Chapter 1

RURAL NURSING: DEVELOPING THE THEORY BASE

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A LOGGER SUFFERING FROM "HEART LOCK" does not have a cardiovascular abnormality. He is suffering from a work-related anxiety disorder and can be assisted by an emergency room nurse who accurately assesses his needs and responds with effective communication and a supportive interpersonal relationship. A farmer who has lost his finger in a grain thresher several hours earlier does not have time during the harvesting season for a discussion of occupational safety. He will cope with his injury assisted by a clinic nurse who can adjust the timing of his antibiotic doses to fit with his work schedule in the fields.

Many health care needs of rural dwellers cannot be adequately addressed by the application of nursing models developed in urban or suburban areas, but require unique approaches emphasizing the special needs of this population. Although nurses are significant, and frequently the sole health care providers for people living in rural areas, little has been written to guide the practice of rural nursing. The literature provides vignettes and individual descriptions, but there is a need for an integrated, theoretical approach to rural nursing.

Rural nursing is defined as the provision of health care by professional nurses to persons living in sparsely populated areas. Over the last 8 years, graduate students and faculty members at the Montana State University College of Nursing have worked toward developing a theory base for rural nursing. Theory development has used primarily a retroductive approach, and data have been collected and refined using a combination

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of qualitative and quantitative methods. The experiences of rural residents and rural nurses have guided the identification of key concepts relevant to rural nursing. The goal of the theory-building process has been to identify commonalities and differences in nursing practice across all rural areas and the common and unique elements of rural nursing in relation to nursing overall. The implications of developing a theory of rural nursing for practice have been examined as a part of the ongoing process.

The theory-building process was initiated in the late 1970s. At that time, literature and research related to rural health care were limited and focused primarily on the problem of retaining physicians in rural areas and providing assessments of rural health care needs and prescriptions for rural health care services based on models and experiences from urban and suburban areas (Coward, 1977; Flax, Wagenfeld, Ivens, & Weiss, 1979). The unique health problems and health care needs of extremely sparsely populated states, such as Montana, had not been addressed from the perspective of the rural consumer. No organized theoretical base for guiding rural health care practice in general, or rural nursing in particular, existed.

QUALITATIVE DATA

The target population for qualitative data collection was the people of Montana. Montana, the fourth largest state in the United States, is an extremely sparsely populated state, with nearly 800,000 people and an average population density of approximately five persons per square mile. One-half of the counties in Montana have three or fewer persons per square mile, with six of those counties having less than one person per square mile. There is only one metropolitan center in the state; it is a city of nearly 70,000 people, with a surrounding area that constitutes a center of approximately 100,000 (Population Profiles, 1985).

Qualitative data were collected through ethnographic study by Montana State University College of Nursing graduate students. These data provided the initial ideas about health and health care in Montana. Since general propositions about rural health and rural health care did not exist, gathering of concrete data was the first step toward subsequent development of more general theoretical propositions.

Graduate students used ethnographic techniques as described by Spradley (1979) to gather information from individuals, families, and health care providers. Interview sites were selected by students on the basis of specific interest and convenience. During a 6-year period, data were gathered from approximately 25 locations. In general, each student worked in depth in one community, collecting data from 10 to 20 informants over a period of at least 1 year. Data were gathered primarily from persons in ranching and farming areas and from towns of less than

2,500 persons. In some instances, student interest led to extensive interviews with specific rural subgroups, such as men in the logging industry or older residents in a rural town (Weinert & Long, 1987). Open-ended interview questions were developed using Spradley's guidelines. The questions emphasized seeking the informants' views without superimposing the cultural biases of the interviewer. The opening question in the interview was, "What is health to you . . . from your viewpoint? . . . your definition?" Interviewers used standard probes and a standard format of questions regarding health beliefs and health care preferences.

Spradley (1979) indicated that the goal of ethnographic study is to "build a systematic understanding of all human cultures from the perspective of those who have learned them" (p. 10). The goal of data collection in Montana was to learn about the culture of rural Montanans from rural Montanans. Emphasis in the cultural learning process was on understanding health beliefs, values, and practices. Rigdon, Clayton, and Diamond (1987) have noted that understanding the meaning that persons attach to subjective experiences is an important aspect of nursing knowledge. The ethnographic approach captured the meanings that rural dwellers ascribe to the subjective states of health and illness and facilitated the development of a rich database.

As the database developed, the following definitions and assumptions were accepted as a foundation for theory development. *Rural* was defined as meaning sparsely populated. Within this context, states such as Montana, which are sparsely populated overall, are viewed as rural throughout, despite the existence of some population centers within them. Further, based on this definition, rural regions or areas can be identified within otherwise heavily populated states. An assumption is made that, to some degree, health care needs are different in rural areas from those of urban areas. Also, all rural areas are viewed as having some common health care needs. Finally, another assumption is made that urban models are not appropriate to, or adequate for, meeting health care needs in rural areas.

Retroductive Theory Generation

Faculty work groups were developed to examine and organize the qualitative data. The work groups involved three to five nursing faculty members, each with rural nursing experience, but with varied backgrounds and expertise. Thus, a work group included experts from various clinical areas, as well as persons with direct experience either in small rural hospitals or in larger metropolitan centers within rural states. Standard ethnographic content analysis (Spradley, 1979) was used to sort and categorize the ethnographic data. Groups worked toward consensus about the meaning and organization of specific data. Recurring themes were identified and viewed as having relevance and importance for the rural informants in relation to their views of health.

A retroductive approach, as originally described by Hanson (1958), was used for examining the initial ethnographic data and to build the theory base. Specific concepts and relational statements were derived from the data, and more general propositions were induced from these statements. The new propositions were then used for developing additional specific statements which could be supported by existing data or which were categorized for later testing. The retroductive approach was literally a "back and forth" process that permitted persons familiar with the data to move between the data and beginning-level theoretical propositions. The process was orderly and consistent, and required group consensus about data interpretation and the relevance of derived propositions. The retroductive process continued in work groups over several years as additional ethnographic data were gathered. Consultants participated at key points in the process, to raise questions, add insights, and critically evaluate the group's theory-building approach. Walker and Avant (1983) have noted that the retroductive process "adds considerably to the body of theoretical knowledge. It is, in fact, the way theory develops in the 'real world'" (p. 176).

QUANTITATIVE DATA

Following several years of ethnographic study, the faculty members involved in theory development wished to enrich the qualitative database by collecting relevant quantitative data. Kleinman (1983) stated, "Qualitative description, taken together with various quantitative measures, can be a standardized research method for assessing validity. It is especially valuable in studying social and cultural significance, e.g., illness beliefs interaction norms, social gain, ethnic help seeking, and treatment responses" (p. 543). Hinds and Young (1987) noted, "The combination of different methodologies within a single study promotes the likelihood of uncovering multiple dimensions of a phenomenon's empirical reality" (p. 195).

A survey developed by Weinert in 1983 attempted to validate some of the rural health concepts that had emerged from the ethnographic data. These concepts were health status and health beliefs, isolation and distance, self-reliance, and informal health care systems. Survey instruments with established psychometric properties were selected to measure the specific concepts of interest. A mail questionnaire completed by the respondents included the Beck Depression Inventory (Beck, 1967) and the Trait Anxiety Scale (Spielberger, Gorsuch, & Lushene, 1970) to tap mental health status, and the General Health Perception Scale (Davies & Ware, 1981) to measure physical health status and health beliefs. A background information form assessed demographic variables, including the period of residence and geographic locale. The Personal Resource Questionnaire

(Brandt & Weinert, 1981) assessed the use of informal systems for support and health care.

The convenience sample of survey participants was located through the Agricultural Extension Service, social groups, and informal networks. All the participants lived in Montana, completed the questionnaires in their homes, and returned them by mail to the researcher. The 62 survey participants were middle-class Whites, with an average of 13.5 years of education and a mean age of 61.3 years, who had lived in Montana for an average period of 45.6 years. The survey sample consisted of 40 women and 22 men residing in one of 13 sparsely populated Montana counties. The most populated county has a population density of 5.9 persons per square mile, and one town of nearly 6,000 people. In the most sparsely populated county, there is one town with 600 people and an average population density of 0.5 persons per square mile.

Findings from the quantitative study were used throughout the theory development process to support or refute concept descriptions and relational statements derived from the ethnographic data. Survey findings are discussed in the following section as they relate to key concepts and relational statements.

REFINING THE BUILDING BLOCKS OF THEORY

To order the data and foster the formation of relational statements, an organizational scheme for theory development was adopted. Using the paradigm first described by Yura and Torres (1975) and later by Fawcett (1984), ethnographic data were categorized under the four major dimensions of nursing theory: person, health, environment, and nursing. The data were then ordered from the more general to the more specific. This process led to the identification of constructs, concepts, variables, and indicators.

An example helps in illustrating this process. Ethnographic data had been gathered from "gypo" loggers. These men are independent logging contractors from northwestern Montana who work in rugged isolated areas, usually living in trailers or tents while working. Examples of quotes from these loggers and their associates as found in the data are: A logger states, "We worry about the here and now"; a local physician says, "Loggers enter the health care system during times of crisis only"; the public health nurse in the area says, "Loggers don't want to hear about health care problems; they don't return until the next accident." Table 1.1 shows the scheme used for organizing these data. The concepts "present time" orientation and crisis orientation to health are identified. These are placed under the person dimension. In this example, the constructs are not fully developed, but are viewed as either psychological or sociocultural, or both. The important variables identified thus far are definitions of time

TABLE 1.1 Data Ordering Scheme

Dimension	Psychological/sociocultural
Concept	"Present time" orientation Crisis orientation to health
Variable	Definitions of time Definitions of crisis
Indicators	Hours, minutes, days Seasons, work seasons Number of injuries Number of illnesses

and of crisis. Possible indicators are measures of time, such as hours or seasons, and measures of crisis, such as numbers of illnesses or injuries.

Key Concepts

In the process of data organization it was noted that some concepts appeared repeatedly in ethnographic data collected in several different areas of the state. In addition, aspects of several of these concepts were supported by the quantitative survey data (Weinert, 1983). Using Walker and Avant's (1983) model of concept synthesis, these concepts were identified as key concepts in relation to understanding rural health needs and rural nursing practice. These key concepts are as follows: work beliefs and health beliefs, isolation and distance, self-reliance, lack of anonymity, outsider/insider, and old-timer/newcomer.

As key concepts in this theory, work beliefs and health beliefs are viewed differently in rural dwellers as contrasted with urban or suburban residents. These two sets of beliefs appear to be closely interrelated among rural persons. Work or fulfilling one's usual functions is of primary importance. Health is assessed by rural people in relation to work role and work activities, and health needs are usually secondary to work needs.

The related concepts of isolation and distance are identified as important in understanding rural health and nursing. Specifically, they help in understanding health-care-seeking behavior. Quantitative survey data indicated that rural informants who lived outside towns traveled a distance of almost 23 miles, on an average, for emergency health care and over 50 miles for routine health care. Despite these distances, ethnographic data indicated that rural dwellers tended to see health services as accessible and did not view themselves as isolated.

Self-reliance and independence of rural persons are also seen as key concepts. The desire to do for oneself and care for oneself was strong among the rural persons interviewed; this has important ramifications in relation to the provision of health care.

Two key concept areas, lack of anonymity and outsider/insider, have particular relevance to the practice of rural nursing. Lack of anonymity, a hallmark of small towns and surrounding sparsely populated areas, implies a limited ability for rural persons to have private areas of their lives. Rural nurses almost always reported being known to their patients as neighbors, as part of a given family, as members of a certain church, and so on. Similarly, these nurses usually know their patients in several different social and personal relationships beyond the nurse–patient relationship. The old-timer/newcomer concept, or the related concept of outsider/insider, is relevant in terms of the acceptance of nurses and of all health care providers in rural communities. The ethnographic data indicated that these concepts were used by rural dwellers in organizing their view of the social environment and in guiding their interactions and relationships. Survey data revealed that those who had lived in Montana for over 10 years, but less than 20, still considered themselves to be "newcomers" and expected to be viewed as such by those in their community (Weinert & Long, 1987).

Relational Statements

In an effort to move from a purely descriptive theory to a beginning level explanatory one, some initial relational statements were generated from the qualitative data and were supported by the quantitative data that had been collected thus far. The statements are in the early stages of testing.

The first statement is that rural dwellers define health primarily as the ability to work, to be productive, and to do usual tasks. The ethnographic data indicate that rural persons place little emphasis on the comfort, cosmetic, and life-prolonging aspects of health. One is viewed as healthy when he or she is able to function and is productive in one's work role. Specifically, rural residents indicated that pain was tolerated, often for extended periods, so long as it did not interfere with the ability to function. The General Health Perception Scale indicated that rural survey participants reported experiencing less pain than an age-comparable urban sample (Weinert & Long, 1987). Further, scores on the Beck Depression Inventory and the Trait Anxiety Scale (Weinert, 1983) revealed that they experienced less anxiety and less depression.

The second statement is that rural dwellers are self-reliant and resist accepting help or services from those seen as "outsiders" or from agencies seen as national or regional "welfare" programs. A corollary to this statement is that help, including needed health care, is usually sought through an informal rather than a formal system. Ethnographic data supported both the second statement and its corollary. Numerous references were found to show, for example, a preference for "the 'old doc' who knows us" over the new specialist who was unfamiliar. Data from the Personal Resource Questionnaire (Weinert, 1983) indicated that rural dwellers

relied primarily on family, relatives, and close friends for help and support. Further, the rural survey respondents reported using health care professionals and formal human service agencies much less frequently than did comparable urban respondents in previous studies.

A third statement is that health care providers in rural areas must deal with a lack of anonymity and a much greater role diffusion than providers in urban or suburban settings. This statement has a marked significance for rural nursing practice. Although limited ethnographic and survey data have been collected from rural nurses thus far, some emerging themes have been identified. In addition to identifying a sense of isolation from professional peers, rural nurses emphasize their lack of anonymity and a sense of role diffusion. There is an inability to keep separate the activities and the behaviors of the individual nurse's various roles. In a small town, for example, the nurse's behavior as a wife, a mother, and a church attendee are all significantly related to her effectiveness as a health care professional in that community. Further, in their professional role, nurses reported experiencing role diffusion. Nurses are expected to perform a variety of diverse and unrelated tasks. During a single shift, a nurse may work in obstetrics delivering a baby, care for a dying patient on the medical–surgical unit, and initiate care of a trauma patient in the emergency room. Likewise, during an evening shift or on weekends, a nurse may be required to carry out tasks reserved for the pharmacist or dietitian on the day shift.

RELATIONSHIP OF CONCEPTS AND STATEMENTS TO THE LARGER BODY OF NURSING KNOWLEDGE

How people define health and illness has a direct impact on how they seek and use health care services and is a key concept in understanding client behavior and in planning intervention.

Definition of Health

The rural Montana dwellers primarily defined health as the ability to work and to be productive. The work of other researchers supports the finding that residents of sparsely populated areas view health in terms of ability to work and to remain productive. Ross (1982), a nurse anthropologist, studied the health perceptions of women living in the Lake District along the coast of Nova Scotia. She conducted in-depth interviews with 60 women of both British and French backgrounds in small coastal fishing communities. Similar to the rural dwellers in Montana, these women described good health as being "able to do what you want to do" and to be "able to work." Lee's (1991) recent work in Montana supports earlier findings, on which the rural nursing theory was built. She found that work and health practices were closely related among farmers and

ranchers; health is viewed as a functional state in relation to work. Scharff's (1987) interviews with nurses practicing in small rural hospitals in eastern Washington, northern Idaho, and western Montana indicated that they viewed the health needs of rural people as overlapping those of people living in urban situations in many instances. The nurse informants, however, noted that rural people equate health with the ability to work or function in their daily activities. Rural people were viewed as delaying health care until they were very ill, thus often needing hospitalization at the point of seeking care.

Self-Reliance

The statement derived from the Montana data that "rural dwellers resist accepting help from outsiders or strangers" has been supported by data from research in rural Maryland (Salisbury State College, 1986). People living in the rural eastern shore area were described as highly resistant to care from persons viewed as outsiders, and rural shore residents often refused to go "across the bridge" to Baltimore to seek health care, even though this was a trip of less than 100 miles and would allow access to sophisticated, specialized treatment. Like the rural people in Montana, these Maryland residents sought health care information and assistance from local, and often informal, sources. The self-reliance of rural persons and their resistance to outside help were also reported by Counts and Boyle (1987) in relation to the residents of the Appalachian area. Self-reliance was noted as a major feature that must be considered in planning nursing care services for this population.

The rural Nova Scotia women studied by Ross (1982) indicated informal personal networks of family, friends, and neighbors as important sources of health information who also provided the physical, financial, emotional, and social support that contributes to well-being. When these women were asked what connection there was between health and the availability of hospitals, doctors, and other medical care, 42% indicated that it was the individual's responsibility for health knowledge and care; 25% thought professionals were useful to a certain point in providing advice and services such as routine physical exams; 19% indicated that these services were for sick persons, not healthy persons; and 9% felt the formal health care system had no relationship to health (Ross, 1982, p. 311). One woman commented, "Health is not a topic to discuss with doctors and nurses" (Ross, 1982, p. 309).

Rural Nursing

The Montana data and the theory derived from it indicate that nurses and other health care providers in rural areas must deal with a lack of anonymity. Nurses are known in a variety of roles to their patients, and in

turn, know their patients in a variety of roles. Most of the nurses interviewed by Scharff (1987) felt that by knowing their patients personally they could give better care. Other nurses, however, noted that providing professional care for family or friends can be a frightening experience. Nurses indicated that there was no anonymity for them in the rural community, which at times was reassuring and at other times, constricting (Scharff, 1987).

The concept of role diffusion in the rural hospital setting was very apparent in Scharff's (1987) work. She reported that a rural hospital nurse must be a jack-of-all-trades who often practices within the realm of numerous other health care disciplines, including respiratory therapy, laboratory technology, dietetics, pharmacy, social work, psychology, and medicine. Examples of the intersections between rural nursing and other disciplines include doing EKGs (electrocardiography or elektrokardiogramm), performing arterial punctures, running blood gas machines, drawing blood, setting up cultures, going to the pharmacy to pour drugs, going to the local drugstore to get medications for patients, ordering x-rays and medications, delivering babies, directing the actions of physicians, and cooking meals when the cook gets snowed in. As Scharff noted, some of these functions are carried out by urban nurses practicing in particular settings such as a trauma center or an intensive care unit. Rural nurses, however, are usually not circumscribed by assignment to a particular unit or department and are expected to function in multiple roles, even during one work shift.

This generalist work role and the lack of anonymity of rural nurses are substantiated by findings and descriptions from several other rural areas of the United States (Biegel, 1983; St. Clair, Pickard, & Harlow, 1986). A study of nurses in rural Texas noted, "Nurses play roles as nurse, friend, neighbor, citizen, and family member" within a community; further, rural nurses in their work roles were described as needing to be "all things to all people" (St. Clair et al., 1986, p. 28).

Generalizability

The issue of a situation or locale-specific theory and its relationship to the larger body of nursing knowledge needs serious consideration. The work of Scharff (1987) indicated that the core of rural nursing is not different from that of urban nursing. The intersections, however, those "meeting points at which nursing extends its practice into the domains of other professions"; the dimensions, that is, the "philosophy, responsibilities, functions, roles, and skills"; and the boundaries, which "respond to new and growing needs and demands from society" (American Nurses Association, 1980), appear to be very distinct for rural nursing practice.

Questions still remain as to how generalizable findings from Montana residents are to other rural populations. Clearly, there is a need for more

organized and rigorous data collection in relation to rural nursing before these questions can be answered. A sound theory base for rural practice requires a continued research, conducted across diverse rural settings.

IMPLICATIONS FOR NURSING PRACTICE

The findings from the Montana research about people living in sparsely populated areas have implications for nursing practice in rural areas. Since work is of major importance to rural people, health care must fit within work schedules. Health care programs or clinics that conflict with the rural economic cycle such as haying or calving will not be used. Since health is defined as the ability to work, health promotion must address the work issue. For example, health education related to cardiovascular disease should highlight strategies for preventing conditions that involve long-term disability such as stroke. These aspects will be more meaningful to rural dwellers than preventive aspects that emphasize a longer, more comfortable life.

The self-reliance of rural dwellers has specific nursing implications. Rural people often delay seeking health care until they are gravely ill or incapacitated. Nursing approaches need to address two distinct aspects: nonjudgmental intervention for those who undergo a delayed treatment and a strong emphasis on imparting knowledge of preventive health. If the nurse can provide adequate information regarding health, the rural dwellers' desire for self-reliance may lead to health-promotion behaviors. With a good information base, rural people can make appropriate decisions regarding self-care versus the need for professional intervention.

Health care services must be tailored to suit the preferences of rural persons for family and community help during periods of illness. Nurses can provide instruction, support, and relief to family members and neighbors, who are often the primary care providers for sick and disabled persons.

The formal health care system needs to fit into the informal helping system in rural areas. A long-term community resident, such as the drugstore proprietor, can be assisted in providing accurate advice to residents through the provision of reference materials and a telephone backup system. One can anticipate greater acceptance and use by rural residents of an updated but old and trusted health care resource, rather than a new professional but "outsider" service (Weinert & Long, 1987).

Nurses who enter rural communities must allow for extended periods prior to acceptance. Involvement in diverse community activities, such as civic organizations and recreational clubs, may assist the nurse in being known and accepted as a person. In rural communities, acceptance as a health care professional is often tied to personal acceptance. Thus, it appears that rural communities are not appropriate practice settings

for nurses who prefer to maintain entirely separate professional and personal lives.

The stresses that appear to affect nurses in rural practice settings have particular importance. Rural nurses see themselves as cut off from the professional mainstream. They are often in situations where there is no collegial support to assist in defining an appropriate practice role and its boundaries. The educational preparation of those who wish to practice in rural settings needs to emphasize not only generalist skills, but also a strong base in change theory and leadership techniques. Nurses in rural practice need a sound orientation to techniques for accessing diverse sources of current information. If the closest library is several hundred miles away, for example, can all arrangements for interlibrary loan and access to material via telephone, bus, or mail be arranged? Networks that link together nurses practicing in distant rural sites are particularly useful, both for information exchange and for mutual support.

SUMMARY

It is becoming increasingly clear that rural dwellers have distinct definitions of health. Their health care needs require approaches that differ significantly from urban and suburban populations. Subcultural values, norms, and beliefs play key roles in how rural people define health and from whom they seek advice and care. These values and beliefs, combined with the realities of rural living—such as weather, distance, and isolation—markedly affect the practice of nursing in rural settings. Additional ethnographic and quantitative data are needed to further define both the common and the locale-specific conditions and characteristics of rural populations. Continued research can provide a more solid base for the nursing theory that is required to guide the practice and the delivery of health care to rural populations.

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