.

** Correlation is significant at the 0.01 level (2-tailed).

Exploring correlations amongst nurse who stated they had completed CE, seminars, workshops, in-services, or other forms of EOL care education/training within the last five years, small to moderate positive correlations across all objective knowledge/skill items were observed with statistical significance reaching the $p < .01$ level for all items excluding “culture and communication.” Effect sizes for all were small to moderate. Amongst nurses who stated that they received formal instruction in EOL care during their initial nursing education program, small inverse relationships with objective knowledge/skill scores were observed with statistical significance reached for the “IDC care” and “hydration” items (Table 22).

Table 22

Pearson Product Moment correlations for “Prior EOL CEU” and “Prior formal EOL education during initial nursing program” with objective knowledge/skill item scores in survey Section A (N = 567).

<u>Knowledge item</u>	<u>Educational intervention</u>	
	<u>Formal EOL education</u>	<u>Prior EOL CE</u>
Adjuvants ^a	-.060	.163**
Sedation ^b	-.063	.129**
IDC ^c	-.113**	.112**
Hydration ^d	-.118**	.209**
Morphine ^e	-.062	.345**
Stopping ^f	-.009	.173**
Culture ^g	-.044	.079

^aAdjuvant analgesics have an important role in pain treatment.

^bDrowsiness from electrolyte imbalance/physiologic changes reduces sedation needs.

^cEOL care utilizes an interdisciplinary approach to patient treatment.

^dMedically provided hydration/nutrition may not be appropriate in EOL care.

^eMorphine is appropriate for treatment of dyspnea in the terminal illness phase.

^fStopping disease progression is not a goal of EOL care.

^gCultural factors may influence attitudes toward communicating feelings and needs.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Correlations were observed amongst the 11 individual knowledge/skill items in Section A exploring nurses' subjective and objective EOL knowledge/skill. Amongst nurses who subjectively reported possessing the knowledge necessary to provide EOL care, small to moderate positive relationships were observed across all seven objective knowledge/skill items with statistical significance ($p < .05$) reached for all but the "sedation and electrolyte imbalance" knowledge item (Table 23).

Table 23

Pearson Product Moment correlations for objective knowledge/skill item scores in survey Section A amongst respondents who stated they possessed adequate EOL nursing care knowledge compared to those who stated they lacked adequate EOL nursing care knowledge (N = 567).

	Adjuvants ^a	Sedation ^b	IDC ^c	Hydration ^d	Morphine ^e	Stopping ^f	Culture ^g
PPM.	.316**	.073	.157**	.107*	.316**	.145**	.194**
Sig.	.000	.086	.000	.012	.000	.001	.000
N	560	560	559	553	557	559	559

^aAdjuvant analgesics have an important role in pain treatment.

^bDrowsiness from electrolyte imbalance/physiologic changes reduces sedation needs.

^cEOL care utilizes an interdisciplinary approach to patient treatment.

^dMedically provided hydration/nutrition may not be appropriate in EOL care.

^eMorphine is appropriate for treatment of dyspnea in the terminal illness phase.

^fStopping disease progression is not a goal of EOL care.

^gCultural factors may influence attitudes toward communicating feelings and needs.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Viewing the 23 EOL topics as workplace appropriate was positively associated with nurses' EOL knowledge/skill and desire for education on specific EOL topics. Small to moderate effect sizes were noted. Desiring EOL education across the 23 topical areas was inversely, but not significantly, related to objective knowledge/skill section sub-total. Effect sizes were small per Cohen's (1988) criterion (Table 24).

Table 24

Pearson Product Moment correlations for “work appropriateness” and “desire for education” with EOL knowledge/skill section sub-totals in survey Section A and C (N = 567).

<u>Totals</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1. Appropriate 23 ^a	.475**	.130**	.233**	.251**
2. Education 23 ^b	--	.078	-.076	.118**
3. Objective knowledge	--	--	.301**	.330**
4. Subjective knowledge	--	--	--	.664**
5. Knowledge 23 ^c	--	--	--	--

^aWork appropriateness total score across 23 EOL topic areas.

^bDesire for education total score across 23 EOL topic areas.

^cKnowledge/skill competence total score across 23 EOL topic areas.

** Correlation is significant at the 0.01 level (2-tailed).

Nurses and EOL CE

Amongst nurses who expressed an interest in participating in an EOL CE, positive relationships between variables were noted. Along with higher attitude/belief total ($r = .595, p < .01$), interest in EOL CE participation was positively associated with a desire for education across more of the 23 EOL care topics ($r = .371, p < .01$); participation in prior EOL CE ($r = .148, p < .01$); and inversely related to participation in formal EOL education during initial nursing instruction ($r = -.108, p < .05$). Desire for participation in GNA-sponsored EOL CE was also associated with better EOL subjective knowledge/skill scores ($r = .103, p < .05$); objective knowledge/skill scores ($r = .202, p < .01$); self-rated overall EOL nursing skill ($r = .114, p < .01$); and overall EOL nursing knowledge scores ($r = .134, p < .01$). Interest in participating in an EOL CE initiative was also positively associated with viewing more of the 23 EOL care topics as workplace appropriate ($r = .289, p < .01$) and actually caring for greater numbers of EOL patients ($r = .230, p < .01$). Per Cohen's (1988) classification, effect sizes for these relationships were small.

Prior participation in an EOL CE was strongly associated with higher subjective EOL knowledge/skill scores ($r = .741, p < .01$); objective EOL knowledge/skill scores ($r = .336, p < .01$); overall self-rated EOL nursing skill scores ($r = .427, p < .01$); overall self-rated EOL care knowledge scores ($r = .485, p < .01$); and knowledge/skill competency rating across 23 EOL topics ($r = .509, p < .01$). Effect sizes were moderate to large. Additionally, positive correlations suggested that nurses who had participated in EOL CE during the previous five years had better attitude/belief section sub-total scores ($r = .291, p < .01$) and reported a greater number of EOL topics as workplace appropriate ($r = .257, p < .01$). Small effect sizes were noted.

Nurses and Formal EOL Education

Exploring data from nurses who reported having received formal EOL education during initial nursing education, additional relationships were observed. Receiving formal EOL instruction was weakly associated with younger respondents ($r = -.174, p < .01$) who had completed initial nursing education more recently ($r = -.236, p < .01$) and pursued higher initial degrees ($r = .131, p < .01$). Small effect sizes were noted. Although a very small inverse relationship was observed for EOL attitude/belief sub-section scores ($r = -.059, p > .05$), small to medium positive correlations were observed with subjective EOL knowledge/skill scores ($r = .448, p < .01$), self-rated overall EOL knowledge scores ($r = .096, p < .05$), and overall skill competence scores ($r = .113, p < .01$). However, small significant inverse relationships were observed for objective knowledge/skill sub-section total ($r = -.131, p < .01$) and desire for EOL education sub-section total ($r = -.109, p < .01$). Effect sizes were small to moderate per Cohen's (1988) criterion.

Results by Null Hypotheses

EOL nursing care education has been viewed over the last eight to ten years as a core curricular component of undergraduate nursing education. For practicing RNs, continuing education on topics such as EOL care, represents a standard for ongoing professional development. Thus, exploring respondents' survey scores by these two educational conditions was of interest.

For baseline comparisons, one-way ANOVA and chi-square analyses were utilized to identify differences in respondent characteristics between RNs who had and had not received formal EOL education during initial nursing instruction. Similar baseline comparisons were made between RNs who had and had not participated in prior

EOL CE. Analysis revealed RNs having formal EOL education were slightly younger ($F 1, 514 = 12.68, p = .000$) and had graduated more recently ($F 1, 505 = 19.98, p = .000$) in comparison to nurses without formal EOL education. Nurses who participated in prior EOL CE had more years since completion of initial nursing education ($F 1, 501 = 4.61, p = .032$) and cared for a greater percentage of EOL patients in their current practice setting ($F 1, 477 = 41.08, p = .000$) in comparison to RNs who had not participated in prior EOL CE.

For hypotheses testing, scores from nurses who had received formal EOL instruction during initial nursing education were compared with scores from those who had not participated in formal EOL instruction. A similar comparison was made between scores from nurses who had and had not participated in EOL CE during the prior five years. These comparisons employed independent sample *t*-tests.

Null hypothesis 1: There is no difference in scores on EOL attitude/belief, knowledge/skill, competence on 23 EOL topics, workplace appropriateness on 23 EOL topics, and desire for education on 23 EOL topics based on participation in formal EOL education during initial nursing instruction. Nurses who received formal EOL instruction during initial nursing education had better scores on EOL attitude/belief, overall self-rating on EOL skill and nursing knowledge (Table 25), subjective EOL knowledge/skill (large effect size), knowledge/skill competency rating across 23 EOL topics, and EOL topic workplace appropriateness score (Table 26). Statistical significance was reached ($p < .05$) in these areas with the exceptions of EOL attitude/belief scores and workplace appropriateness score. Nurses who did not receive formal EOL instruction scored significantly better on desire for EOL education across the 23 EOL topical areas and

scored better, but not significantly so, on objective EOL knowledge/skill. Null hypothesis 1 was therefore rejected for overall self-rating on EOL skill and nursing knowledge, subjective EOL knowledge/skill, knowledge/skill competency rating across 23 EOL topics, and desire for EOL education across the 23 EOL topical areas. A fail to reject decision was reached for EOL attitude/belief scores, workplace appropriateness scores, and objective EOL knowledge/skill scores.

Table 25

Means comparison using t-tests of survey attitude/belief, overall skill, and overall knowledge scores for nurses with and without formal EOL education during initial nursing education.

<u>Variable</u>	<u>Formal education</u>		<u>No formal education</u>		<u>t</u>	<u>Sig.</u> <u>(2-</u> <u>tailed)</u>	<u>Effect</u> <u>size</u>
	<u>N</u>	<u>M</u> <u>(SD)</u>	<u>N</u>	<u>M</u> <u>(SD)</u>			
Attitude/belief	145	37.89 (4.82)	367	37.85 (4.85)	.080	.963	--
Overall skill	144	3.41 (1.15)	368	3.08 (1.04)	3.026	.003**	.32
Overall knowledge	144	3.38 (1.09)	370	3.08 (1.02)	2.912	.004**	.29

** Statistically significant at the $p < .01$ level.

Table 26

Means comparison using t-tests of survey objective knowledge/skill, subjective knowledge/skill, workplace appropriateness, and desire for education scores for nurses with and without formal EOL education during initial nursing education.

<u>Variable</u>	<u>Formal education</u>		<u>No formal education</u>		<u>t</u>	<u>Sig.</u> <u>(2-</u> <u>tailed)</u>	<u>Effect</u> <u>size</u>
	<u>N</u>	<u>M</u> <u>(SD)</u>	<u>N</u>	<u>M</u> <u>(SD)</u>			
Objective knowledge	139	27.21 (3.82)	368	27.85 (3.52)	-1.768	.078	--
Subjective knowledge	145	13.77 (2.91)	373	10.64 (2.85)	11.13	.000***	1.09
Knowledge 23 ^a	124	73.6 (23.30)	329	68.33 (19.5)	2.250	.026*	.27
Appropriate 23 ^b	146	12.4 (10.48)	379	11.59 (10.61)	.777	.437	--
Education 23 ^c	146	8.37 (9.60)	379	10.70 (9.86)	-2.443	.015*	.24

^aKnowledge/skill competence total score across 23 EOL topic areas.

^bWork appropriateness total score across 23 EOL topic areas.

^cDesire for education total score across 23 EOL topic areas.

*** Statistically significant at the $p < .001$ level.

* Statistically significant at the $p < .05$ level.

Null hypothesis 2: There is no difference in scores on EOL attitude/belief, knowledge/skill, competence on 23 EOL topics, workplace appropriateness on 23 EOL topics, and desire for education on 23 EOL topics based on participation in EOL CE during the last five years. Nurses who participated in an EOL CE initiative during the prior five years had higher scores on EOL attitude/belief, overall self-rating on EOL skill and nursing knowledge (Table 27), objective and subjective EOL knowledge/skill, knowledge/skill competency rating across 23 EOL topics, EOL topic workplace appropriateness score, and desire for EOL education across the 23 EOL topical areas (Table 28). Statistical significance was reached ($p < .001$) on all but the desire for education score. Large effect sizes were observed for overall nursing knowledge, subjective knowledge/skill, and knowledge/skill competency rating across 23 EOL topics. Null hypothesis 2 was therefore rejected for EOL attitude/belief, overall self-rating on EOL skill and nursing knowledge, objective and subjective EOL knowledge/skill, knowledge/skill competency rating across 23 EOL topics, and EOL topic workplace appropriateness score. A fail to reject decision was reached for desire for EOL education across 23 EOL topical areas.

Table 27

Means comparison using t-tests of survey attitude/belief, overall skill, and overall knowledge scores for nurses with and without EOL CE during the prior five years.

<u>Variable</u>	<u>Prior EOL CE</u>		<u>No prior EOL CE</u>		<u>t</u>	<u>Sig.</u> (2tailed)	<u>Effect</u> <u>size</u>
	<u>N</u>	<u>M</u> (<u>SD</u>)	<u>N</u>	<u>M</u> (<u>SD</u>)			
Attitude/belief	216	39.46 (4.33)	292	36.73 (4.71)	6.67	.000***	.58
Overall skill	214	3.69 (.953)	297	2.75 (1.02)	10.46	.000***	.92
Overall knowledge	216	3.73 (.863)	297	2.71 (.967)	12.56	.000***	1.05

*** Statistically significant at the $p < .001$ level.

Table 28

Means comparison using t-tests of survey objective knowledge/skill, subjective knowledge/skill, workplace appropriateness, and desire for education scores for nurses with and without EOL CE during the prior five years.

<u>Variable</u>	<u>Prior EOL CE</u>		<u>No prior EOL CE</u>		<u>t</u>	<u>Sig.</u> (2tailed)	<u>Effect</u> <u>size</u>
	<u>N</u>	<u>M</u> (<u>SD</u>)	<u>N</u>	<u>M</u> (<u>SD</u>)			
Objective knowledge	209	29.10 (3.75)	294	26.63 (3.16)	7.75	.000***	.78
Subjective knowledge	218	14.18 (2.42)	297	9.54 (2.21)	22.58	.000***	1.46
Knowledge 23 ^a	196	81.06 (17.17)	257	60.30 (19.37)	11.86	.000***	1.07
Appropriate 23 ^b	221	14.97 (10.05)	300	9.43 (10.33)	6.11	.000***	.54
Education 23 ^c	221	10.64 (9.64)	300	9.69 (9.86)	1.09	.274	--

^aKnowledge/skill competence total score across 23 EOL topic areas.

^bWork appropriateness total score across 23 EOL topic areas.

^cDesire for education total score across 23 EOL topic areas.

*** Statistically significant at the $p < .001$ level.

Chi-square Test of Independence: Workplace Appropriateness and Education Desire.

To better understand the bimodal findings related to nurses' views on workplace appropriateness of the 23 EOL topics and nurses' desire for education across these topics, Pearson's chi-square statistics were used to investigate the relationship between these polarized dependent variables and select independent variables (e.g., formal EOL education and EOL CE status, attitude/belief score, and objective knowledge/skill score).

To promote a sufficient number of cases in each cell of the two-group variable chi-square, the levels of the four independent variables were collapsed. Respondent status on formal EOL education and prior EOL CE was collapsed from a 5-point Likert scale (*strongly disagree to strongly agree*) into *yes*, *neutral*, or *no* categories and recoded as 2, 1, or 0, respectively. Respondent EOL attitude/belief score and objective knowledge/skill score were collapsed into *high* or *low* categories, using the 50 percentile as the cut point, and recoded as 1 or 0, respectively. In similar fashion, the response variable scores were collapsed into *low*, *medium*, and *high* categories. In this testing of equality of proportions across rows, the null hypotheses stated that the two populations were distributed across the response categories in equal percentages (Huck, 2004). The comparison of frequencies with expected counts was based on an alpha set at .05 with four degrees of freedom.

EOL CE, EOL attitude/belief, and EOL objective knowledge/skill made a significant difference when predicting to nurses' workplace appropriateness scores (i.e., 23 EOL topics). The null hypotheses of independence could not be rejected for formal EOL education (Table 29).

Table 29

Chi-square test of independence for nurses' workplace appropriateness score across 23 EOL topics by formal EOL education, prior EOL CE, attitude/belief score, and objective knowledge/skill score.

<u>Variable</u>	χ^2	<u>Sig.</u>	<u>Effect size (w)</u>
Formal EOL education	5.154	.272	--
Prior EOL CE	42.113	.000***	.27
Attitude/belief	53.316	.000***	.31
Objective knowledge/skill	7.696	.021*	.12

*** Statistically significant at the $p < .001$ level.

* Statistically significant at the $p < .05$ level.

Scores suggested prior EOL CE, more positive EOL attitude/belief, and higher EOL objective knowledge/skill was significantly associated with viewing more of the 23 EOL topics as workplace appropriate (Table 30 - 32). Effect sizes ranged from .12 (low) to .31 (moderate) per Cohen's (1998) criterion. Lambda suggested a reduction in predication error when EOL CE status (15%), attitude/belief scores (18%), and objective knowledge/skill scores (2.3%) were used to predict workplace appropriateness scores.

Table 30

Crosstabs cell display for nurses' workplace appropriateness score by status on prior EOL CE.

<u>Workplace appropriateness score</u>		<u>Prior EOL CE</u>			<u>Total</u>
		<u>Yes</u>	<u>Neutral</u>	<u>No</u>	
Low	Count	47	19	140	206
	% within prior CE	21.3%	45.2%	46.6%	36.6%
	Residual	-33.9	3.6	30.2	
Medium	Count	73	8	85	166
	% within prior CE	33.0%	19.0%	28.3%	29.5%
	Residual	7.8	-4.4	-3.5	
High	Count	101	15	75	191
	% within prior CE	45.7%	35.7%	25.0%	33.9%
	Residual	26	.8	-26.8	
Total	Count	221	42	300	563
	% within prior CE	100%	100%	100%	100%

Table 31

Crosstabs cell display for nurses' workplace appropriateness score by attitude/belief score.

<u>Workplace appropriateness score</u>		<u>Attitude/belief score</u>		
		<u>High</u>	<u>Low</u>	<u>Total</u>
Low	Count	75	125	200
	% within attitude/belief	24.1%	51.7%	36.2%
	Residual	-37.5	37.5	
Medium	Count	96	68	164
	% within attitude/belief	30.9%	28.1%	29.7%
	Residual	3.8	-3.8	
High	Count	140	49	189
	% within attitude/belief	45.0%	20.2%	34.2%
	Residual	33.7	-33.7	
Total	Count	311	242	553
	% within attitude/belief	100%	100%	100%

Table 32

Crosstabs cell display for nurses' workplace appropriateness score by objective knowledge/skill score.

<u>Workplace appropriateness score</u>		<u>Objective</u>		
		<u>knowledge/skill score</u>		
		<u>High</u>	<u>Low</u>	<u>Total</u>
Low	Count	85	116	201
	% within knowledge	31.6%	41.9%	36.8%
	Residual	-14	14	
Medium	Count	91	69	160
	% within knowledge	33.8%	24.9%	29.3%
	Residual	12.2	-12.2	
High	Count	93	92	185
	% within knowledge	34.6%	33.2%	33.9%
	Residual	1.9	-1.9	
Total	Count	269	277	546
	% within knowledge	100%	100%	100%

EOL attitude/belief and EOL objective knowledge/skill made a significant difference when predicting to nurses' EOL education desire scores (i.e., 23 EOL topics). The null hypotheses of independence could not be rejected for formal EOL education or prior EOL CE (Table 33).

Table 33

Chi-square test of independence for nurses' EOL education desire score across 23 EOL topics by formal EOL education, prior EOL CE, attitude/belief score, and objective knowledge/skill score.

<u>Variable</u>	<u>χ^2</u>	<u>Sig.</u>	<u>Effect size (<i>w</i>)</u>
Formal EOL education	8.118	.087	--
Prior EOL CE	3.392	.495	--
Attitude/belief	27.953	.000***	.22
Objective knowledge/skill	13.782	.001***	.16

*** Statistically significant at the $p < .001$ level.

Scores suggested more positive EOL attitude/belief and higher EOL objective knowledge/skill was significantly associated with desiring education across more of the 23 EOL topics (Table 34 & Table 35). Effect sizes were small per Cohen's (1998) criterion. Lambda suggested a reduction in predication error when attitude/belief scores (10%) and objective knowledge/skill scores (9%) were used to predict education desire scores.

Table 34

Crosstabs cell display for nurses' EOL education desire score by attitude/belief score.

<u>Education desire score</u>		<u>Attitude/belief score</u>		
		<u>High</u>	<u>Low</u>	<u>Total</u>
Low	Count	84	117	201
	% within attitude/belief	27%	48.3%	36.3%
	Residual	-29	29	
Medium	Count	137	83	220
	% within attitude/belief	44.1%	34.3%	39.8%
	Residual	13.3	-13.3	
High	Count	90	42	132
	% within attitude/belief	28.9%	17.4%	23.9%
	Residual	15.8	-15.8	
Total	Count	311	242	553
	% within attitude/belief	100%	100%	100%

Table 35

Crosstabs cell display for nurses' EOL education desire score by objective knowledge/skill score.

<u>Education desire score</u>		<u>Objective knowledge/skill score</u>		
		<u>High</u>	<u>Low</u>	<u>Total</u>
Low	Count	82	120	202
	% within knowledge	30.5%	43.3%	37%
	Residual	-17.5	17.5	
Medium	Count	126	89	215
	% within knowledge	46.8%	32.1%	39.4%
	Residual	20.1	-20.1	
High	Count	61	68	129
	% within knowledge	22.7%	24.5%	23.6%
	Residual	-2.6	2.6	
Total	Count	269	277	546
	% within knowledge	100%	100%	100%

Multivariate Analysis

Multiple Linear Regression

With a focus on EOL educational initiatives as the independent variables, regression models were developed to help explain respondent scores by prior participation status on formal EOL education and EOL CE. Six separate regression equations were created that utilized overall EOL skill and knowledge self-rating scores, attitude/belief score, objective and subjective knowledge scores, and knowledge/skill competency self-rating score across 23 EOL topics as dependent variables. Independent variables for these models were participation status on formal EOL education during initial nursing education and prior EOL CE during the last five years. Nominal and ordinal independent variables were incorporated into the models by creating multiple categorical variables (Huck, 2004; Katz, 1999). The data were assessed for linearity, multivariate normality, and homoscedasticity to fulfill the assumptions for multiple linear regressions.

The coefficients for variables in the regression equation for calculating the predicted overall EOL skill and EOL knowledge self-ratings, based on formal EOL education status and prior EOL CE status, are presented in Table 36. Prior EOL CE was the most significant predictor variable for overall EOL skill self-ratings (Beta = .408). A one standard deviation increase in prior EOL CE predicted a .408 standard deviation increase in overall skill. The second explanatory variable was formal EOL education (Beta = .110). A one standard deviation increase in EOL education predicted a .110 standard deviation increase in overall skill. Analysis of overall EOL knowledge self-ratings revealed a similar pattern. Prior EOL CE was the most significant predictor

variable (Beta = .465) and formal EOL education appeared as the second explanatory variable (Beta = .097). Respondents' participation in an EOL CE during the last five years appeared as a stronger predictor in these models whose dependent variables reflected subjective self-ratings of overall EOL skill and knowledge.

Table 36

Regression coefficients for calculating the predicted overall EOL skill and overall EOL knowledge self-ratings based on formal EOL education and prior EOL CE.

	<u>Unstandardized</u>		<u>Standardized</u>		
	<u>coefficients</u>		<u>coefficient</u>	<u>t</u>	<u>Sig.</u>
	<u>b</u>	<u>SE b</u>	<u>β</u>		
<u>Model</u>					
Overall skill					
Constant	2.668	.062		43.089	.000***
Formal education	.136	.048	.110	2.872	.005**
Prior CE	.463	.044	.408	10.511	.000***
Overall knowledge					
Constant	2.649	.058		45.485	.000***
Formal education	.115	.045	.097	2.577	.01**
Prior CE	.508	.041	.465	12.363	.000***

Note. In the overall EOL skill model $R^2 = .182$. $N = 547$. *** $p < .001$. ** $p < .01$.

In the overall EOL knowledge model $R^2 = .229$. $N = 549$. *** $p < .001$. ** $p < .01$.

The coefficients for the regression equations for calculating the predicted attitude/belief score based on formal EOL education and prior EOL CE are presented in Table 37. Prior EOL CE was the most significant predictor variable for EOL attitude/belief score (Beta = .271). Formal EOL education was the second explanatory variable (Beta = -.007), predicting lower, but not significantly lower, EOL attitude/belief score amongst nurse respondents.

Table 37

Regression coefficients for calculating the predicted attitude/belief score based on formal EOL education and prior EOL CE.

	<u>Unstandardized</u>		<u>Standardized</u>		<u>Sig.</u>
	<u>coefficients</u>		<u>coefficient</u>		
	<u>b</u>	<u>SE b</u>	<u>β</u>	<u>t</u>	
<u>Model</u>					
Attitude/belief					
Constant	36.715	.295		124.263	.000***
Formal education	-.0394	.225	-.007	-.175	.861
Prior CE	1.360	.207	.271	6.570	.000***

*Note. $R^2 = .073$. $N = 549$. *** $p < .001$.*

The coefficients for variables in the regression equation for calculating the predicted objective knowledge/skill score, subjective knowledge/skill score, and the knowledge/skill competency rating across 23 EOL topics, based on formal EOL education and prior EOL CE, are presented in Table 38. The objective knowledge/skill score reflected respondents' ability to correctly answer 'fact-type' EOL nursing care items on the survey, while the subjective knowledge/skill score and the knowledge/skill competency rating across 23 EOL topics reflected respondents' self-ratings on knowledge, skill, and EOL competence level across 23 topics.

Prior EOL CE was the most significant predictor variable for respondents' objective knowledge/skill score (Beta = .326). Formal EOL education was the second explanatory variable for objective knowledge/skill score (Beta = -.095), predicting significantly lower objective knowledge/skill scores amongst nurses who received formal EOL education. Analysis of subjective knowledge/skill score revealed EOL CE as the most significant predictor variable (Beta = .682) and formal EOL education as the second explanatory variable in the model (Beta = .401). Prior EOL CE was also the most significant predictor variable for respondents' knowledge/skill competency ratings across 23 EOL topics (Beta = .480). Formal EOL education appeared in the model as the second explanatory variable for knowledge/skill competency ratings (Beta = .090).

Table 38

Regression coefficients for calculating predicted objective knowledge/skill score, subjective knowledge/skill score, and knowledge/skill competency rating across 23 EOL topics, based on formal EOL education and prior EOL CE.

<u>Model</u>	<u>Unstandardized</u>		<u>Standardized</u>		<u>Sig.</u>
	<u>coefficients</u>		<u>coefficients</u>		
	<u>b</u>	<u>SE b</u>	<u>β</u>	<u>t</u>	
Objective knowledge					
Constant	26.826	.218		123.06	.000***
Formal education	-.396	.170	-.095	-2.336	.02*
Prior CE	1.245	.155	.326	8.022	.000***
Subjective knowledge					
Constant	8.751	.118		73.871	.000***
Formal education	1.449	.091	.401	15.910	.000***
Prior CE	2.267	.084	.682	27.107	.000***
Knowledge 23					
Constant	59.069	1.226		48.169	.000***
Formal education	2.127	.939	.090	2.264	.024*
Prior CE	10.356	.853	.480	12.137	.000***

Note. In the objective knowledge model $R^2 = .112$. $N = 543$. *** $p < .001$. * $p < .05$.

In the subjective knowledge model $R^2 = .649$. $N = 557$. *** $p < .001$.

In the knowledge 23 model $R^2 = .241$. $N = 488$. *** $p < .001$. * $p < .05$.

Multivariate Analysis of Variance (MANOVA)

MANOVAs were conducted that treated formal EOL education and prior EOL CE as between-subjects factors and survey sub-section scores (e.g., attitude/belief score, objective knowledge/skill score) as dependent measures. For these analyses, the predictor variables (e.g., formal EOL education and prior EOL CE) were recoded into *yes*, *neutral*, and *no* categories and considered fixed factors (SPSS, 1999).

These sub-section scores were selected as outcome measures in that they were representative of the cognitive, affective, and psychomotor domains (Bloom, 1956) conventionally measured in education of healthcare professionals (American Academy of Physician Assistants, 1996; Bevis, 1989; Fuszard, 1995; Nahrwold, 2005; Queeney, 1995); these constructs have been described by Nahrwold as, “the educational paradigm” (p. 169). These constructs have also been utilized in the relevant EOL care education literature (Brown & Timms, 2004; Ferrell, Virani, Grant, Coyne, & Uman, 2000a; Glajchen & Bookbinder, 2001; Havens, 1998; Lehna, 2003; Ross, McDonald, & McGuinness, 1996) and described by Bevis:

The cognitive processes are goal oriented, have system and organization, and are always growing and changing. Learning, on the other hand, is always used in connection with behavior. In nursing, because nursing is a practice discipline, the cognitive processes of thinking are inseparably linked, for all practical purposes, with doing. (p. 78)

The analysis of covariance approach was used to control for differences between formal EOL education/prior EOL CE and no formal EOL education/ no prior EOL CE groups and to provide estimates of how the groups would have scored if they had identical means on the control variables (Huck, 2004). Although general linear models also encompass regression analysis (SPSS, 1999), the goal in this multivariate

modeling was analysis of variance. Nominal and ordinal independent variables were incorporated into the models by creating multiple categorical variables (Huck; Katz, 1999).

The between-subjects design was appropriate in that each respondent was tested in only one level of the independent variables (George & Mallery, 2003). The inclusion of within-subject independent variables (e.g., years since completion of basic nursing education) in the design was considered. However, regression analyses suggested that although such variables contributed somewhat within single dependent variable regression models, they were not central to the study premise and their effects did not warrant inclusion.

The data were assessed for linearity, normal distribution, and equal variances to fulfill the assumptions for MANOVA. Box's test ($F_{147, 5620} = 1.335, p = .005$) resulted in a rejection of the null hypothesis that covariance matrices of the dependent variables were equal across groups. Levene's test of equality of error variances showed dependent variable variances did not differ significantly for overall EOL skill, attitude/belief, objective knowledge/skill and subjective knowledge/skill. However, the null hypothesis was rejected for the overall EOL knowledge variable ($p = .007$) and the knowledge/skill competency (i.e., 23 EOL topics) variable ($p = .008$).

To determine the F statistic, the type III method of calculating the sum-of-squares was utilized (SPSS, 1999). Analysis of covariance on formal EOL education during initial nursing instruction ($F_{12, 440} = 18.835, p < .001, n^2 = .204$) and prior participation in EOL CE ($F_{12, 440} = 31.398, p < .001, n^2 = .300$) demonstrated significant overall effects for both variables related to all six dependent variables. Effect

sizes for these relationships were medium to large per Cohen's (1988) criterion. Pillai's method, a robust test of differences due to independent variables, was utilized to test the differences between dependent variable means in the models and an alpha of .05 was used to determine statistical significance (George & Mallery, 2003). Table 39 and Table 40 display the means for dependent variables by formal EOL education and prior EOL CE.

Table 39

Dependent variable mean and adjusted mean with confidence interval by participation in formal EOL education during initial nursing education.

<u>Dependent variable</u>	<u>No formal</u>		<u>Formal EOL education</u>		<u>Sig.</u>
	<u>EOL education</u>				
	<u>(N = 166)</u>		<u>(N = 58)</u>		
	<u>M</u>	<u>M</u>	<u>Adjusted</u>	<u>95% CI</u>	
			<u>M</u>		
Overall skill	.7892	1.1034	1.363	1.217-1.509	.070
Overall knowledge	.7048	1.0000	1.341	1.200-1.481	.040*
Attitude/belief	36.8494	36.3448	38.149	37.223-39.076	.957
Objective knowledge	26.9759	26.3276	27.383	26.687-28.079	.056
Subjective knowledge	8.7410	11.6034	14.028	13.640-14.416	.000***
Knowledge 23 ^a	59.8193	62.5345	73.999	70.340-77.657	.031*

^aKnowledge/skill competence total score across 23 EOL topic areas.

*** Statistically significant at the $p < .001$ level.

* Statistically significant at the $p < .05$ level.

Table 40

Dependent variable mean and adjusted mean with confidence interval by participation in prior EOL CE.

<u>Dependent variable</u>	<u>No prior</u>		<u>Prior EOL CE</u>		<u>Sig.</u>
	<u>EOL CE</u> (N = 166)		<u>Adjusted</u> <u>M</u>	<u>95% CI</u>	
Overall skill	.7892	1.4957	1.520	1.390-1.650	.000***
Overall knowledge	.7048	1.5470	1.580	1.455-1.706	.000***
Attitude/belief	36.8494	39.4957	39.648	38.222-40.474	.000***
Objective knowledge	26.9759	29.4530	28.994	28.374-29.614	.000***
Subjective knowledge	8.7410	13.2137	14.883	14.537-15.229	.000***
Knowledge 23 ^a	59.8193	78.9402	81.052	77.792-84.311	.000***

^aKnowledge/skill competence total score across 23 EOL topic areas.

*** Statistically significant at the $p < .001$ level.

Interactions of formal EOL education and prior EOL CE on individual dependent variables were of interest to promote an understanding of the impact of these EOL nursing care educational initiatives on components of EOL care (i.e., subjective/objective EOL knowledge/skill, attitude/belief, and knowledge 23). Tests of between-subjects effects revealed significant univariate interaction of formal EOL education during initial nursing instruction on overall EOL knowledge ($F_{2, 449} = 3.241, p = .040, n^2 = .014$); subjective knowledge/skill ($F_{2, 449} = 105.995, p < .001, n^2 = .323$); and knowledge/skill competency rating across 23 EOL topics ($F_{2, 449} = 3.497, p = .031, n^2 = .016$). The inverse interaction of formal EOL education on objective knowledge/skill score approached statistical significance ($p = .056$). However, the observed power for this finding was low (.567). Eta squared suggested less than 2% of the variance in overall EOL knowledge score and knowledge/skill competency rating (23 EOL topics) was accounted for by formal EOL education. Thirty-two percent of the variance in subjective knowledge/skill was due to formal EOL education. Effect sizes were small to medium per Cohen's (1988) criterion. The observed power for insignificant findings on overall EOL skill (.529) was low; observed power on attitude/belief (.057) was very low.

Exploring the pattern of changes in the dependent variables, F tests revealed significant univariate interaction of prior EOL CE on overall EOL skill ($F_{2, 449} = 44.148, p = .000, n^2 = .166$); overall EOL knowledge ($F_{2, 449} = 71.341, p = .000, n^2 = .243$); attitude/belief ($F_{2, 449} = 20.866, p = .000, n^2 = .086$); objective knowledge/skill ($F_{2, 449} = 28.873, p = .000, n^2 = .115$); subjective knowledge/skill ($F_{2, 449} = 299.388, p = .000, n^2 = .574$); and knowledge/skill competency rating across 23 EOL topics ($F_{2, 449} = 69.835, p = .000, n^2 = .239$). Eta squared suggested that 1 to 57% of

the variance in the dependent variables was accounted for by prior EOL CE. The observed power for these tests was 1.000. Effect sizes were small to large per Cohen's (1988) criterion.

Nurses' Views and Challenges of EOL Care

Finally, Section F of the survey consisted of one item with an open-ended format (blank text field/box), allowing respondents to share their views on specific EOL topics they wanted to learn more about to better care for patients and families in the end of life phase. Consistent with Benner's (2001) work, this format provided respondents an opportunity to *voice* issues that were not included on the survey and to share their, "common meanings acquired as a result of helping, coaching, and intervening in the significantly human events that comprise the art and science of nursing" (Benner, 2001, p. 12).

Although open-ended items in self-administered surveys rarely produce data amenable to coding (Fowler, 2002), respondents' comments were reviewed and analyzed to identify discernable patterns amongst responses. This process resembled a constant comparative method of analysis, consistent with the process of grounded theory, as described by Glasser and Strauss (1967). However, the analysis process of nurses' views was not as exhaustive as is common in the traditional grounded theory approach; categorizing and coding of all data variations was not attempted. A total of 146 text responses were obtained. The obtained comments were sorted into one of the following three categories: (a) EOL topic-related comments, (b), work setting comments, and (c) societal EOL issue comments.

EOL topic-related comments were nurses’ statements indicating a need and/or desire for EOL nursing care education related to specific EOL topic(s), for example advance directives or symptom management. The majority of requested EOL topics mirrored the 23 EOL topics that were presented in the EOL survey Section C. Twelve additional EOL topics were requested by individual respondents (Table 41).

Table 41

Nurses’ views and challenges of EOL care: Respondent comments classified as “EOL topic-related”.

Lay caregiver support and training	Home care procedures
Techniques for delivering “bad news”	Stress management for professionals
Patient empowerment	“Compassion and love”
EOL “best practices”	Palliative care program development
Organ donation	“Right to die” issues
Intractable pain treatment modalities	Assisting physician to consider hospice care

Respondent submissions that were classified as *work setting comments* represented statements describing situation-specific EOL care information needs and professional and/or personal EOL care experiences in particular work settings or within a personal/family context. These comments described the nurses' desire to incorporate EOL care techniques and principles into non-traditional EOL settings such as massage therapy, ministry work, obstetrics, pediatrics, advanced practice, emergency room care, and dialysis settings.

Comments that were categorized as *societal EOL issues* ranged from statements about Americans' failure to accept and deal constructively with death and dying to concerns over the quality and quantity of healthcare professionals' educational preparation for dealing with care of the dying (Table 42).

Table 42

Nurses' views and challenges of EOL care: Respondent comments classified as "societal EOL issues".

Public misconceptions about the EOL phase (media to blame).

Public lack of knowledge regarding the EOL phase.

Society negative attitudes about death/dying.

Society-wide fear of death/dying.

Inadequate professional EOL care education/preparation.

Need to improve nurses' role in educating the public about EOL phase.

Lack of true interdisciplinary care for EOL patients.

Need to modify public environments/situations for EOL patient access.

Results Summary

Univariate and Demographics

Responses were received from one of every four zip code zones across the state of Georgia; slightly more than half of these locations were described by respondents as *urban* communities. GNA members accounted for 43% of survey responses, and group-level differences amongst Association members were noted with members being older, holding advance practice status, having earned advanced degrees, working in nursing education, and caring for a smaller percent of EOL patients. Approximately 5% of the entire sample identified themselves as hospice nurses; yet, data suggested that amongst sampled RNs, one of every five patients cared for on a daily basis was in the EOL phase.

More than half of all survey respondents indicated that their initial nursing education was below the baccalaureate level; yet, many RNs pursued additional education. Almost 45% of the sample listed a master's or doctoral degree as their highest earned degree. One in five respondents was an advanced practice nurse and the majority of sampled RNs worked in hospital settings or in nursing education.

Almost 70% of sampled RNs did not receive formal instruction in EOL care during initial nursing education and less than 40% participated in EOL CE during the last five years. Despite these results, more than 60% reported possessing the knowledge/skill to provide quality EOL care.

Almost half of all respondents indicated a desire for a review of EOL care concepts or specific EOL education, despite data suggesting a paucity of formal EOL education amongst sampled nurses. Almost half of RNs preferred a classroom learning

format; slightly less than 40% of the sample preferred print materials format. Most nurses were amenable to multiple learning formats routinely utilized in CE initiatives.

Viewed as precursors to learning, most nurses reported individual purposes and goals that would be achieved via pursuit of EOL nursing care education and identified few barriers to such learning. Additionally, the majority of nurses reported institutional/employer support for CE undertakings. Primary goals for seeking EOL education were “individual improvement” and “enhance role/job performance.” Significant barriers to EOL education were “scheduling conflicts” and “availability of education.”

Regarding specific EOL care knowledge/skill, which was assessed using fact-type EOL care survey items, many nurses had an understanding of basic tenets of EOL care to include patient/family communication principles, concept of IDC care, and the use of adjuvant agents in the management of terminal symptoms. In other knowledge areas such as principles of terminal hydration and nutrition, use of morphine and terminal dyspnea, and goals/endpoints of EOL care, only half of responding nurses appeared to possess the requisite knowledge/skill to deliver competent EOL care. Additionally, scores suggested that topics like sedation, electrolyte imbalance, and the MHB represented knowledge deficits. When RNs were asked to subjectively self-rate their EOL knowledge/skill competency across 23 EOL topics, ten EOL topics appeared as substantive deficiency areas and included topics such as legislative issues, research, and the MHB. Nonetheless, survey scores also suggested that respondent nurses held very positive attitudes toward EOL nursing care.

When these nurses rated their EOL care abilities and expressed their interest in EOL learning opportunities, the framework widened to capture both EOL issues and topics that nurses viewed as problematic topics, and topics that would promote clinical expertise for nurses who had already mastered the essentials of EOL nursing care.

Nurses' views on EOL topic workplace appropriateness and desire for EOL education were clearly polarized. Across all 23 EOL topics, 46 to 57% of nurses indicated individual EOL topics were not workplace appropriate. On closer inspection, almost 40% of nurses indicated none of the topics were workplace appropriate, while 34% indicated all topics were appropriate to the workplace. Looking at EOL education desire, 49 to 64% of RNs expressed no desire for additional education on the 23 topics. A bimodal distribution appeared here as well with 37% of RNs stating no desire for education across all 23 topics and 24% indicating a desire for education across all topics.

Bivariate

A variety of relationships were observed. Nurses linked EOL care with professional nursing practice and believed they had a personal role in delivering quality care and advocating for EOL patients/families. Many nurses were interested in improving EOL knowledge and participating in EOL CE. Relationships here were significant and effect sizes were moderate to large. Better EOL attitudes/beliefs were correlated with significantly better knowledge/skill scores, better self-rated knowledge/skill competency, increased desire for EOL education, and viewing more EOL topics as workplace appropriate. Effect sizes here were small to large.

Amongst nurses who had prior EOL CE, significant positive correlations were noted for six of the seven objective knowledge/skill items, with small to moderate effect

sizes. Amongst nurses who had participated in formal EOL education during initial nursing instruction, relationships were less clear. Small but significant inverse relationships were observed for attitude/belief sub-section scores and for objective knowledge/skill sub-section scores with small to moderate effect sizes.

Means testing clarified some of these issues, revealing that nurses who received formal EOL education, in comparison with those who did not receive formal education, demonstrated significantly better scores across many survey sub-sections that represented subjective self-ratings of knowledge, skill, and competence. Those having had formal EOL education also had better scores, but not significantly better, on attitude/belief scores. However, nurses who received formal EOL education scored lower on objective knowledge/skill sub-section total and had lower EOL educational desire scores, although this finding was not statistically significant. Effect sizes were small to large. Null hypothesis 1 was rejected for overall self-rating on EOL skill and nursing knowledge, subjective EOL knowledge/skill, knowledge/skill competency rating across 23 EOL topics, and desire for EOL education across the 23 EOL topics.

Means testing also demonstrated that nurses who had participated in prior EOL CE scored significantly better than those who had not participated, across all survey sub-sections, although significance was not achieved for EOL education desire. Effect sizes here were classified as large per Cohen's (1988) criteria. Null hypothesis 2 was rejected for EOL attitude/belief, overall self-rating on EOL skill and nursing knowledge, objective and subjective EOL knowledge/skill, knowledge/skill competency rating across 23 EOL topics, and EOL topic workplace appropriateness score.

Looking at the bimodal findings related to nurses' views on workplace appropriateness and desire for education across 23 EOL topics, chi-square analyses provided additional insight into the previously described polarized findings for these variables. Prior participation in an EOL CE, more positive EOL attitude/belief, and higher objective knowledge/skill was significantly associated with viewing more of the 23 EOL topics as workplace appropriate. Here, effect sizes ranged from low to moderate. Looking at education desire across the 23 topics, positive EOL attitude/belief and higher objective knowledge/skill was significantly associated with desiring education across more of the 23 EOL topics. Effect sizes here were small per Cohen's (1988) criteria.

Multivariate

Multiple linear regression models for predicting overall EOL skill and EOL knowledge self-ratings indicated prior EOL CE was the most significant predictor variable, followed by formal EOL education. In the attitude/belief model, prior EOL CE was again the most significant predictor variable. Formal EOL education, the second explanatory variable, predicted lower, but not significantly lower attitude/belief score. Regression models for subjective knowledge/skill and knowledge/skill competency ratings across 23 EOL topics displayed the same pattern with prior EOL CE explaining the most variance, followed by formal EOL education. In the objective knowledge/skill model, prior EOL CE was again the most significant predictor variable; formal EOL education, the second explanatory variable, predicted significantly lower objective knowledge/skill scores.

MANOVAs on formal EOL education during initial nursing instruction and prior participation in EOL CE demonstrated significant overall effects on all six dependent

variables with moderate to large effect sizes per Cohen's (1998) criteria. Amongst nurses with prior EOL CE, mean scores across all dependent variables were significantly higher when compared to those with no prior EOL CE. Comparing mean scores of RNs participating in formal EOL education with those who did not participate revealed significantly higher overall EOL knowledge scores, subjective knowledge/skill scores, and knowledge/skill competency ratings across 23 EOL topics. However, scores for attitude/belief and objective knowledge/skill were lower amongst nurses who participated in formal EOL education; with the objective knowledge/skill mean score just missing statistical significance.

Exploring interactions, prior participation in EOL CE demonstrated significant between-subjects effects on all six dependent variables. Effect sizes were large per Cohen's (1988) criteria. Formal EOL education demonstrated significant between-subjects effects on overall EOL knowledge, subjective knowledge/skill, and knowledge/skill competency ratings across 23 EOL topics with small to medium effect sizes.

Supplemental Research Strategies

Analysis of respondents' comments that reflected their views on specific EOL learning revealed three primary categories: EOL topic-related comments, EOL care work setting comments, and societal EOL issues and concerns. Consistent with Benner's (2001) notion of providing opportunities for voicing unique issues, respondents also raised EOL issues, questions, and concerns that were not addressed on the survey tool. Along with requests for specific EOL care information, nurses identified novel EOL topics that they wanted to learn about, commented on setting-specific EOL learning

needs, and shared their views on macro-level social issues concerning death, dying, and associated EOL care.

CHAPTER V

Discussion, Implications, and Recommendations

Discussion

Overview

The overarching goal of this research was to identify and describe, in detail, nurses' EOL care educational needs as a foundation for future development of an EOL CE initiative for RNs in the state of Georgia. Collaborative processes such as this have been described in the literature and promoted for their utility in bridging the practitioner-researcher culture gap in nursing by promoting translation of research findings into clinical practice (Armitage 1990, Alexander, & Orton, 1998; Closs & Cheater, 1994; Hunt, 1987). Additionally, to gain some insight into the efficacy of existing EOL nursing care educational initiatives, exploring respondents' survey scores by participation status on formal EOL education and prior EOL CE participation, hypotheses testing was also incorporated under the overarching project goal. Therefore, to accomplish the goal of this study, five objectives were developed:

- assessment and description of the EOL nursing care attitude/belief, knowledge/skill, and prior EOL education/training of RNs in Georgia;
- identification and description of nurses' learning characteristics and preferences;
- identification and description of specific educational needs related to the provision of competent, compassionate EOL nursing care;

- identification of relationships between nurses' characteristics, educational needs, EOL attitudes/belief, and EOL knowledge/skill; and
- identification of the potential utility of the survey instrument for the purpose of identifying EOL care educational needs amongst nurse generalists in other settings.

Viewing the research goal and objectives, it can be argued that this project fulfilled these expectations, both confirming existing literature-based findings and also identifying unique components for consideration. The importance of nurses' attitude/belief in relation to EOL care, as detailed in the literature (Renaissance Project, n.d.; Trotochaud, 2001a, 2001b; White et al., 2001), was identified in the present study and described. Nurses' EOL care knowledge/skill was measured (City of Hope, 2005; Ross, McDonald, & McGuinness, 1996) from subjective and objective perspectives and nurses' self-rated efficacy across multiple EOL topical areas was elicited (City of Hope, 2005; Trotochaud, 2001a). Moreover, similar to the work of Haven (1998) and Ferrell, Virani, Grant, Coyne, & Uman (2000a), specific EOL care knowledge deficits were identified and ranked by importance and, unique to this work, nurses' views on workplace appropriateness and education desire across 23 EOL topics were analyzed.

Related to nurses' EOL care education/training, problems with initial educational preparation for EOL care and the need for additional EOL education as part of the nursing curriculum, well described in the literature (Ferrell, Virani, Grant, Coyne, & Uman, 2000a, 2000b; Lehna, 2003; Trotochaud, 2001a; White et al., 2001;), were confirmed in the present study. Again, similar to earlier published reports, this study led to identification of important elements of EOL care (Sharp & Oldhan, 2004);

identification of core EOL care competencies, ranked by importance (White et al., 2001); listing of specific EOL care topics of interest to RNs (Ferrell, Virani, & Grant, 1998a, 1998b); and recognition of unique learner preferences (Sharp & Oldhan, 2004). Taken together, the findings in this study across these variables may provide additional support for Werrett et al. (2001) in their belief that nurses have clear conceptualization of their educational needs.

Lastly, specific insight into the utility of the survey instrument was developed. These insights included information relating to the reliability and validity of measurement associated with the *End of Life Care—Educational Needs Survey*, the unique contribution of the instrument from the perspective of existing EOL care nurse surveys, changes designed to improve the instrument, and the potential for use of the survey in other settings.

Are EOL Educational Initiatives Working?

EOL care and nurses' knowledge/skill. Although scores on subjective knowledge/skill items were low, mean scores across six of the seven objective knowledge/skill items were much better, indicating the sampled nurses had an understanding of basic concepts of EOL nursing care. Low scores on the sedation knowledge/skill item may have reflected a problem with the item design (i.e., greater difficulty).

Nurses gave themselves somewhat neutral marks overall when self-rating their skill in the delivery of EOL nursing care and knowledge level of EOL nursing care. And, when asked to self-rate their current EOL knowledge/skill competency on 23 individual EOL topics, their self-ratings, viewed in aggregate across all topics, were even lower. For

example, in the present study, nurses had low self-ratings of their knowledge/skill competence in relation to the MHB and 50% of respondents indicated that the MHB was not appropriate to their workplace. Additionally, more than 50% of nurse respondents in this study indicated they had no desire for additional education in relation to the MHB. However, Billings (1998) observed, and others continue to agree, that EOL care in the nation today is care for the dying as specifically defined by the MHB.

The low EOL care knowledge/skill self-ratings in the present study appear to suggest that a substantial number of deficiencies in EOL nursing care, first highlighted by the landmark SUPPORT study (SUPPORT Principal Investigators, 1995), have yet to be ameliorated. And, the education of healthcare professionals continues to under prepare clinicians with appropriate attitude, knowledge, and skill for EOL care (Ferrell, 1999; Field & Cassel, 1997; NIH, 2004). Findings of the present study in this area of knowledge/skill and self-rated EOL care competency would support this argument and would corroborate similar appraisals observed in the recent literature (Foley & Gelband, 2001; Jennings et al., 2003; Last Acts National Coalition, 2002; Lunney et al., 2003; Meier, 2004; NIH, 2004; Reb, 2003).

In early work, Becker, Chesley, and Miller (1994) also observed low self-ratings in their survey of nurse generalists on EOL care skill and knowledge base, much like the present study. Low EOL care knowledge/skill self-ratings for research, nursing care, and pain management in the present study are also quite similar to the findings of Meraviglia, McGuire, and Chesley (2003) in their extension on the work of Becker et al. (1994) in a second EOL care educational needs survey of almost five thousand nurse generalists in Texas. Findings of the present study also support the observed self-appraised deficiencies

in EOL care knowledge/skill that were identified during the Greiner et al. (2003) survey of 881 health care facilities in Wisconsin.

Finding that RNs in Georgia rated themselves poorly in relation to EOL care knowledge/skill and competence also aligns with the state-level data from the Last Acts National Coalition Report (2002), findings from the Georgia Collaborative to Improve EOL Care (Georgia Health Decisions, 1999), and the NHQR's below-average ratings for health care quality in Georgia (AHRA, 2004).

Ranking the Georgia nurses' competency ratings for the 23 EOL topics, as modeled by Haven's (1998) in her survey of APNs, provided an interesting perspective on areas of EOL nursing care in which RNs believed themselves to be more or less proficient. Nurses' low self-ratings of EOL care competence, amongst 20% to 60% of sampled RNs across each of the 23 categories suggested that all of the core EOL competencies, as established by expert clinicians, researchers, nursing leaders, and widely-respected organizations (ANA, 2001; AACN, 1998, 2000a, 2002; Joint Committee on Health Care, 1997; NCP, 2004; National Council of State Boards of Nursing, 2003; National Hospice Organization & Accreditation Committee, 1997), have yet to be broadly disseminated across practicing RNs at the level of direct care delivery.

Examining correlations between participants' status on EOL care educational interventions (i.e., formal EOL education and prior EOL CE), unanticipated inverse relationships across all seven objective knowledge/skill survey items were observed amongst RNs who had participated in formal EOL education during initial nursing preparation. Although these relationships were statistically significant with small effect sizes (Cohen, 1988) for two of the seven fact-type survey items, the inverse pattern for

scores was troubling. However, this study would not be the first to identify disappointing outcomes associated with EOL care educational initiatives (Bradley et al., 2001; Ferrell, 1999; Foley & Gelband, 2001; Field & Cassel, 1997; Hilden et al., 2001; Jennings et al., 2003; Kazanowski, 1997; Meier et al., 1997; McPhee et al., 2000; Pierce, 1999; Reb, 2003).

EOL care and nurses' attitude/belief. Nurses' mean score for the nine attitude/belief survey items suggested very positive attitudes toward EOL nursing care. This contrasts with arguments suggesting that the prevailing attitude toward death, amongst healthcare providers, is that of denial (Wass, 1995) and counters the belief that clinicians are not committed to providing EOL care (Pickett et al., 1998). Recalling the words of Kubler-Ross (1969), who identified clinicians' attitude toward death and dying as the primary obstacle in the delivery of empathetic EOL care, findings in the present study suggested that as the EOL CE initiative is developed by the state nurse association, the focus need not be on attitude shift or change. The oft utilized technique of attitude change in EOL care education has been well described in the literature (Bradley et al., 2000; Durlak & Riesenber, 1991; Shoemaker et al., 1981) and addressed by healthcare regulatory bodies (Joint Commission on Accreditation of Healthcare Organizations, 1996).

The relationship between nurses' positive attitudes toward EOL care and better EOL care knowledge/skill and competency self-ratings, observed in the present study with moderate to large effect sizes per Cohen's (1988) criteria, was also described in earlier work (Cramer et al., 2003; Kay et al., 1994; Merrill et al., 2000). More specifically, the findings of the present study in this area were very similar to those of

Brown and Timms (2004) who conducted a state-wide survey of South Carolina nurses. Georgia RN data from the present study on comfort/ability to discuss death/dying, advance directives, and general EOL care were closely aligned with South Carolina RN findings.

One condition for learning, described by Burns (1995), is adequate prior meaning or perspective that allows for processing of novel information. Perhaps in the present study, nurses' positive EOL care attitude functioned in this way, providing the necessary meaning and perspective that promoted prior learning and resulted in improved knowledge/skill scores observed amongst the sampled nurses. The relationship noted in the present study between positive EOL care attitude/belief and better EOL topic workplace appropriateness and EOL care education desire scores (moderate effect sizes) was a novel finding. This unique finding also appears to support the notion of the efficacy of assessing clinicians' EOL attitude/beliefs and providing supportive educational interventions to augment and promote positive attitude as needed.

Influence of formal EOL education. At the bivariate level, results suggested that participation in formal EOL education during initial nursing preparation was associated with significantly higher scores across subjective measures of EOL care knowledge/skill and competency self-ratings, but no improvement in either EOL care attitude/belief or objective knowledge/skill.

Results by null hypothesis utilizing *t*-tests suggested that nurses who received formal EOL education had significantly better scores for overall self-ratings on EOL skill and EOL nursing knowledge, subjective EOL knowledge/skill, and knowledge/skill

competency rating across 23 EOL topics, although effect sizes for all but subjective knowledge/skill were small per Cohen's (1988) criterion.

With additional statistical control at the multivariate level, the troubling pattern of lower attitude/belief scores and lower objective knowledge/skill scores amongst RNs who had participated in formal EOL education appeared again. The attitude/belief findings failed to achieve statistical significance, but the counter-intuitive findings of lower objective knowledge/skill scores amongst nurses who received formal EOL education were significant in the linear regression analyses (small effect size) and approached statistical significance at the $\alpha = .05$ level in the MANOVA model.

Finding these lower objective EOL care knowledge/skill scores amongst RNs who participated in formal EOL education was surprising and of considerable concern. Moreover, it is possible that the MANOVA model might also have found this to be a significant effect if the test had been sufficiently powered (i.e., formal education group with small sample size and low effect size) to identify difference between the groups equal to those implied by the sample differences (SPSS, 1999).

Why would nurses who had benefit of formal education in EOL nursing care perform more poorly on fact-type EOL care knowledge/skill question? As described earlier, the essential EOL nursing care competencies have been identified and described by experts in the field, the overarching curricular content areas have been delineated for inclusion at the undergraduate level, and national testing has been inclusive of EOL care test items since 1998. Several possibilities for the underperformance could be considered.

Could overall curricular changes associated with the inclusion of EOL nursing care content account for the lower objective knowledge/skill scores amongst nurses who

had EOL content as a component of their initial nursing instruction? For example, the addition of EOL nursing care content across an admittedly crowded undergraduate nursing curriculum may have resulted in a net loss. Perhaps students received EOL content at the expense of other more traditional nursing content that previously promoted general abilities related to critical thinking, inference making ability, analysis skill, application ability, and problem solving, making them less able to perform on the objective knowledge/skill survey items. This might force a consideration of the overall *costs* associated with the inclusion of this and other additional curricular content in undergraduate nursing education.

Might features of existing undergraduate EOL nursing care education, processes or content, account for the lower knowledge/skill scores amongst nurses? Considering the potential diversity across nursing education programs and associated curricula, it could be suggested that EOL nursing care education is still not all that it should be—a view that continues to receive attention in the literature (Bradley et al., 2001; Foley & Gelband, 2001; Hilden et al, 2001; Jennings et al., 2003; Reb, 2003). Stated another way, EOL care nursing care knowledge/skill has yet to improve as a function of undergraduate curricular changes that were designed to impart this essential knowledge and skill.

Other pedagogic issues might also account for these unexpected findings. Derek Bok, the recently appointed interim president of Harvard observed:

The professors, when they review the curriculum, spend almost all their time figuring out what courses should be required and in what sequence. They spend almost no time discussing how the courses should be taught, even though most people looking at the evidence say the lasting influence of colleges is focused much more on how classes are taught (Brush, 2006, p. 28)

Perhaps success in teaching EOL nursing care involves unique teaching approaches and techniques that nurse educators have yet to identify or master. If pedagogic shortcomings amongst nurse educators exist, what additional concerns in nursing education might arise if the current effort to adopt the practice-focused doctorate in nursing (DNP) is successful? In its recent White Paper on doctoral education in nursing, the AACN supported the DNP degree as the terminal, practice-focused nursing degree (AACN, 2005). Yet, in its 2005 position statement on the DNP, the AACN recognized that adequate role preparation for nurse educators would likely require additional education (e.g., educator role and pedagogical methodologies) beyond that available in the recommended DNP curricular framework. It has been noted (NACNS, 2005b) that proposed change in doctoral education for nurses, such as the push for adoption of the DNP model, may result in development of nurse faculty who fail to possess the requisite pedagogic skills needed for success in the nurse educator role—a role that is essential for development and delivery of quality undergraduate nursing education across the nation.

Could significant baseline group differences between nurses who had and had not received formal EOL education as a part of initial nursing account for the lower EOL care objective knowledge/skill scores? RNs who had received formal EOL education as a component of initial nursing education (lower scoring group) were slightly younger and had worked in nursing fewer years in comparison to RNs who did not have formal EOL education. From a practical perspective, the age difference (i.e., two years) appears rather unimportant. Moreover, because 95% of respondents worked in non-EOL care settings,

the addition of four to five years of clinical experience would appear to contribute little to the EOL objective knowledge/skill scores.

Influence of EOL CE. At the bivariate level, results suggested that participation in EOL CE was associated with significantly higher scores across all measures of EOL care attitude/belief, knowledge/skill, and competency self-ratings. With additional statistical control at the multivariate level, this positive pattern of higher scores amongst nurses who had prior EOL CE in comparison with those not having such instruction, appeared again and was statistically significant in both linear regression and MANOVA modeling with large effect sizes per Cohen's (1988) criteria across all measures.

Results by null hypothesis utilizing *t*-tests suggested that nurses who participated in prior EOL CE had significantly better scores with large effect sizes (Cohen, 1988) for EOL attitude/belief, overall self-ratings on EOL skill and EOL nursing knowledge, objective and subjective EOL knowledge/skill, knowledge/skill competency rating across 23 EOL topics, and EOL topic workplace appropriateness score. These results support the attitude/belief related findings (Durlak & Riesenber, 1991; Kay et al., 1994; Mallory, 2003; Miles, 1980; Murray-Frommelt, 1991, 2003; Shoemaker et al., 1981; Speece et al., 1991;), the knowledge/skill related findings (Kay et al.; Speece et al.), and self-rated competency related findings (Cramer et al., 2003; Kay et al.; Merrill et al., 2000) described in the literature.

These findings confirm earlier work in which the efficacy of CE programs in improving patient care knowledge/skill was identified (Glajchen & Bookbinder, 2001; Grant et al., 1995; Hughes, 2005; Ferrell, Virani, & Grant, 1998a, 1998b; Kristjanson et al., 1997; Latimer et al., 1998; Linder et al., 1999) and refute studies suggesting that CE

has not adequately prepared clinicians for delivery of EOL care (Field & Cassel, 1997). Additionally, these findings appear to support the call for continued development of EOL CE for all practicing nurses (AACN, 2002a; Joint Committee on Health Care, 1997; Kazanowski, 1997; Last Acts National Coalition, 2002; Rushton et al., 2004; Teno et al., 2001; Weisfeld et al., 2000).

From a comparative predictive perspective, nurses' overall EOL skill and EOL knowledge self-ratings, attitude/belief scores, subjective knowledge/skill score, objective knowledge/skill score, and knowledge/skill competency ratings across 23 EOL topics were primarily influenced by participation in EOL CE, and secondarily influenced by participation in formal EOL education. In particular, in comparison to objective knowledge/skill self-ratings, it appeared that subjective knowledge/skill self-ratings were most strongly affected by participation in EOL CE. Several possible explanations could exist for this finding. Participation in an EOL CE initiative may improve nurses' confidence (or other attitude) in EOL care ability that was evidenced in this work as higher subjective competence self-ratings. Perhaps exposure to other colleagues during an EOL CE provided a particular type of reference standard or point of comparison for participants that resulted in more accurate subjective self-ratings. Alternatively, recognizing that participation in CE or professional development activity is an action step taken in response to an identified need or desire for education/training, participants may have anticipated and/or expected an improved EOL care knowledge base that appeared as higher subjective self-ratings.

Interpreting the higher scores amongst RNs who had participated in prior EOL CE, consideration must also be given to significant baseline differences between nurses

who had and did not have prior EOL CE. Those with prior EOL CE had been in nursing practice approximately two years longer than those without prior CE; yet, the potential influence of this additional time in practice toward scores appears modest, at best, from a practical standpoint. However, the RNs having participated in prior EOL CE were found to be delivering nursing care to a significantly greater number of EOL patients (26%) than the no prior CE RNs (11%). It could be reasonably argued that this heavier case load of patients in the EOL phase, as a part of nurses' daily practice, could contribute to an improved understanding of EOL nursing care tenets and higher EOL care objective knowledge/skill scores amongst prior EOL CE participants.

EOL workplace appropriateness and education desire. Although only 5% of the sample identified themselves as hospice nurses, results suggested that amongst the sampled RNs, one of every five patients cared for on a daily basis by these nurse respondents was in the EOL phase. This finding was consistent with reported national demographics and descriptions of patient populations across the nation (Last Acts National Coalition, 2002; Reb, 2003; Rudberg et al., 1997; Steinhauser, Clipp et al., 2000; Teno et al., 2001) and supports the belief that EOL care education is essential for all RNs irrespective of clinical practice setting (Reb, 2003).

Results indicated that sampled nurses were indeed caring for EOL patients; yet, almost 40% of these RNs indicated that none of the 23 EOL topics were workplace appropriate. Moreover, across each of the individual 23 EOL topics, the "not workplace appropriate" label was selected by 46 to 57% of respondents. This apparent failure to integrate EOL care beyond the disciplines oft associated with providing care for the dying (e.g., oncology units and hospices) has been widely addressed (American

Geriatrics Society, 1995; Bronner, 2003; Health Care Workforce Policy Advisory Committee, 2003) and is supported by the present findings.

When the list of 23 EOL topics was viewed by rank order, four of the five topics most often selected as “not workplace appropriate” had previously been designated the essential or core EOL care competencies as delineated and described by health care ethicists and EOL care experts convened by the AACN (AACN, 2000a; Sherman, Matzo, Panke, Grant, & Rhome, 2003), the ELNEC project developers (Matzo et al., 2003), and the NCP (2004). Of additional concern, four of the five most often selected “not workplace appropriate” EOL topics were clearly relevant across a variety of practice settings and patient populations (e.g., EOL research, EOL legislative issues, time-of-death care, MHB) and could be considered the, “basic grounding” in EOL care expected of nurse generalists as described in the literature (Ferrell, 1999; Field & Cassel, 1997; Rushton et al., 2003).

Fortunately, relationships between specific nurse characteristics and more positive views on the workplace appropriateness of EOL topics were observed. Viewing more of the 23 EOL topics as workplace appropriate was significantly associated with prior participation in an EOL CE, more positive EOL attitude/belief, and higher objective knowledge/skill scores. Although statements about the causal influence of these variables can not be made, perhaps this relationship suggests some underlying form of self-referent effect (Baumeister, 1995), or salience determined by prior exposure/experience, or schema from prior knowledge (Fiske, 1995). Irrespective of the interaction of the variables, it seems plausible that educational initiatives targeting the traditional cognitive,

affective, and psychomotor domains might work via one or more of the described pathways to improve nurses' views of EOL care workplace appropriateness.

Chi-square analyses of the polarized findings related to nurses' views on the workplace appropriateness and desire for education across the 23 EOL topics helped highlight the importance of nurses' EOL care attitude/beliefs. For both the appropriateness and education desire measures, nurses' EOL care attitude/belief contributed the most to error reduction in predicting workplace appropriateness and education desire scores—contributing more than prior participation in either formal EOL education, prior EOL CE, or EOL care objective knowledge/skill score. These findings seem to suggest additional benefit in terms of workplace appropriateness and education desire associated with positive EOL attitude/belief and may serve to extend earlier work (Cramer et al., 2003; Kay et al., 1994; Merrill et al., 2000) describing the efficacy of attitude change educational initiatives in the overall schema of EOL care education.

Positive EOL attitude/belief and higher objective knowledge/skill were also significantly associated with desiring education across more of the 23 EOL topics. However, despite the positive EOL attitude/belief observed amongst sampled nurses, 37% of RNs indicated no desire for education on any of the 23 EOL topics. Moreover, across each of the individual 23 EOL topics, the “no education desired” label was selected by 49 to 64% of respondents. Contrary to Cervero's (1989) findings, data from this study suggested that concepts of lifelong learning and ongoing professional development, considered essential for the provision of quality of care and a core component of a clinician's professional commitment (ANA, 2001; Field & Cassel, 1997) have not been adopted by practicing RNs (NIH, 2004; Solomon et al., 1993).

Perhaps the bimodal nature of scores for workplace appropriateness and education desire represented, “the nature of the saliency of research topics to potential respondents,” rather than the, “saliency of the topic per se” as described by Barribal, 1998, p. 903). Additional evidence supporting Barribal’s (1999) notion might be seen by comparing the 10 EOL topics viewed as most workplace appropriate with the 10 topics on which respondents wanted additional education—only three topics appeared on both lists. Alternatively, the bimodal distribution of scores across these variables may be evidence of response set bias that resulted from the survey layout format and was triggered by the length of the nurse survey instrument.

Nurses’ Views and Challenges of EOL Care

Although a thorough analysis of nurses’ responses to the single open-ended survey item was beyond the initial scope of this project, representatives of the GNA specifically requested inclusion of the item on the nurse survey. As such, a greatly modified form of constant comparative analysis was utilized to develop a beginning sense of nurses’ concerns and a partial understanding of the challenges they faced in the delivery of EOL care. The collective reflections and musings of these nurses focused on their patients’ needs, nurses personal and professional preparation and roles, and the problems associated with society’s pervasive inability to confront and accept the certainty of death.

Many nurses wrote about specific EOL topics they believed they needed to learn more about; for the most part, these topics mirrored the 23 EOL care topics that appeared on the EOL nurse survey. Although every attempt was made during instrument development to compile an all inclusive list of germane topics, a handful of survey

respondents identified additional EOL care topics ranging from wide-lens perspectives (i.e., right to die issues) to unique information needs (i.e., intractable pain treatment modalities). The common thread that ran through nurses' remarks was the element of nurses' personal experiences, on some level, as opposed to isolated questions whose genesis would have arisen from more of an intellectual/professional perspective.

Nurses also commented on EOL care concerns and challenges from the context of their individual work setting or personal world. Here, the voices of "the nurse" could be heard but those professional voices were co-mingled with the voices of "the spouse," "the neighbor," "the loving child," or "the friend" of someone who was dying. These types of responses also hinted at nurses' desire to incorporate themselves on a more personal level into delivery of EOL care. Nurses spoke of non-traditional EOL care settings, unique professional roles, and novel comforting techniques.

Society tends to deny death and everything related to it (Miles, 1980); many nurses' comments reflected an appreciation of this opinion. Respondents believed that many of the challenges they faced providing EOL care were in large part due to lack of knowledge, misconceptions, fear, and negative attitudes about the EOL phase. Comments suggesting inadequate knowledge of the EOL phase targeted laypersons as well as clinicians. Nurses also expressed a belief that inadequate EOL care professional education and preparation had left them bereft of the essential skill set to tend to the dying and ill prepared to educate or advocate for EOL patients.

Response Rate

Perspectives. The overall survey response rate was very low at 1.1%; however, the response rate from the 2,114 GNA members was somewhat higher, at almost 12%.

Although robust response rates amongst members of professional associations have been noted (Dillman & Bowker, 2001; Yun & Trumbo, 2000), the extremely low response rate for this survey seems to support a belief that data gathering from professional groups can present unique challenges (Janota et al., n.d.).

Exploring the response rate of GNA members during an organizational election for Board of Director members that occurred during the final data collection phase of this study may provide some overall perspective on member participation in the EOL survey. Although individual participation in an organizational election or with a member-survey occurs, or fails to occur, as a function of a variety of variables, comparison of response rates from the perspective of organizational dynamics or group behavior patterns may provide useful insight. While the EOL survey of GNA members resulted in a small response rate (12%), data collected by the state nurse organization (S.A. Smith, personal communication, November, 4, 2005) indicated members' simultaneous participation in The Fall 2006 GNA Election was only slightly more robust (17%). Calculation of percentage difference using z value analyses suggested no significant difference ($z = 1.73$) in response rate amongst GNA members between the EOL nurse survey and the organizational election. Thus, although the EOL survey response rate was far lower than desired, the response rate to the EOL survey was consistent with other GNA group response behavior (i.e. election participation) occurring during the same time period.

Nonetheless, low response rates for surveys in general (Barribal & While, 1999; Janota et al., n.d.; Mandal et al., 2000) and Web-based surveys in particular (Couper et al., 1999; Dillman & Bowker, 2001; Medlin et al., 1999; Schonlau et al., 2001; Solomon, 2001; Yun & Trumbo, 2000), and associated problems, have been described. Queeney

(1995) and Morris et al. (2004) observations of low survey response rates during the summer months due to vacations and truncated academic sessions may partially explain the low response rate in this study. Fenton and Mercer's (2004) views on time-of-year, along with questionnaire fatigue phenomenon (Mandal et al.), and respondent burden (Bradburn, 1977) related to survey length seem to represent the most logical explanations for the low response rate observed in the present study.

When survey response rate was viewed from the perspective of prior state-level nurse surveys on EOL care (Becker et al., 1994; Brown & Timms, 2004; Marra, 1999; Meraviglia et al., 2003), the current survey response rate fell far short of the admittedly low response range (8% to 32%) associated with earlier studies. Although any of the previously identified problems may have contributed to the low response rate observed in this work, the absence of data on survey non-responders rendered additional judgments here as speculative in nature.

Nurses and research. An appreciation of low response rates to research efforts amongst nurses has been discussed in terms of the *culture* of research within the profession, which is nurses' interest in participating in research efforts as well as their likelihood of practicing from an evidence-based or empirically validated perspective. Explanations for poor response rates have included specific barriers to participation (Funk et al., 1991; Retsas, 2000), the research-practice-gap (Cavanagh & Tross, 1996; Hughes & Addington-Hall, 2005; Pravikoff et al., 2005), perceptions of lack of relevance (Barribal, 1998), and viewing research as not appropriate to work setting (Hicks et al., 1996). In the present study, findings related to research, specifically nurses' limited EOL research knowledge/skill competence, belief that EOL research was not workplace

appropriate, and modest desire for EOL research education, supported the results obtained by Hicks et al., Barribal, and Pravikoff et al. and could be viewed as additional evidence of the well-described research-practice gap in nursing.

Web survey format. In the same way that the culture of research within the profession was considered in terms of potential effects on survey response rate, utilization of the Web survey format must also be considered. The Web-based survey format provided several benefits in this work. The almost immediate display of data output files following survey submission and rapid download, archiving, and importing into the statistical analysis program allowed for up-to-the-minute monitoring of response rate and point-in-time statistical analyses as described in the literature (Dillman, 2000; Shannon et al., 2002). Although the survey site was not password protected, as oft recommended (Business Research Lab, 2005; Dillman et al., 1998), no data control or security issues were noted. On balance, despite the low response rate which may or may not have been affected by the use of the Web survey format, the ability to collect detailed information across a wide array of variables supported the findings of Morris et al. (2004) and allowed for rapid entry and utilization of data. Thus, as suggested by Morris et al., the Web survey format may in fact be useful for the real-time identification of data and specific trends in society.

Generalizability of Findings

Selection bias concerns. The 1.1% survey response rate represented a significant problem in relation to the representativeness of the sample to the state's RNs and functioned as a threat to external validity. The principal concern was that of selection bias (Ary et al., 1996; Edwards, et al., 2002; Huck, 2004; Price et al., 2005; Shadish et al.,

2002) among RNs who did not participate in the state-wide EOL survey. Experts have noted that Web-based surveys, in particular, were highly unrepresentative due to self-selection (Barribal & While, 1999; Duffy, 2002; Farmer, 1998; Shannon et al., 2002). No attempt was made to contact non-responders; thus, it was impossible to determine if systematic differences might have existed between the small number of survey respondents and the remaining majority of RNs licensed in Georgia.

The issues of generalization and inference in relation to low response rates have been debated and a range of opinions as to requirements for specific rates have come forth. Based on U.S. Office of Statistical Standards and other experts, precise statements about the state RN population, in relation to the response rate in the present study, must be made with caution (Diamond, 1994; Dillman et al., 1998; Duffy, 2002; Mandal et al., 2000; Shannon et al., 2002). Overall, because of potential biases associated with the present sample, the generalizability of the present findings may be considered as suspect (Business Research Lab, 2005; Couper et al., 1999; Diamond; Farmer, 1998; Mandal et al.; Shannon et al.; Yun & Trumbo, 2000).

Nurse characteristics: State and national level comparisons. Responding to this concern, additional information could be considered that may help support representativeness of the study findings. Perhaps partial evidence regarding generalizability was found when respondent (Georgia RN) characteristics were compared with characteristics of RNs across the nation. The profile of EOL survey respondents closely matched many of the RN characteristics identified in the 2001 Georgia Nursing Workforce Study (Georgia Health Workforce Cooperative, 2001). Respondent characteristics from the EOL sample were similar to state-wide RN characteristics across

the variables of age, gender, ethnicity, initial degree, employment setting, and years since initial nursing education. Additionally, the profile of EOL survey respondents matched several of the characteristics comprising the national RN profile as described in preliminary findings of the National Sample Survey of Registered Nurses (USDHHS, 2004) and depicted in Table 43. Characteristics of nurses in the Georgia sample, across age, gender, racial/ethnic mix, and major employment settings, closely resembled characteristics of the national sample of RNs (USDHHS). Looking at type of initial nursing education and highest earned degree however, a higher percentage of EOL survey respondents held the BSN as the initial degree and the master's/doctorate as the highest degree, when compared to the national sample of RNs. Also, the percent of APNs in the Georgia sample was twice the percent of APNs at the national level.

Table 43

Comparison of characteristics between Georgia RN survey respondent (N = 567) and RNs across the nation in 2004 (N = 35,724).

<u>Characteristic</u>	<u>RN group</u>	
	Georgia RNs	RNs across the nation
Average age in years	47	47
Gender		
Female	93%	92%
APN status	19%	8%
Race/ethnicity		
White	84%	82%
Non-White	14%	11%
Initial education		
Associate/diploma	56%	67%
Bachelor's	40%	31%
Highest degree		
Diploma	8%	17%
Associate degree	15%	33%
Bachelor's degree	33%	34%
Master's/doctorate	44%	13%
Major employment settings	Hospital, nursing education, community/public health, hospice, other	Hospital, nursing education, community/public health, nursing home, ambulatory care

Despite similarities between the study sample RNs, Georgia nurses during 2001 (Georgia Health Workforce Cooperative, 2001), and the current national RN population (USDHHS, 2004), respondent bias remained a significant concern and could not be dismissed; and, the overall generalizability of findings to RNs across the state remains troublesome.

Nurse association membership characteristics. Forty-three percent of survey respondents indicated current GNA membership (n = 244); group-level differences between members and non-members in the sample were detailed elsewhere in this work. GNA members evidenced significant differences across the variables of age, education, professional status, community size, academic degree (initial and highest), employment site, years since initial nursing education, and percent of EOL patients cared for in primary work setting.

These results supported literature-based findings suggesting professional association members differed from non-members by virtue of career stage (Ferinde, 1979), level of professional activity (Kordick, 2002), educational preparation (Breedon et al., 2000; Hungler et al., 1979; Kordick; Yeager & Kline, 1983), and characteristics of employment (Hungler et al.).

The issue in the present study was a concern that the high percentage of GNA members amongst the sample may have resulted in findings that did not reflect the majority of RNs across the state. As such, in relation to the planned development of EOL CE by the GNA, it could be argued that the resultant CE program would need to address different educational needs depending on which group of nurses (GNA members vs. non-members) was deemed the target audience for the EOL educational initiative.

Conversely, some have suggested that professional associations are useful for benchmarking (Cervero, 1989; Closs & Cheater, 1994; Foley & Gelband, 2001; Rushton et al., 2003) the standard of care across professions, thus their expressed educational needs could justifiably be used as a model for developing educational initiatives that would be appropriate for all RNs. Viewed in this way, the effects in this sample attributed to GNA membership status would serve not as a confounder, but rather, as an opportunity to *raise the bar* and further the standard of EOL nursing care in the state.

Self-assessment Concerns

Validity issues. Two sections of the nurse survey (Sections C and Section D) required respondents to provide self-ratings of their EOL nursing care abilities. These self-ratings included overall competency on EOL skill delivery and EOL knowledge level (*not at all competent to very competent*) and EOL knowledge/skills (*not competent to very competent*) across 23 EOL topics. The use such self-ratings, and the validity of subsequent results, must be considered in view of the current research associated with the data collection technique.

Although self-ratings are widely utilized in survey research methods, the accuracy of self-ratings has been called into question and addressed in the literature (Bass & Yammarino, 1991; Buehler, R., Griffin, D., & Ross, M., 1994; Dunning, Heath, & Suls, 2005; Ehrlinger & Dunning, 2003; Rees & Shepherd, 2005); many believe, “self-ratings of aptitude hold only a tenuous to modest relation, at best, with actual performance” (Dunning et al., p. 21). For example, individual views about intelligence correlate only 0.2 to 0.3 with intelligence testing and academic task performance, while in the workplace, the correlation between performance expectation and actual performance is

0.2 for complex tasks (Dunning et al.). Of even greater concern is that incompetent individuals often fail to evidence insight into their deficiencies (Dunning et al.). This issue holds the greatest significance in the provision of expert health care where the essential ability to accurately self-assess professional knowledge, skills, and competency must exist.

Although self-assessment is an essential tool for clinicians in both development and maintenance of clinical competence (Meretoja, Isoaho, & Leino-Kilpi, 2004), self-assessment inaccuracy amongst healthcare providers has been identified and has been linked with unrealistic expectations of performance, incomplete information, previous academic success, gender difference, lack of quality feedback, unwarranted positive reinforcement, unclear expectations of assessment processes, inability to engage in comparisons with salient peers, self-deception, over-confidence, and impression management.

Most often, self-assessment inaccuracy leads to over-inflated views of personal expertise and skill with the majority of self-evaluators suggesting they are above average—a premise that in total, defies statistical possibility (Dunning et al., 2005). In relation to self-assessment of EOL nursing care, clinicians' ability to accurately self-rate knowledge/skill can be further restricted by the potential impact of emotional factors (e.g., fear, anxiety, guilt) on self-rating or self-assessment ability (Dunning et al.). Clearly, the contribution of emotional factors must be considered in this work dealing with educational preparation for the provision of EOL care.

Novice to expert scale. An unexpected issue associated with respondent self-rating ability appeared in this project during the survey pilot phase, survey research

expert (non-nurse) review process, and field testing, that resulted in a substantive change in the rating scale utilized for survey Sections C and D. Initially, the well respected novice to expert scale (Benner, 1982, 1984, 2001; Dryefus & Dryefus, 1986) was included in the survey as a self-rating continuum for assessing personal competency from novice to expert nurse in EOL knowledge/skill areas. In the novice to expert model, a nurse passes through five levels of proficiency in the processes of skill acquisition and development: novice, advanced beginner, competent, proficient, and expert. In this contextually relevant competence model, as adapted by Benner (1984) for use in nursing, “skill acquisition is a situational model rather than a trait or talent model” (p. 22).

On the EOL survey, these categories were arranged Likert-style and assigned values from 1 (*novice*) to 5 (*expert*). Both non-RN survey expert reviewers and hospital-based nurses who participated in field testing expressed concerns and/or difficulty associated with the scale’s terminology—declaring the categories as ambiguous and somewhat confusing. Thus, the novice to expert self-rating scale was subsequently changed to a 5-point Likert-style scale, anchored by “not competent” (1) to “very competent” (5). No response problems were noted following redesign of the scale.

It has been observed that the notions of competence and performance, at least on a conceptual level, are confusing (Ramritu & Barnard, 2001) and self-ratings of competence among practicing nurses have been plagued by concerns over validity and reliability (Robb, Fleming, & Dietert, 2002). However, Benner’s (1984) competency framework and associated categories (i.e., novice to expert) has been validated repeatedly (Meretoja et al., 2004) and utilized widely in nursing (Shulman & Lovejoy, 2004).

Exploring the existing literature, no similar reports of difficulty in utilization of the novice to expert scale could be identified.

In this regard, it could be suggested that survey research experts who reviewed the instrument had not previously encountered the scale, thus found the category labels unfamiliar. The hospital-based nurses, who participated in the survey piloting and field testing and struggled with the Benner (1984) scale, were not required to complete the demographic section of the EOL survey, and additional data about these respondents that might suggest the genesis of the problems, was not collected. Thus, speculation as to a potential source of observed difficulty in interpreting or understanding the categories of the scale is specious at best.

Subjective and Objective Knowledge

How nurses know. Subjective knowledge has been described as the *feeling* of knowing (Raju, Lonial, & Mangold, 1995) or the combination of knowledge and confidence (Park & Lessig, 1981), while objective knowledge is described as *actual* knowing. The EOL nurse survey utilized questions designed to measure actual EOL knowledge or facts (objective knowledge/skill items) and questions designed to measure more subjective states such as attitudes, opinions, beliefs, and feelings (attitude/belief items and subjective knowledge/skill self-report items). Measurement of types of knowledge in these ways has been described in the literature (Johnson & Russo, 1984; Rao & Monroe, 1988) and was based on work in metacognition that suggested an individual's ability to subjectively monitor personal knowledge affects learning processes (Koriat, Sheffer, & Ma'ayan, 2002).

Implicit in the use of these forms of survey items and associated measurement, were assumptions about both objective and subjective knowledge. Evidence suggests that although these knowledge types are distinct and there are often discrepancies between the two (Koriat et al., 2002), objective and subjective knowledge are positively correlated (Brucks, 1985; Raju et al, 1995). Benner (2001) suggests the difference between various forms of knowledge continues to be poorly understood. Additionally, impairments of subjective knowledge ratings or assessments have been identified as problematic by virtue of both the general tendency toward the *overconfidence effect* (Klayman, Soll, Gonzales-Vallejo, & Barlas, 1999) and the *underconfidence-with-practice effect* (Koriat, Sheffer et al., 2002).

In this work, subjective EOL knowledge/skill total score and objective knowledge/skill total score were positively, yet not strongly correlated ($r = .301, p < .01$). Glajchen and Bookbinder (2001), exploring pain management skills, observed similar discrepancies between measurement of nurses' subjective competence ratings and their actual knowledge. In the present study, exploratory factor analysis, using the eigenvalue greater than 1 criterion, indicated all but the formal EOL education subjective EOL knowledge/skill survey item loaded highly on one factor (factor 1). Likewise, all objective EOL knowledge/skill survey items, excluding the EOL sedation survey item, loaded on a different factor (factor 2). This partial evidence may lend support to the assumption that the subjective and objective EOL knowledge/skill survey items did, in fact, represent different types of knowledge, despite the less than robust positive correlation between the measures.

Realistic knowledge appraisal. Nurses' scores on the subjective knowledge/skill survey items and their subjective self-ratings, which some have described as, "inherently relative in nature" (Mussweiler & Strack, 2000), were difficult to interpret when they were viewed in terms of workplace appropriateness findings. With up to 57% of nurses viewing specific EOL topics as not workplace appropriate, the expectation of nurses' realistic self-rating based on comparison with relevant others or an appropriate reference group-derived norm (i.e., workplace models of EOL care competence) seems somewhat unlikely (Festinger, 1954; Lewin, 1951).

Educational Needs Assessment

Learner characteristics. Use of a simplified needs assessment process in the current work also promoted identification of nurses' specific learning characteristics and supports Kolb's seminal work on adult learning styles (Kolb & Chapman, 1995). These often unique educational needs, desires, priorities, and goals of adult learners in the healthcare professions have been described (Bowden & Merrit, 1995; Brookfield, 1984; Burns, 1995; Cranton, 2000; Rogers, 2002; Van Tilburg & Moore, 1989). Findings of the present study corroborate earlier observations that few nurses have participated in formal EOL education as a part of initial nursing education (Bradley et al., 2001; Ferrell, 1999; Foley & Gelband, 2001; Field & Cassel, 1997; Hilden et al., 2001; Jennings et al., 2003; Kazanowski, 1997; Meier et al., 1997; McPhee et al., 2000; Reb, 2003) yet are interested in participating in CE initiatives, a finding that has been observed previously (Kerrison et al., 1999).

Finding that almost half of all respondents in the present study favored either a review of EOL care educational care concepts or specific/additional EOL care training

and information, suggested that RNs had received some form of EOL care information. Perhaps the requests amongst this sample for review of concepts or specific information reflected nurses' limited confidence in their EOL care knowledge/skill, as postulated by others (Bradley et al., 2001; Ferrell, 1999; Kirchhoff et al., 2000; McPhee et al., 2000). Approximately 30% of nurses requested comprehensive EOL care education, a finding that was best understood when considered alongside respondents' stated purpose for seeking EOL education; findings revealed approximately 30% of the sampled nurses planned to fill gaps in prior education.

Findings of the present study also supported earlier reports of existing barriers to EOL nursing care education (Ferrell, 1999; Kirchhoff, & Beckstrand, 2000; Rooda et al., 1999). The most significant barriers to EOL education in this study were categorized as situational barriers (e.g., scheduling conflicts) as described by Hilden et al. (2001) and Reb (2003) and learning program barriers (e.g., availability of education) as detailed by Field and Cassel (1997), McPhee et al. (2000), and Glajchen and Bookbinder (2001).

Identification of nurse attitude-related needs. As many have suggested (Furze & Pearcey, 1999; Glajchen & Bookbinder, 2001; Gould et al., 2004; Ury et al, 2000), the needs assessment process has been a useful component in healthcare professional education and staff development for nurses. In this project, the process allowed for identification of complex EOL care learning needs. Consistent with findings from earlier EOL care educational needs assessments, this needs assessment identified lack of provider EOL care knowledge, barriers to learning, EOL care clinical skill deficiencies (Greiner et al., 2003), and limited formal EOL education (Kirchhoff & Beckstrand, 2000; Ury et al.).

In this work, a simplified needs assessment process promoted identification of the important contribution of nurses' EOL care attitude/belief in the schema of EOL care educational initiatives, both as a precursor for viewing EOL care as workplace appropriate and desiring EOL care education, and as a desired outcome of EOL care education. These results support earlier findings describing the essential role attitude contributed toward EOL care and EOL education (Bradley et al., 2000; Brown & Timms, 2004; Kane et al., 2004; Kristjanson et al., 1997; Linder et al., 1999; Merrill et al., 1998; Renaissance Project, n.d.; Trotochaud, 2001a; Yates et al., 1998).

Professional Associations and EOL CE Development

Finding that almost 70% of RNs in the sample wanted to participate in a CE initiative sponsored by the GNA, aligned with the findings of Cervero (1989), Foley and Gelband (2001), Lunney et al. (2003), and others in relation to nurses' expectations of professional associations and their views on important sources for professional development information (Kerrison et al., 1999). This finding also served as evidence supporting the state nurse association's plan to provide essential EOL CE for RNs, an organizational agenda deemed essential by experts (ANA, 2001; Cervero, 1989; Joint Commission on Health Care, 1997; Last Acts Report, 2002; Rushton et al., 2003). Moreover, the desire to participate in EOL CE amongst these RNs appears to refute Hughes' (2005) claim that nurses fail to understand the ethos under girding professional development.

Instrument Utility

Strong Cronbach alpha scores for survey Sections A, B, and C, using Nunnally and Bernstein's (1994) reliability criteria for affective measures, suggested more than

adequate internal consistency for EOL care attitude/belief and knowledge/skill constructs. Additionally, two forms of expert review, item field testing, and survey pilot testing amongst groups consisting of nursing students, practicing nurses, and nurse educators resulted in an iterative process of instrument revision designed to improve validity.

For this survey instrument, the decision to measure nurses' EOL care knowledge/skill as a joint construct, as described in the literature (Neufeld, 1985; Willis & Durbin, 1990), appeared to pose no problems for nurse respondents. Significant relationships with moderate to large effect sizes per Cohen's (1988) criteria and high alpha coefficients were observed between sub-totals from sections of the survey that explored EOL knowledge/skill and related EOL competency. This finding may provide additional evidence to support Elman and Lynton's (1985) notions of knowledge and skill as a relationship having characteristics of a continuum.

Although Dillman et al. (1998) postulated the use of the *check-all-that-apply* question format could result in a bias produced against items that appear later in a list of choices, no such bias was observed in the present work.

Is the *End of Life Care—Educational Needs Survey*, a non-validated instrument, a comprehensive survey tool that supports valid, reliable measurement and inference for an improved understanding of EOL care educational needs amongst nurse generalists? On balance, perhaps the use of this instrument contributes to a general understanding of the potential for wider application of EOL care nurse surveys as described by Lunney et al. (2003).

Implications

The results of this study stand as a data-driven, descriptive analysis of the EOL care educational needs of RNs across Georgia. This analysis included investigation of EOL nursing care attitude/belief and knowledge/skill; prior EOL education/training; learners' goals, characteristics, preferences, and educational barriers; as well as relationships between these variables. Results from this work will provide a more comprehensive understanding and guidance to the GNA as they work to develop a targeted EOL CE initiative designed to improve the provision of care for the dying across the state.

Education

To be most efficacious, EOL care education for nurse generalists, providing care across a wide continuum of patients and care settings, must target clearly identified educational needs. Results of hypotheses testing in this study supplied additional evidence of positive educational outcomes associated with prior participation in CE-format EOL initiatives. A rich body of existing work describes improved educational outcomes such as attitude/belief, knowledge/skill, and competency ratings when learners' needs are identified and then targeted by educational initiatives that possess documented utility.

What if practicing nurses' EOL care needs had not been assessed? If the nurses association failed to survey RNs' educational needs and instead developed CE based entirely on the essential EOL care skills and core competencies, as established by expert clinicians, researchers, and widely-respected organizations (ANA, 2001; AACN, 1998, 2000a, 2002; Joint Committee on Health Care, 1997; NCP, 2004; National Council of

State Boards of Nursing, 2003; National Hospice Organization & Accreditation Committee, 1997), would that CE miss the mark? Based on the findings in the present study, that answer would likely be “Yes.” CE developers might have an accurate view of nurses’ self-rated EOL care knowledge/skill and competency from the prior literature. But, the newly developed CE might fail to address the pivotal contribution of nurses’ EOL care attitude/belief on EOL nursing care knowledge/skill and competency self-ratings. And, the instructional designers would not have known that nurses’ views on EOL care workplace relevance and desire for education were significantly affected by their EOL attitude/belief and their existing levels of EOL care knowledge/skill. Additionally, that CE initiative would likely overlook nurses’ apparent failure to view EOL care as relevant and failure to view EOL educational opportunities as essential for the delivery of expert nursing care.

Results of hypotheses testing in this study also suggest that the undergraduate education of RNs continues to insufficiently prepare nurses clinicians with appropriate attitude, knowledge, and skill for delivery of competent EOL care. The undergraduate curricula, educational materials, clinical experiences, and faculty modeling of concepts and tenets of comprehensive EOL nursing care must lead to excellence in EOL care educational outcomes. Changes in EOL care nursing education in content, process, or in both have been described in the literature; the present study was not designed to make those types of determinations.

Practice

Findings of the present study support a previously identified gap in nurses’ EOL care knowledge/skill and self-competence ratings and suggest RNs continue to wrestle

with EOL care ability and proficiency issues, in relation to the delivery of comprehensive EOL nursing care. The education of healthcare professionals continues to under prepare clinicians with appropriate attitude, knowledge, and skill for comprehensive EOL care. A clear need exists for development and dissemination of EOL nursing care content amongst working RNs.

Findings here suggest that these shortfalls in EOL nursing care arose from fundamental failures in nursing education, most likely at the level of undergraduate education. The implication here is quite clear and must not be ignored. Without change in educational practices nurses will never fulfill their highest calling, which is to advocate untiringly for the comfort and care of EOL patients and the families and friends who love them.

Theory

In regard to Benner's (1982, 1984, 2001) work on the novice to expert scale, and the unexpected difficulty nurses' in the present study experienced using the scale-related terminology, further use of the scale must be carefully considered until the genesis of this problem has been identified. In relation to Benner's (2001) propositions on *common meaning* and nursing knowledge *embedded in practice*, findings of the present study appear to suggest that Benner's (2001) conceptualizations may be useful in understanding the presence, or possibly even mastery, of a particular knowledge domain that can not be attributed to formal/organized educational initiatives.

Based on the utility in this study of the measurement of knowledge/skill as joint construct, it appears the technique as described by Rogers (1998) and other experts (Elman & Lynton, 1985; Neufeld, 1985; Willis & Dubin, 1990) can be supported.

Research

This research may provide a model for ongoing research efforts designed to explore the EOL care education needs amongst nurse generalists in respect to their attitudes, abilities, educational backgrounds, and professional requirements. The development and dissemination of CE offerings in EOL nursing care must begin with a comprehensive educational needs assessment and to date, few survey instruments exploring these learning needs amongst nurse generalists are available. No large-scale utilization of any one instrument has been identified for the purpose of developing EOL CE initiatives. Perhaps the *End of Life Care—Educational Needs Survey* represents a beginning in the development of such an instrument. Through development of data-driven initiatives, state nurse associations and other professional associations may serve both nurses and patients by providing RNs with EOL CE that aligns with identified educational need and documented shortfalls in existing EOL care.

Recommendations

Although this research identified problems amongst a small sample of RNs with EOL nursing care related to nurses' knowledge/skill and competencies, it also found reasons for optimism. Nurses, in the main, held very positive attitude/belief toward EOL care, believed in their personal role in EOL care, viewed EOL care as a component of professional practice, and were interested in improving EOL care knowledge through education. These findings suggest that additional research will be required to improve our understanding of nurses' educational needs so they might best care for EOL patient in the future. The following recommendations are directed at different deficiencies in EOL nursing care knowledge/skill and competencies as identified in the present study:

Research

- Additional study of the efficacy of Benner's (1984) novice to expert scale would be beneficial with nurses at various points in their education, at different phases of professional careers, and in different practice settings.
- To potentially improve the generalizability of results, survey non-responders should be contacted to collect information that would support a comparison of survey participants with non-participants.
- Conduct more extensive analysis of RNs' views (i.e., survey open-ended item) related to the challenges they face in the provision of EOL care using a more exhaustive constant comparative method of analysis, consistent with the process of grounded theory, as described by Glasser and Strauss (1967). Alternately, these types of data could be developed utilizing nurse focus groups in educational or health care settings.
- Utilize the existing *End of Life Care—Educational Needs Survey*, or an abbreviated format of this survey, in other states and with other professional nursing groups.
- Identify the realistic limits of EOL care knowledge/skill for graduates of basic nursing education programs and for nurse generalists.
- Explore the process of EOL care education in relation to how student nurses and practicing nurses best learn EOL care core competencies and how nurse educators can best teach EOL nursing care content.

Education

- Nurses must assume a personal responsibility, grounded in the tenets of professional nursing practice, for acquiring a basic grounding in EOL nursing care knowledge, skills, and competencies.
- RNs must take ownership of assessing professional skills and become proactive in a process of lifelong learning that supports the use of best practices in EOL care.
- Nurse educators must evaluate both processes and content of undergraduate education and initiate necessary changes to assure that graduates acquire the attitude/belief, knowledge/skill, and essential core competencies to care well for EOL patients.
- Nurse faculty should be taught how to teach EOL nursing care with a focus on modeling essential skills and an appreciation and understanding of the essential contribution of the interdisciplinary care team and the role of its members.
- Educators must constantly assess learners, recognizing that although a blueprint for EOL care educational content exists, specific groups of learners may have unique educational needs and may require modifications to address issues of workplace relevance and resultant desire for learning.
- Professional organizations, such as state nurse associations, must continue to fulfill their responsibility to health care professionals and the public in evaluating the professional education needs of their membership and

providing professional development that supports exemplary EOL practice.

- In order for nurses to commit themselves to excellence in the delivery of EOL care, educational initiatives (formal education and CE) that target the development of positive EOL care attitude/belief must be available, accessible, and of the highest quality.

Conclusion

It is expected that the results of this work will indeed guide the GNA in developing an EOL care CE initiative that will meet the learning needs of RNs across the state. The executives of the Association were eager to hear the results of the survey and the analysis of nurses' needs, from the perspective of both Association members as well as non-members. Now that they have that analysis, they must undertake the crucial task of designing and developing an EOL care CE that is responsive to nurses' educational needs and addresses the defined gaps in current practice that have likely resulted from fundamental flaws in undergraduate nursing education.

If Freud was correct in his view that, "our unconscious does not believe in its own death; it behaves as if immortal" (Freud, 1959, p. 304), then we are required, by necessity, to consciously push ourselves to deal more constructively with the EOL phase. We can do no less than to assure that all nurses are prepared to deliver exemplary EOL care that will serve the dying well.

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Appendix A: Letter of Intent

February 15, 2005

Carol Sapp, RN, PhD
Georgia College and State University
Campus Box 63
Milledgeville, GA 31601-0490

Dear Dr. Sapp:

Thank you for allowing me the opportunity to participate in The Commission on Nursing Practice of the Georgia Nurses Association's efforts to survey the educational needs of Georgia nurses related to the provision of end of life care. I am honored to contribute to the Georgia Nurses Association's concentrated effort to enhance access to quality end of life care and education.

The proposed data collection project that we have discussed will encompass survey instrument identification and/or development, data collection, and data archiving. Approval from the Institutional Review Board at Valdosta State University will be sought for this data collection project. A copy of these data, in a mutually convenient form, will be made available to the Commission at a time agreeable to both parties.

I am undertaking this project in a format that is consistent with the guidelines supporting the *preliminary* or *informal phase* of my dissertation trajectory at Valdosta State University. The Program Director for the College of Education, Department of Curriculum and Instructional Technology, as well as the faculty member identified as my dissertation chair, are in agreement with this process and format. They support my participation in this project.

Future phases of this project—the *formal phase* of my dissertation—are planned and will encompass data analysis, synthesis, and interpretation. Through this process, valuable insight and recommendations may emerge that could be useful to the Commission in planning end of life educational interventions for Georgia's nurses. Project interim reports will be provided to the Commission Chair throughout all phases of this project and a concluding full report to the Commission will be drafted.

The Commission on Nursing Practice of the Georgia Nurses Association retains ownership of these data, and the dataset will be archived at the Georgia Nurses Association Headquarters at 3032 Briarcliff Road, NE Atlanta, GA 30329-2655. The doctoral student, Maura C. Schlairet, RN, MSN, shall retain the right to further access and/or analyze these data for the dissertation process and future professional publications.

Sincerely,



Maura C. Schlairet, RN, MSN

Appendix B: GNA Permission Letter



3032 Briarcliff Road, NE
Atlanta, GA 30329-2655
404 325-5536 • Fax 404 325-0407
Email gna@georgianurses.org
www.georgianurses.org

Linda R. Easterly, RN, BSN, MS, COHN-S
President

Deborah D. Hackman
Chief Executive Officer

February 6, 2005

TO : WHOM IT MAY CONCERN:

Subject: Consent for participation in data collection project

The Commission on Nursing Practice of the Georgia Nurses Association, as part of a concentrated effort to enhance access to quality palliative/end of life care and education, has an interest in surveying Georgia's nurses on learning needs related to the provision of palliative/end of life care.

We hereby grant permission to the project investigator, Maura C. Schlairet, RN, MSN, to collect, access, and analyze these data through the utilization of GNA's communication instruments specifically the GNA web site and GNA quarterly newsletters. The survey target audience will be all registered nurses in the state of Georgia. The investigator will utilize an anonymous survey instrument.

Sincerely,

A handwritten signature in cursive script that reads "Linda R. Easterly".

Linda Easterly RN, BSN, MS, COHN-S
President

Appendix C: Valdosta State University IRB Approval

Institutional Review for Human Subjects Research
 Office of Grants and Contracts, Valdosta State University
 Research Qualifying for Exemption from Federal Regulations
 for the Protection of Human Subjects
 (Based on the Code of Federal Regulations, Title 45, Part 46.101.
 and the Valdosta State University Policy on Human Subjects)



University procedures provide for review of research involving human subjects that may be exempt under federal, state, and university regulations. The exempt categories and exceptions are described on the reverse of this form. Exempt research may be approved by the IRB Administrator provided it is in accord with the Code of Federal Regulations and the general principles stated in the VSU Policy on Human Subjects. This form, properly endorsed, certifies that the research described here qualifies for exemption.

Principal Investigator Schlairet, Maura Academic Title Student
 Department/College Curriculum & Instructional Technology / Education Telephone (229) 249-9409
 Project Title Survey of Nurses' Educational Needs Related to End of Life Care
 E-mail schlair@bellsouth.net
 Starting Date 03/04/05 Anticipated Termination Date 03/03/06
 If PI is a student, provide Faculty sponsor/mentor's name Dr. E. Wiley
 Grant (if sponsored) Title (if applicable) N/A
 Funding Agency and application due date (if applicable) N/A

I. The category under which this research qualifies for exemption (categories are described on page 2) is circled:

1 (2) 3 4 5 6

II. ABSTRACT: Brief description of a) purpose of the research, b) what subjects will do (if applicable), c) the nature of the data to be obtained, and d) how anonymity or confidentiality will be maintained. Additional sheet may be attached.
 Note: This section is obtained directly from the Application for Review completed by the PI.

The purpose of this data collection project is to identify the current level of nursing competency in end of life care in Georgia and to provide a framework for understanding nurses' educational needs and the potential trajectory for development of educational interventions to improve end of life nursing care. Respondents will voluntarily complete an anonymous survey and these data will be electronically archived for future analysis.

III. Human Subjects (to be considered 'exempt' all of these responses must be answered "NO"):	YES	NO
Are any subjects presumed to be not legally competent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are any subjects under 18 years of age?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are any subjects confined in a correctional or detention facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is pregnancy a prerequisite for serving as a subject?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are fetuses <i>in utero</i> subjects in this research?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are personal records (medical, academic, etc.) used without written consent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are data from subjects (responses, information, specimens) directly or indirectly identifiable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are data damaging to subjects' financial standing, employability or reputation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is material obtained at autopsy used in the research?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IV. The information provided above is based on the material provided in the Application for Review of Research presented to the Institutional Review Board of Valdosta State University dated (month, day and year) 03/04/05. Based on this application, this research is certified as exempt from federal regulations and is in accord with the general principles stated in the VSU Policy for the Protection of Human Subjects. Signed and sealed

V. IRB Signature  Date 03/07/05
 cc: Faculty Advisor

Grants and Contracts

Address 1500 N. Patterson St. • Valdosta, Ga. 31698-0429
Phone 229-259-5045 • Fax 229-245-3853

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VSU IRB Number: **IRB – 01795-2005**

MEMORANDUM

TO: Maura C. Schlairet
966 Lakeshore Drive – S.
Valdosta, GA 31605

FROM: Dr. Green Waggener, Chair
Institutional Review Board
Valdosta State University

SUBJECT: IRB-01795-2005

DATE: November 2, 2005



Your request for approval of *Survey of Nurses' Educational Needs Related to End of Life Care* has been received and reviewed. Based on the materials you provided, your protocol has been approved under the Expedited Review category.

This approval is effective for one year from 11/02/05 to 11/01/06 based on the research protocol described. You are required to report any change in methodology to the IRB. If you need additional time, you must inform the IRB and request an extension by contacting the IRB Administrator at Valdosta State University, Dr. Green T. Waggener, VSU. Dr. Waggener can be reached by phone at (229) 249-4921 or E-mail at gtwaggen@valdosta.edu.

Appendix D: Existing EOL Survey Instruments Reviewed for GNA Project

Survey Instrument	Author	Form	Year
Association for Palliative Medicine Core Curriculum Questionnaire	Rawlinson & Finlay	NA	2002
Attitudes About Care at the EOL Among Clinicians	Bradley et al.	12-item	2000
Attitudes Toward Hospice Care & Knowledge of Pain Management and Symptom Control	Linder et al.	33-item	1999
City of Hope National Medical Center EOL Care Survey	Ferrell, Virani, Grant, Coyne, & Uman	30-item	2000
EOL Care Practices in Georgia	Trotochaud	68-item	2002
EOL Care Practices: A Survey of Organizational Members of the Health Care Ethics Consortium of Georgia	Trotochaud	130-item	2001
EOL Core Competencies of Registered Nurses	White et al.	12-item	2001
Health Care Providers Survey of EOL Perceptions, Knowledge, and Attitudes—South Carolina Nurses Survey	Brown & Timms	9-item	2004
Home Care Nurses Survey: Knowledge and Perceived Competence in Pain Management	Glajchen & Bookbinder	74-item	2001
Missoula Demonstration Project: The Quality of Life=s End Community Survey	Byock & Spring	73-item	1998
National Hospice and Palliative Care Organization's (NHPCO) Needs Assessment	(NHPCO)	4 topics	2004
Needs Assessment for an EOL Care Curriculum for Advanced Practice Nursing Students	Lehna	9 EOL topics	2003

Nurse Community Needs Assessment	Collins	17-item	2003
Nurses Knowledge and Experience: A Bi-polar Rating Scale	Werrett et al.	33-item	2001
Oncology Education Needs Survey of Registered Nurses in Texas	Becker et al.	61-item	1994
Palliative and EOL Care Needs Assessment	Havens	22-item	1998
Palliative Care Curriculum Needs Assessment	Ury et al.	71-item	2000
Palliative Care Quiz for Nursing (PCQN)	Ross, McDonald, & McGuinnes	60-item	1996
Palliative Medicine Comfort— Confidence Survey	Weissman et al.	4-domains	1998
Preparedness to Address Patient Preferences at the EOL	Kane, Kamlin, & Hawkins	29-item	2004
Renaissance Project—Emory University	Perryman	NA	NA
Staff-Patient Interaction Response Scale	Yates et al.	4-case histories & 20-statements	1998
Supportive Care of the Dying: Modified City of Hope Professional Questionnaire	McSkimming	62-item	1999
Thanatophobia Scale	Merrill, Lorimor, et al.	110-item	1998
The Educational Needs Survey	Meraviglia et al.	17-item	2003
University of New Mexico: Health Care Professionals EOL Care Survey	Forman	7 focus group topics	2004
West Coast Center for Palliative Education Needs Assessment	Blais	15-item	2004
West Virginia Center for EOL Care—EOL ICU Survey	Marra	39-item	1999

Appendix E: End of Life Care—Educational Needs Survey

End of Life Care—Educational Needs Survey

*Thank you for taking time to complete this survey. It is essential for us to know what nurses think about end of life (EOL) care. Results of this project will be used by the Georgia Nurses Association (GNA) to develop continuing education for nurses on EOL care. Your completion of this survey will be accepted as your consent to participate in this data collection project. **Should you decline to participate or decide not to complete the survey, you are free to do so without penalty.** Any questions about this survey may be directed to the Valdosta State University IRB Administrator, Dr. Green T. Waggener at 229-249-4921. Specific questions/comments about this educational needs data collection project may be directed to the investigator, Maura C. Schlaitret, RN, MSN, at PO BOX 0490, Valdosta, GA, 31603 or Dr. Carol Sapp, Chair, GNA Commission on Nursing Practice at carol.sapp@gsu.edu. You may E-mail the investigator at schlair@bellsouth.net. Thank you for your help.*

You may complete this survey on the Web at <http://education.valdosta.edu/nurse/>

For each statement, check **ONE** box to show how much you agree or disagree.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am <u>NOT</u> comfortable talking about death and dying with patients who are in the EOL phase.					
I can respect and advocate for patient/family EOL care preferences when their views/beliefs conflict with my views/beliefs.					
I believe I have a role in EOL patient care.					
I do <u>NOT</u> enjoy caring for a patient whose disease process is unlikely to respond to treatment.					
EOL care is a component of professional nursing practice.					
In my work/school setting, EOL education would <u>NOT</u> be useful.					
I want to participate in GNA sponsored continuing education on EOL care.					
I am interested in being able to deliver quality EOL nursing care.					
I want to improve my level of EOL knowledge/skill through education.					
I have the knowledge to provide quality EOL nursing care to dying patients/families.					
Grief, an abnormal process occurring in response to loss, is influenced by individual cultural norms and experiences.					
I have knowledge of the policies and services available under the Medicare Hospice Benefit.					
In EOL symptom management, adjuvant analgesics (e.g., non-opioid drugs having pain-relieving effects in certain conditions) have an important role in pain treatment.					
In the final days of life, drowsiness resulting from electrolyte imbalance and other physiologic changes reduces a patient's requirement for sedation.					
I did <u>NOT</u> have formal instruction in EOL care during my initial nursing education program.					
An interdisciplinary approach to EOL treatment interferes with patient care.					
Medically provided hydration/nutrition (e.g., intravenous/tube feeding) is appropriate for every EOL patient.					
I have completed continuing education, seminars, workshops, in-services, or other forms of EOL care education/training within the last 5 years.					
Drugs that can cause respiratory depression (e.g., Morphine) are appropriate for the treatment of severe dyspnea during the terminal stages of an illness.					
Stopping the progress of the disease is one goal of EOL care.					
During the EOL phase, cultural factors may influence patient/family attitudes toward communicating feelings and needs.					

Using a scale of 1-5, with “1” being “not at all competent” and “5” being “very competent”, give yourself a rating for EOL nursing care knowledge and skill. Check **ONE** box for each statement.

	1	2	3	4	5
My overall skill in the delivery of EOL nursing care.					
My overall knowledge level of EOL nursing care.					

Complete the following statements by checking **ANY and ALL responses** that apply.

The type of instruction I need to better care for EOL patients/families could be described as:	<input type="checkbox"/> comprehensive EOL care education, <input type="checkbox"/> review of EOL care education concepts, <input type="checkbox"/> specific/additional EOL care training and information, <input type="checkbox"/> no EOL education needs exist, <input type="checkbox"/> Other: please specify _____
I have employer/institutional support for continuing education in my work setting(s).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Does not apply
My preferred learning format(s):	<input type="checkbox"/> video, <input type="checkbox"/> print material, <input type="checkbox"/> audio, <input type="checkbox"/> CD/DVD, <input type="checkbox"/> computer-based method, <input type="checkbox"/> classroom session, <input type="checkbox"/> group study, <input type="checkbox"/> independent study, <input type="checkbox"/> interactive Web-online, <input type="checkbox"/> hands-on method, <input type="checkbox"/> no preference, <input type="checkbox"/> Other: please specify _____
My barrier(s) to professional education on EOL care:	<input type="checkbox"/> lack of employer/institutional support, <input type="checkbox"/> professional obligations, <input type="checkbox"/> family obligations, <input type="checkbox"/> scheduling conflicts, <input type="checkbox"/> poor health, <input type="checkbox"/> employment status, <input type="checkbox"/> full time student, <input type="checkbox"/> no mentor/role models, <input type="checkbox"/> time, <input type="checkbox"/> cost, <input type="checkbox"/> distance, <input type="checkbox"/> availability of education, <input type="checkbox"/> access to education, <input type="checkbox"/> awareness of educational opportunity, <input type="checkbox"/> disappointed with prior continuing education experiences, <input type="checkbox"/> lack of interest in EOL care, <input type="checkbox"/> EOL topics not work-place appropriate, <input type="checkbox"/> anxiety about EOL topic, <input type="checkbox"/> anxiety about learning, <input type="checkbox"/> technology issues, <input type="checkbox"/> no barriers, <input type="checkbox"/> Other: please specify _____
My purpose(s) or goal(s) for seeking EOL education:	<input type="checkbox"/> enhance performance of specific role/job, <input type="checkbox"/> improve employment prospects, <input type="checkbox"/> accomplish pre-determined goals, <input type="checkbox"/> individual improvement, <input type="checkbox"/> fulfill professional obligation, <input type="checkbox"/> fill gaps in prior education, <input type="checkbox"/> investigate options/identify choices, <input type="checkbox"/> fulfill social/moral obligation, <input type="checkbox"/> innate joy in learning, <input type="checkbox"/> not interested in EOL learning experiences, <input type="checkbox"/> Other: please specify _____

For each item, check **ONE** box or enter **ONE** answer on the blank to complete the statement.

My current professional status:	<input type="checkbox"/> Student RN <input type="checkbox"/> RN <input type="checkbox"/> APRN
My gender:	<input type="checkbox"/> Male <input type="checkbox"/> Female
My current GNA status:	<input type="checkbox"/> Member <input type="checkbox"/> Non-member
My current age: _____	(enter 2 digits)
My zip code of residence: _____	(enter 5 digits)
Number of years since my initial nursing education: _____	(enter whole numbers)
Average percentage of patients in my primary work setting who are in the EOL phase: _____ %	(enter 0-100)
My Race/ethnicity:	<input type="checkbox"/> American Indian/Alaska Native, <input type="checkbox"/> Asian, <input type="checkbox"/> Black/African American, <input type="checkbox"/> Hispanic, <input type="checkbox"/> Native Hawaiian/Pacific Islander, <input type="checkbox"/> White, non-Hispanic (Caucasian), <input type="checkbox"/> Mixed: please specify _____
My initial nursing education:	<input type="checkbox"/> Diploma, <input type="checkbox"/> Associates, <input type="checkbox"/> Bachelor, <input type="checkbox"/> Master's, <input type="checkbox"/> Other: please specify _____
My community size:	<input type="checkbox"/> Urban (>50,000), <input type="checkbox"/> Large town (10,000-49,999), <input type="checkbox"/> Small town (2,500-9,999), <input type="checkbox"/> Rural (<2,500)
My highest degree held in any field:	<input type="checkbox"/> Diploma, <input type="checkbox"/> Associates, <input type="checkbox"/> Bachelor, <input type="checkbox"/> Master's, <input type="checkbox"/> Doctorate
Word that best describes my primary employment setting:	<input type="checkbox"/> hospital, <input type="checkbox"/> nursing home/extended care, <input type="checkbox"/> hospice, <input type="checkbox"/> office, <input type="checkbox"/> home health, <input type="checkbox"/> nursing education program, <input type="checkbox"/> public/community health, <input type="checkbox"/> school health services, <input type="checkbox"/> business/industry, <input type="checkbox"/> ambulatory care, <input type="checkbox"/> military setting, <input type="checkbox"/> clinic, <input type="checkbox"/> not employed in nursing, <input type="checkbox"/> not employed, <input type="checkbox"/> student nurse, <input type="checkbox"/> Other: please specify _____
Word that best describes my primary area of clinical practice:	<input type="checkbox"/> medical/surgical, <input type="checkbox"/> chronic care, <input type="checkbox"/> orthopedics, <input type="checkbox"/> psychiatrics, <input type="checkbox"/> cardiology, <input type="checkbox"/> nephrology, <input type="checkbox"/> geriatrics, <input type="checkbox"/> neurology, <input type="checkbox"/> pulmonary, <input type="checkbox"/> obstetrics/gynecology, <input type="checkbox"/> rehabilitation, <input type="checkbox"/> oncology, <input type="checkbox"/> hospice, <input type="checkbox"/> administration, <input type="checkbox"/> education, <input type="checkbox"/> critical care, <input type="checkbox"/> pediatrics, <input type="checkbox"/> ER, <input type="checkbox"/> OR/PACU, <input type="checkbox"/> student nurse, <input type="checkbox"/> Other: please specify _____

Complete the following table.

Using the list of EOL topics on the **left side** of the table, rate your current EOL care knowledge/skill level from ‘**Not Competent**’ (1) to ‘**Very Competent**’ (5) by placing a **check** ✓ in the **center columns** of the table. **Check** ✓ the columns on the **right side** of the table to show if the knowledge/skill is appropriate or relevant to your work/school setting(s) and to show your desire for EOL education.

End of Life Topic	Rate your knowledge/skill level for each of the listed EOL topics.					Is this EOL topic appropriate or relevant to my work or school setting(s)? Yes	I desire EOL education Yes		
	Not Competent		↔					Very Competent	
	1	2	3	4	5				
Continuity/coordination of EOL care									
EOL symptom identification/management									
Patient/family EOL decision making									
EOL nursing care management									
Patient/family EOL communication									
Interdisciplinary EOL care concepts									
EOL pain management									
EOL psychosocial, spiritual, & grief/bereavement									
Advance directives at the EOL									
EOL quality of care									
Alternate/non-drug EOL therapies									
Medicare Hospice Benefit									
EOL & patient assessment									
Patient/family EOL advocacy									
EOL ethical/legal issues—providers, patient, family									
EOL conflict management—providers, patient, family									
Time of death care									
EOL professional issues for nurses									
Cultural issues & EOL care									
State/local EOL laws & regulations									
EOL research									
Special populations & EOL (e.g., homeless)									
EOL legislative issues									

Please share your views on specific topics you need to learn more about to provide EOL care to patients and families:

Appendix F: GNA Project Descriptive Article

Lead-in Article for *End of Life Care—Educational Needs Survey*

Georgia Nursing publication May/June/July 2005-04-13

By Maura C. Schlairet, RN, MSN

Improving End of Life Nursing Care: Statewide Educational Needs Survey

In a recent Institute of Medicine report addressing professional education in palliative and end of life (EOL) care, professional associations were called to position EOL care at the top of their educational agenda. Nursing organizations have recognized the profession must become its own champion in developing clinically relevant educational initiatives related to end of life care. To this end, the GNA Commission on Nursing Practice (CNP) has responded by concentrating its efforts on enhancing access to quality palliative and end of life care education, information, and services in Georgia. This plan is consistent with existing evidence supporting the development and implementation of comprehensive, accessible, contextually relevant EOL care education for nurses.

The last decade has evidenced a growing national commitment to improving care for the dying. Projects such as the End-of-Life Nursing Education Consortium and resultant curricula have been developed to more precisely address nurses' EOL educational needs. Nonetheless, many questions related to practicing nurses' EOL knowledge and skill competencies remain. Existing educational need assessment instruments, designed to measure gaps in EOL knowledge and skill, demonstrating utility amongst nurses specializing in EOL care, have paved the way for the development of instruments that may be useful amongst nurse generalists. Recognizing the demand for improved EOL care affects nurses in all settings, the GNA has undertaken a statewide assessment of the learning needs of Georgia nurses to promote development of EOL continuing education initiatives that are developed in response to nurses' existing knowledge, skills, and experiences.

In this issue of *Georgia Nursing*, the CNP launches an ambitious data collection project targeting all RNs and RN students in the state. In concert with Valdosta State University doctoral student Maura C. Schlairet, RN, MSN, the GNA hopes to promote an awareness of the need for improvements in EOL education for nurse generalists and to develop a framework for determining the content and process of targeted continuing education initiatives to effect statewide improvements in EOL nursing care. Based on analysis of more than 20 published EOL survey instruments, this data collection project will utilize a novel survey that represents a compilation of EOL educational constructs. The survey appears in this issue of *Georgia Nursing*.

As professionals committed to providing competent, compassionate EOL care, it is hoped that all nurses and student nurses in Georgia will choose to complete the accompanying *End of Life Care—Educational Needs Survey*. The survey will take approximately 10 minutes to complete and may be submitted via Web, fax, or mail. **Participants are encouraged to complete the survey via a secured Web link by visiting <http://education.valdosta.edu/nurse/>** The survey may also be submitted by **Fax** to the attention of Gayle Brooks at 229-333-7167 or by **Mail** to Valdosta State University, College of Education, Attn: Gayle Brooks (Dept. C&IT), 1500 N. Patterson St., Valdosta, GA, 31698. **Please submit the survey by June 19, 2005.**

References: Available on request. E-mail the author at schlair@bellsouth.net