Published in final edited form as:

Fam Community Health. 2006 ; 29(3): 229–241.

Knowledge of Rural Nurses' Aides About End-of-Life Care

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Abstract

Currently, little is known about the role of nurses' aides (NAs) in rural long-term care facilities or their impact on the process of death and dying in rural healthcare environments. Focus groups with NAs were held in 6 rural counties located in 5 states to assess attitudes and perceptions about end-of-life care and training needs. Key informants from 8 states and the District of Columbia added to the understandings. Nurses' aides ($N = 63$) and key informants ($N = 21$) worked in a variety of rural settings that provide end-of-life care (ie, nursing homes, hospitals, hospices, home healthcare agencies). Five themes about the needs of rural NAs around end-of-life care were identified in the focus groups, and 4 themes emerged from key informant interviews. A prototype computer-based training module on communication about end-of-life issues was developed, tested, and found useful and compelling.

Keywords

end of life; nurse aides; rural

RURAL Americans face many obstacles, including poverty, geographic isolation, cultural barriers, and significant geographic distances to traverse to meet needs. Rural America is home to 49 million people and constitutes 75% of the national territory.¹ Essentially, 17% of the nation's people live on three fourths of its land. Rural populations are disadvantaged across all measures of economic and social development.² In 2003, the rural poverty rate at 14.2% was significantly greater than the metropolitan rate of 12.1%.¹ Rural people tend to have less formal education compared with individuals in suburban and urban communities.³ The share of rural adults at 23.2% without a high school diploma is larger than for urban adults at 18.7%, and rural students are less likely to attend college compared with urban students.¹

Poverty, educational attainment, and health are inextricably linked, and general trends in mortality rates are reflected in degrees of urbanization. Rates of death and dying in rural, as in urban, communities are primarily a function of advancing age. While 22% of deaths in the United States are among persons between 25 and 64, three-fourths occur among persons 65

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This article was supported by grant 1 R43 NR00881301A1 from the National Institute of Nursing Research. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the National Institute of Nursing Research.

years old and older.⁴ Whether considering mortality data for children and young adults (aged 1–24), working-age adults (25–64), or seniors (65 or older), age-adjusted death rates tend to be higher in rural areas than in urbanized communities.⁴ Older persons comprise a disproportionate share of the population of rural communities, with the elderly constituting nearly 15% of the nonmetropolitan population and 11.9% of the metropolitan population.¹ Although rural Americans represent 17.4% of the nation's population, the rural elderly represent 20.9% of the nation's aged population.¹

Although great diversity exists in rural America, distinct contextual frames of reference distinguish the experience of urban people from rural ones.⁵ Personality traits, the particulars of illness, and the availability of supports are examples of variables that contribute to individual death experiences. Rural cultures present special concerns related to confidentiality and trust, the 2 issues uniquely important in healthcare. Rural healthcare workers are part of their communities in a way that does not sharply separate professional and private spheres.⁶ Most people living in a rural setting understand that few secrets exist in rural communities.⁷ Given the multiple relationships necessary in rural healthcare, particularly in issues related to the end of life, confidentiality is a serious concern. Rural values emphasize relationships within the family, community, and church,⁸ and often indigenous rural populations are closed to outsiders. Given that people in rural communities interact at a variety of levels, trust in nurses' aides (NAs) results from what patients and family members know about their lives as community members.⁷

The needs of individuals vary with circumstances as they approach the ends of their lives and have great potential for a profound effect on healthcare workers. Nurses' aides are particularly affected because they provide the greater part of hands-on care in institutions that serve persons with terminal illness. Often, NAs develop close and extended relationships with individuals for whom they provide the most intimate forms of personal care. Nurses' aides are often not just the physical caregivers but also the primary providers of emotional support and surrogate family members for some persons. Despite the importance of NAs in providing care at the end of life, little is known about their education or orientation processes or the effectiveness of these programs to prepare them for working with dying persons or their family members.

NURSES' AIDES

Currently, more than 1.3 million NAs work in the United States,⁹ and the need for new NAs increases annually.¹⁰ Nurses' aides typically have a high school diploma and are often trained on the job. A study of home health aide services for Medicare patients found that in 91% of cases examined, prescribed personal care service tasks were not documented as having been performed.¹¹ The primary reasons for lack of performance were thought to be inadequate orientation by supervising nurses and the lack of ongoing professional supervision. Employers often identify retention as a problem. Studies have found the critical lack of training for NAs and called for a national commitment to redress this shortcoming.¹²

The Centers for Medicare & Medicaid Services (CMS) and the Office of the Inspector General of the US Department of Health and Human Services have developed guidelines and recommendations for training NAs. The CMS mandates that curricula provide training in communication and interpersonal skills, basic nursing skills, personal care skills, mental health and social service needs, care of residents with cognitive impairment, basic restorative services, and residents' rights. The US Inspector General recommends that NA training should use up-to-date curricula and testing, acknowledge the existing needs of NAs, and enhance the communication and interpersonal skills of NAs.¹³ The inspector general suggested that training should address knowledge of the aging process and the value of clients as human

beings, not merely bodies. In addition, it was recognized that NAs require more training in interpersonal skills, communication, teamwork, and coping with death and dying.¹⁴

Staff in facilities that care for the dying often have insufficient training may not provide adequate palliative care.¹² Palliative care focuses on comfort and the psychological, social, and spiritual well-being of dying individuals to assist patients and families with the difficult, but normal challenges at the end of life. This problem may be particularly acute in rural communities, where resources to train staff may require extensive traveling and provide fewer formal educational opportunities related to end-of-life care. The inspector general notes that most NA training suffers from poor instructional videotapes and presentations, the use of too much technical medical jargon, failure to make presentations culturally sensitive, and a lack of stress on interpersonal skills.¹³

END-OF-LIFE CARE TRAINING

Over the last decade or so, comprehensive educational programs in care at the end of life have been developed for nurses and physicians. The End-of-Life Nursing Education Consortium (ELNEC) is a comprehensive educational program to help nurses improve end-of-life care in all areas of nursing.¹⁵ Funded by the Robert Wood Johnson Foundation (RWJF), the ELNEC seeks to produce a pool of nursing educators trained in end-of-life issues to coordinate nursing education efforts. Initiated through a partnership between the American Association of Colleges of Nursing and the City of Hope National Medical Center, the ELNEC curriculum includes 9 modules. Educators can employ the available curriculum using modules with objectives, outlines, slides, references, and other materials. Similar to the ELNEC, the Education for Physicians in End-of-Life Care (EPEC) seeks to provide physicians with the knowledge and skills needed to provide appropriate care for dying patients.¹⁶ The EPEC program, also developed under a grant from the RWJF, teaches fundamental communication skills, ethical decision making, whole-patient assessment, dimensions of suffering, palliative care, and pain and symptom management.

Caring for dying patients can be an emotionally painful, distressing, and threatening experience.¹⁷ The emotional discomfort associated with caring for the dying is likely to be exacerbated by NAs' limited knowledge about issues related to the end of life.¹⁸ Studies have shown that improvements in formal education can aid practitioners cope with death.^{19,20} More needs to be known about the ways NAs can benefit from training related to end-of-life care.

COMPUTER-BASED TRAINING PROGRAMS

A growing body of research and development efforts points to the effectiveness of computer-based training (CBT) programs. Studies indicate that learning occurs best when students are actively engaged and understand the relevance of knowledge to a personal context.²¹ Many computer features make them particularly appropriate to the needs of persons with low literacy.²² Computer-based training programs bring together sizable quantities of information through expert text, sound files, still photographs, and moving pictures to create a learning experience that addresses multiple learning styles and affords the ability to study sensitive topics in private.^{21,23} The CBT is accessible to the user when required and has the capacity to be adapted to unique learning patterns,²¹ and is also portable, dependable, and low cost for multiple trainees over time. Evidence suggests that giving users the ability to manage the speed of learning may increase knowledge retention and facilitate understanding.²⁴ Interactive CBT programs can tailor content to prompt individuals into action and assist them in gaining needed confidence to adopt new work strategies. Little has been previously published about the use of CBT programs to educate NAs.

PURPOSE OF THE STUDY

All dying persons are entitled to dignified care at the end of life that respects the values and preferences of individuals and their families. The Institute of Medicine identified quality end-of-life care as a national priority in need of urgent redress.²⁵ Nurses' aides in rural communities frequently work in environments where end-of-life care is an expected part of their workload. The first aim of the study was to gain insight into NAs' attitudes and perceptions about working with dying persons and the adequacy of their training for such work. A second aim was to develop and test a prototype for a CBT program to educate rural NAs about end-of-life care.

METHODOLOGY

The development of a CBT program to train rural NAs in end-of-life care Suggested a need for information that provided depth and context about the values, beliefs, and practices employed by rural NAs as they interact with dying patients and family members. Six focus groups were conducted in 6 different rural communities to learn about the perceptions and attitudes of NAs in rural areas toward end-of-life care. The selected Counties represented a range in population sizes found in rural America in the southern, midwestern, and western regions of the country (Table 1). Local contacts assisted in identifying participants and arranging focus groups.

Focus group participants ranged from 8 to 12 NAs in the sessions, with each lasting approximately 1½ hours. Sessions were taped and later transcribed. Participants each completed a 19-question survey at the conclusion of the session. Field notes were kept at each group session. Investigators debriefed after each session to assess the results and compare findings across groups. A stipend of \$40 was given to each NA for participation and travel Costs.

In addition, 21 key informant interviews were conducted with persons knowledgeable about end-of-life care and NAs in rural areas. A nationally known expert who Served as a consultant on the project recommended several key informants, and a snowball sample resulted. In 5 cases, directors of the long-term care facilities where focus groups were conducted were interviewed. Five interviews were with national experts, defined as persons with extensive experience who worked in academic settings or national end-of-life care organizations. The other 16 key informants worked in rural facilities where they supervised and trained NAs on end-of-life care. All were knowledgeable about NAs' training, end-of-life care, and rurality. Telephonic interviews were conducted using 2 interview guides, 1 on training and 1 on communication, with 15 and 17 questions, respectively. On the basis of their experience with the topics, the 16 interviewees, who worked in rural communities were divided evenly with regard to the content of their interview; 8 answered questions regarding training while the others covered communication. The national experts answered 15 questions regarding both communication and training needs. The interviews lasted about 30 minutes, were taped, and transcribed for analysis. Qualitative content analysis was completed on focus group and key informant interviews. Categories and themes were identified. The research team did member checking in the analysis process to determine consistency and interrater reliability.

FOCUS GROUPS PARTICIPANTS

A total of 63 NAs attended the 6 focus groups in 5 different states. Ninety-five percent of the participants were women and 5% were men. Sixty-eight percent of the NAs were White, 17% were Black, 13% were Hispanic, and 3% were from other racial/ethnic groups. Eleven percent were aged 21 or younger, 27% were between 21 and 29 years, 29% were between 30 and 39 years, 22% were between 40 and 49 years, and 10% were 50 years or older. Almost half (49%) of the participants had worked as NAs for more than 5 years, and 27% had worked as NAs for

more than 15 years. Participants had employment experience in nursing homes, hospitals, hospices, home health agencies, and assisted living facilities.

Most of the focus group participants reported that their training programs to become NAs had been of relatively short duration. Twenty-two percent of the NAs said their training program had been 2 weeks or less in duration, 25% reported a 3- to 4-week training program, 16% said their training program lasted 5 to 8 weeks, 24% reported a training program of 12 weeks or longer, and 8% indicated that training was “on going.” However, only 60% of these participants reported that they had received training about how to care for dying persons at some point in their careers.

Nurses' aides often reported that they had experienced difficulties talking to dying persons and their family members. More than half (59%) stated that they sometimes had problems talking to dying individuals, with an even larger percentage (70%) who said that talking with family members of dying persons was a problem. In addition, 51% of the participants reported that talking with supervisors about concerns in care of dying persons was a problem. Most NAs (79%) said that when away from work, they worried about the well-being of the dying persons for whom they cared, with almost all reporting that this occurred frequently. Most NAs used computers, with 60% reporting computers at home, and the majority said it was “very easy” to use a computer and reported that they knew how to use the Internet.

KEY INFORMANT PARTICIPANTS

On the basis of the rural-urban continuum codes,²⁶ key informants were selected from communities representing varying degrees of rurality. The 5 national experts came from large metropolitan areas, but all had experience working with rural communities. Experts had worked for 14 to 31 years in end-of-life care. All held a master's degree, 4 also held a doctorate, and 2 were registered nurses. Three experts worked as palliative care health policy analysts, 1 worked as a palliative care improvement initiatives director, and 1 worked as a nursing home administrator.

The other 16 key informants came from a variety of communities in 7 states. They worked in rural communities and held positions supervising or training NAs. Six were directors of their facility (eg, administrators, executive directors), 4 were primary, supervisors (eg, director of nursing, NA coordinator), 4 worked in teaching and training NAs (eg, clinical education coordinator, staff education, and resource coordinator), and 2 held combined positions and acted as NA supervisors and education coordinators. Respondents worked in nursing homes, home health agencies, and hospice care. Four of those interviewed were employed by hospital-based facilities. The number of years respondents had worked in their current positions ranged from 1 to 23. The median number of years each had worked with NAs including prior experience was 16, but ranged from 5 to 38. The highest level of education was a master's degree ($n = 2$), bachelor's degree ($n = 6$), associate's degree ($n = 4$), and some college but no degree ($n = 3$). The highest level of educational attainment reported by the other respondent was an NA certification. Fourteen persons had received specialized on-the-job training in end-of-life care, and 8 had attended conferences and workshops on end-of-life care.

Key informants described a variety of facility and NA characteristics. The number of persons served at the facilities ranged from 43 to 300 (employed NAs = 5–65). Two agencies were described as having mostly African American residents, 1 had about a quarter of African American and three-fourths White residents, 2 had about a quarter of Hispanic American and three-fourths White residents, while the rest had mostly White residents. Key informants reported that most NAs held high school diplomas and the majority either held or were earning certification status. The majority noted that some NAs had prior experience at other facilities.

Three reported high turnover rates among NAs, 4 described rates as low compared with previously higher rates, and 9 characterized turnover rates as consistently low.

FINDINGS FROM THE FOCUS GROUPS

Five recurring themes came to light when the focus group responses were analyzed.

The first theme related to the perceptions of NAs about their certification and formal education process. Consistently among groups, NAs reported that the training for end-of-life care received as part of their certification process was inadequate. Despite general agreement that the theoretical or textbook training was relevant, NAs reported that it was not sufficient for the level and depth of responsibilities actually faced on the job. One woman said, “During my training, we never really did anything ‘hands-on.’ There was no taking care of [residents] until I actually starting working.” Most NAs agreed that training was too “basic,” mostly dealing with the direct physical care needs, but providing little knowledge about the process of dying or the emotionally charged events surrounding death itself. One NA said:

I hadn't dealt with a dying person yet.... When I walked back into the room, he was dead. I really got scared, because I didn't know what to do. I called my team, my co-workers, and made them come down. In class, we just talk about it, but you never have actually done it.

Aides acknowledged the fear, confusion, and inadequacy they felt early in their careers when having to cope with death. Most agreed that recently hired aides were in need of hands-on training to better attend to needs linked to dying persons. One NA said:

They [aides in training] need more—you know, we had books and things in our class, but somebody needs to do a better job in training some of the newer people that haven't experienced a lot of things.

The second theme was that “on the job” training was largely a socialization process that occurs while working with NAs more experienced than themselves. Aides depend on one another for practical and emotional support. They consistently used terms like, “teamwork,” “working as a team,” “pulling together,” and “supporting each other.” Nurses' aides put great stock in “being there for one another” and see one another as their greatest assets. Typical responses were: “We are family”; “we're here together 40 hours a week”; “we are all here for the same thing”; “we may have our moments, maybe someone gets on my nerves, but we're professionals”; and “I can look at anybody in this room and ask them a question. If they don't know the answer, I know later that we'll find out together.” Collaborative efforts enable NAs to cope effectively with the emotional, psychological, and physical challenges of end-of-life care.

The third theme was related to values in caring for dying persons. Nurses' aides said that care priorities were comfort, hygiene, providing emotional support, attending to needs, assuring privacy, providing respect, and “treating them as your own family member.” Participants thought that the activities of talking, listening, being present to dying persons, and being sensitive to families' questions and concerns were ways they regularly demonstrated care and respect. Nurses' aides were keenly aware that they are the frontline caregivers of dying patients and sometimes act as surrogate family. One NA reported:

You would take care of them the way you would want your mother taken care of, or your father, or your grandparent. You know, they're part of your family. And they deserve every bit of compassion and loving and caring that you would give a family member ... because there are a lot of times when the family members aren't there....

Although NAs have a sense of commitment to dying persons, they reported challenges similar to family members. For example, many reported that they become “too attached to dying

residents.” This attachment and personal commitment often makes it difficult for aides to share work-related problems with their family members. Instead, they often share these personal losses with other NAs, who in effect comprise an informal grief-support group. As one NA said, “You know that you have someone there to lean on. They’ve been through the same things.” Many aides reported difficulty managing feelings of loss and powerlessness as they experience the death of individuals they have given care to for extended periods. Most agreed that they have feelings of anger when family members appear uncaring and find it hard to deal with family members who deny death processes. Most NAs reported inadequate preparation for responses to the suffering of others, especially when emotional attachments to dying individuals were formed.

The fourth theme was related to relationships with professional staff. Some NAs worked as a team with a helpful and supportive nurse, but others reported being disparaged and poorly guided. Because NAs often had frequent close contact with patients with terminal illness, they viewed themselves as well positioned to recognize changes. Some NAs complained that nurses did not always respond promptly when asked to check someone’s condition, but others said the nurses valued their input and wanted updates about alterations. As one NA commented, “A lot of our nurses tell us that we’re their eyes and ears.”

A source of ambiguity for many NAs concerned the nature of the questions they were allowed to answer from residents and family members and questions to refer to a nurse. Nurses’ aides were often unaware that reporting policies reflected the nurses’ greater medical education and, consequently, a greater ability to provide correct and complete answers. Many NAs commented that the referral might annoy the resident or family member whose questions they did not answer and, as a result, might leave the NAs themselves feeling uncomfortable or frustrated. Nurses’ aides observed that the dying persons and family members do not always make clear distinctions between staff personnel and may expect any caregiver to be able to answer questions. One NA said, “When we’re in uniform, they think we’re all nurses, so some of them will get angry.”

The fifth theme involved the level of commitment by NAs to their work. Most reported that they cared for dying persons because of their concern for people, and said that they were “not in it for the money.” They recognized their low status in the workplace, and understood that the work they perform is not glamorous. Participants acknowledged that only the truly committed tend to remain in the workplace, while others burn-out and leave positions quickly.

It appears that broadly defined spirituality supported NAs in dealing with dying persons. Personal spirituality assisted them in emotionally difficult situations and sustained them through experiences of repeated personal loss. Spirituality allowed them to exercise a broad range of skills and abilities, such as listening presence and coping with multiple losses. Nurses’ aides expressed an appreciation for “higher personal values,” and acknowledged the importance of “religious faith” as caregivers to the dying. Many NAs reported that reminiscing about patients who died was a healing and strengthening experience for them.

FINDINGS FROM KEY INFORMANT PARTICIPANTS

Key informants described a variety of concerns about NAs and end-of-life care. Four key themes emerged from the interviews: (a) a need for more education, (b) a need for better communication skills, (c) close bonds formed between NAs and clients, and (d) organizational problems that more training might ameliorate. Informants described a general need for additional training, as the skills learned in certification classes and on-the-job training are often minimal and inconsistent. Because certification courses must teach specifics essential to pass the certification test, end-of-life care is usually covered during a segment of a single class. This training was described as inadequate to meet the demands placed on them and provide care for

persons near the end of life. Many informants described use of shadowing or pairing with more experienced NAs, but acknowledged difficulties were still experienced as NAs care for dying individuals.

Informants described needs for better educational materials about end-of-life care for NAs. Many agreed that the most effective teaching materials were either hands on or interactive and included practical strategies with direct application to care and a noticeable outcome. Most reported that NAs resisted new techniques when they failed to see the value in a new behavior or found it too difficult to implement. Many discussed the value of storytelling and experience-based learning for application of knowledge to situations on the job.

Most key informants thought CBT programs were valuable for introducing flexibility, novelty, and interactivity into educational programs. Informants described the difficulties in training associated with limited time to plan and run educational sessions, difficulties in getting NA groups together, and travel burdens that impact rural areas. A CBT program had appeal because it could be completed at different times, relieved the need for group training sessions, allowed NAs to work at their own pace, and provided opportunity to repeat the education at later times.

All respondents characterized communication as extremely important for end-of-life care, and cited needs for empathic listening, nonverbal communication, and conflict resolution skills. The informants stressed that NAs need high-quality communication skills in areas of comfort, conflict, and culture for dying persons. Informants reported that organizations and families expected NAs to be able to comfort persons with terminal illness and family members at difficult times and listen to expressed needs. Conflict management, heightened stress, and anger were described as problems NAs encounter as patients and family members face the end-of-life.

Informants described needs for education about cultural issues in communication pertinent to end-of-life care. Some thought that cultural differences such as language, age, class, and religious differences created discord among NAs. Language can be a barrier even when NAs and clients speak the same one but with different accents. Age can be an obstacle to understanding differences in worldviews. Class can be a difficulty when NAs sense they are treated differently, because they have lower socioeconomic status than persons given care. Religion can cause barriers when residents and NAs have different worldviews. As one key informant stated, "We need to train nurses' aides so they can provide culturally competent care that includes religion, ancestry, and beliefs about death and dying."

A recurring theme arose about close relationships between NAs, the person with terminal illness, and family members. This was mainly attributed to the length and frequency of time NAs work with dying persons and the intimacy of care provided. One participant stated that NAs "are the ones that patients often feel very much the closest to, because they're the ones in there doing the personal care; they're the ones in there spending the time, one-on-one." Many observed occurrences where family members considered NAs to be part of the family, included them in the obituary, or invited them to sit with family at the funeral. This emotional bond between NAs, dying persons, and family members was perceived as intense when providing end-of-life care.

Living in a rural area may create unique features. Rural NAs often remain in their positions longer than urban NAs, sometimes because it may be one of few employment opportunities available. Rurality may intensify the sense of attachment NAs experience, because they know the dying person or the family from the community. Rural NAs often feel strongly connected to the people they serve, and thus need to feel they have provided adequate comfort and care at the end of life in order to ease their personal stress of experiencing loss when individuals die. Relational ties intensify the need for better education about end-of-life care.

A final theme that emerged concerned organizational communication, particularly regarding NAs' abilities to respond to questions appropriately and function as team members. Nurses' aides are often questioned about things they are not able to answer competently. Nurses' aides may be asked questions about things beyond their knowledge, but rather than referring the concerns to a nurse, they may provide inaccurate answers. Reasons for this may be that they do not want to bother the nurse, feel pressure from family members to answer immediately, or think they know the correct answer. This often intensifies conflict and stress, not only for the healthcare team but also for the person with terminal illness and the family members. Conversely, NAs may be asked questions that they could appropriately answer if they had additional education about end-of-life care.

Informants said NAs need education about team approaches in end-of-life care to enhance their effectiveness as employees. Citing the tendency toward hierarchical organizational structures in care facilities, respondents noted that top-down management can have a negative effect on NAs' self-esteem and the care they provide. While education cannot assure a collaborative environment, informants thought additional knowledge and skills about working as a team during end-of-life care could be enabling factors. Informants said NAs need to know the critical information to report and learn skills to handle certain difficult situations without supervision. Advances in NAs' knowledge could improve the workplace culture, enhance the quality of care at the end of life, and improve competency levels.

COMPUTER-BASED TECHNOLOGY AND END-OF-LIFE CARE

The concepts from 3 major theoretical frameworks (ie, Social Learning Theory, Direct Teaching Theory, and Communication Theory) were used to develop a prototype CBT module for NAs aimed at increasing knowledge about communication at the end of life. The themes identified from the NAs' focus groups and key informant interviews suggested 3 broad topics: (a) verbal and nonverbal communication, (b) listening skills, and (c) cultural concerns. Key points that NAs would need to know for end-of-life care were identified, and a detailed story board with audio components and video vignettes was developed. Three short quizzes at the end of the major sections were created for quick review. If NAs chose the wrong answers, correct ones along with rationale were provided.

The module was tested for feasibility with 57 NAs. Each NA was given an incentive of \$120 to cover the time and travel expense. A total of 6 testing sessions, with 9 to 11 NAs each, occurred at 2 different locations in rural Ohio. Participants completed a demographic survey and pretest before they viewed the 40-minute module. Changes in knowledge about communication and end-of-life care were then assessed using a posttest. Nurses' aides also used an instrument with 5-point Likert scale to rate the module along 5 dimensions (Table 2).

- *Stimulation*: Is the module sufficiently stimulating to maintain the audience's interest?
- *Comprehension*: Are the messages comprehensible and clearly presented?
- *Acceptability*: Does the module reflect the cultural norms of rural communities?
- *Ownership*: Do the messages, language, and images reflect everyday situations?
- *Persuasiveness*: Are the messages sufficiently convincing to achieve change?

Finally, NAs participated in taped and later transcribed discussion groups.

FINDINGS FROM THE COMPUTER-BASED MODULE FEASIBILITY TESTING

Participants were mainly women (96.5%) and White (96.5%). Fourteen percent were aged 21 years or younger, 21% were 22 to 29 years old, 46% were 30 to 49 years old, and 19% were

50 years or older. About half (48%) were currently employed in nursing homes, 14% in hospitals, 16% in hospices, and 21% in assisted living facilities. Work experience of NAs varied, with 23% in their current job for a year or less, 25% for 1 to 3 years, and 53% for 3 years or longer. Most NAs (65%) reported that their training had been 2 weeks or less in duration. Most (61%) had never had any formal training in how to care for dying persons, even though all had jobs that required them to care for persons at the end of life. Only 12% said they “never” had any problems talking to dying persons, while 87% had problems at least “some” of the time. Nurses' aides (91%) reported some difficulty in talking to family members of dying persons. Although most (59%) never had problems talking to their supervisors about concerns in taking care of dying persons, about 41% reported some difficulties. Most NAs (73%) described some degree of worry about caring for dying persons even when not at work. Most NAs (75%) had some skills in the use of computers.

Table 3 provides the NAs mean scores for the 5 broad categories of rating the CBT. Taken together, the ratings for comprehension and persuasiveness suggest that the NAs understood the messages in the module and found them compelling. Table 4 provides the NAs mean scores for each of the 15 items. The mean score for overall acceptance and satisfaction with the module was 4.86, and all of the individual scores exceeded the predetermined threshold of 3.5 needed to demonstrate feasibility. The highest rated was the one asking whether the module made the NAs feel it was important to pay attention to how they communicate with people nearing the end of life and their family members. A minimum value of 0.60 for Cronbach's alpha score was set previously as the threshold for determining reliability, but the calculated score was 0.78. A pre-established criterion for feasibility was that the respondents would correctly answer at least 20% more questions on a 20-question posttest of knowledge. Demonstrating feasibility, NAs overall increased 31.5% in accuracy, with only 5 of the NAs failing to demonstrating improvement on scores.

The discussion groups following the module demonstrations mirrored the high written scores. Nurses' aides said they liked (*a*) that they could review information, (*b*) the inclusion of video vignettes to illustrate key points, and (*c*) the people and situations in the vignettes. Some thought it was a good “refresher” and others learned new things. Most said the module made sense, was easy to grasp, kept their attention, and was “better than someone standing up there talking to us.”

CONCLUSIONS AND RECOMMENDATIONS

Findings indicated a need for additional NA training about end-of-life care in rural areas with attention to unique concerns. A CBT program on end-of-life care holds great promise as a way to offer low cost and meaningful education to many rural NAs. The feasibility achieved in the development of the single communication model suggests a full-length CBT program for rural NAs about end-of-life care would provide a meaningful tool for education. The program should be developed on the basis of qualitative research with rural NAs and key informants across the nation who can provide additional insight about end-of-life care requirements to include in additional modules.

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Table 1
Focus groups by USDA continuum code, region, and county

USDA continuum code and its definition	Region	County
4: Urban population of 20,000 or more, adjacent to a metropolitan area	Southern	St Mary's County, Md
5: Urban population of 20,000 or more, not adjacent to a metropolitan area	Western	Brown County, Tex
6: Urban population of 2,500 to 19,999, adjacent to a metropolitan area	Southern	Carroll County, Ky
7: Urban population of 2,500 to 19,999, not adjacent to a metropolitan area	Midwestern	Jackson County, Ohio
8: Completely rural or less than 2,500 urban population, adjacent to a metropolitan area	Midwestern	Spencer County, Ind
9: Completely rural or less than 2,500 urban population, not adjacent to a metropolitan area	Western	Mills County, Tex

*
USDA indicates US Department of Agriculture.

Table 2

Rating of the computer-based module*

Question	What question measures
Did the program cover topics that you think are important for you and other NAs?	Stimulation
Did the program keep your interest?	Stimulation
Was the program easy to understand?	Comprehension
Was the size of the print easy to read?	Comprehension
Was the program clear about good ways to communicate when caring for people who are nearing the ends of their lives?	Comprehension
Did the program make sense to you?	Comprehension
Do you think the program was designed for NAs like you?	Acceptability
In general, did the program seem to reflect situations like the ones you have where you work?	Acceptability
Did the people in the program look like people you might see in your everyday life?	Ownership
Did the language used in the video clips sound like things you would be comfortable saying?	Ownership
Did the program make you feel that it is important to pay attention to how you communicate with people who are nearing the ends of their lives, and with their family members?	Persuasiveness
Did the program help you stay motivated to communicate effectively with people who are nearing the ends of their lives, and with their family members?	Persuasiveness
Did the program increase your knowledge about ways to communicate with people who are nearing the ends of their lives, and with their family members?	Persuasiveness
Now that you have been through the program, how likely are you to change any of your communication approaches with people who are nearing the ends of their lives, or with their family members, including how you interpret what they say and how you respond to them?	Persuasiveness
How would you rate the program overall, including the importance of the topic, the information it presents, and its general organization for teaching about communication with people who are nearing the ends of their lives, and with their family members?	Overall

* NAs indicates nurses' aides.

Table 3

Mean scores by characteristic question sought to measure

What questions sought to measure	Mean score
Comprehension	4.91
Persuasiveness	4.81
Stimulation	4.78
Acceptability	4.71
Ownership	4.67

Table 4
Mean scores for questions posted in survey of NAs*

Question	Mean score
Did the program cover topics that you think are important for you and other NAs?	4.79
Did the program keep your interest?	4.77
Was the program easy to understand?	4.89
Was the size of the print easy to read?	4.93
Was the program clear about good ways to communicate when caring for people who are nearing the ends of their lives?	4.91
Did the program make sense to you?	4.91
Do you think the program was designed for NAs like you?	4.82
In general, did the program seem to reflect situations like the ones you have where you work?	4.60
Did the people in the program look like people you might see in your everyday life?	4.72
Did the language used in the video clips sound like things you would be comfortable saying?	4.63
Did the program make you feel that it is important to pay attention to how you communicate with people who are nearing the ends of their lives, and with their family members?	4.95
Did the program help you stay motivated to communicate effectively with people who are nearing the ends of their lives, and with their family members?	4.81
Did the program increase your knowledge about ways to communicate with people who are nearing the ends of their lives, and with their family members?	4.79
Now that you have been through the program, how likely are you to change any of your communication approaches with people who are nearing the ends of their lives, or with their family members, including how you interpret what they say and how you respond to them?	4.68
How would you rate the program overall, including the importance of the topic, the information it presents, and its general organization for teaching about communication with people who are nearing the ends of their lives, and with their family members?	4.86

* NAs indicates nurses' aides.