"Since the Nurses Came":

Primary Health Care Nursing in a Nigerian Village

by

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Abstract

"SINCE THE NURSES CAME":

PRIMARY HEALTH CARE NURSING

IN A NIGERIAN VILLAGE[1]

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The purpose of this descriptive, exploratory study was to examine the content and context of nursing practice in Primary Health Care. The activities of 14 indigenous nurses who carried out a nine-month community mobilization project in Nigeria were analyzed through participant observation, reviews of nursing records, interviews, and a questionnaire. The project was part of a continuing education program sponsored by the International Council of Nurses, the United Nations Children's Fund, and the National Association of Nigeria Nurses and Midwives.

The village in which the project occurred had a population of 2,994 persons in 693 family units. A stratified random sample of 128 family records was used to enumerate nursing activities in the village. The nurses made 666

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visits to and identified 625 problems in the sample families. The major problems were environmental, physiological, and reproductive. The nurses recorded 1218 interventions in the sample families; education, support, and referral were predominant.

Community problems were associated with the environment, lack of support services and lack of knowledge. Interventions to meet these needs were the recruitment of influence, intersectorial linkages, and community mobilization and education. The fundamental nurse roles were as connections for services and information, and sources of support.

Family problems with strong social and cultural definitions showed the least improvement during the project, but 77.5% of all problems were resolved or improved. Improvement in community problems was also noted.

The conceptual model was useful in elaborating the social, political, cultural, religious, and environmental influences on health and nursing care. Despite obstacles, the activities of the nurses made a visible difference in the community.

Dedication

To the Ozoh Family...

Who in the true spirit of the Igbo Tribe,

Gave me a gift of warm Fanta; and with it brought

Tears to my eyes,

Understanding to my mind,

And a **rebirth** of commitment

to sharing,

and to caring to my heart.

And to Ego, who was the wise midwife.

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In Nigeria I received from a dear friend, the Yoruba name, Oluwakemi, or "God has pampered me." He has, and I thank Him for the joy that comes from having my life touched by so many good people--mentors, colleagues, and friends.

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CHAPTER ONE

THE STUDY PROBLEM

Background to the Problem

Florence Nightingale, foremother of modern nursing, articulated the ideal and the imperative of the profession when she wrote in 1893:

> We are only on the threshold of nursing. In the future, which I shall not see, for I am old, may a better way be opened! May the methods by which *every* infant, *every* human being, will have the best chance of health--the methods by which *every* sick person will have the best chance of recovery--be learned and practiced! (Quoted in Usui and Kominami, 1974, p. 100.)

Nightingale's charge to promote health, prevent illness, and restore health has reverberated through the goals and policies of national and international nursing organizations (American Nurses' Association [ANA], 1980; International Council of Nurses [ICN], 1973; 1986). Yet, whether by accident of history, economics, or politics, the preponderance of nursing practice takes place in hospitals under the aegis of a medical philosophy with little focus on disease prevention or health promotion (cf. ANA, 1985; Kalisch & Kalisch, 1978; Melosh, 1982; Reverby, 1987).

These highly technologic, acute care, curative models of health services have had the importance of their contribution to public health questioned and their inability to meet the needs of all segments of society criticized (Dubos, 1965; McKeown, 1976; McKinlay, 1979). Data from the United States reflecting the health status of the nation's poor and minority populations indicate that the criticism is justified (United States Department of Health and Human Services, 1985). However, the most warranted deprecation of the so-called "Western" curative model has come from its failure to solve or mitigate the health problems of the developing world (Bicknell & D.C. Walsh, 1977; Bryant, 1980; Evans, Hall, & Warford, 1981; Gish, 1979).

Health promotion and early prevention of disease for individuals and the aggregate are now viewed as important partners, if not viable alternatives, to the curative medical system. In 1978, the World Health Organization (WHO) declared Primary Health Care (PHC), with its focus on community participation for health promotion and disease prevention, to be the paradigm by which the goal of "Health for All by the Year 2000" could be achieved (World Health Organization/United Nations Children's Fund [WHO/UNICEF], 1978).

Given Nightingale's legacy and a history of public health practice (Kalisch & Kalisch, 1978; Melosh, 1982; Silverstein, 1985), nursing internationally was quick to support Primary Health Care. The International Council of Nurses [ICN] (1978) made the commitment to effect changes in nursing education, practice,

and management conducive to the implementation of PHC and to devise strategies to make such changes. The World Health Organization (1982) proclaimed that nursing had both the ability and responsibility to make radical changes in health care systems through PHC by the expansion and enhancement of traditional nurse roles. Krebs (1982, p. 167) optimistically declared, "clearly, the scope for improving human health is immense, and nurses, by their sheer numbers, are in a position to initiate and sustain some of the required action."

A decade after the heralded debut of PHC as international health policy, the goal for nursing's involvement remains clear. Unfortunately, the processes by which that goal is to be achieved are obscure. Nursing in PHC, like nursing in traditional community health practice, has suffered from incomplete definition and conceptualization; and more significantly, a lack of documentation of its contribution to public health (Batey, 1977; Gulino & LaMonica, 1986; Roberts, 1962; Storfjell & Cruise, 1984). The early successes of public health nursing endeavors, such as the Metropolitan Life Insurance Visiting Nurse Program, (D. Hamilton, 1988; Kalisch & Kalisch, 1978; Melosh, 1982) have cast a halo effect on home visiting. But the actual content and process of nursing care and the outcomes of nursing interventions in the community have remained largely unexplored (Ervin, 1982; Highriter, 1977, 1984; Sienkiewisc, 1984; Ventura, et al., 1985).

Although nursing in the developing world has embraced the PHC rhetoric (cf. Borges, 1980; de la Cuesta, 1982; Ha, 1982; Harnar, 1981; Krebs, 1983), the national plans of Ministries of Health have often spawned new categories of lay health workers, rather than integrating nurses into broad national PHC plans ("Government Must," 1987; Igbinosun, 1984). These cadres of village health workers and community health aides are necessary in the sense that there are few health professionals in the rural areas of the Third World (Newell, 1975; Werner, 1977; Werner & Bower, 1982). But, in countries where nurses neither control or regulate their practice, nor their employment (e.g., nurses as civil servants in federal monopolies of apprentice-based nursing schools, hospitals, and health services), government investment in training lay health workers can eclipse the contribution nurses could make in PHC (cf. Skeet, 1985).

Community based nursing in the United States is continually challenged to document its impact on individual or societal health. However, its viability has not yet been seriously threatened. Conversely, the dearth of empirical validation of nursing's contribution in PHC leaves nurses in the developing world more vulnerable to Ministry of Health manipulation, waning professional prestige, and limited collaboration in national health policy planning. The need exists, therefore, to enhance the understanding of what nursing **is** in the primary health care setting in order to truly assess what nursing **does** in terms of its overall impact on human health.

Statement of the Problem

> A WHO (1976) working group on nursing in PHC emphasized: The role of nursing in providing services to all individuals and groups considered at risk has never been fully examined. There is an urgent need for nurses to be prepared for and to be employed to conduct research into the nursing component of PHC (p. 544).

The urgency of that need has not diminished.

The sparsity of empirical studies of the impact of nursing activity in PHC is made more conspicuous by the proliferation of essays which speak to the nature of ideal nursing practice in PHC and report continuing education activity designed to promote nursing practice in PHC (cf. Borges, 1980; de la Cuesta, 1982; Djokotoe-Gliguie, 1982; Ha, 1982; Manfredi, 1983; Swann, 1984). After a decade of apparent global enthusiasm regarding nursing and PHC in developing countries (ICN, 1979; 1983; Morrow, 1986), it is disappointing to find so little documentation of the societal impact of the efforts which have been made. Yet, it has also been difficult for nurses in the developed world, with far more research and evaluation experience, resources, and public and scientific prestige than their counterparts in the developing world, to document the impact of public health nursing interventions on community outcomes (Highriter, 1977, 1984).

The rhetorical why can be examined by five conjectures. First, it is impossible to demonstrate impact without an analysis of what the interventions actually are. Coincidentally, the nature of nursing interventions must be ascertained if reproducible results are to be expected. Although the idealized list of knowledge and skills nurses should possess to carry out PHC activity is well elaborated (Krebs, 1983; Mooneyhan & Campos, 1984), the processes by which nurses use knowledge and skills as they interact with the community and its development sectors and make intervention decisions is not addressed.

Second, nursing is a profession which prides itself on viewing humans as wholistic beings in constant interaction with society, culture, and environment (M.E. Rogers, 1970; Roy, 1976; Watson, 1985). It can be extremely difficult to extricate from this complexity one dimensional client needs, nursing interventions, and health outcomes, thus attenuating definitive relational links between concepts and empirical indicators. Experimental and quasi-experimental research designs that emphasize control, consistency, and parsimony in variables, may not be able to address adequately such complex contextual interactions. Buzzard (1984) and Rovers (1986) have advocated more action research, more participant research, to remedy this situation (cf. Davis, 1986; Nichter, 1984; Ruffing-Rahal, 1985).

Furthermore, nurses do not practice in a vacuum. As Morrow (1982) so aptly articulates, the context of the delivery of nursing interventions shapes the

options and the ultimate reality of nursing practice. The effects of a nursing intervention are always moderated by a host of individual and community characteristics. The description and analysis of the environmental and societal factors that frame nursing practice and ultimately construct boundaries on the contribution of that practice to community health cannot be overlooked in any assessment of nursing's impact on health.

Third, nursing activities which are directed to the prevention of disease and health promotion, strong pillars of PHC, are often refractory to measurement in terms of specific interventions and outcomes of care. The indirect or ripple effect of nursing interventions is rarely considered; possibly because it is so difficult to measure. In addition, the impact of health promotive nursing interventions may not be seen in cross-sectional studies in which the design precludes an evaluation of long-term benefits.

Fourth, nursing in PHC, like community nursing, is not geared to the individual alone (American Public Health Association, 1981; WHO/UNICEF, 1978). Under the PHC rubric, community participation is of prime importance and the role of nurses is to assist communities to identify and resolve their collective health concerns. Although individuals make up the community, the collective also becomes the client. Focusing on individual parameters interferes with an assessment of the societal impact of nursing actions.

Fifth, it is also possible that the cry to establish a unique science of nursing describing relationships among phenomena of interest to the discipline has occluded inquiry into the nature of what it is that nurses do and achieve in acute or community settings. Early research in nursing has been criticized for its focus on nurses themselves (Carnegie, 1975; Gortner & Nahm, 1977; Meleis, 1985). And though the emphasis has shifted to nursing practice and patient care in theory, in actuality nursing research may have exchanged captivation with self for captivation with phenomena whose tenuous links to the practice of nursing are still yet to be clarified or established (cf. Donaldson & Crowley, 1978; Jacobs & Huether, 1978). Hayward and LeLean (1986, p. 179) cogently state, "the only rationale for research activity in nursing is the improvement of practice, education, or management and through it, to improve the care delivered to the patient or client."

The World Health Organization (1979, p. 450) declared that much still needs to be learned about the application of PHC "under local conditions. These studies may relate to the organization of PHC, and the mobilization of support and participation of communities in PHC." If nurses are to establish and play the responsible role in community health that their history and tradition demand, it is critical to channel research resources into an examination of the actual content, process, and effect of nursing care in the community.

Purpose of the Study

The purpose of this study was to contribute to the limited knowledge of nursing in PHC by examining the content, process, and context of nursing care directed to families and the community in which those families reside, during a nurse initiated PHC community mobilization project in Nigeria. Specific objectives were:

1. To develop a conceptual schema by which nurses' assessments, interventions, and evaluations of family and community outcomes could be codified and analyzed.

2. To explore the relationship between nurse characteristics and the environmental context in which nursing care was delivered, and the types of care which were given.

3. To track the processes by which the nurses assessed health needs, carried out interventions, and made intersectorial linkages on behalf of families and the community.

Significance of the Study

The major substantive contribution of this study is an enhanced understanding of the content, process, and context of nursing practice evolving from interactions of nurses with individuals, families, and the community. The study is particularly significant to nursing knowledge development because it represents an initial effort to document and delineate the nature of nursing in

PHC. By so doing it provides a foundation for the evaluation of the impact of nursing on family and community health status indicators. Though particularly salient for developing countries, the recent interest of American public health nurses in PHC (Flynn, 1984a, 1984b; Goeppinger, 1984) suggests that the findings of the study may be germane to nursing in the developed world as well.

Unfortunately, and all too often, nursing services are discounted or under utilized, especially in the developing world. The PHC paradigm has emphasized the training of community health volunteers to serve as health promoters. The resulting consolidation and confusion between nurse and lay health worker roles has contributed more ambiguity than clarity to the definition of nursing in PHC, and its potential impact on community health (Styles, 1984). This study illuminates the contributions nurses can make, despite obstacles, thus providing empirical rationale for better use of a valuable national resource.

A third contribution of the study is a better comprehension of how nurses in practice manage the philosophical dilemma of providing personalized individual or family level nursing care, yet retaining an orientation to the common good (Fry, 1983, 1985; Goeppinger, 1984; M.S. White, 1982). By examining nursing interventions directed to the family, the individual, and the community, this study provides the rudiments for apprehending the differences and similarities of nursing practice in individual and collective spheres.

Theoretically, this study enhances the nursing profession's understanding of the interaction of nursing practice, the community, and the environment. Nursing theories have been dominated by individualistic biological and psychological perspectives in the past (Dreher, 1982). The ANA's definition of the scope and practice of nursing, the Social Policy Statement, has been criticized for its failure to describe adequately "population and environmental focused nursing" (C.M. White, 1984, p. 328). This study provides insight into a facet of nursing practice that requires the development of theories which depict relationships between nursing practice and aggregates within the environment.

The merit of the study contribution is enhanced by a longitudinal design that combines a variety of data sources in the analyses. Data from nursing records, field observations, and interviews have been integrated to address the study objectives. Convergence among these data strengthens the rigor of the study.

Summary

Nurses have historically been engaged in community health care. Yet, despite Roberts' (1962) appeal to document the effects of public health nursing, few empirical studies have been done. The rise of PHC as an international gold standard for health policy has heightened the need to document the nature and impact of community nursing, especially in the developing world.

CHAPTER TWO

LITERATURE REVIEW, CONCEPTUAL FRAMEWORK, AND RESEARCH QUESTIONS

The major concepts which give form to this study are PHC, community nursing, and the environment. The connection between these concepts is the basis of the conceptual framework guiding this research. First, the literature relevant to the concepts will be reviewed. Second, the resultant conceptual model will be presented.

Literature Review

Three sections comprise this overview of relevant literature. Selected literature generated by PHC will be addressed first. Next, the nature of nursing in community health will be discussed with an emphasis on those studies that have investigated the impact of nursing interventions on health outcomes. The final segment of this review will describe the Nigerian--or environmental--context in which the study occurred.

Primary Health Care

Primary health care will be examined in three stages. The components will first be described. Next, literature addressing the impact of PHC programs will be discussed. Then, the implications of PHC in nursing will be presented.

Components of PHC

The nationalism and anti-colonialism which existed in the young nations created after World War II often led to a rejection and depreciation of the social, religious, political, or economic structures of former colonial masters. But, perhaps to the detriment of the overall health of these new nations, the Western curative medical paradigm was embraced, extolled, and perpetuated (Brown, 1979; Navarro, 1974; Taylor, 1979; Ugalde, 1979). Notwithstanding the achievements of Western medicine in pharmaceuticals, vaccines, and bioengineering, the deplorable health conditions of the Third World mock its failure to meet such severe health needs (cf. Sanders & Carver, 1985).

In 1978, the year of the Alma Ata Declaration, over 800 million people lived in absolute poverty. Malnutrition and infectious diseases caused the loss of over 11 million children under the age of five annually. In the developing world, 80% of the population had no access to health services (Harrison, 1980, 1987; Navarro, 1984).

Though the elements of PHC can be found in earlier development literature (Bryant, 1969; M. King, 1966, Newell, 1975), its entrance into the lexicon of world health care was legitimized by the World Health Assembly in 1978, with other international agencies following suit (Pan American Health Organization, 1978; UNICEF, 1982; USAID, cited in Parlato & Favin, 1982). As Bennett (1979) suggested, the prevalent systems in operation at that time had failed to

provide a level of social and economic health, thus necessitating a move to PHC.

The World Health Organization (WHO/UNICEF, 1978, p. 2) defined PHC as:

> Essential health care made universally accessible to individuals and families in the community by means acceptable to them, through their full participation and at a cost that the community and country can afford. It forms an integral part of the country's health system, of which it is the nucleus, and of the overall social and economic development of the community.

The Alma Ata Declaration on PHC also put forth a new definition of health--the ability to live a socially and economically productive life. Key philosophic elements of PHC included social justice, self-reliance, fundamental health care accessible to all citizens, and community involvement in decision-making (Bryant, 1988; T.A. Rogers, 1978).

The classic reports of Bryant (1969), M. King (1966), and Morley (1973) listed the major health problems of the developing world as malnutrition, water contamination, poor sanitation, and communicable disease (cf. Cumper, 1984; WHO, 1981). These problems are included in the eight foci of PHC, which are: (a) education concerning prevalent health problems and methods to control them; (b) promotion of proper nutrition and food supply; (c) adequate safe

water and sanitation; (d) maternal and child care; (e) immunizations against infectious diseases; (f) prevention and control of locally endemic diseases; (g) appropriate treatment of common diseases and injuries; and (h) the provision of essential drugs (Krebs, 1983; WHO/UNICEF, 1978). PHC proposes to meet these needs through the interface of all developmental sectors.

The Impact of PHC

Despite the international prestige accorded PHC (as evidenced by the numerous essays, workshops, and projects carrying its name), it has not been without its critics. Navarro (1984), Gellhorn (1984), and Mburu (1983) questioned the motivations of PHC, viewing them as another Western development scheme designed to continue capitalistic domination and suppression of the Third World. L.M. Morgan (1987) effectively delineated the weak links in the chain from international PHC policy verbiage to actual community development and health services (cf. Justice, 1987a).

An additional philosophic debate has ensued over the issue of selective primary health care (SPHC). J.A. Walsh and Warren (1980) proposed SPHC with the control of infectious diseases as priority, contending that although PHC was laudable, its prohibitive expense and global scope made it unattainable. Therefore, limited resources and technologic advancements should be channeled to cost-effective programs, such as oral rehydration therapy or mass

immunization campaigns; until the broader development sectors envisioned by PHC were productive (cf. Mills, 1983; J.A. Walsh, 1988; Warren, 1988).

Gish (1982, p. 1049), however, called SPHC "old wine in new bottles" that violated the spirit of self-reliance and community development enjoined by PHC (cf. Newell, 1988; Segall, 1987). Van Lerberghe and Pangu (1988) demonstrated with data from Zaire that an integrated approach to health service reduced overall health costs (cf. Kasongo Project Team, 1984). Furthermore, specific disease oriented campaigns were faulted for ignoring the social and environmental factors which influenced the contraction and spread of those diseases (Briscoe, 1984; Wisner, 1988).

Amid the criticisms and the debates, PHC has remained the prevailing international health paradigm of the 1980s. Yet, ten years after Alma Ata, the impact of PHC on health is still relatively unknown. The review of the empirical data on PHC will be enhanced by first examining factors that inhibit attempts to document the effectiveness of PHC.

Constraints to the evaluation of PHC programs. The terminology of PHC has been one of the fundamental constraints to its evolution and evaluation. The terms *primary care* or *primary health care* have their etymological roots in medical services. Hospitals were acute or tertiary care centers. Community based services such as well baby clinics, disease screening centers, and initial patient assessment and treatment or referral centers were designated as primary

care services. These medical primary care services are important, but only a part of the PHC paradigm which attempts to link health with all development sectors. Confusion in health policy and priorities can be the result.

Secondly, as multisectorial entities, interventions and health outcomes are extremely difficult to disentangle and quantify. The relationships at the core of inferential statistics are blurred by the maze of individual and community characteristics that influence health. Evaluations of programs that focus on cost per disease ratio, for example, overlook the myriad levels of health sequelae of community based programs (Boland & Young, 1984; Briscoe, 1984; Mills, 1983).

It is also impossible to assess truly the impact of a program of development like PHC in cross-sectional studies that have an inherent inability to gauge long term effects of situation specific interventions (Rovers, 1986). Vital statistics and records often used as intervention and outcome measures may be poorly kept (Bulmer & Warwick, 1983), thus reducing confidence in such parameters.

Furthermore, varied definitions of success in PHC programs contribute to the ambiguity of the evidence. Governments may evaluate health policy success in concrete terms: hospitals and clinics constructed or health workers trained (Mangelsdorf, 1988; Orubuloye & Oyeneye, 1982; Segall, 1983). Health professionals, epidemiologists and biological scientists tend to focus on physiologic outcomes such as nutritional status, infant mortality, or number of vaccinations given (Briscoe, 1984; Cumper, 1984; Gwatkin, Wilcox, J.R., & Wray,

1980a, 1980b). Development workers and social scientists prefer to assess community attitudes, participation, and equity (Rifkin, 1983; Rifkin, Muller, & Bichmann, 1988; Robinson, 1980).

It may be, however, that the greatest threat to an empirical validation of PHC as a paradigm is that the distributive justice it mandates requires socio-economic and political restructuring on local, national, and international levels (Bryant, 1984). People and institutions that have enjoyed power, position, and prestige, be they health professionals, business people, civil servants, or politicians, may spare no effort to recolor the picture of PHC with their own self-indulgent and protective crayons (Heggenhougen, 1984; L.M. Morgan, 1987; Parlato & Favin, 1982; Pearce, 1982; Stephen, 1981).

The empirical evidence. The evidence concerning PHC falls into two broad categories. These are: (a) studies measuring such parameters as nutritional status, family planning, or health related behaviors; and (b) studies documenting the failure of PHC activities due to political or cultural conflicts. Each will be addressed in turn.

A long tradition of "project" literature has reported health outcomes, hence this review is selective. Newell's 1975 classic, Health by the People, reviewed 10 projects, some nationally and others locally based. The processes of implementation and organization were different (i.e., national programs, private foundation projects, or a mixture of each), but all were directed by doctors and

involved the training of lay health workers to deliver basic health education and screening. Collectively these projects reported improved nutritional status of children, better access to potable water, and more reliable treatment for acute emergencies without morbid complications. Unfortunately, the data supporting these claims were rarely given.

Gwatkin, J.R. Wilcox, & Wray (1980a, 1980b) also compared 10 field projects, one of which was included in Newell's review. The projects were selected because they had the best available records. This fact strengthens the statistical presentation of the data, but as the authors admitted, could be a source of bias because "many impressive projects have been executed without much heed to data collection" (1980a, p. 5). Summarized outcomes from the reviewed projects included: (a) declines in infant mortality from one-third to one-half within one to five years of project initiation; (b) lower birth rates; and (c) improved nutritional status of children. Lack of control of intervening variables, small sample sizes, and lack of comparison groups in some projects were limitations in this analysis.

The Miraj, India Project (Ram, 1978) collected baseline, intermediate, and summative data over a 3 year period making it a paragon among projects. After the introduction of a collaborative, integrated health and development service by the government, a private medical clinic, and the World Council of Churches, infant mortality dropped from 67.6/1000 to 23.1/1000; Diphtheria-

Pertussis-Tetanus (DPT) vaccination coverage went from 2% to 85%; and landless laborers organized to free themselves from perpetual indenture.

Hill, Woods, & Dorsey (1988) focused on improving child health in a Filipino project with 63 families and 96 children under age six. Volunteer expatriates worked as health promoter trainers and supporters. Instructional activities focused on nutrition, sanitation, and child health. At the end of 6 months, large increases in reported household practices such as purifying drinking water and keeping a hygienic kitchen area were linked to a 70% reduction in diarrhea and fever incidence in children. Tolley (1987) describes similar results in a nurse directed health education project in Kenya.

In an analysis of 52 USAID assisted projects, Parlato and Favin (1982) noted that, because many projects emphasized care rather than research, it had been difficult to determine whether changes in health did indeed stem from project activities. Out of the 52 projects in the analysis, only five included outcome evaluations of health status; two reported little change in health or nutrition, two reported a decline in infant mortality, and one reported reductions in the incidence of diarrhea. Eight additional projects reported increased use of health services, with a concomitant increase in immunization levels. The failure to implement some sort of evaluation process in internationally funded projects is of grave concern.

Next, the data regarding the impact of environmental context of projects will be discussed. Two basic themes emerge from the literature. First, PHC project implementers must have a sensitive awareness of the cultural and political mores of the population in order to meet needs. Training new health workers who, because of age or background, fail to inspire trust or confidence in the people marks a project for failure at the onset (Justice, 1987b). Lack of flexibility in working with cultural variations is just as deadly (Paul & Demarest, 1984).

Secondly, the instigation of PHC activities designed to promote equity and equal access to service may be a threat to the existing power base in a community or a nation (L.M. Morgan, 1987). Chabot and Bremmers (1988) described the lack of cooperation between nationally and locally based health services in Mali. The national sector had little interest in the local sector due to economic, curative, and professional prejudices. Williams and Satoto (1981), LaForgia (1985), and Antia (1988) cited examples from Java, Panama, and India, respectively, that illustrated how opposition from local vested interests hampered meaningful community services. Finally, Heggenhougen (1984) reported violent abuse of health workers and their families in Guatemala by local power groups resistant to the social equity and justice supported by PHC.

Summary. Two major provocative issues arise from the literature. First, very few of the projects in PHC reviewed were instigated at the village or the community level. The bulk of PHC work has involved some outside agency,

national or international, in the planning, funding, supervising, and delivery of project services. These external services and experts are important and often invited components of national and local activity. Nevertheless, the frequent reversal of the mandate of self-reliance, and community decision making and inertia by these outside sources could be the great paradox of international PHC policy.

Second, with the exception of the Kenyan project reported by Tolley (1987) in which nurses trained lay health workers, the role of the nurse in PHC was not mentioned in the reviewed projects. Nurses were listed as part of clinic or health ministry staff, but the connection and interaction of the nurse with the community was minor; almost incidental (cf. Smith, 1978).

Nursing and Primary Health Care

The International Council of Nurses (1978) has made the commitment to effect changes in nursing education, practice, and management that are conducive to the implementation of PHC. Clearly, such a commitment indicates that nursing curricula have not yet prepared nurses for the expanded and enhanced roles WHO envisioned. Furthermore, the issues of autonomy, scope of practice, and the integration of nurses into PHC policy and implementation are still being debated in Ministries of Health around the world (Styles, 1984).

Nursing Education. In a mailed survey to 160 national chief nursing officers throughout the world (34% response rate), Jaeger-Burns (1981) found that 69%

(n=37) of the 54 nurse administrators who returned questionnaires reported that PHC was integrated into the national nursing curricula. However, only 44% (n=24) indicated that nurse educators were trained in PHC. Traditional hospital based nursing education has been inadequate to educate nurses for PHC roles in many countries, particularly because there are so few PHC role models for students (Harnar, 1981; Jato, 1982; Masson, 1980; WHO, 1982).

To compensate for the sudden demand for PHC training, numerous post-basic and continuing education programs have been developed (Anderson, 1987; Borges, 1980: Djokotoe-Gliguie, 1982; Manfredi, 1983; McDowell, 1983; Morrow & Amoako, 1980). It is an interesting paradox that so much effort has gone into the development of curricula for PHC nursing practice, yet investigations to elucidate the nature of nursing in PHC have been left undone, or unreported. Much of the evaluation of the effectiveness of these PHC continuing education projects has focused on participants' acquisition of knowledge as measured by pre- and post-tests, or on their perceptions of the adequacy of the educational program, not on community level health outcomes.

Continuing education (CE) in nursing is ubiquitous. Hefferin, Arndt, and Kleinknecht (1987) reviewed developmental stages in continuing education programs in the United States. Of particular salience is the trend to evaluate the success of CE programs not by tests of recall of information, but in behavioral terms.

Nursing chart audits have been used to document the success of CE programs directed to diabetic teaching (Turkeltaub, 1980); goal oriented charting (Ellson, 1984); physical assessment skills for community health nurses (Oliver, 1984); arthritis related nursing interventions (Dickinson, Holzemer, & Nichols, 1985); and in the implementation of nurse practice standards (Cox & Baker, 1981). Nursing records are a means by which the impact of the CE program on the participant's practice of nursing can be assessed.

The next obvious step in CE evaluation is to set criteria not only for nurse performance, but for expected client outcomes as well. The nursing record can then serve to document the efficacy of the CE program at participant and recipient levels. Nursing record audits are proxy measures for nursing performance, but they do represent a needed maturity from the participant "Happiness Index" as the sole method of evaluating a CE program (Holzemer, 1988; Holzemer & Bridge, 1979). Such a transition is necessary for nursing to remain professionally accountable in an age of increasing social and economic pressure. The CE programs in PHC developed for nurses face similar pressures for accountability, especially if funded by expatriate agencies (D. Boussoni, personal communication, July 17, 1987).

The practice of nursing in PHC. The armamentarium of knowledge and skills nurses must ideally possess to practice in PHC is overwhelming. The nurse is expected to possess health assessment skills for individuals and communities,

and a knowledge of endemic diseases and their treatment in rural and urban settings. The nurse is expected to function independently. Knowledge and skills with respect to epidemiology, administration, supervision, teaching, motivation, and multisectorial collaborative community development are considered essential (Flynn, 1984b; Krebs, 1983; Mooneyhan & Campos, 1984). Jaeger-Burns' (1981) survey indicated that nurses do function in all the delineated roles with one glaring exception. Less than 35% of the 54 responding countries reported that making multisectorial links, other than with the sanitation department, were a part of nursing practice.

It is unrealistic to presume that one nurse would have expertise in all PHC areas. The team approach to PHC nursing activity may be a better way to meet community health needs in all sectors (Goeppinger, 1984). It may also provide a stronger base from which to address the cultural and political constraints that inhibit nurses from practicing in more autonomous PHC roles and interacting comfortably with all development sectors (Masson, 1980; Meleis & Hassan, 1980; Swann, 1984).

As a theoretical model for nursing practice, PHC is not limited to the Third World. Ulin (1982) asserts that research in PHC nursing practice will not only benefit nurses who function in developing countries, but will also elucidate phenomena pertinent to the developed world as well. All nurses are concerned with theories and knowledge relating to environmental modifications, community

participation in health programs, and education for health promotion (Salmon, Talashek, & Tichy, 1988).

The United States has lagged behind its European colleagues in understanding and implementing community nursing practice based on PHC (cf. Lauri, 1981; Van der Bergh-Braam). Community nursing experts in the United States are, however, beginning to advocate PHC principles as guides for nursing practice in the United States, particularly beneficial in meeting the needs of vulnerable subgroups of the population (Dreher, 1984; Flynn, 1984a; Goeppinger, 1984; Muecke, 1984).

Community Health Nursing

Community health nursing will be addressed in two segments. The impact of community health nursing activity will first be discussed. Then, the classifications of community nursing practice that have been developed in the literature will be presented.

Community Nursing Impact

Roberts (1962) challenged nurses to explore the outcomes of their service to individuals, families, and the community. Those explorations at the individual and family level are few. Studies which address the effect of nursing interventions at the community level are practically nonexistent. It is true that families and communities make very sticky units of analyses in experimental or

quasi-experimental designs. However, measurement difficulty does not remove the onus to establish a knowledge base in this area.

If the literature in community nursing interventions is examined through PHC lenses, several points materialize. First, with three exceptions, the research has focused on the needs of individuals, families, or small groups, and nursing activities to meet those needs. Broad community level needs were not addressed. Second, even in family and group interactions, nurses addressed very delimited problems. These two factors underscore the difficulty inherent in attempting to examine community nursing on an aggregate level.

Obviously, nurses work with communities by working with individuals, but in so doing they maintain a commitment to the community as a whole (Storfjell & Cruise, 1984). Home visits have been the classic nursing approach to communities through interaction with individuals and families. Meeting community needs at the individual level in this manner has sometimes been difficult to justify in terms of cost-effectiveness. Fiscal retrenchment in social services has made it imperative to document the efficacy of nurses' home visits.

The majority of studies of home visits investigated the effect of nurses' visits on the health of infants and post-partum mothers. Hall (1980, n=30) and Olds, Henderson, Tatelbaum, and Chamberlin (1986, n=400) found that groups of primiparas who were visited by nurses had more positive feelings about their infants and also exhibited more health promotive behaviors during pregnancy.

Conversely, Lowe (1970, n=56), Yauger (1972, n=64), and Barkauskas (1980, 1983, n=110) were unable to discern any significant differences in health outcome variables for visited versus nonvisited first time mothers. All five studies involved some type of comparison group.

Group community nursing teaching was investigated by McNeil and Holland (1972) who concluded that group teaching of primiparous mothers was more cost effective in improving mother's knowledge of infant care than were individual home visits. No attempt was made to measure the health outcomes of those visits, however. Isolated studies of community nursing interventions with varied groups and using different methodologies have yielded inconclusive evidence as to the efficacy of nursing activity (Kaser, Bappert, Carlson, Sharland, & Stein, 1984; Oda, Fine, & Heilbron, 1986).

Lack of documentation or methodological control over the types of services provided in home visits may have been a factor in those studies in which the findings did not demonstrate a significant nursing impact on health outcomes. Barkauskas (1980, 1983), however, did document and categorize the functions of the nurse during the home visit. Assessment, teaching, and referral comprised the bulk of those nursing functions.

Morris (1985) used a chart audit to analyze the practice of home visits by nurses to infants at risk for developmental disabilities. Like the Barkauskas typology, the greatest portion of the nurses' time and energy was spent in

assessment. B.S. Morgan and Barden (1985) used a Symbolic Interactionist framework to categorize the nature of the interactions of nurses and primiparous mothers in the home. Again, assessment and rapport building were major activities.

Three studies involved community level analysis. Irish and Taylor (1980) and Dreher (1984) used a case study design to describe nursing activities to provide community health care and referral. Tolley's (1987) investigation of a Kenyan village project is unique because of its PHC framework; which is strengthened by a longitudinal design. In the Kenyan study, nurses trained 28 community health workers who then visited five to eight families per week, providing health education, screening for communicable diseases, and encouraging health services use. Over a five-year period, malnutrition in children dropped from 8% to 4%. An increase in the immunization levels of children and environmental factors such as improved family toilet facilities were also reported. Unfortunately, the community size and number of children and immunizations were not reported.

Community Nursing Taxonomies

The creation of taxonomies based on a set of principles in nursing serves several purposes. These classification systems provide labels for complex phenomena, facilitate communication within the profession, and indicate areas of nursing responsibility, competency, and accountability (Dracup, 1983; Webster,

1984). Nursing, a young discipline still developing it scientific traditions, is beginning to codify nursing concepts and activities with the bulk of the work being carried out by the North American Nursing Diagnoses Association [NANNDA] (Kim & Moritz, 1982; Kim, McFarland, & McLane, 1984).

The focus of much of the classification effort has been the delineation of nursing diagnoses (Campbell, 1984; Gordon, 1982; Kim & Mortiz, 1982). This seeming preoccupation with naming health problems that warrant nursing interventions could be deemed myopic. However, Guzetta & Dossey (1983) and Muecke (1984) assert that nursing diagnoses are integral to the ability of the discipline to document assessments, interventions, and outcomes because diagnosis implies a level of commitment and specification.

Most of the categories of nursing diagnoses compiled by NANNDA reflect a physiologic or acute care orientation. They have mirrored medical diagnoses in this respect. However, efforts have been made to develop a typology for nursing phenomena that examines community level health practices, needs, and resources (Gikow & Kucharski, 1987). Fundamental to delineating community diagnoses is the "clarification of whether the community is merely the setting or context of the individual's existence and of nursing intervention or whether it is the primary client" (P. Hamilton, 1983, p. 27).

Efforts to classify the interventions of community health practitioners have followed the classic description of the nursing process as assessment, planning,

intervention, and evaluation (Yura & M.B. Walsh, 1983). The preponderance of nursing activity in the community is related to assessment and planning. Interventions such as teaching and referral are second, with follow-up evaluation a distant third (Archer & Fleshman, 1979; Barkauskas, 1980). This characterization of nursing activity in community health care offers insight into why it has been difficult to document the impact of public health nursing on health outcomes. It is possible that nurses spend so much time discovering what needs are, through assessment, that their activities to meet those needs are overshadowed and minimized.

One philosophical point must be raised in examining how nursing diagnoses may operate in programs under the PHC rubric. Nursing diagnoses have been defined as those problems nurses are able to treat independently (Gordon, 1982; Guzetta & Dossey, 1983). Complete autonomy in nursing practice is debatable in many settings, including the community. However, the PHC paradigm mandates an integration and interdependence of health related sectors in the community. Therefore, the definition of nursing diagnoses in PHC may require a less restricted interpretation if nurses are to develop independent, but intersectorial, skills.

Nigerian Context of the Study

One of the central precepts of PHC is that health related activities must be culturally appropriate and socially congruent. As the nation of Nigeria is the

setting for this study, it is crucial and appropriate to address the health issues that circumscribe community nursing practice in Nigeria. The discussion of context will first be directed to the economic conditions in the country. Next, health patterns will be presented. Third, dimensions of nursing in Nigeria will be explained.

Nigerian Economy

With an estimated 96 million inhabitants (Blum & Phillips, 1986), Nigeria is the most populous nation in sub-Saharan Africa. One in four black Africans is a Nigerian (Dunlop, 1983). Ekundare (1973, p. 1) called Nigeria the country "with the greatest political and economic potential in the Third World." Yet, the people of Nigeria, 80% of whom live in rural areas, are still among the poorest in the world (Arnold, 1977). Camp and Speidel (1987) statistically created the Human Suffering Index by rating living conditions in 130 countries. The measures included income, inflation, nutrition, potable water, adult literacy, and personal freedom. Nigeria was one of 30 countries with a rating of "extreme human suffering."

Nigeria gained independence from Great Britain in 1961. The major challenge of the new government was to manage the tribalism and mistrust existing among the nation's 25 distinct ethnic groups, gamut of religions, and political parties (Diamond, 1988; Schwartz, 1965). Since 1961 Nigeria has experienced many military coups d'etat, political assassinations, and the bloody

Biafran War. Each new government has promised to rid the nation of its legendary inequity (1% of the people control 75% of the income) and corruption (cf. Achebe, 1983; Arnold, 1977; Ekundare, 1973; Iwe, 1987; Lamb, 1987). Currently, the nation is under military rule.

The economy of Nigeria is weak. The prosperity of the oil boom in the early 1970s has not been sustained. The naira, Nigeria's unit of currency, was devalued over 400% from 1986 to 1988 as the Federal Government sought to attain a measure of fiscal responsibility necessary to refinance large international debts. The recession has brought construction to a halt and severely hampered the replacement or repair of aging equipment. Common automobile parts like carburetors or waterpumps are nearly impossible to acquire; the import price has skyrocketed. In January, 1988, the government removed the subsidy from petroleum products, doubling or tripling machine oil and kerosene prices and sparking demonstrations and confrontations across the country. Student unrest became so great that all universities were eventually closed for several weeks.

Nigeria was self-sufficient in food production before the oil fired consumption of the 1970s. Now, staples such as corn, rice, and sugar must be imported to meet demand (Abudu, 1983; Lamb, 1987). To force a return to native crops, the government banned wheat imports in 1987, quickly doubling the price of wheat products. In the five-month period between December, 1987, and May, 1988, the price of garri, a cassava dietary staple, went from 15 cups

per naira to 2 cups per naira. The common Nigerian lament is, "This economic crunch is biting us hard."

Health Patterns

Infant mortality rates are indicative of the general health status of a nation. According to the Rural Demographic Sample Survey in 1968, the Nigerian infant mortality rate was 178.9/1000 (cited in Lesi, 1978). In 1984, the infant mortality rate was 151.4/1000. For perspective, the infant mortality rate of Canada for the same year was 10.9/1000 (United Nations [UN], 1984). In 1970, the city of Lagos put its infant mortality rate at 35.7/1000. Lesi (1978) believed that the low Lagos versus country rate was due to the illiteracy of the rural population and inadequate medical facilities in rural areas.

Nigeria has one doctor for every 12,550 persons and one nurse for every 3,010 persons (World Bank, 1985). However, Nigerian health services and professionals are unevenly distributed throughout the country. O.O. Akinkugbe (1987) estimated that half of all doctors in Nigeria were employed in six cities (cf. Ekwueme, Megafu, & Komolafe, 1978; Elebute, 1977; Onadeko, 1978). Therefore, 85% of the population remains under served with an increasing reluctance on the part of health professionals--doctors and nurses--to practice in rural areas (Adejunmobi, 1986; Oyediran, 1978). In addition to insufficient health manpower, distance from existing health care providers and cultural

distrust of the Western medical system combine to limit access to health services (Ityavyar, 1982; Murphy & Baba, 1981; Okofor, 1983; Stock, 1983).

Health services in Nigeria have received a small proportion of national and state budgets. Health is too often viewed as a consumptive expenditure rather than a productive investment (cf. Smith & Powell, 1978; Wennen, 1969). More than half of the health budget has been spent on curative, rather than preventative services (Fajewonyomi, 1983: Federal Republic of Nigeria, 1981; Orubuloye & Oyeneye, 1982). In 1986, the federal health budget was 633.88 million naira (at an exchange rate of approximately 1 naira to 1 dollar). But in 1987, the federal budget for health fell to 346 million naira at an exchange rate of approximately 3 naira to 1 dollar ("National Health Budget," 1987). A 45% cut in funding would severely hamper any on-going health program, but the loss of purchasing power on the international supply market, due to the devaluation of the naira, was more severe. Basic hospital and clinic supplies and drugs became scarce and the replacement of critical equipment was at a standstill.

A federation wide campaign has been launched in Nigeria to reduce the infant mortality rate by two approaches. The first is the Expanded Program on Immunization (EPI) which has targeted children under the age of two for immunizations against the six major killer diseases; measles, diphtheria, tetanus, pertussis, tuberculosis, and polio. A UNICEF report (Blum & Phillips, 1986) estimated that 216,000 Nigerian children die each year from vaccine preventable

diseases and an additional 100,000 are disabled. Measles, which can be prevented by only one vaccination, unlike the DPT or Polio series, caused half of the deaths.

A companion to EPI in the Nigerian Child Development and Survival Revolution is the Oral Rehydration Therapy (ORT) program aimed at reducing mortality from diarrheal diseases. The Federal Ministry of Health reported 185,904 diarrheal deaths in children in 1987 (Cited in Kilette, 1988). Workshops sponsored by UNICEF-Nigeria, the Federal Ministry of Health, and the National Association of Nigeria Nurses and Midwives (NANNM) have been promoting EPI and ORT activities among nurses at the community level (NANNM, 1987; Turton, 1987).

Primary Health Care is the official federal and state health policy. The Minister of Health, Dr. Olikoye Ransome-Kuti, received a WHO award for his contributions to PHC ("National Health Budget," 1987). However, the curative Western model continues to dominate the health services infrastructure (Alubo, 1987; Ityavyar, 1987). As part of its PHC orientation, the Ministry of Health has established a Community Health Officer (CHO) Course designed to train community leaders for PHC activities. Infrequently, nurses have taken advantage of the CHO course.

Nursing in Nigeria

Nursing education. Nursing education in Nigeria takes place in nursing schools attached to hospitals (International Nursing Foundation of Japan, 1986). The students are trained in an apprenticeship system and a large portion of actual patient care in hospitals is delivered by student nurses. The Nursing and Midwifery Council of Nigeria regulates nursing education and practice and has established a core curriculum for all basic three-year nursing programs. Four hundred hours of community theory and practice are required in the Council guidelines; actual experience in the community averages three weeks (Akpovi, 1984; Nursing and Midwifery Council of Nigeria, undated; Ogundeyin, 1982).

Nigeria has two baccalaureate programs in nursing. One, at Ife, is generic and the other, located in Ibadan, is post-basic. Nurses may also choose to take post-basic courses in specialties such as midwifery, ophthalmic nursing, or administration.

Nursing practice and the professional organization. Over the last few years the dynamic leadership of the National Association of Nigeria Nurses and Midwives (NANNM) has been able to unite several nursing factions into a more cohesive body. NANNM is a labor union and a professional organization. It continues to work to increase nursing dialogue with the federal and state Ministries of Health in hopes of achieving more recognition and inclusion of nurses in health policy planning (Igbinosun, 1984).

The relationship between NANNM and the Ministry of Health has been strained on occasion. Because the Ministry of Health is the largest employer of nurses in the country, the labor union role of NANNM has often been enacted during tense arbitration (Olabode, 1984). The Association also believes the Ministry of Health neglects the contribution nurses could make to national health, if they were respected and valued (cf. WHO, 1985).

Nigerian nursing has extensive ties with nursing in Great Britain. Education and practice has followed British convention. Nigerian nurses have sought to emulate the British system and can be affiliated with the Royal College of Nursing. As a profession, nursing has achieved a good measure of public respect in Nigeria as evidenced by the appointment of several nurses to important state and federal positions (Akinsanya, 1987; I. Enwezor, personal communication, June 10, 1987).

The economic situation for nurses in Nigeria is not a bright one. During the winter months from November, 1986 to March, 1987, many nurses, who are federally employed, were not paid due to national budget difficulties. The threat of retrenchment is constant among many nurses (M.A. Olabode, personal communication, February 1987). Eager students fill schools of nursing under government subsidies. But, the prospects for employment upon graduation are poor. In addition, the proliferation of "quack nursing schools" is of major concern to NANNM (C.O. Adebajo, personal communication, August 1987).

For the most part, nursing in Nigeria remains at the hospital or clinic level. NANNM has recognized the need to improve not only the generic nursing curriculum to include PHC principles and skills, but has also, in collaboration with UNICEF and the ICN, begun a continuing education project designed to enhance the knowledge and skills of nurses to facilitate community mobilization activities (NANNM, 1987).

Summary

The preceding review of literature indicates that nursing activities in PHC have been idealized but remain empirically unsubstantiated. Furthermore, PHC as a successful health strategy, has but equivocal empirical support, in part due to the many constraints to documenting such a global program. Community nursing research does indicate some positive change in health outcomes as a result of home visits by nurses, but contrary cases also exist. The Nigerian context of the study has been described and the move to integrate nurses into the PHC schemes of the country noted.

Conceptual Framework

The conceptual framework of this study will be considered in two parts. First, the theoretical basis of the study will be presented. Then, a model linking relevant concepts will be described.

Theoretical Basis

Current nursing theorists have been criticized for their failure to address the concepts which are at the heart of community nursing activity--the environment and the aggregate (Dreher, 1982; Fry, 1983; Goeppinger, 1984; P. Hamilton, 1983). The discipline of nursing is not without a theoretical basis for public health activity, however. Although the views of Florence Nightingale (1860/1969; Usui & Kominami, 1974) were not articulated in a formal theory, her writings do form a communicated ideation of phenomena and relationships in nursing and can therefore be classified as a nursing theory (Meleis, 1985; Stevens, 1984).

Nightingale envisioned the goals of nursing activity as the maintenance of health, the prevention of infection and injury, recovery from illness, health teaching, and environmental control of noxious factors (Fitzpatrick & Whall, 1983). In Notes on Nursing, Nightingale (1860/1969) delineated five essential elements of a healthy environment. These were "pure air, pure water, efficient drainage, cleanliness, and light" (p. 14). With the additional chapters of her book that focused on nutrition, she was indeed prophetic of current WHO priorities for global health: sufficient food, sanitary water, and essential health care for all people (WHO/UNICEF, 1978). Furthermore, Nightingale was also a reformist who was committed to public health in order to ameliorate disease, poor sanitation, and the demoralizing nature of poverty (Monteiro, 1985; Thompson, 1980).

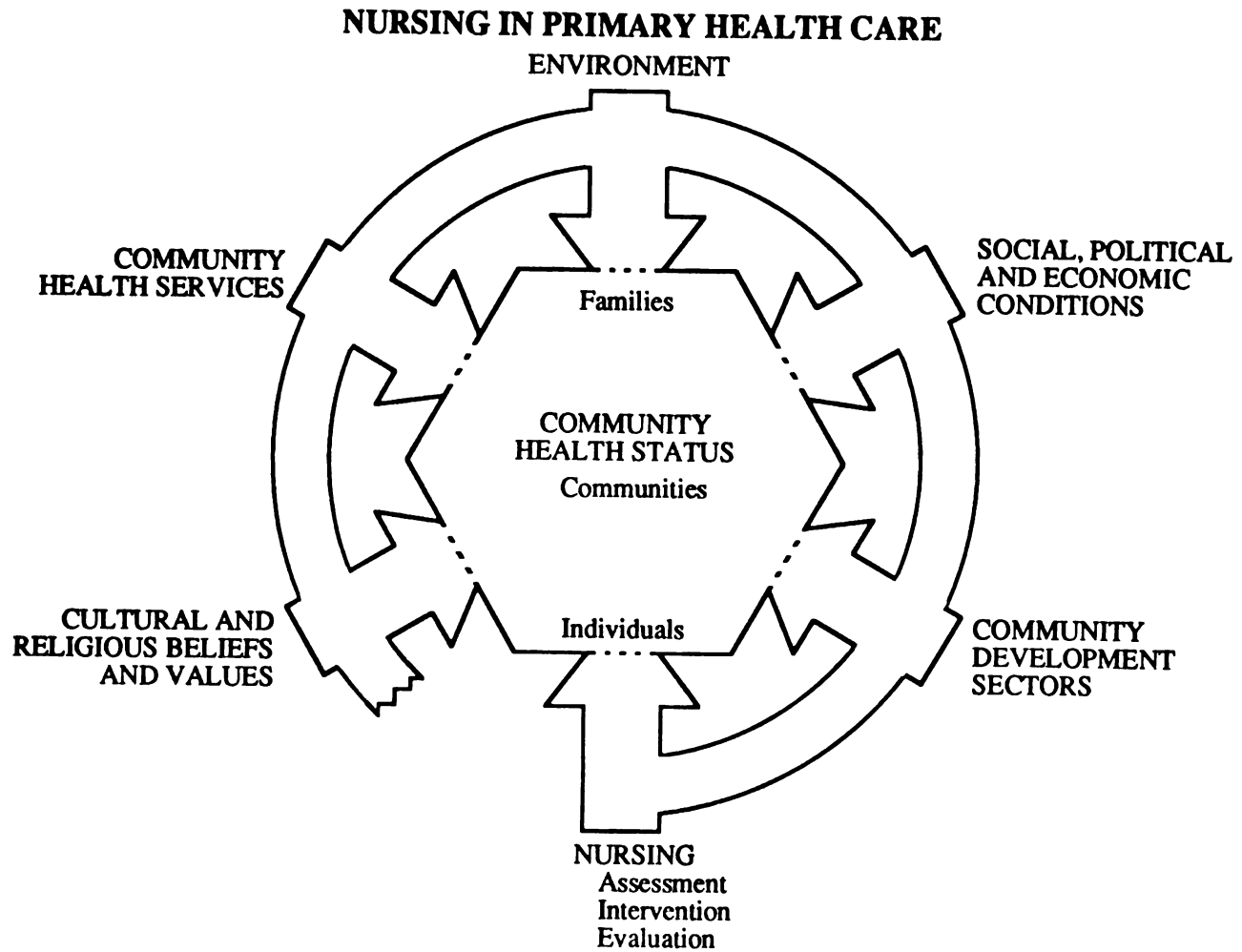
The Conceptual Model

The conceptual framework for this study is derived from the concepts which form the basis of Nightingale's nursing activity and the PHC paradigm promoted by WHO. These concepts include PHC; community and family health status; cultural and religious values and beliefs; community health services; community development sectors; social, political, and economic conditions; environment; and nursing. These concepts are integrated in the model depicted in Figure 2.1.

In the conceptual model, PHC is a rubric for health care, a guide to the provision of health related services. Under the PHC umbrella, health activities are integrated with all development sectors and must be culturally relevant to the community. The role of nursing in PHC is to assess individual, family, and community health needs, develop interventions based on identified problems, and evaluate the effectiveness of those interventions. Nursing also connects communities, and individuals within communities, to all possible health promotive sectors and mobilizes community groups to meet their own health needs.

The model illustrates that many factors can influence the health of families and the community. Furthermore, it suggests that nursing activities are one of those factors. Most importantly, the model indicates that nursing is also affected by the same elements which determine community health. Thus, nursing is in

Figure 2.1. Conceptual Framework for the Investigation of the Context and Practice of Nursing in Primary Health Care.



itself a contextual influence on community and family health, and it is shaped by the environment in which it takes place (cf. Bossert & Parker, 1984).

Research Questions

The model in Figure 2.1 forms the basis for the research questions guiding this study. Fundamental assumptions will be clarified, then the research questions articulated. Definitions for the study conclude this section.

Assumptions

Two assumptions are made in this study. These are: (a) nursing is a therapeutic activity which takes place within a cultural, social, and political environment; and, (b) emic and etic perspectives enhance the understanding of contextual phenomena.

Research Questions

The research questions which were the impetus for this study were:

1. What conceptual schema best captures the family and community nursing assessments and interventions that take place as part of a nurse initiated community mobilization project in Nigeria?

2. What are the characteristics of the nurse teams who participate in the PHC community mobilization project?

3. How do the nurses who participate in the PHC project perceive their roles and define their practice in PHC and community mobilization?

4. What environmental, cultural, and societal conditions act as constraints or supports to nursing practice in PHC?

5. What is the relationship between nurse characteristics, environmental, cultural, and societal conditions, and the conceptual schema of nursing assessments and interventions in a PHC community mobilization project.

Definitions

The following definitions were operative in this study:

Primary Health Care: Essential health care integrating all development sectors that is culturally appropriate and socially acceptable, and directed to disease prevention, health promotion, and health restoration.

Nursing Activity: The interactions of nurses with individuals, families, groups, and the community for the purpose of assessment of health problems, planning and intervention to solve or mitigate identified problems, and evaluation of the effectiveness of the intervention.

Context: Those environmental, religious, political, cultural, and societal conditions that influence nursing practice.

The Project: Nursing activities in the village as part of an ICN/UNICEF/NANNM Continuing Education Project on Community Mobilization.

CHAPTER THREE

METHODOLOGY

Research Design

An exploratory, descriptive design was used to examine the research questions. Data were collected through reviews of nursing records, participant observation, open-ended interviews, and a questionnaire. The flexibility of the design and the avoidance of mono-measurement limitations strengthens the rigor of the study and lends itself well to the examination of context so important in PHC (cf. Buzzard, 1984; Foster, 1982; Rovers, 1986).

Research Context

This study was conducted as part of the evaluation of a continuing education project. An explanation of that project is germane. Then the research setting will be described.

The ICN/UNICEF/NANNM Continuing Education Project

The study took place in conjunction with an ICN/UNICEF/NANNM continuing education project for nurses on community mobilization (Holzemer, 1989; Morrow, 1985; NANNM, 1987). In 1986, the ICN approached UNICEF requesting a cooperative effort to improve "the health status of children and their families by enhancing the skills of nurses working in PHC settings through an ongoing continuing education programme established by selected national

nurses' associations in collaboration with governmental and/or nongovernmental groups" (Morrow, 1985, p. 1).

NANNM was selected on the basis of: (a) its participation in the African region PHC leadership workshop in Botswana sponsored by the ICN (1983) and having carried out a post-workshop activity (cf. Turton, 1987); (b) having a well-functioning ongoing general program (cf. NANNM, 1986); and (c) its willingness to make the commitment to carry out the continuing education program after external assistance ceased (Morrow, 1985). The nursing associations of Zaire and Swaziland were also chosen by the ICN to implement the same project in their countries. Nurse leaders from these two nations came to Nigeria during the project to learn from their Nigerian counterparts.

The continuing education project had two elements. First, a four-day training program would be conducted to provide nurses with the necessary knowledge and skills to practice in PHC, including the use of family and community forms to record nursing activities. Not only would the workshop present didactic material (see Appendix A for the topics covered during the workshop), but one day would be spent in a community setting, using the record forms to collect family data. Then the data would be summarized to reflect community problems and determine mobilization strategies.

Second, a six-month field project in community mobilization was to take place. After the CE workshops, the nurses were to form teams of three or four

nurses and make home visits to eight to ten families that would comprise their target mobilization area. Funds from the ICN and UNICEF supported the development of the project instructional materials and assessment forms, the printing of the forms and education modules, and the leaders' workshops planned for each of the then 19 states in the Federation. (In mid-1987 two new states were created in Nigeria, bringing the total number of states in the federation to 21.) There was no funding for the six-month community mobilization activities (see Appendix B for a breakdown of the project budget).

A pilot test of the workshop content and format and the family and community assessment forms was conducted in February, 1987, in Lagos. Twelve nurses, including tutors, students, and practicing nurses, participated. Based on evaluations by the participants, revisions were made in the assessment forms where appropriate.

Three states were then selected by NANNM to begin the CE project. The choices reflected the federal character of Nigeria and included Kano in the north, Anambra in the east, and Lagos University Teaching Hospital School of Nursing (LUTH) in the west. Tutors and students from LUTH had been trained during the pilot workshop. Of the three, only Anambra State advanced past the workshop stage to initiate and carry out the second stage of the project: the six-month community mobilization exercise.

Research Setting

The setting for this study was the Enugu Local Government of Anambra State in Nigeria. Maps of the area are found in Figure 3.1 and Figure 3.2. Anambra is known for its agricultural and mineral resources, including coal, ceramic clay, cassava, rice, oil palm, bananas, and rubber. It has an estimated population of 5.3 million with a population density of 215/km^2. The people are ethnically Igbo (Anambra State Information Division, undated).

Enugu, the capital of Anambra, was also the capital of the short-lived nation of Biafra. It prides itself on being a city of educated people and has been a government center for the Igbo people since the early days of Nigerian independence.

The Anambra State health budget in 1980 was 11.6 million naira (exchange rate of 1 naira to 1 dollar) (Federal Republic of Nigeria, 1981). In 1985, the state health budget was 28.17 million naira for capital expenses and 25.03 million naira for recurrent expenses, indicating an emphasis on building construction and equipment. The state claimed that 9.4 million naira were spent on essential drugs and that in 1985, 600,000 children were immunized state wide (Anambra State Ministry of Information, 1985).

The community mobilization field project took place in a village about 4 km from Enugu. Figure 3.3 is a map of the village drawn by S. Awoke, one of the village leaders. Despite being so near the capital, the village had no electricity,

Figure 3.1. Map of Africa. Source: Lamb (1987), p. 2.

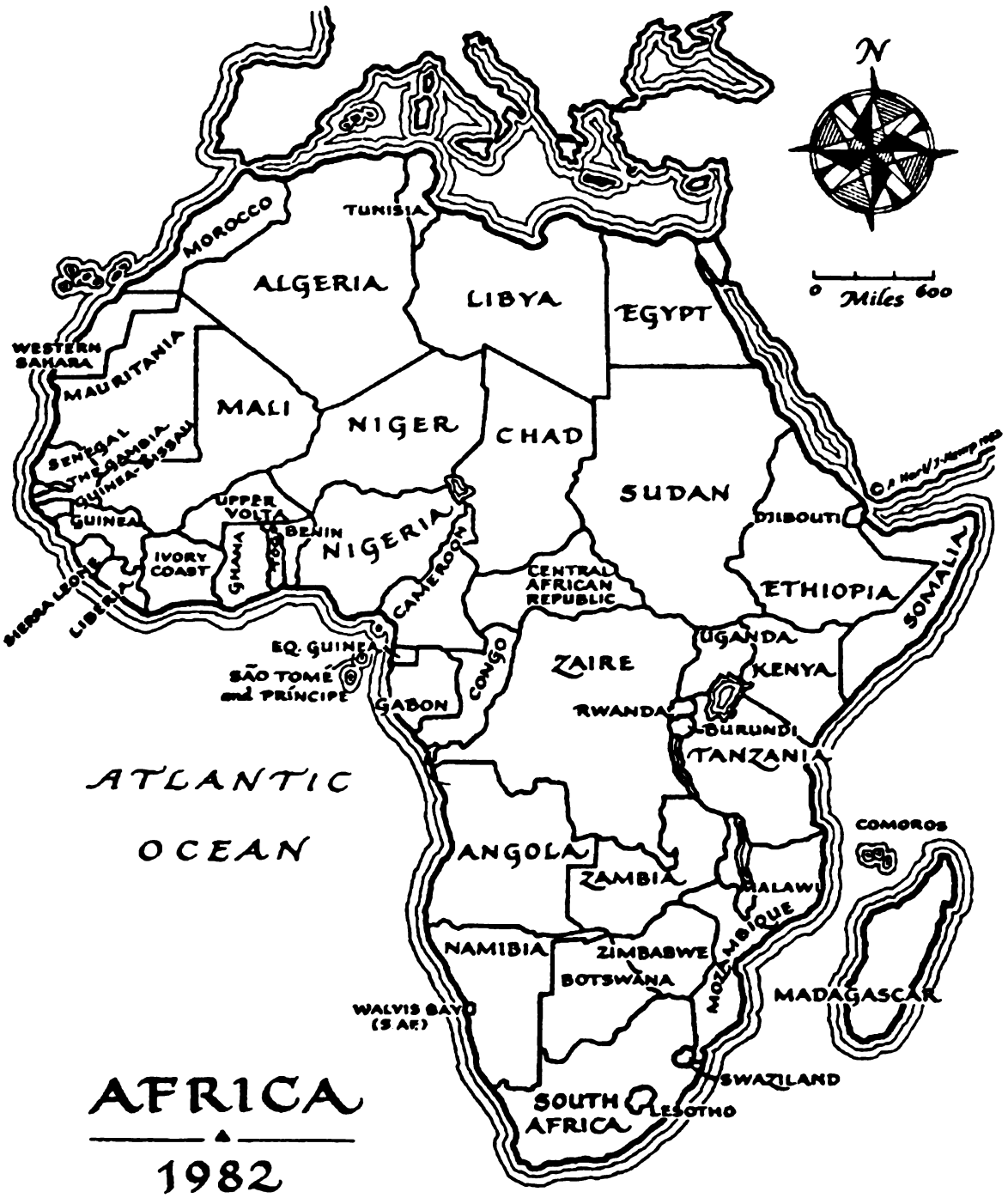


Figure 3.2. Map of Nigeria and Anambra State. Source: Amadi (1982), P. ii.

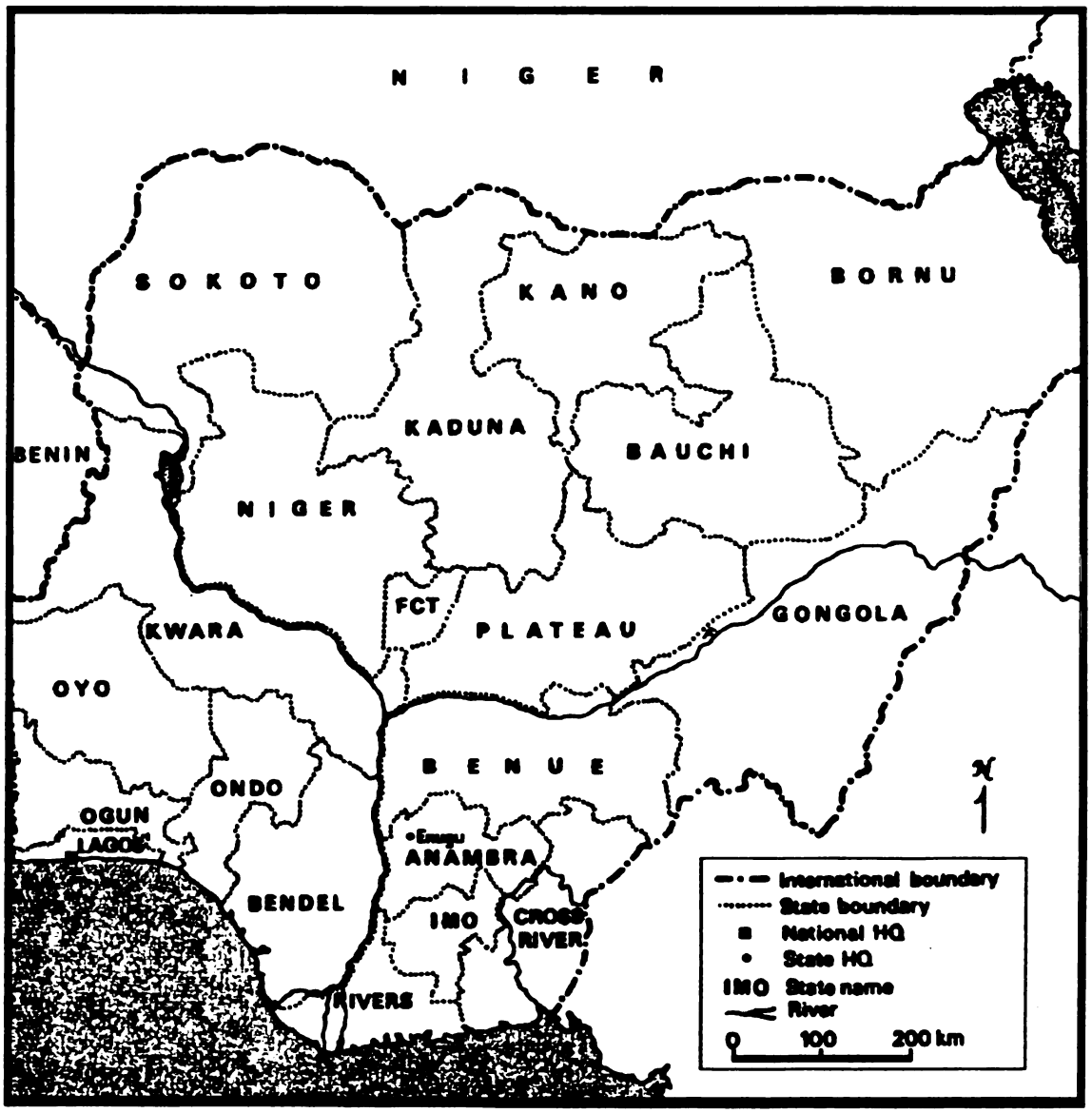
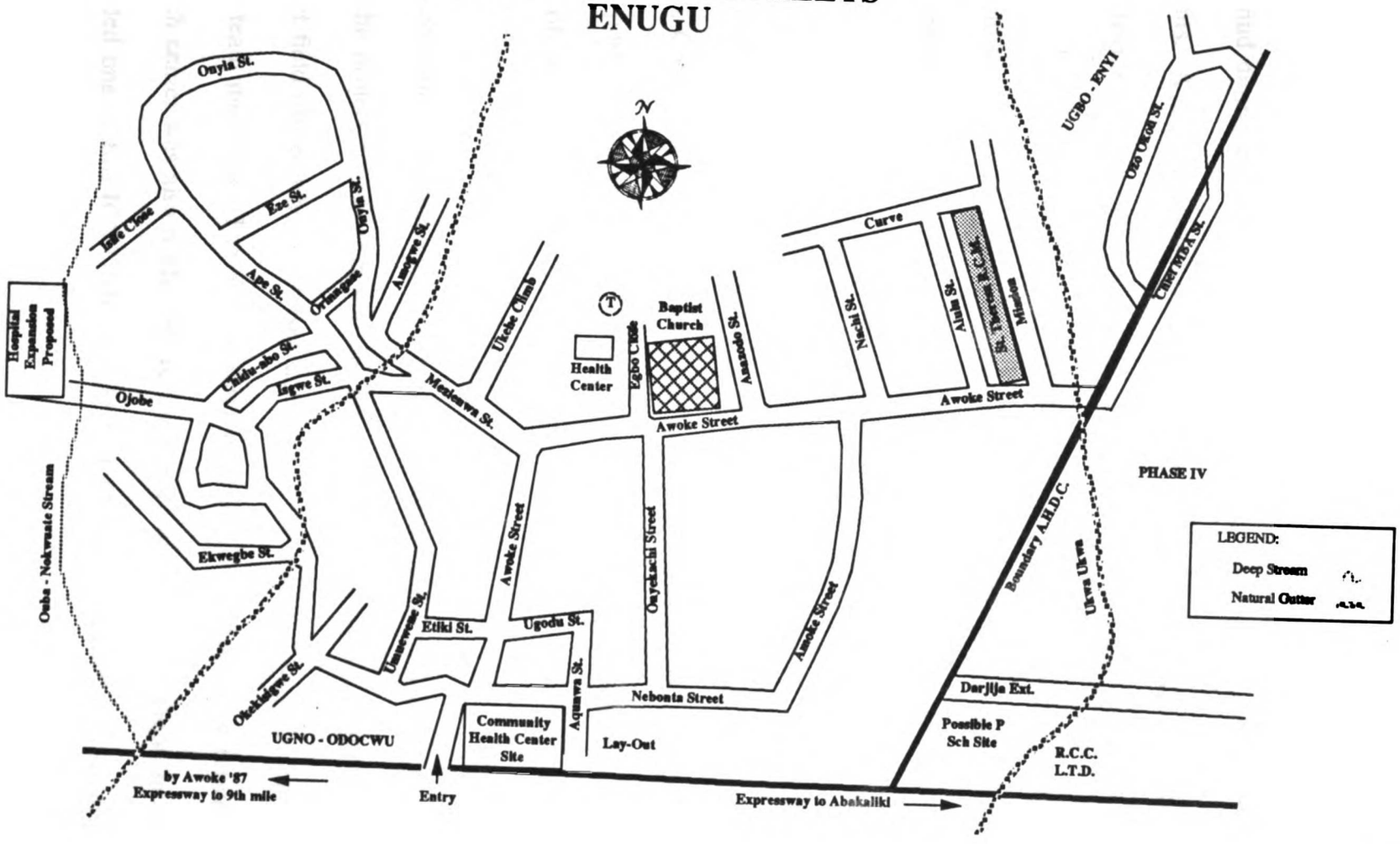


Figure 3.3. Map of the Project Village.



no pipe borne water, and only a rutted access road that disappeared in a morass of red mud during the rainy season. The village had approximately 3,000 inhabitants. A small maternal-child health clinic and maternity located in the village provided services to surrounding villages as well. As part of the evaluation design of the ICN/UNICEF/NANNM CE project, a control village, 2 km from the site of this study, was also visited initially by the nurses (cf. Holzemer, Adebajo, & Morrow, 1987).

Participants

Human Subjects Assurance

The study protocol was approved by the University of California, San Francisco, Committee on Human Research (approval number 939819). The study purposes and protocol were also approved by the ICN and NANNM as sponsors of the CE project.

Project Nurses

Fourteen nurses implemented the community mobilization project. They included the project coordinator who did not make house to house family visits, the project field officer who supervised activities in the village, four zone leaders, and eight team members. The nursing sister in charge of the village maternal-child health center was also made part of the overall project staff. These nurses had attended one of two ICN/UNICEF/NANNM CE workshops held in Enugu

in June and July, 1987, or had been given specific on-the-job training by the project coordinator or field officer.

Six nurses were given full-time releases from their posts in Anambra State Ministry of Health institutions. The three nurses from the University of Nigeria Teaching Hospital (UNTH) School of Nursing were not released from their employment, but were given more flexible schedules in order to facilitate their participation. The remaining five nurses had obtained part-time releases from their employment to join the project one or two days per week. Students in their community nursing rotations at UNTH School of Nursing participated in the project as part of their field experience, mostly as recorders or observers.

The village was divided into four zones following existing village district partitions. A team of two to four nurses was assigned to each zone. The teams assessed the families in their zones and responded to individual and family needs. Though the ICN/UNICEF/NANNM project had suggested using a small group of eight to ten families per team, the nurses immediately decided to include the entire village. The nurse teams cooperated in a coordinated effort to meet community needs.

The project nurses completed 693 family assessment forms and made 1215 family visits over the nine months of the project. They extended the project by three months in order to make intersectorial linkages in response to identified

community problems. By virtue of their education, the project nurses were fluent in English. However, a majority of the villagers did not speak English.

The Village Sample

To facilitate the descriptive statistical analysis, and as part of the overall CE project evaluation, a random sample, stratified by zone, of 128 (19% of the total available) Family Assessment Forms (FAF) was selected (Holzemer, 1989). Because the ICN/UNICEF/NANNM project focused on the health of mothers and children, those FAFs documenting nurse visits to bachelors or spinsters were not included in the sample. The forms were identified by a code number and only the investigator knew which forms had been selected for the evaluation review.

Data Collection Methods

Sources of Data

Six sources of data were used to examine the context and process of nursing activity in the project from several perspectives. These varied sources illuminate nursing activities in two ways. First, they depict the interactions of nurses with individuals, families, communities and health related sectors. Second they allow those interactions to be placed within a contextual framework which enhances understanding of the interaction.

Data Depicting Nursing Interactions

The Family Assessment Form (FAF). The Family Assessment Form was developed for the ICN/UNICEF/NANNM Continuing Education Project on Community Mobilization. It was a record of nursing assessments and interventions at the family level and can be found in Appendix C. The FAF had five sections. These were: (a) mother's demographics, health history, and current problems; (b) father's demographics and health status; (c) children's demographics and health status--if under the age of 10 years; (d) family living conditions; and (e) documentation of identified problems, nursing interventions, and evaluation.

Descriptive data about the family were recorded at the time of the interaction and after interactions had taken place. The documentation of nursing activity nearly always took place after the home visits and hence was subject to selective recall. To limit the loss of data due to the recall effect, nurse participants were encouraged to complete the FAF as soon after a visit to the family as possible. The participants received in-depth training and field experience in using the form during the CE workshop and throughout the project, thus maximizing the strength of the information obtained through its use with village families.

The FAF was developed through a review of PHC and community health care literature and was scrutinized and revised by a panel of international and

Nigerian experts in PHC. It was tested in a field setting during the pilot workshop and further revised. The FAF was also tested during workshop activities in Kano and was found to be useful and appropriate by the participants. Thus, the FAF has conceptual content validity and cultural validity. Project nurses found the form to be an expeditious way to collect data on families.

The Community Assessment Form (CAF). The Community Assessment Form (see Appendix D) was developed by the same process as the FAF and served the same purpose, but at the community level. The major sections of the form were: community population parameters; mothers at risk; children at risk; community environment; and documentation of community problems, nursing actions, and evaluation. The CAF was used to summarize community statistics and community problems, and nursing activities directed to the resolution or mitigation of those problems. Each zone completed a CAF.

The nurses also received training in the use of the CAF during the CE workshops. The major difficulty the project nurses had with the CAF was that the categories of statistics requested in it were not directly matched by categories in the FAF, making collapsing FAF data for the CAF a tedious venture.

Participant Observation. The field technique of participant observation was used to investigate the context and process of the nursing interactions with

families, the community, and health related sectors. The conceptual framework (see Figure 2.1) provided guidance for the observations.

Project Meeting Minutes and Letters. Minutes of meetings held by the nurses to plan and coordinate community activities and intersectorial linkages were used to supplement the data from the FAF and CAF. Letters written on behalf of the community were also used in the same manner.

Data Depicting the Context

Participant Observation. Participant observation provided an understanding of the context, social conditions, and the environmental influences on the activities of the nurses during the project. Notes were made immediately after each field visit and then complete data were recorded as soon as possible. Situations and interactions were discussed and clarified with the nurses to validate the impressions of the researcher (cf. McCall & Simmons, 1969; Schatzman & Strauss, 1973; Wax, 1971).

Nurse Demographic Profile (NDP). The NDP was a questionnaire designed by the researcher to collect demographic information about the project nurses (see Appendix E). It included data on education, work experience, and PHC training. Twelve of the fourteen nurses implementing the project completed the NDP.

Interviews. National NANNM leaders, Anambra State NANNM officials, and the project nurses were interviewed formally and informally throughout the

project in order to obtain their perceptions of the project. Appendix F outlines interview themes. Interviews were done with groups and individuals. Notes were made during the interviews and then fleshed in as soon as possible after the interviews took place. Audio tapes of interviews were used on rare occasions and then transcribed.

Village leaders and families were interviewed on a very informal basis to assess their reactions to the nurses and their perceptions of the project. The inability of the researcher to speak Igbo limited her communication with the villagers, although the nurses did serve as interpreters. Minutes of community meetings and letters from the community to the nurses were used to augment the perceptions gained from interactions with the villagers.

Procedure

This study was conducted over a 15 month period from February, 1987 to May, 1988. The researcher made three field visits to Nigeria. The first visit, for three weeks in February, 1987, provided background regarding the CE project and allowed the researcher to secure permission to work with the project. The second visit, from June, 1987 through December, 1987 was made to collect data on nursing activities directed to individuals and families. Finally, five weeks in April and May of 1988, were spent in gathering information regarding community level activities as well as coding data for the village sample.

Gaining Entree

A copy of the research proposal was given to NANNM and to the ICN and approval was obtained for the research to take place in connection with the evaluation of the CE project. The study was discussed with the Executive General Secretary and the Assistant General Secretaries of NANNM who supervised the CE project, to solicit their suggestions and respond to their concerns. Their approval facilitated entree into the Anambra State CE Project before the first workshop took place. The project coordinator introduced the researcher to the project participants and the study was explained. The participants knew this study was part of the ICN/UNICEF/NANNM CE project evaluation and the researcher was accepted as part of the project team and as such had access to all records pertaining to the project. The Anambra State NANNM officials and the project coordinator introduced the researcher to the village leaders. During field visits to the village, the nurse participants introduced the researcher to the families. Village leaders and families accepted the researcher as one of the project nurses.

Maintaining Confidentiality

Every effort was made to assure the privacy of the nurses and the villagers who were involved in the study. The decision by the nurses to give information during field observations and interventions was their own. Later, the decision by the nurses to complete the Nurse Demographic Profile (NDP) was voluntary.

Interview notes, field notes, completed NDPs, and the randomly selected Family Assessment Forms were identified by code number alone. Only the researcher had access to the code logbook and it was kept separate from the data. There was no attempt to relate the participant's names to their responses. All tapes, interview notes, and field notes were kept in a locked compartment to which only the researcher had access. Through these procedures, the confidentiality of the participants was maintained as far as is possible.

Data Collection

Project data were collected from June 1987, when the initial Anambra State CE workshop was held, to May, 1988, when the project ended. Arrangements were made to accompany the nurse teams as they carried out family and community and intersectorial nursing activities. Formal and informal interviews took place during these visits, at project meetings, and during off-duty hours. The nurses were asked to complete the NDP during the middle of the project.

Data Analysis

Qualitative Analysis

Data from participant observation, interviews, project records, FAFs, and CAFs were analyzed for themes, patterns, and categories (Schatzman & Strauss, 1973). Patterns of nursing activities were identified. Environmental and societal constraints and supports to nursing activities, and family and community responses were assessed using the conceptual framework. The perceptions of

the nurse participants regarding the project were explored. Categories of family and community problems were identified. Nursing activities in response to those problems were elicited. Variations in problem outcomes were noted.

From August 1987 to December 1987 the data from all available FAFs and field notes from participant observation were analyzed to develop categories of problems and interventions. Possible categories were outlined and as field visits were made, these categories were merged, refined, deleted, or new ones formed. The problem and intervention classifications were shown to key informants who made clarifications and indicated that the categories adequately demarcated the variations of problem and intervention types. The 128 sample FAFs were coded during May and June, 1988, following the evaluation phase of the project.

The FAF was designed so that the nurse could chart an unlimited number of problems and interventions for those problems. Problems and interventions could be charted on any visit. All problems and all interventions in the sample were coded.

The community level problems were not identified nor were interventions begun until November, 1987, after the project assessment period. Retrospective interviews with the nurse participants, reviews of project letters, committee meeting minutes, zone CAFs, and field observations during April and May 1988, were used as data sources for community problems and interventions.

Statistical Analysis

The categories of family problems, nursing actions, and problem outcomes developed in the qualitative analysis were used to codify the data recorded in the 128 FAF's selected by stratified random sampling as part of the overall CE project evaluation. Coded problems, actions, and outcome data, along with family demographics, were entered into a computer data file. Raw data were examined for accuracy as they were entered and frequencies of each variable evaluated to detect errors in entry. Data from the NDP were coded and entered in a data file using the same precautions. Descriptive statistics were generated using CRUNCH (1987) in order to characterize the village, the families, and the nursing activities which took place during the project.

Summary

An exploratory descriptive design was used in this study of nursing activity during a PHC community mobilization project. The project was carried out by 14 indigenous nurses in the Enugu Local Government of Anambra State, Nigeria. The project village and its families were assessed and nursing activities initiated on the basis of family and community problems.

Data were collected by record review, participant observation, interview, and questionnaire. Qualitative data were analyzed to develop categories of problems, nursing interventions, and problem outcomes. These categories were used to codify 128 randomly selected FAF's. Descriptive statistics were generated.

CHAPTER FOUR

RESULTS

The data from this study were analyzed using descriptive qualitative and statistical strategies. The results of the analyses are presented in five sections: First, a demographic portrait of the project village and the nurse participants is depicted. Next, the types of family problems and nursing interventions directed toward those problems are described. Thirdly, the community problems and nursing activities in response to those problems will be explicated. An examination of the outcomes of identified family and community problems follows. Finally, the influence of the context of the project on nursing activities is delineated.

Description of the Village and Nurse Participants

The Village

Data on Baseline Assessment

During the assessment phase of the project (July to October, 1987) the nurses completed a FAF for each family unit in the community. The family data were combined to create a baseline of community parameters. The results are summarized in Tables 4.1, 4.2, 4.3, and 4.4.

Population. The village at the time of assessment had a population of 3,024 people in 693 family units, including bachelors and spinsters. The families in the

village were predominantly couples in their child bearing years; only 209 (7.0%) family members were over age 45. Children comprised 57.5% of the village population (see Table 4.1).

Table 4.1

Population Demographics of the Project Village

Variable	Number
Families Interviewed	693
Population	
Men	650
Women	653
Children	1721
TOTAL	3024
Population by Age	
0 - 2 years	241
2 - 5 years	459
6 - 9 years	352
10 - 14 years	432
15 - 44 years	1331
45 years and over	209
TOTAL	3024

An explanation for the large number of younger families is that the village can be classified as a group of migrants. The village has only been in existence since the mid-1950s when it began as a settlement for rural people moving near the regional capital. As villagers age, they want to move back to their traditional tribal homes; most residents are strongly tied to their home village. When adults were asked about their membership in social groups, a vast majority reported home village associations, not groups in the community in which they resided. Families travel between the village and traditional family homes frequently, especially during holidays or the farming season.

Environment. Environmental conditions in the village are tabulated in Table 4.2. Despite being but 4 km from a major civic and educational center, and less than five minutes walk from an expressway, the village did not enjoy electricity or piped water. Poor sewage facilities, inadequate refuse disposal, and safety hazards followed as the major village environmental problems noted by the nurses during the assessment phase. Village buildings were constructed of mud, wood, cardboard, tin, or cement. Most families lived in rented one or two room dwellings which were part of larger compounds sharing cooking and latrine facilities.

Health Parameters. Village health statistics as summarized in the CAF are presented in Table 4.3. The focus of the ICN/UNICEF/NANNM CE project was on improving the health of mothers and children. Consequently, data

Table 4.2

Environmental Conditions in the Project Village

Variable	Families (N=693) Frequency (%)	
Families with inadequate water supply	461	(66.5)
Family Water Source[a]		
Stream[b]	542	(78.2)
Tap or Pipe[c]	311	(44.9)
Rain	628	(90.6)
Families with inadequate sewage facilities	579	(83.5)
Families with inadequate refuse disposal	214	(30.8)
Families with inadequate household ventilation	198	(28.6)
Families with safety hazards	310	(44.7)
Family Light Source		
Electric generator	17	(2.5)
Kerosene lantern	595	(85.9)
Oil wick lamp	92	(13.3)
Candles	15	(2.2)

Note. Multiple responses were possible from each family.

[a] A tank of water (2 oil drum capacity) can be purchased for 15 naira but the tanker does not come to the village.

[b] The small stream is about 15 minutes walking distance from the village.

[c] Tap water is available about 30 minutes walking distance from the village.

Table 4.3

Mothers and Children at Risk in the Project Village

Variable	Frequency (%)
Mothers:	
With more than 5 children	143 (21.9)[a]
With one or more deceased children	235 (36.0)[a]
Failing to space pregnancy	35 (5.4)[a,b]
Pregnant before age 17 or after age 35	105 (16.1)[a]
Children:	
Under age 2 and not immunized	65 (27.0)[c]
Over age 2 and not immunized	499[d]
With frequent diarrhea	78 (7.4)[e]
With frequent respiratory symptoms	99 (9.4)[e]
With frequent fever/convulsions	85 (8.1)[e]
With frequent accidents	51 (4.8)[e]
With sickle cell disease	11 (1.0)[e]
Who are malnourished	34 (3.2)[e]

Note. Multiple responses are possible in each category.

[a] There were 653 women in the village population.

[b] The nurses thought that this low figure was due to the practice of breast feeding.

[c] There were 241 children under age 2 in the village population.

[d] Teenagers and unmarried adult children were probably included in this figure.

[e] There were 1052 children under age 10 in the village population.

reflecting men's health were not listed in the CAF. One-third of the village mothers had experienced the death of a child. Children under two years of age had a reported 73% immunization rate, far above the estimated national coverage average of 31% reported by Blum and Phillips (1986). The claimed village rate most probably depicts villager's perceptions of nurses' expectations at the beginning of the project, and not actual immunization coverage. All but one child in the village had been breast fed and that one was due to the mother's psychological problems. This is consistent with breast feeding data published by J. King and Ashworth (1987) (cf. Oni, 1987).

The village was served by a small maternal-child health center that had begun as a one room enterprise under the direction of Mrs. M.M. Anagbogu, former Chief Nursing Officer of Anambra State and acclaimed PHC expert (see Appendices G and H for health center particulars). Yet, only 42.1% of the village families claimed to use the center (see Table 4.4). A majority did patronize some type of Western medical care; health clinics and general hospitals are within an hour's travel if public transportation is reliable.

The Village Sample

The village had been divided into four zones at the beginning of the project and the 128 sample FAFs represented a random sample of the available charts stratified by zone (see Table 4.5). The sample was used to evaluate more

Table 4.4

Health Services Use in the Project Village

Type of Health Service	Families Who Use (N=693) Frequency (%)
Traditional Healer	88 (12.7)
Traditional Birth Attendant	158 (22.8)
Maternal Child Health Center	292 (42.1)
Hospital	481 (69.4)
Spiritual/Faith Healer	25 (3.6)

Note. Multiple responses were possible from each family.

Table 4.5

Village Random Sample Selection

Zone	Family Assessment Forms		
	Completed	Selected (% of Total)	
One	133	25	(19.5)
Two	192	36	(28.1)
Three	146	27	(21.1)
Four	217	40	(31.3)
TOTAL	688	128	(18.6)

specifically the village family demographics and the nursing activities with those families.

Comparisons of the sample to the village. Because the CAF did not tabulate data in the same manner the FAF did, there was difficulty in comparing the sample parameters to the village characteristics in order to note similarities or inconsistencies, and to determine if the sample was reflective of the village. However, Table 4.6 represents some crude comparisons. Sample and

Table 4.6

Comparison Between Selected Sample and Village Parameters

Parameter	Village	Sample
Number of Children Under Age 10	1052	264[a]
Percent immunized	73.0	69.7
Percent with frequent fever	8.1	1.5
Percent malnourished	3.2	11.0
Percent with respiratory symptoms	9.4	1.1
Percent with frequent diarrhea	7.4	3.0
Number of Families	693	128
Percent with inadequate water	66.5	78.9
Percent with inadequate ventilation	28.6	46.1
Percent with safety hazards	44.7	28.9
Percent with inadequate waste disposal	30.8	64.8
Percent of Families with at least One Deceased Child	36.0	43.0

[a] Represents 25% of the children under 10 identified in the village. The sample is 19% of the families in the village.

village characteristics were dissimilar, particularly in the varied percentages of health problems in children under age 10.

Two factors make these inconsistencies less troublesome in using the sample data to reflect nursing activities in the village in subsequent analyses. The initial assessment data on some families were collected during the CE workshops as part of the field training in using the FAF and CAF. No fewer than 100 nurses in 25 teams were involved in completing initial family assessments. This fact creates more variation in the interpretation of questions and recording of responses than would be found among 14 nurses in four teams at the end of the nine-month project when the sample was coded.

Secondly, families were more likely to reveal accurate data over time as trust between the nurses and families developed. These two factors, supported by the researcher's observations over the course of the project and the randomization of selection, justify the use of the sample to depict nursing activities in the sample as reflective of the entire village.

Living conditions. The environmental conditions of the sample families are depicted in Table 4.7. The most pressing environmental concern noted by the nurses was inadequate water supply for 101 of the 128 families (78.9%). The sample families lived in humble circumstances. Eighty-five (66.4%) families lived in one room, furnished with a bed, chairs or stools, and table or cupboard. The average family size ranged from 1 to 11 persons with a mean of 5.3 persons per

Table 4.7

Living Conditions of the Village Sample Families (n=128)

Variable	Frequency	(%)
Inadequate water supply	101	(78.9)
Inadequate ventilation	59	(46.1)
Safety hazards in environment	37	(28.9)
Inadequate waste disposal	83	(64.8)
Clean environment	56	(43.8)

Note. Multiple responses were possible from each family

family. Most families lived in small compounds with shared kitchen and latrine facilities. Cooking was usually done over an open fire.

Data on mothers and fathers. Data were available for 127 mothers (in one family the mother had recently died) and for 109 fathers. Some families were headed by widows or mothers whose husbands were working elsewhere. The ages of mothers in the sample ranged from 17 to 80 years, with a mean of 30.4 years. As would be expected in a culture where a man must work to earn a

suitable bride price, thus postponing marriage, the fathers' ages were higher than the mothers, on average, ranging from 23 to 70 years, with a mean of 38.9 years. The fathers were more educated than the mothers. Only 48.8% of the mothers could read or write. In contrast, 67.0% of the fathers had literacy skills (See Tables 4.8 and 4.9). This finding is consistent with data from other developing nations (cf. World Bank, 1985; WHO, 1985).

Health related statistics of the sample mothers are displayed in Tables 4.10 and 4.11. Mothers reported using predominantly Western antenatal care and general health services. Fathers claimed less use of traditional healers than did mothers, but were more apt to use self-medication (see Table 4.12). Fifteen mothers stated that they used a traditional birth attendant (TBA) as the sole provider of antenatal care. Many women used the health center for antenatal care, but preferred delivery at the hands of the TBA (cf. Nnadi & Kabat, 1984a, 1984b). Only one father objected to his wife's use of the village health center.

The mothers had an average of 4.93 pregnancies, 4.57 live births, and 3.81 living children. The pregnancy rate is lower than the Nigerian national average of 6.9 pregnancies per woman, but much higher than the average of 1.8 pregnancies per woman in the United States (World Bank, 1985). Over half the mothers were knowledgeable about ORT, EPI, nutrition, and basic first aid.

Data on children. Fifty-five of the 128 sample families (43.0%) had experienced the death of at least one child. Table 4.13 summarizes

Table 4.8

Demographic Data of Village Sample Mothers (n=127)

Variable	Frequency	(%)	Missing
Education			1
None	40	(31.5)[a]	
Primary School	75	(59.1)	
Secondary School	11	(8.7)	
Able to Read and Write	62	(48.8)	5
Occupation[b]			4
Petty trader	28	(22.0)[a]	
Farmer	62	(48.8)	
Skilled worker	20	(15.7)	
Unskilled worker	11	(8.7)	
Professional	3	(2.4)	
Polygamous Wife	21	(16.5)	2

[a] The sum of the percents may not equal 100 due to rounding.

[b] See Appendix I for specific occupations.

Table 4.9

Demographic Data of Village Sample Fathers (n=109)

Variable	Frequency	(%)	Missing
Education			7
None	23	(21.1)	
Primary School	76	(69.7)	
Secondary School	3	(2.8)	
Able to Read and Write	73	(67.0)	4
Occupation[a]			1
None[b]	5	(4.6)	
Civil servant	14	(12.8)	
Trader	13	(11.9)	
Carpenter	10	(9.2)	
Mason	10	(9.2)	
Farmer	6	(5.5)	
Guard	4	(3.7)	
Unskilled laborer	27	(24.8)	
Other skilled worker	18	(16.5)	
Professional	1	(0.9)	

Note. The sum of the percents may not equal 100 due to rounding.

[a] See Appendix J for specific father occupations.

[b] Retired, or students.

Table 4.10

Health Data on Village Sample Mothers (n=127)

Variable	Frequency	(%)	Missing
Is Knowledgeable About			4
ORT[a]	69	(54.3)	
Immunizations	87	(68.5)	
Nutrition	83	(65.4)	
First Aid	73	(57.5)	
Is Innoculated Against Tetanus	80	(63.0)	16
Health Services Used			3
None	2	(1.6)[b]	
Traditional only	11	(8.7)	
Western[c] only	69	(54.3)	
Traditional and western	43	(33.9)	
Health Concerns[d]			
None	59	(46.5)[b]	
Financial	41	(32.3)	
Reproductive	10	(7.9)	
Personal health	11	(8.7)	
Other	6	(4.7)	

[a] Oral Rehydration Therapy.

[b] The sum of the percents may not equal 100 due to rounding.

[c] Western services include clinics and hospitals.

[d] See Appendix K for specific health concerns.

Table 4.11

Reproductive Data of Village Sample Mothers (n=127)

Variable	Range	Mean	SD	Frequency (%)		Missing
Pregnancies	0 - 13	4.93	3.06			
Live Births	0 - 13	4.57	2.92			
Living Children	0 - 9	3.81	2.40			
Type of Antenatal Care						
TBA[a] only				15	(11.8)[b]	9
Hospital or clinic only				79	(62.2)	
TBA and hospital/clinic				25	(19.7)	
Had a Reproductive Problem[c]				24	(18.9)	10
Wants More Children				71	(56.0)	15

[a] Traditional Birth Attendant.

[b] The sum of the percents may not equal 100 due to rounding.

[c] See Appendix L for specific types of reproductive problems.

Table 4.12

Health Data on Village Sample Fathers (n=109)

Variable	Frequency	(%)	Missing
Health Services Used			5
None	1	(0.9)	
Traditional only	2	(1.8)	
Western[a] only	71	(65.1)	
Traditional and western	18	(16.5)	
Self-medication[b]	12	(11.0)	
Health Concerns[c]			1
None	61	(56.0)	
Financial	13	(11.9)	
Feeding the family	2	(1.8)	
Reproductive	5	(4.6)	
Personal health	9	(8.3)	
Relative's heatlh[d]	18	(16.5)	

Note. The sum of the percents may not equal 100 due to rounding.

[a] Hospitals and clinics.

[b] Using chemists and patent medicine dealers.

[c] See Appendix M for fathers' specific health concerns.

[d] Wife, children, or other relative.

Table 4.13

Data on Deceased Children in the Village Sample (n=118)

Variable	Frequency	(%)
Age		
Newborn	28	(23.7)
Less than 1 year	25	(21.2)
1 - 2 years	11	(9.3)
2 - 5 years	8	(6.8)
Over 5 years	8	(6.8)
Unknown	38	(32.2)
Cause[a]		
Fever	24	(20.3)
Infectious diseases[b]	10	(8.5)
Stillbirth/abortion	16	(13.6)
Gastroenteritis	5	(4.2)
Accidents	3	(2.5)
Respiratory infections	5	(4.2)
Kwashiorkor	4	(3.3)
Kidney/liver disease	3	(2.5)
Unknown	48	(40.7)

Note. The sum of the percents may not equal 100 due to rounding.

[a] See Appendix N for specific causes.

[b] Measles, smallpox, typhoid, cholera, and tetanus.

the data regarding deceased children. The number of deceased children in the reporting families ranged from 1 to 5, with an average of 2.1 child deaths per family which had suffered a child death. Most of the deaths took place before the child was a year old. The major cause of death was fever, but 40.7% of the causes of death were unknown.

Health problems enumerated for children under age 10 can be seen in Table 4.14. The nurses described this population of children as very healthy. The predominant health problem, according to the nurses' assessments, was malnutrition (29 children, or 11%). However, most of these cases would be more precisely labeled undernutrition; only two of the children were frankly malnourished (cf. F.M. Akinkugbe, 1978).

Zone comparisons. As previously explained, the village had been divided into four zones, staffed by different nurse teams. One-way analyses of variance (ANOVA) were performed among the continuous demographic variables by zone (see Appendix O for variables compared). The only statistically significant finding was that there were zonal differences in the ages of the mothers (see Table 4.15). The mothers in Zones 3 and 4 were younger, on average, than the mothers in Zones 1 and 2.

Crosstabulations were done for categorical variables between zones (see Appendix O for variables compared). Several statistically significant zonal differences were seen in the categories of environment and mother's knowledge,

Table 4.14

Health Parameters of Children Under Age 10 in the Village Sample (n=264)

Variable	Frequency	(%)
Children Immunized	184	(69.7)
Current Health Problems[a]		
Fever	4	(1.5)
Malnutrition	29	(11.0)
Respiratory infection	3	(1.1)
Gastroenteritis	8	(3.0)

[a] See Appendix P for specific problems.

Table 4.15

ANOVA of Mother's Age by Zone

	Zone Means						
Variable	One	Two	Three	Four	F	df	p
Mother's Age	36.3	35.4	29.7	29.3	2.736	118,2	<0.05

but the p-values must be viewed with caution as some cell frequencies were less than five (see table 4.16). For the most part, however, the zones were very similar to one another. Researcher observations indicated no obvious differences in living conditions between zones.

The Nurse Participants

Nurse Characteristics

Twelve of the 14 nurses who implemented the project in the village completed the NDP. The results are listed in Table 4.17. The nurses, all women, were mature and experienced. Their average age was 38.8 years and the average work experience was 17.3 years. All had completed their basic nursing education in Nigeria. Seven had some previous PHC experience; three received their PHC training at a NANNM workshop. All but one had some post-basic education with midwifery and public health being the most common specialties.

The Anambra State Ministry of Health (MOH) released six nurses from their postings at MOH institutions for full-time project work; four from the psychiatric hospital, one from a general hospital sometimes used by the villagers for treatment (Parklane), and one from the Tuberculosis Control Unit. Two public health tutors from UNTH School of Nursing were given flexibility in their scheduling in order to work full time on the project, but they also maintained their teaching responsibilities. The remaining six implementers came one day a

Table 4.16

Crosstabulations Between Zones on Selected Variables

Variable	Zone One		Two		Three		Four		Missing	Chi square	df	p
	Frequency (%)											
FAMILIES WITH												
Safe Environment												
Yes	4	(16.7)	33	(91.7)	25	(96.2)	21	(61.8)	8	49.32	3	<0.00
No	20	(83.3)	3	(8.3)	1	(3.8)	13	(38.2)				
Adequate Refuse Disposal												
Yes	5	(20.8)	18	(52.9)	6	(24.0)	5	(14.7)	11	13.90	3	<0.00
No	19	(79.2)	16	(47.1)	19	(76.0)	29	(85.3)				
Adequate Ventilation												
Yes	8	(33.3)	24	(66.7)	17	(63.0)	14	(40.0)	6	9.76	3	<0.02
No	16	(66.7)	12	(33.3)	10	(37.0)	21	(60.0)				
CHILDREN NOURISHED												
Yes	44	(83.0)	56	(96.6)	42	(97.7)	76	(92.7)	28	9.75	3	<0.02
No	9	(17.0)	2	(3.4)	1	(2.3)	6	(7.3)				
MOTHER HAS KNOWLEDGE OF												
Immunizations												
Yes	17	(68.0)	31	(88.6)	20	(77.0)	19	(50.0)	4	13.67	3	<0.01
No	8	(32.0)	4	(11.4)	6	(23.0)	19	(50.0)				
Nutrition												
Yes	17	(68.0)	31	(88.6)	16	(61.5)	19	(50.0)	4	12.68	3	<0.00
No	8	(32.0)	4	(11.4)	10	(38.5)	19	(50.0)				
First Aid												
Yes	13	(52.0)	30	(83.3)	12	(46.2)	18	(48.6)	4	12.72	3	<0.00
No	12	(48.0)	6	(16.7)	14	(53.8)	19	(51.4)				

Table 4.17

Nurse Demographic Data (n=12)

Variable	Range	Mean	SD	Frequency (%)	
Age	32 - 48	38.8	4.7		
Years Experience	10 - 27	17.3	4.8		
Marital Status					
Single				2	(16.7)
Married				10	(83.3)
Post Basic Education[a]					
Midwifery				5	(41.7)
Public health/Community Health Officer				6	(50.0)
Psychiatry				2	(16.7)
Administration				2	(16.7)
Education				2	(16.7)
Other[b]				4	(33.3)
Location of Current Employment					
School of nursing[c]				3	(25.0)
Psychiatric hospital				4	(33.3)
General hospital				3	(25.0)
Outpatient clinic				2	(16.7)
Previous Community Experience					
In public health				9	(75.0)
In primary health care				7	(58.3)
Primary Health Care Training Received					
As a student				9	(75.0)
At a NANNM[d] workshop				3	(25.0)

[a] Multiple responses were possible.

[b] Family planning, ophthalmic nursing, health education, and premature baby care.

[c] Two public health tutors, one orthopedic tutor.

[d] National Association of Nigeria Nurses and Midwives.

week as able and were from the orthopedic hospital (2), the military hospital (1), the village maternal-child health center (1), and the health visiting unit of UNTH (2).

Zone Team Characteristics

Nursing interactions with the families took place as zone teams rather than as individual nurse's visits. Therefore, the characteristics of the zone teams are pertinent (see Table 4.18). Two zones were led by public health nurses, though only one (the leader of Zone 4) had meaningful work experience in public health. The other zones were led by psychiatric nurses. Of the full-time participants, on whom the bulk of family assessments and interventions fell, two had actually worked in community settings. Because of the Zone 4 leader's experience in public health, nurses with fewer years of experience were assigned to be her team members. The project coordinator believed her strengths would more than adequately compensate for the other team members' lack of experience.

Family Problems and Nursing Interventions

A total of 666 visits were made to the 128 sample families during the course of the nine month project, with an average of 5.2 visits per family (see Table 4.19).

Table 4.18

Characteristics of Nurse Zone Teams

Characteristic	Zone One	Zone Two	Zone Three	Zone Four
Zone Leader Specialty	Psychiatry	Psychiatry	Public Health	Public Health
Ratio Full to Part Time Team Members	2/0	2/2	2/1	1/2
All Team Members Attended Project Workshop	No	Yes	Yes	Yes
Post-basic Training	Administration Midwifery	Midwifery Psychiatry Administration Ophthalmology	Midwifery Psychiatry Public Health CHO[a] Health Education	Midwifery Public Health Family Planning Education
Current Post	Psych Hospital TB Control Unit	Psych Hospital General Hospital Health Visiting	Psych Hospital Public Health Tutor Health Visiting	Public Health Tutor Orthopedic Hospital
Ratio Previous PHC[b] Experience to Zone Total	1S[c]/2	1S,2W/4	2W/3	1W,2S/3
Mean Years Experience in Nursing	21.0	20.0	15.0	13.7

[a] Community Health Officer Course.

[b] Primary Health Care.

[c] S = as a student, W = as an employee.

Table 4.19

Nurse Visits, Family Problems, and Nursing Interventions by Zone

Variable	Zone				Total
	One [a] n=25	Two n=36	Three n=27	Four n=40	N=128
	Frequency (%)				
Visits	169 (25.4)	179 (26.9)	121 (18.2)	197 (19.6)	666
Per Family	6.8	5.0	4.5	4.9	5.2
Problems Identified	165 (26.4)	105 (16.8)	136 (21.8)	219 (35.0)	625
Per Family	6.6	2.9	5.0	5.5	4.9
Interventions	320 (26.3)	192 (15.8)	251 (20.6)	455 (37.4)	1218
Per Problem	1.9	1.8	.8	2.1	1.9

Note. The sum of the percents may not equal 100 due to rounding.

[a] Number of Family Assessment Forms completed in each zone.

Family Problems

General Categories of Problems

The 666 problems identified in the 128 families in the village sample were qualitatively classified into 8 categories. These problem categories (and their percentage of the total problems identified) were: **Economic** (11%), **Environment and Hygiene** (25.8%), **Physiologic** (19.5%), **Reproductive** (18.7%), **Psychological** (19.5%), **Health Beliefs and Behaviors** (6.9%), **Lack of Knowledge** (6.4%) and **Social** (5.6%). Appendix Q lists the specific problems that comprised each category. Table 4.20 depicts the problem categories and their prevalence in the sample families. Given the living conditions in the village (see Tables 4.2 and 4.7) it is not surprising that more environmental problems were listed than problems in any other category.

It must be noted that problems could be repeated in the FAF if refractory to interventions. Appendix R lists the type and frequency of repeated problems. Though counting repeated problems as separate entities stacks the deck in favor of problems resistance to change, it is a better choice than losing the impact of such persistent conditions.

Subcategories of Problems

It is illuminating to note which problem subtypes captured the highest frequency within each category (see Appendix Q).

Finance. General poverty made up 74% of the financial problems; consistent with the recession and unemployment so pervasive in the country.

Table 4.20

Family Problems Identified in the Village Sample by Zone

Problem[a,b]	Zone One [c] n=25	Two n=36	Three n=27	Four n=40	Total N=128
	Frequency (%)				
Economic	26 (37.7)	5 (7.2)	19 (27.5)	19 (27.5)	69 (11.0)
Environment/ Hygiene	60 (37.3)	27 (16.8)	18 (11.2)	56 (34.8)	161 (25.8)
Physiologic	36 (29.5)	28 (23.0)	24 (19.7)	34 (27.9)	122 (19.5)
Reproductive	9 (7.7)	19 (16.2)	44 (37.6)	45 (38.5)	117 (18.7)
Psychological	21 (55.3)	5 (13.2)	5 (13.2)	7 (18.4)	38 (6.1)
Health Beliefs/ Behaviors	7 (16.3)	10 (23.3)	4 (9.3)	22 (51.1)	43 (6.9)
Lack of Knowledge	0 (0.0)	8 (20.0)	15 (37.5)	17 (42.5)	40 (6.4)
Social	6 (17.1)	3 (8.6)	7 (20.0)	19 (54.3)	35 (5.6)
Good Health[d]	1 (5.3)	8 (42.1)	5 (26.3)	5 (26.3)	19
TOTALS	165 (26.4)	105 (16.8)	136 (21.8)	219 (35.0)	625

Note. The sum of the percents may not equal 100 due to rounding.

[a] See Appendix Q for specific problems identified in each category.

[b] See Appendix R for problems which were repeated over several visits.

[c] Number of Family Assessment Forms in the sample.

[d] "Good Health" is listed because the nurses identified it in the problem list, but the number is not included in the problem totals.

Financial hardship was a specter that exerted an unmeasured influence in every other facet of the villagers' needs, and in the project itself. The extended family structure of Nigerian society brings many financial burdens along with its supportive characteristics. Some villagers were trying to care for extended kin with their own scanty resources (cf. Amadi, 1982; Ekong, 1986).

Environmental/Hygiene. Poor sanitation and poor ventilation (27% and 24% respectively) were the most common environmental problems. One aspect of sanitation affected by the economy was the lack of adequate latrine facilities forcing family members to use the bush. Nurses talked to compound landlords who reiterated that no money was "available for such a venture" because tenants were behind in their rent payments.

Physiologic. Physiologic problems had greater variety than the other problem categories. The largest single problem was malnutrition (16%) though undernutrition was more clinically correct. During the evaluation period the nurses would often comment on how bad conditions had become in their country. One said, "our people are not eating. If things do not change these healthy village children will look like those children we saw so much during the civil war." Fever (10%) was the second most frequent physiologic problem. These two problems occurred most often in children.

Reproductive. Consistent with the high reported fertility rate of the women and their average age, multiparity or "needs family planning" was the most

common reproductive problem. Pregnancy itself was second (20%) and mother "wants family planning" was third with 18%. Thirteen of the 127 women in the sample delivered babies during the project.

Reproduction has immense cultural overtones. Many men continued to father children hoping for the sometimes elusive male child. One husband was "given" a second wife by an overly concerned mother because his first wife had borne only females. The village families were all Christians, mostly Catholic, and some felt that their religion forbade the practice of any form of birth control except abstinence. Many women reported living apart from their husbands in order to space children and avoid pregnancy (cf. Oni, 1987).

Furthermore, a pervasive belief in reincarnation among the Igbo and other Nigerian tribes influences reproduction. Some villagers believed that one should not practice family planning because it could hamper a progenitor's attempts to return to life. In addition, if one avoided pregnancy in this life, God may not allow childbearing in the next life (cf. Amadi, 1982).

Health Beliefs/Behaviors. Children who were not immunized represented 60% of the health belief/behavior problems. On the initial baseline assessment 92 children under age 10 in this sample were said to lack complete immunizations--far above the 12 noted in the problem list. However, one possible explanation is that the nurses, well versed in the current national EPI

program which targets immunizations for children under age two, listed only target age children in the problem section of the FAF.

Self-medication (14%) was the second most frequent health belief/behavior problem. Self-medication is a common practice in Nigeria. Drugs are not regulated and any drug can be purchased over the counter, provided one knows the name of the drug and it is in stock. Government hospitals and clinics have experienced severe shortages in basic essential drugs, yet these same drugs could be found in the nongovernmental sector at retail pharmacies, chemists, and patent medicine dealers [cf. Igun, 1987; Lambo (cited in Olaosebikan, 1986); Ram, 1981].

The initial registration fee at a government health center is 3 naira. Subsequent visits are free. Drugs were previously dispensed without charge at government clinics, but that practice had stopped due to the "economic crunch." For many families, the expense of 3 naira would leave nothing left with which to purchase the drugs prescribed. Consequently, the family patronizes a chemist or pharmacist who has had little or no medical education, but diagnoses the problem and sells a tablet and assurance of efficacy for 50 kobo (100 kobo equal 1 naira). The villagers are being nickled and dimed to death by chemists. No wonder the Federal Ministry of Health (1987) called self-medication the greatest form of drug abuse in Nigeria.

Psychological. By far the most common psychological problem was bereavement (52.6%). In Nigeria funerals are often week-long affairs; feeding wake guests is a major family responsibility. Memorial services are common years after a death has occurred. Lamb (1987) estimated that 50% of advertizing revenue generated by daily newspapers was in the form of obituaries and memorial announcements. Thus, the high proportion of bereavement problems is culturally realistic.

Lack of knowledge. Lack of knowledge regarding nutrition was the most common subtype in this category. Sixty-three percent of the lack of knowledge problems were nutritionally related. Lack of knowledge of ORT was second with 58%.

Social. Marital discord was the preeminent social problem (20%). The nature of the community contributes to the number of parents who are separated, which ranked second (16%). These separations are for economic reasons, with the father usually away from the family because of his employment. Conflicts between parents and children accounted for an additional 14% of the social problems.

Zone Differences in Problems

One of the purposes of this study was to examine the influence of nurse characteristics on nursing activities. In order to analyze more carefully the effect of nurses' backgrounds and experiences, zonal differences in environment,

problems, interventions and outcomes were compared and possible explanations considered.

Significant differences were seen between zones on the types of problems identified (see Table 4.21). Some of the differences are due to the percentage of problems identified by each zone (see Table 4.20) and statistically different zone demographics (see Tables 4.15 and 4.16). An additional source of the differences is the stratified nature of the sample; Zone 4 contributed 35% percent of the total sample charts.

The mothers in Zones 3 and 4 were younger on average than Zones 1 or 2 (29.7 years and 29.3 years compared to 36.3 and 35.4 years). Zones 3 and 4 accounted for 76.1% of the reported reproductive problems. Zones 2 and 3 listed fewer families with safety hazards, inadequate refuse disposal, and inadequate ventilation. They also recorded fewer environmental problems (30% of the total). Zone 2 was sometimes called the GRA zone by the nurses. (GRAs are areas set aside as housing developments for government officials and businessmen, a hold over from the colonial days when the British kept themselves separated from the natives.) Therefore, the small number of economic problems in Zone 2 is consistent with the nurses' general observations.

The two categories of differences which seem most unusual and difficult to explain are the absence of any lack of knowledge problems and the high number of psychological problems (55.3% of all psychological problems noted)

Table 4.21

Village Sample Zone Problems by Category

Problem[a]	Zone			
	One [b] n=165	Two n=105	Three n=136	Four n=219
	Frequency (%)			
Economic	26 (15.8)	5 (4.8)	19 (14.0)	19 (8.7)
Environment/ Hygiene	60 (36.4)	27 (25.7)	18 (13.2)	56 (25.6)
Physiologic	36 (21.8)	28 (26.7)	24 (17.6)	34 (15.5)
Reproductive	9 (5.5)	19 (18.1)	44 (32.4)	45 (20.5)
Psychological	21 (12.7)	5 (4.8)	5 (3.7)	7 (3.2)
Health Beliefs/ Behaviors	7 (4.2)	10 (9.5)	4 (2.9)	22 (10.0)
Lack of Knowledge	0 (0.0)	8 (7.6)	15 (11.0)	17 (7.8)
Social	6 (3.6)	3 (2.9)	7 (5.1)	19 (8.7)

Chi square	df	p
129.72	24	<0.00

Note. The sum of the percents may not equal 100 due to rounding.

[a] See Appendix Q for specific problems identified in each category.

[b] Number of problems identified in each zone.

recorded in Zone 1. There was some indication that the psychiatric background of the Zone 1 team leader made her more sensitive and aware of psychological problems. As far as the absence of lack of knowledge problems in Zone 1 is concerned, it is possible that the design of the FAF contributed to confusion in this area. In collecting demographic data on mothers, nurses were to check the mother's knowledge of ORT, EPI, nutrition, and first aid (see the FAF in Appendix C). Zone 1 identified 37 instances of lack of knowledge at this point. Perhaps teaching was done at that time and so the problem was not recorded in the FAF.

Who Had the Problems Identified

Table 4.22 summarizes the data regarding who had the identified problems in the village sample. Mothers had 32.3% of the 625 problems identified, due to high frequencies in the reproductive and lack of knowledge categories. Families were most closely associated with environmental (95%) and economic problems (66.7%). Statistically significant differences existed between zones as to who had the identified problems (Chi square [12, n=625] = 106.46, $p<0.00$), but as the nature of the problem is highly correlated with who would have the problem (i.e. women and reproductive problems), the zonal differences are not clinically important.

Table 4.22

Clients Who Had the Identified Problems in the Village Sample

Problem	Mother		Child		Father		Family		Parents		Other	
	Frequency (%)											
Economic (69)[a]	14	(20.3)	2	(2.9)	3	(4.3)	46	(66.7)	4	(5.8)		
Environment/Hygiene (161)	3	(1.9)	2	(1.2)	1	(0.6)	153	(95.0)	1	(0.6)	1[b]	(0.6)
Physiologic (122)	40	(32.8)	51	(41.8)	24	(19.7)	5	(4.1)	2	(1.6)		
Reproductive (117)	71	(60.7)	1	(0.9)	9	(7.7)	2	(1.7)	34	(29.1)		
Psychological (38)	18	(47.4)	6	(15.8)	4	(10.5)	0	(0.0)	9	(23.7)	1[c]	(2.6)
Health Beliefs/Behaviors (43)	7	(16.3)	30	(69.8)	4	(9.3)	1	(2.3)	1	(2.3)		
Lack of Knowledge (40)	38	(95.0)	0	(0.0)	0	(0.0)	2	(5.0)	0	(0.0)		
Social (35)	11	(31.4)	3	(8.6)	4	(11.4)	5	(14.3)	12	(34.3)		
TOTALS (625)	202	(32.3)	95	(15.2)	49	(7.8)	214	(34.2)	63	(10.1)	2	(0.3)

Note. The sum of the percents may not equal 100 due to rounding.

[a] Total problems in each category.

[b] Who had the problem was not identified.

[c] A relative had the problem.

Nursing Interventions

General Categories of Interventions

The nurse teams recorded 1218 interventions to meet the 625 identified problems; an average of 1.9 interventions per problem. Eight intervention classifications emerged in the qualitative analysis. These categories were (with the percentage of the total): **Education** (41.1%), **Referral** (11.6%), **Support** (19.8%), **Economic Advice** (6.1%), **Psychologic** (6.7%), **Treatment** (1.9%), **Modification of the Environment** (9.5%), and **Moral Advice** (3.4%). Table 4.23 presents this data.

Education is the backbone of community health nursing, and in a project such as this with so few resources, it is the easiest and least expensive type of intervention for a wide range of problems. Advice giving was listed separately so as not to lose its distinct nature, but it could also be viewed as a form of education (cf. Barkauskas, 1980). Under that schema, education would have accounted for 50.6% of all the interventions given. If instructions on how to modify the environment were added, education would have comprised 60.1% of the total number of interventions given for all identified problems. Support and referral were the second and third most frequent interventions. Again, these categories and ranks are comparable to Barkauskas' (1980) findings.

Subcategories of Interventions

A discussion of the subcategories of the interventions enhances an understanding of the interventions themselves. Appendix S lists the frequencies of all the interventions by category and subtype.

Education. Teaching nutrition (17%), teaching sanitation and hygiene (16%) and teaching family planning (12%) were the major education interventions. The major environmental problems and the interventions are congruent. The prevalent educational interventions are also expected in light of the lack of knowledge and reproductive problems identified. Fewer mothers (see Table

Table 4.23

Nursing Interventions in the Village Sample by Zone

Intervention[a]	Zone One [b] n=25	Two n=36	Three n=27	Four n=40	Total
	Frequency (%)				
Education	84 (16.8)	78 (15.6)	126 (25.2)	212 (42.4)	500 (41.1)
Referral	36 (25.5)	33 (23.4)	39 (27.7)	33 (23.4)	141 (11.6)
Support	65 (27.0)	46 (19.1)	30 (12.4)	100 (41.5)	241 (19.8)
Economic Advice	27 (36.5)	6 (8.1)	20 (27.0)	21 (28.4)	74 (6.1)
Treatment	7 (30.4)	7 (30.4)	2 (8.7)	7 (30.4)	23 (1.9)
Psychological	52 (64.2)	2 (2.5)	9 (11.1)	18 (22.2)	81 (6.7)
Modify the Environment	45 (38.8)	17 (14.7)	17 (14.7)	37 (31.9)	116 (9.5)
Moral Advice	4 (9.5)	3 (7.1)	8 (19.0)	27 (64.3)	42 (3.4)
TOTAL	320 (26.3)	192 (15.8)	251 (20.6)	455 (37.4)	1218

Note. The sum of the percents may not equal 100 due to rounding.

[a] See Appendix S for specific interventions in each category.

[b] Number of Family Assessment Forms in the sample.

4.10) knew about ORT and first aid (56.1% and 59.3%) than knew about nutrition (67.5%) but, the nutrition education interventions were also given for the physiologic problem of undernutrition or malnutrition.

Referral. The largest referral agency for the project nurses was the local health center and the UNTH outpatient clinics (70%). The referral was usually accompanied by a personal request from the nurse addressed to the doctor or nursing sister in charge of the clinic or health center. Some nurses spoke to the doctors or nurses in charge of these clinics to apprise them of the project and request their immediate assistance should one of the project referrals come in to their clinic. There was also excellent rapport between the project nurses and the nurses at the village maternal-child health center.

The second most frequent referral was to a family planning clinic. This again reflects the reproductive problems identified. All the referrals to the psychiatric hospital (5.0% of the total number of referrals) were given in Zone 1.

Support. The interventions of reassurance (37%) and encouragement or commendation (27%) were the most frequent supportive interventions, especially for behavior related changes. All types of liaison activities were included in this category and there was wide variation, ranging from checking on West African School Certificate Scores (a necessity for civil service employment) to arranging for a destitute woman to plait the hair of nursing students as a way to obtain an

income. Zone 4 had the widest range of supportive interventions and recorded more intersectorial links than did the other zones.

Economic Advice. Financial problems were so common that economic advice was given at almost every contact. The most common intervention (62%) was to advise some member of the family, usually the mother, to take up petty trading or farming to "supplement the breadwinner's proceeds." Interestingly, 90 of the 128 mothers had already listed their occupation as petty trader or farmer. The economy of the village was so depressed, petty trading seemed risky--especially if everyone were to resort to it. But, most compounds did have small plots of land associated with them and land outside the village proper could be leased for farming purposes.

Fourteen percent of the economic advice interventions involved suggesting the wise management of meager resources. This advice was also given if there had been a death in the extended family, which traditionally required large expenditures to feed and entertain the mourners.

Treatment. The nurses intervened by actual treatment on 23 occasions. Nearly half of those interventions (48%) involved the prescription of drugs, such as panadol, vitamins, iron tonics, chloroquine, or paludrine, for physiologic ailments. Warm baths for older clients who complained of arthritis pains were given in 28% of the interventions.

Psychological. The most often used psychological intervention was suggesting that the individual sublimate, cope, and adapt to deal with a variety of stressors (31%). Psychotherapy to relieve anxiety was second with 17%. These interventions were generally directed to patients with problems of bereavement or depression. It must be noted that the suggestion to sublimate was most often given by the psychiatric nurse in Zone 1. Because of some confusion as to zone boundaries at the beginning of the workshop, the Zone 1 team visited some families from Zone 4. Only those families in Zone 4 which had been visited by the Zone 1 team received the suggestion to cope or sublimate.

Modify the environment. The overwhelming intervention in the modify the environment category was to recommend opening windows and doors to improve ventilation (43%). Organizing the contents of the room to improve space was the second with 12%. As the two most frequently recorded environmental problems were inadequate ventilation and overcrowding, these interventions were appropriate. The miasma theory of disease operated with many of the nurses. More pertinently, the smoke from oil wick lamps, candles, and kerosene cookers in the living spaces combined with the heavy tropical climate to create a stifling atmosphere inside the home.

Moral advice. The nurses had little difficulty in dispensing moral advice when they saw fit. Fathers were told to take better care of their families and respect the woman's role in the home (24%). When conflicts erupted in

households, members were told to forgive each other, to make up and to preserve family ties (12%). Children were instructed to respect their parents and contribute to the upkeep of the home.

Zone Comparisons

Table 4.24 compares interventions by zone. Some interventions are certainly problem specific. Zone differences in problems have been previously described and problem specific interventions would be expected to show similar differences. Zones 3 and 4, the reproductive zones as it were, gave more education on family planning (19% and 32% percent respectively) than did Zones 1 and 2 (0% and 9% percent). Zone 1 identified more psychologic problems and so appropriately gave more psychological interventions.

However, other types of interventions cross problem boundaries. Education is one of these. Zone 4 gave 42.4% of all the education interventions. The leader in Zone 4 was an experienced public health nurse and may have been more oriented to community teaching.

The intervention differences between zones were statistically significant. But, the inequality in the number of FAFs sampled and subsequent interventions recorded per zone accounts for part of the statistical difference. Furthermore, to the extent that interventions are problem driven, when problems differ it is to be expected that interventions would also differ.

Table 4.24

Village Sample Zone Interventions by Category

Intervention[a]	Zone One [b] n=320	Two n=192	Three n=251	Four n=455
	Frequency (%)			
Education	84 (26.3)	78 (40.1)	126 (50.2)	212 (46.6)
Referral	36 (11.3)	33 (17.2)	39 (15.5)	33 (7.3)
Support	65 (20.3)	46 (24.0)	30 (12.0)	100 (22.0)
Economic Advice	27 (8.4)	6 (3.1)	20 (8.0)	21 (4.6)
Treatment	7 (2.2)	7 (3.6)	2 (0.8)	7 (1.5)
Psychological	52 (16.3)	2 (1.0)	9 (3.6)	18 (4.0)
Modify the Environment	45 (14.1)	17 (8.9)	17 (6.8)	37 (8.1)
Moral Advice	4 (1.3)	3 (1.6)	8 (3.2)	27 (5.9)

Chi square	df	p
182.44	21	<0.00

Note. The sum of the percents may not equal 100 due to rounding.

[a] See Appendix S for specific interventions in each category.

[b] Total number of interventions in each zone.

Incongruent Interventions

Very few incongruent interventions were made by the nurses for any problem coded. These inconsistent interventions formed no pattern. In fact, there were only three suspect interventions. These were the reassuring of a wife that her alcoholic husband would drink less as he aged; telling a person with arthritis to avoid drinking cold water to reduce joint pains; and the prescribing of panadol for hypertension.

Community Problems and Interventions

Community Problems

The nurses met with the village Leaders of Thought Committee after the assessment phase of the project to present their impressions of community problems. The problems were then prioritized. The community problems identified by the nurses and the community leaders had three foci: (a) problems associated with the environment, such as lack of passable roads and potable water; (b) problems involving a lack of support services (building a health center and a school, and improving the health referral system were in this category); and (c) a collective lack of knowledge regarding health promotive beliefs and practices. These problems are listed by priority in Table 4.25.

Table 4.25

Community Priority Problems and Interventions

Problem	Interventions
Poor Condition of Existing Roads	Application for assistance to Enugu Local Government, Anambra State Ministry of Works, Private Construction Company. Introduced community leaders to officials. Involved the military.
No Electricity	Express willingness to assist when community was ready to initiate action.
Poor Access to Potable Water	Application for assistance to Enugu Local Government, Anambra State Ministry of Works. Introduced community leaders to officials.
Need a Health Center	Application for assistance to Enugu Local Government, Anambra State Ministry of Health and Health Services Management Board, Ministry of Lands and Housing, Commissioners for Local Government and Rural Development. Persuaded Chief to donate land. Planning with community leaders. Involved the military.
Need a Primary School	Identified problems which led to the destruction of the former school. Discussed need with Anambra State Commissioner for Education. Approached representative of Roman Catholic Mission that is allowing students to use church facilities for school instruction.
General Ignorance Especially Among the Women	Group health education in each zone to mothers, children and fathers (See Appendix T for specific health education topics.) Mobilized the women's committee.
Difficult Access to Health Services	Approached doctors and nurses in hospitals and clinics, explained project, asked for help. Gave referral slips to villagers. Liaison activities with village health center. Application for assistance with Anambra State Ministry of Health and Health Services Management Board. Arranged for yellow fever vaccines. Arranged to have National Immunization Day.

Reconditioning the existing roads was the top priority of the community leaders and the nurses. Without an accessible road, water could not be provided, and the nurses considered water a crucial priority. The community's second priority was "electrifying" the village; some efforts had already been made in this direction. However, the nurses did not believe this problem was as important as others, and put very little effort into it. They did promise to help the community make intersectorial connections when the leaders were ready to proceed.

At first, erecting a health center seemed to violate all the cliches that PHC should not focus on structures. This was especially pertinent with a maternal-child health center located in the village. Nevertheless, the nurses and the community agreed on this priority, but for very different reasons. The villagers wanted a new health center as an economic enterprise. They believed that the nurses would control contracts for construction and eventual employment at the center; and villagers would be given preference. Many villagers had lost faith in the existing health center and thought a new facility would provide more service and dispense more drugs.

On the other hand, the nurses believed that village confidence in the health center was undermined because it was a rented, not a free standing, facility. Villagers believed that the landlord who leased the center facilities controlled the center, including the money from registration fees; hence, their unwillingness to

use its services. The UNTH School of Nursing public health tutors saw the village as a very accessible clinical laboratory for community student experiences. Without a larger health center, however, with more complete diagnostic and treatment services, the village would not be suitable for the gamut of student educational needs.

The previous primary school building, erected by the community, had been bulldozed to the ground just as it neared completion. As is common in Nigeria, a building can be razed by the Housing Authority without warning if it is suspected of encroaching on someone's property. The tragedy left the primary school children without classrooms and the Roman Catholic Mission opened its door for the interim. Therefore, erecting a school was the fifth community priority. The nurses agreed with the priority, but thought it best to concentrate on roads, water, and the health center first. They made this decision after a discussion with the Catholic priest who was amenable to allowing the children to continue to use the church facilities.

The sixth priority was general lack of knowledge on many health topics. Target groups were defined, village input solicited, and then the nurses outlined an educational program for the village. Group education on the same topics was done in each zone to control crowd size and facilitate answering villagers' questions. Appendix T lists group education topics.

The last priority identified by the nurses was difficult access to health services. As previously mentioned, there was a general lack of village confidence in the health center. The health center itself was often bereft of equipment and supplies, especially of essential drugs. Other facilities required travel, perhaps as much as an hour. Upon arrival at the clinic or hospital, the person would have to wait most of the day to be seen.

Community Interventions

Five types of interventions were made to meet the identified community problems. These were: (a) recruitment of influence, (b) applications to intersectorial providers, (c) community mobilization, (d) community education, and (e) community liaison for intersectorial linkages. Each of the intervention categories will be discussed in turn.

Recruitment of Influence

The old saw, "It's not what you know but who you know" is most applicable in Nigeria (Achebe, 1983; Enaharo, 1966; Iwe, 1987; Lamb, 1987). An intervention that reflected an awareness of this societal reality was most sagacious and strategic on the part of the nurses. The original CE workshop for leaders was the first step in this vein, as it helped to convince hospital matrons and Ministry of Health officials to give nurses releases to participate in the project.

With specific reference to the community problems, the nurses recruited influence in three ways. They were able to obtain the cooperation and willing assistance of an officer in the Nigerian military. The control of government in Nigeria is in the hands of the Armed Forces Ruling Council. Therefore, a benefactor in uniform served as a gate pass to facilitate many of the intersectorial linkages made. In other circumstances the nurses may have been put off by middle men, but in the company of the officer, they were granted audience with top officials.

Secondly, the nurses recruited the support of local government and state government leaders. It is true that much of this support was in principle and not in fact. However, there were circumstances where a letter of support from a high political figure augured well for receiving a service when it was requested (delivery of water by tanker, for example).

Thirdly, the nurses mobilized their own professional contacts and personal friends. The health professionals, who control access to medical services and treatment, were asked to give preference to villagers who visited their clinics. Friends of the project nurses in the Ministry of Health and other civil service positions were used to open doors for discussions and requests with those in power. One engineer who surveyed the village for road improvements told the researcher that he would have never gone to the village had it not been for a well-placed relative of one of the nurses in the Ministry of Works.

Intersectorial Linkages

One of the hallmarks of PHC is the uniting of all development sectors for health. Appendix U provides a list of the intersectorial linkages made by the nurses during the project. Of course, health care agencies and institutions were a major thrust of intersectorial efforts. However, Ministries of Works, Lands, and Housing; of Roads and Rural Infrastructure; and of Survey were all contacted regarding the problems of poor roads, water, and building of the health center.

Private companies and agencies were also contacted. A road construction company was approached regarding equipment and supplies for regrading the village roads. Private charities were asked to provide clothing, drugs, or money for destitute cases. The traditional chief or large scale landowner was motivated to donate land for the building of a health center.

The nurses took advantage of existing and planned programs under the auspices of international and national government and nongovernment groups. A nation-wide yellow fever vaccination program was in effect in some parts of the country due to disease outbreaks ("Ijebu Ode," 1987; "Yellow Fever," 1987). Because of the cost of the vaccine, supplies were limited and generally available only in urban centers. The villagers, though, were very aware of the yellow fever publicity and wanted the vaccines. The nurses, therefore, approached the Anambra State coordinator for the yellow fever vaccines (over 8 times!) and 300

doses were sent to the village. There were not enough vaccines to cover the 800 people who lined up at the maternal child health center to receive them, but it was enough to establish in the minds of the villagers, early in the project, that the nurses were sincere in purpose.

Also the nurses worked with Anambra State coordinators of the National Immunization Day (NID) sponsored by the government, Rotary International, and other nongovernmental organizations, including NANNM ("NID," 1988). The nurses arranged to be assigned to the village under NID auspices and were an active part in NID success.

These intersectorial interventions have a common characteristic. The nurses always carefully worked through the cultural and political hierarchy. Everything was done legally and up-front, so that no one could question the motives of the nurses.

Community Mobilization

Nursing activities for community mobilization were many and ongoing. Initial entree had been made through local leaders. The village was a migrant community without a traditional chieftaincy. Its leaders functioned in a very typically Igbo manner; democratic consensus among the top influential men in the village (Mair, 1965). Consequently, the nurses worked with a confederation of power figures within the community including landlords, former elected officials, church leaders, and respected men and women in the community.

Managing the hidden agendas of the leaders was a major effort. The nurses intervened from time to time to confront leaders on divisive behaviors and recommit them to the success of the project.

At first, though the village leaders had welcomed the project, some villagers remained skeptical and suspicious of the motivations and activities of the nurses. They feared the nurses were disguised census takers who were forming tax roles for the government. The animosity of the Nigerian people toward a census or head count has insured that no national census has been taken since the early 1960s. Furthermore, the villagers doubted that the nurses were altruistic in their endeavors. Patiently and repeatedly, the nurses taught the community about their purpose in the project and over time were able to reduce, but not eliminate, collective village doubts.

The nurses worked through existing committees in the village, involving them as much as possible in all phases of the project. The only special village committees organized at the request of the nurses were zonal women's committees to coordinate educational projects among the women.

Community Education

Women, children and youths were targeted for community education interventions. Appendix T summarizes the topics. No specific education program was planned for the men of the village, but they were invited to attend women's meetings if they desired. Many came to the family planning lecture,

necessitating a rescheduling of the topic for women only, so they would be free to express themselves without fear of their husband's reactions. It must be noted that the men were quite receptive to the family planning lecture and many said it was very beneficial.

Most of the education was directed to women. The women's input was solicited regarding the topics they would have liked the nurses to discuss. In this way the nurses could give the women what they wanted, as well as what the nurses thought they should have. Regular times were set for group meetings in each zone. Meetings included songs and prayers. Children were offered prizes (purchased by the nurses) such as soap, pencils, notebooks, and biscuits for answering questions and being clean.

The nurses used a combination of friendly and "benevolent despot" tactics in their attempts to educate and promote change. They taught, cajoled, and pleaded. Demonstrations enhanced teaching. The nutrition lecture discussed uses of indigenous foods. Nurses would also go house to house after the lecture to see "what was cooking" and make suggestions, usually to add a protein source (soya or crayfish) or vegetables to the pot. When ORT was taught, the sugar and salt solution was mixed.

Community Liaison

Community liaison activities took two synergistic threads. The nurses were agents for the procurement of goods and services from government and private

sectors. They also mediated and eased the entry of villagers into the health care system through a negotiated referral strategy. The powerlessness of poverty, poor education, and the limited experience of the villagers created an alienation from the very services they desperately needed. The nurses did try to promote community self-reliance. They worked to empower the villagers to make their own intersectorial links or maintain those which had been made; to create a sense of community competence (cf. Goeppinger, Lassiter, & Wilcox, B. 1982).

The villagers themselves were a composite of struggling families. Landlords, the upper crust of village society, were scarcely distinguishable from their tenants. The nurses insisted on involving the community members and would take leaders with them when contacts were made. The villagers were introduced to the civil servants who manage ministries and showed how to continue connections. Unfortunately, the research period did not allow for an examination of how well those associations continued to function. Nevertheless, the fact that the nurses sought to imbue the villagers with an ability to network with appropriate agencies is theoretically significant.

Family and Community Outcomes

The previous discussions have described the village and its families and the nurses who carried out the project. Family and community problems and interventions have been explicated. With that background, it is now important to address the cardinal point of the project--the outcomes. The following

presentation is three fold. First the evaluation of the ICN/UNICEF/NANNM CE project will be summarized. Next, the family outcomes will be discussed. Community outcomes will be presented last.

The ICN/UNICEF/NANNM Project Evaluation

In evaluating the ICN/UNICEF/NANNM CE project, Holzemer (1989) used a two-group, quasi-experimental design to determine the impact of nurses' family visits and interventions and community mobilization activities on health indicators. A control village had been designated and baseline assessments were done. In keeping with the ethics of care, on-the-spot teaching or referral was given to the control village families during the assessment phase. However, no further nursing activity was conducted in the control village, with the exception of the NID.

The nurses believed the control villagers would be bitter and resentful of attempts to conduct evaluation activities in the village when no nursing action had been taken. This feeling of responsibility was compounded by the proximity of the control village to the project or experimental village. Therefore, bringing the NID to the control village was a means of giving something to the inhabitants while allowing the nurses to obtain evaluation data.

One hundred FAF (19% of the 531 available) were selected from the control village and the data from the control and experimental villages compared. Statistical analyses indicated that the villages were similar in

demographics and living conditions, suggesting that "any differences in outcomes or problem resolutions that were reported...could be reasonably attributed to the nursing interventions with the experimental group, not to preexisting differences between the two communities" (Holzemer, 1989, p. 11).

The project village, which had been the beneficiary of sustained nursing activity, had significantly more problems resolved or improved and fewer problems unresolved than did the control village (see Appendix V for statistical data). Caution is warranted in overaggressive interpretation of these results however, due to the large number of missing cases or problems that were not evaluated.

With the impact of the nursing interventions documented in the project evaluation, it is now relevant to describe the outcomes in the project village. The statistical analyses do provide a skeleton upon which to assess the project outcomes. However, closer scrutiny using the project village as a case study serves to give qualitative flesh to statistical bones. Both are important to the assessment of a multifaceted entity like nursing in PHC.

Family Outcomes

From the Sample

Table 4.26 depicts the outcomes of the categories of family problems identified in the village sample. Problem outcomes were tabulated as resolved if the problem no longer existed or if the desired outcome had been achieved

Table 4.26

Problem Outcomes in the Village Sample

Problem Category	Problem Outcome									
	Resolved		Improved		Unchanged		Worsened		Missing[a]	
	Frequency (%)									
Economic (50)[b]	21	(42.0)	9	(18.0)	20	(40.0)	0	(0.0)	19	(27.5)
Environment/ Hygiene (126)	37	(29.4)	69	(54.8)	20	(15.9)	0	(0.0)	35	(21.7)
Physiologic (106)	47	(44.3)	46	(43.4)	12	(11.3)	1[c]	(1.0)	16	(13.1)
Reproductive (83)	15	(18.1)	48	(57.8)	16	(19.2)	4[d]	(4.8)	34	(29.1)
Psychological (37)	2	(5.4)	21	(56.8)	13	(35.1)	1[e]	(2.7)	1	(2.6)
Health Beliefs/ Behaviors (27)	14	(51.9)	6	(22.2)	6	(22.2)	1[f]	(3.7)	16	(37.2)
Lack of Knowledge (39)	6	(15.4)	31	(79.5)	2	(5.1)	0	(0.0)	1	(2.5)
Social (30)	4	(13.3)	10	(33.3)	16	(53.3)	0	(0.0)	5	(14.3)
TOTALS	146	(29.3)	240	(48.2)	105	(21.1)	7	(1.4)	127	(20.3)

Note. The sum of the percents may not equal 100 due to rounding.

[a] The number of missing cases and the percentage missing of the total problems identified is indicated in this column.

[b] The number in parentheses indicates the number of problems evaluated and the percentages are reflective of that total.

[c] Death of infant due to malnutrition.

[d] Miscarriages or stillbirths.

[e] Psychotic breakdown of adolescent child.

[f] Chose to use native (quack) treatment.

(such as pregnancy for an infertile couple). Problem outcomes were considered improved if the problem had been mitigated or if families were coping with the problem better. Unchanged problem outcomes were those that remained as originally assessed. Problems in which there were negative outcomes, such as death or increasing severity of symptoms, were categorized as worsened.

The high number of missing cases (20.3% of the total number of problems identified) is disquieting and the results must be viewed appropriately. However, nurses were more likely to record problems which remained unsolved or required further intervention as opposed to those which had resolved. Therefore, it is more likely that the outcomes may reflect artificially high percentages of unresolved cases and not the converse.

Over half of the problems identified showed resolution or improvement. Table 4.27 compares the positive and negative outcomes for each problem category. Lack of knowledge problems were most amenable to change during the project, with 92.5% showing a positive outcome. Problems in the social category were most refractory to change; only 46.7% were resolved or improved.

As the data in Table 4.28 indicate, problems that were sensitive to individual control or conducive to acute treatment, such as lack of knowledge, physiological, and environmental problems, were most often improved. Problems which had broader societal and cultural overtones (i.e. social, psychological, or economic) were more refractory to change during the nine-month project period.

Table 4.27

Comparison of Problem Categories and Positive and Negative Outcomes

Problems	Outcomes			
	Positive[a]		Negative[b]	
	Frequency (%)			
Economic (n=50/72.5%)[c]	30	(60.0)	20	(40.0)
Environment/Hygiene (126/78.3%)	106	(84.1)	20	(15.9)
Physiologic (n=106/86.9%)	93	(87.7)	13	(12.3)
Reproductive (n=83/71.0%)	63	(75.9)	20	(24.1)
Psychological (n=37/97.4%)	23	(62.2)	14	(37.8)
Health Beliefs/Behaviors (n=27/62.8%)	20	(74.1)	7	(25.9)
Lack of Knowledge (n=39/97.5%)	37	(94.9)	2	(5.1)
Social (n=30/85.7%)	14	(46.7)	16	(53.3)
TOTAL	386	(77.5)	112	(22.5)

[a] Problems resolved or improved.

[b] Problems unchanged or worsened.

[c] Number of problems with outcome documented and the percentage of the total number of problems identified.

Table 4.28

Family Problem Outcomes in the Village Sample by Category

Problem Outcome	Problem Category													
	Economic		Environment/ Hygiene		Physiologic		Reproductive		Psychological		Health Beliefs/ Behaviors		Lack of Knowledge		Social	
	Frequency (%)													
Resolved n=146	21	(14.4)	37	(25.3)	47	(32.2)	15	(10.2)	2	(1.4)	14	(9.6)	6	(4.1)	4	(2.7)
Improved n=240	9	(3.8)	69	(28.8)	46	(19.2)	48	(20.0)	21	(8.8)	6	(2.5)	31	(12.9)	10	(4.2)
Unchanged n=105	20	(19.0)	20	(19.0)	12	(11.4)	16	(15.2)	13	(12.4)	6	(5.7)	2	(2.0)	16	(15.2)
Worsened n=7	0	(0.0)	0	(0.0)	1	(14.3)	4	(57.1)	1	(14.3)	1	(14.3)	0	(0.0)	0	(0.0)

Note. The sum of the percents may not equal 100 due to rounding.

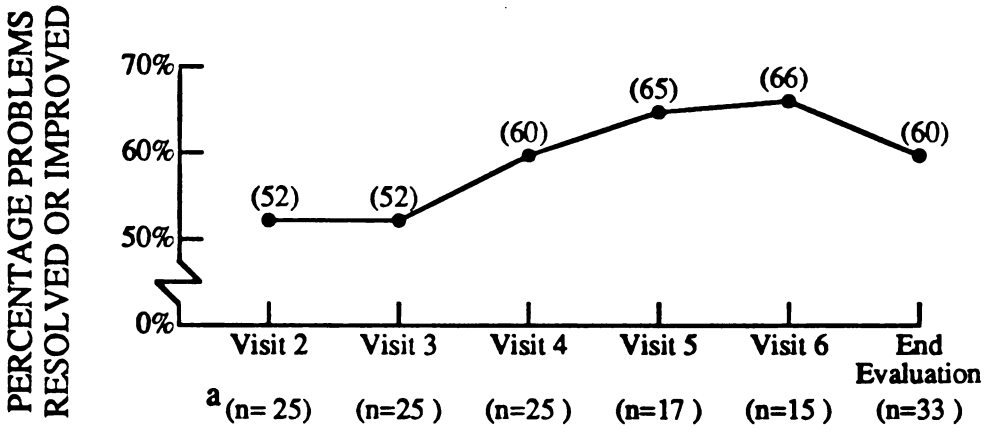
Family Outcome Trends

One of the important aspects of this study was its ability to track the trajectory of problem outcomes over the nine-month project period. These analyses are crude and exploratory because each problem was not evaluated on every subsequent nurse team visit. Families in some zones were visited more often than others (see Table 4.19). Despite these drawbacks, the trends are interesting.

Figures 4.1 through 4.8 depict the pattern of outcomes in the problems identified on the initial family assessment visit. Problems identified on subsequent visits were not included in the analysis. The graphs represent a percentage of the problem status reported as positive. This is a crude parameter, but it is not biased in a positive direction as problems negatively assessed would more likely be recorded and further interventions reported.

The common feature in all the trends is that maximum improvement did not come about immediately after the first visit. Peaks and valleys occurred but the final outcome always showed some improvement, though not to the same degree. Some problem types showed a more steady course of improvement (environmental, physiological, health behaviors) but others had a more rocky course (reproductive, psychological and social).

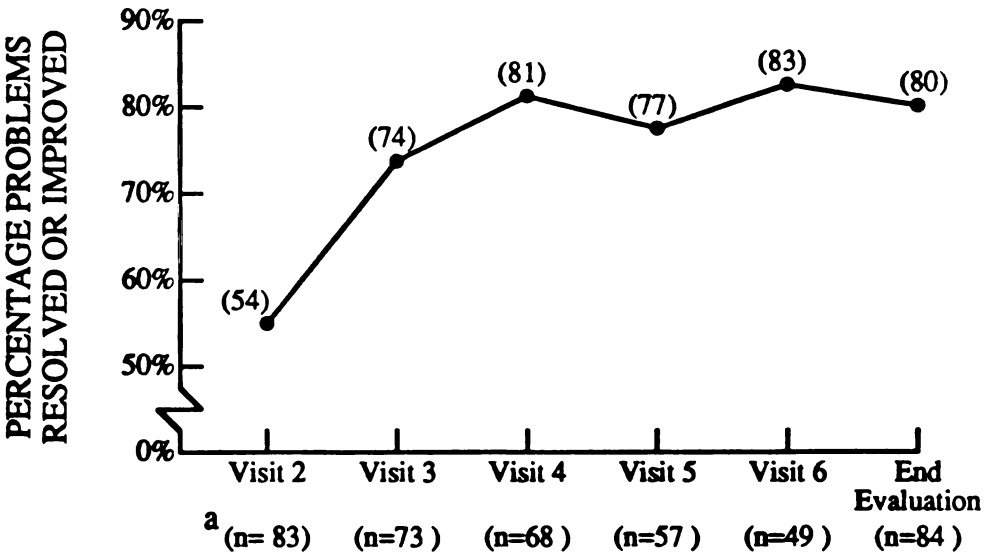
Figure 4.1. Trends in Initial Economic Problem Outcomes by Visit



[a] n= number of problems evaluated on each subsequent visit

initial n=44

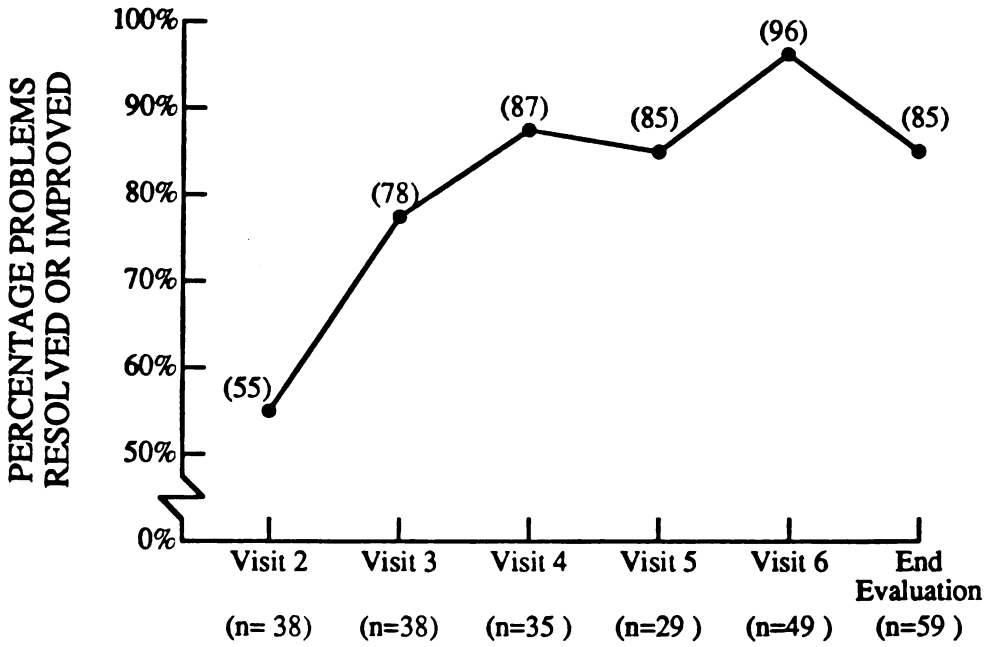
Figure 4.2. Trends in Initial Environmental Problem Outcomes by Visit



[a] n= number of problems evaluated on each subsequent visit

initial n=114

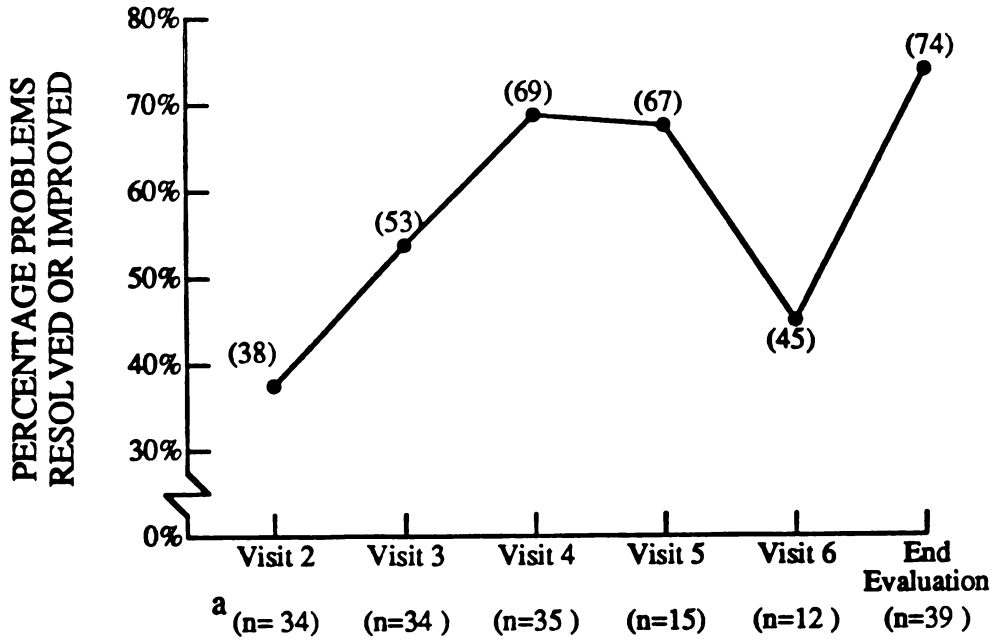
Figure 4.3. Trends in Initial Physiological Problem Outcomes by Visit



[a]n= number of problems evaluated on each subsequent visit

initial n=65

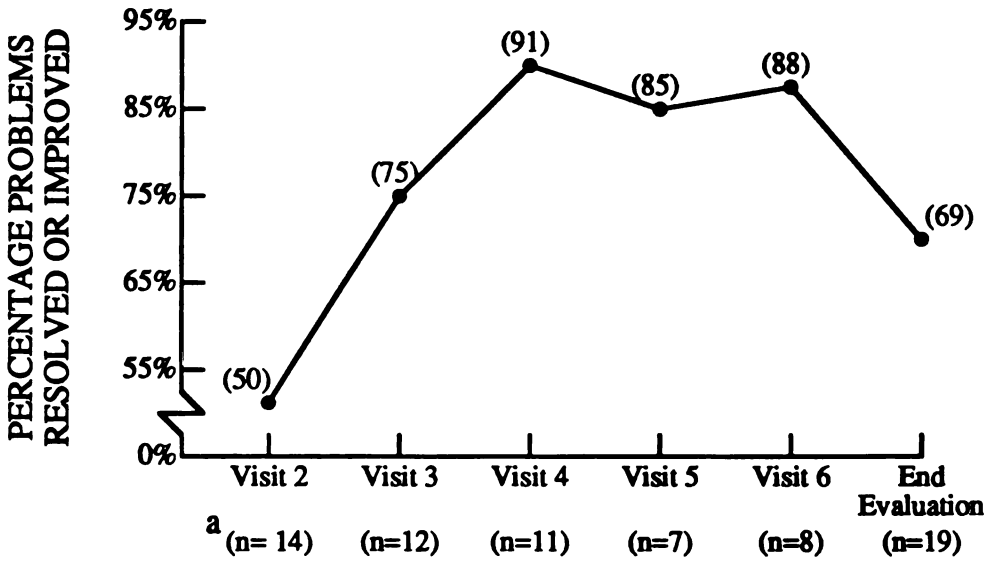
Figure 4.4. Trends in Initial Reproductive Problem Outcomes by Visit



[a]n= number of problems evaluated on each subsequent visit

initial n=50

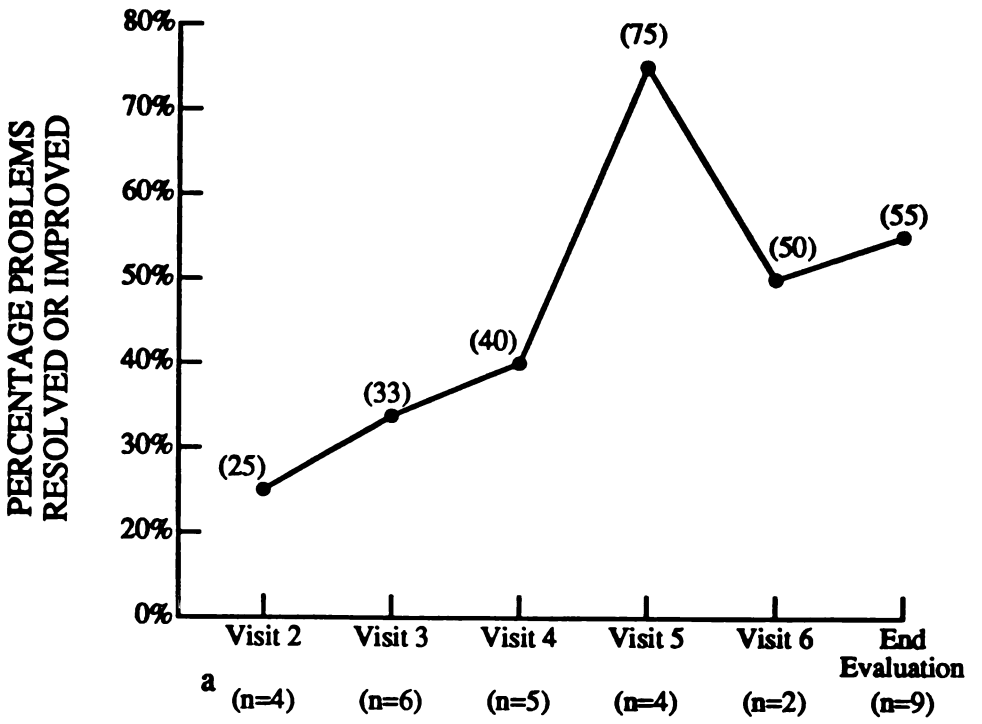
Figure 4.5. Trends in Initial Psychological Problem Outcomes by Visit



[a] n= number of problems evaluated on each subsequent visit

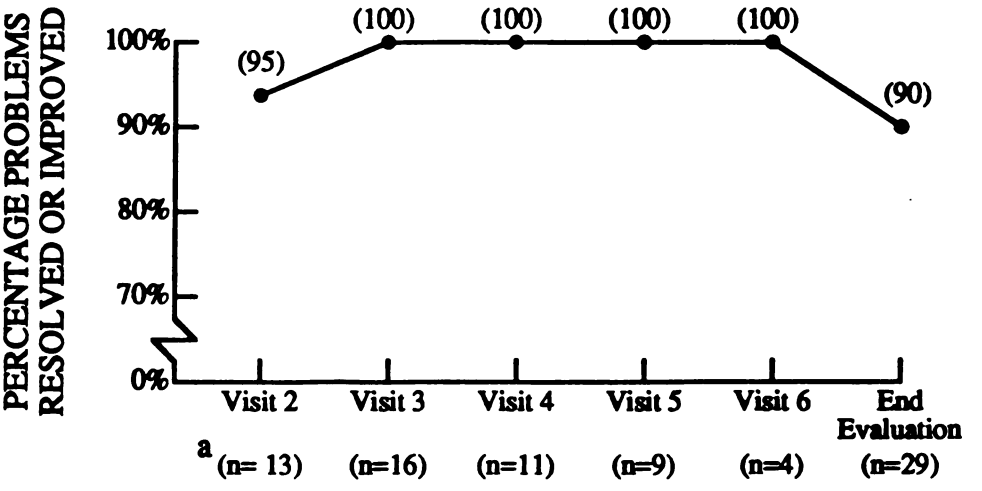
initial n=19

Figure 4.6. Trends in Initial Health Behavior Problem Outcomes by Visit



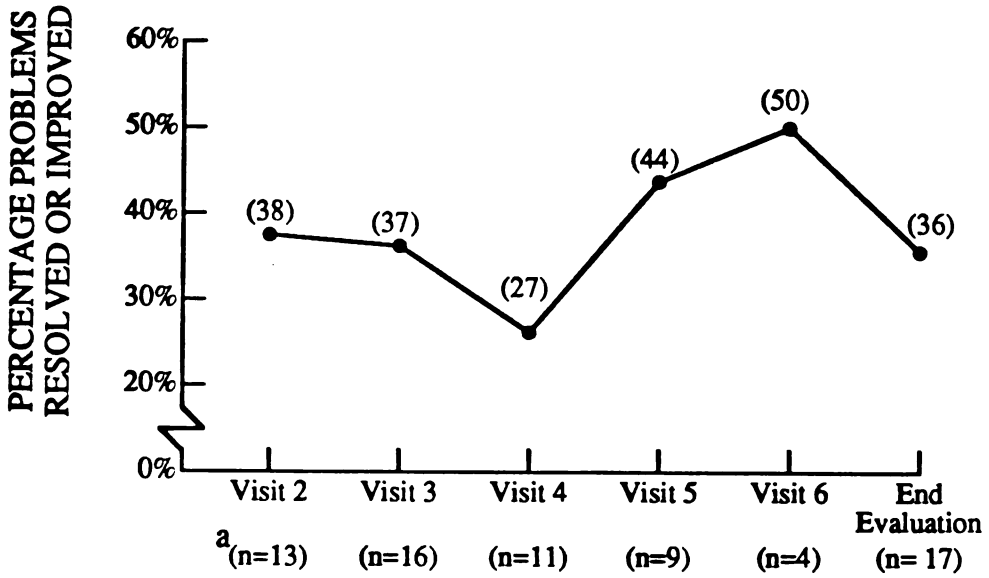
[a] n= number of problems evaluated on each subsequent visit
initial n=16

Figure 4.7. Trends in Initial Lack of Knowledge Problem Outcomes by Visit



[a] n= number of problems evaluated on each subsequent visit
initial n=32

Figure 4.8. Trends in Initial Social Problem Outcomes by Visit



[a] n= number of problems evaluated on each subsequent visit

initial n=21

Zone Comparisons

Zonal differences in problem outcomes are displayed in Table 4.29. Zone 1 accounted for 35.6% of all the resolved problems. Zone 4 had four of the seven problems evaluated as worsened; all were miscarriages. The percentage of problems resolved or improved ranged from 74.0% in Zone 4 to 83.6% in Zone 2. There were no statistical differences between zones on problem outcomes. Of all the data comprising this research, the evaluation of problem outcomes was most susceptible to participant bias. The nurses had been told by project officials that the project was an opportunity to demonstrate what nurses could do. Two factors help to minimize this threat to validity however.

Table 4.29

Village Sample Family Problem Outcomes by Zone

Outcome	Zone								Total
	One		Two		Three		Four		
	Frequency (%)								
Resolved	52	(35.6)	27	(18.5)	28	(19.2)	39	(26.7)	146
Improved	65	(27.1)	34	(14.2)	49	(20.4)	92	(38.3)	240
Unchanged	32	(30.5)	11	(10.5)	20	(19.0)	42	(40.0)	105
Worsened	0	(0.0)	1	(14.3)	2	(28.6)	4	(57.1)	7
Percentage of Zone Problems Resolved or Improved	78.5		83.6		77.8		74.0		

First, the nurse participants did not know how the problem data in the FAF were being coded. They knew the project control and experimental villages would be compared, but they did not know how the family problems would be coded. Second, the percentages of problems resolved or improved in each zone is so similar that it would have taken an organized effort to evaluate problems so comparably by prior intention. In addition, the zone teams often conferred in

planning community interventions, but they rarely discussed the problems and interventions they were documenting in the FAF.

Family Responses

The families in the village indicated a high level of satisfaction with the nurses and their efforts in the community. The nurse teams were welcomed with eagerness and traditional respect. The people felt they had received a great deal from the nurses. Two women's comments exemplify the family responses. One shyly explained in halting English that the nurses "told me things I did not know." The other, a leader of one of the women's groups, said, "the presence of the nurses have [sic] given the community a new lease on life."

Community Outcomes

A report of the community outcomes includes data regarding identified priorities and health center statistics.

Community Priority Outcomes

A summary of the outcomes of the community priority problems is found in Table 4.30. The greatest near-coup for the project was the acquisition of a plot of land valued at 40,000 naira for the building of a free standing health center. The budget and building plans were in place, but due to sudden political problems, the construction was stopped. The project still holds the deed in essence for the land.

Table 4.30

Community Priority Problem Outcomes

Problem	Outcome
Poor Condition of Existing Roads	A small portion of the road was graded by the Ministry of Works. Private company promised 10-12 tons of chippings and had delivered 3-4 tons.
No Electricity	No change.
Poor Access to Potable Water	Work approved in principle by government sectors but no funds were available. Mobile tanker supplied drinking water 2-3 times weekly, starting at the end of March, 1988.
Need a Health Center	Health Center approved. Budget approved and plans for the center drawn up. Land valued at 40,000 naira (see Figure 3.3 for site) was obtained from the local Chief. The community committed to supply 25% of the necessary labor to construct the center. Sudden political problems halted activities. Nurses hold deed in trust for the land.
Need a Primary School	State Commissioner is positive toward the need for a new school. The Roman Catholic Mission agreed to allow the children to continue to use its facility until a primary school can be built.
General Ignorance Especially Among the Women	Mass improvement of knowledge in the village.
Difficult Access to Health Services	Prompt attention given to referrals. Obtained Yellow Fever vaccines and initiated the National Immunization Day.

The government ministries and the private construction company improved the main road leading from the expressway into the community. Smaller within village roads had not been graded because they were too small for machinery to pass without causing damage to existing structures. Because of the access road improvement, a mobile water tanker was supplying water to the village on a regular, bi-weekly basis.

The education and referral priorities had positive outcomes. Group education courses had been well attended. The men, who had been reluctant to allow their wives to attend family planning sessions, were grateful for the information received. The upkeep of dwellings and compounds was improved as much as resources would allow. Belongings were stacked neatly, water containers were covered, cooking facilities were neater, and compounds were swept of trash and safety hazards. Even the American researcher could see obvious differences in the environment. Petty traders who sold food stuffs covered their wares instead of leaving them open to insects. Children vied to show the nurses who had the cleanest teeth and hands. Before the traditional Igbo custom of breaking the kola at every village meeting (cf. Amadi, 1982), the participants would wash their hands.

The nurses also succeeded in making the village the official site for the launching of the Anambra State National Immunization Day. This achievement cannot be emphasized enough. Government and traditional officials trooped to

the village along with the press and television crews to declare the NID open to the public. For three days in March, April, and May, the NIDs were held and many families in the village had their children immunized during that period.

Maternal Child Health Center Data

Tables 4.31 and 4.32 summarize statistical data from the village maternal-child health center during the project period. This information is an adjunct to the outcome evaluation because the data are not confined to the village; the center services other villages as well. Use of the health center did improve during the project. More deliveries on average per month were at the health center and more children and toddlers were registered for care. More immunizations were also given during the project, but the NID accounts for the large increase. It must also be pointed out that health center data are seasonal.

Community Responses

The community, through its leaders, enumerated the changes noticed as a result of the nurses' endeavors. These were: a cleaner environment, positive publicity about the village during the NID, the water tanker, the health center land, the NID, better education, and a line of communication to the local government authority. Naturally, these leaders still wanted more goods and services, but they recognized what had been accomplished.

Table 4.31

Number of Immunizations Given at the Village Maternal Child Health Center Before and During the Project[a]

Phase	BCG	DPT[a] 1	DPT[a] 2	DPT[a] 3	Polio 1	Polio 2	Polio 3	Measles	Tetanus 1	Tetanus 2
Preproject (6 months) January-June 1987	101	99	80	86	99	80	86	72	38	23
Assessment (3 months) July-September 1987	52	53	42	36	53	42	36	36	15	19
Implementation (6 months) October-March[b,c] 1988	108	107	106	99	107	106	99	115	37	20

Total Immunizations given during the March/April 1988 NID[c] = 356

[a] The clinic services other villages, therefore the statistics are not project village specific.

[b] January was a low utilization month compared to other months. The nurses suggested it was due to many families traveling to their home villages for extended Christmas holidays as children are out of school for several weeks.

[c] National Immunization Day (NID) was sponsored by the Federal Government, Rotary International, and many non-governmental organizations including the Nurses' Association. The NID statistics for March are reflected in the six month totals.

Table 4.32

Village Maternal-Child Health Center Use Before and During the Project[a]

Phase	Attendance	Deliveries	Infant Clinic	Toddlers Clinic
	Number (Monthly Average)			
Pre-Project 6 months January to June 1987	383 (63.8)	11 (1.8)	115 (19.2)	258 (43.0)
Project Implementation 9 months July, 1987 to March, 1988	538 (59.8)	29 (3.2)	340 (37.8)	812 (90.2)

[a] The clinic services other villages, therefore the statistics are not project village specific.

Three quotes from the minutes of a meeting of the community leaders and nurses during the evaluation phase of the project are poignant summaries of the community's response:

The revered village elder stated, "I came to this village when it was nothing but bush and prayed that God would let me live to see it become something nice and since the nurses have come, God has granted me that prayer."

One of the village leaders commented, "Now the local government says we have more confidence in the nurses than we do in the government."

Another village leader explained, "You [nurses] are the link between us and the government. They receive our taxes and rents but they don't hear our begging. Since the nurses came there have been changes. We have been ghosts to the government, we have no one to turn to but God himself, and he has sent you to our community."

Project Context

The problems, interventions, and outcomes previously discussed did not occur in a vacuum. They were influenced by many factors. The conceptual framework of the study will be used to guide the analysis of contextual effects on nursing activities.

Social Political and Economic Conditions

The social, political, and economic conditions in which the project took place will be addressed first because they exert an impact on other sectors as well. These conditions will be discussed on the international/national level, the local government level, the village level, and the participant level.

International and National Level

Sponsoring bodies. The impetus for the CE project of which this research is a part, was at the international level. Nurse consultants at ICN developed the project proposal and submitted it to UNICEF; then NANNM was invited to

participate. In turn, National NANNM informed Anambra State NANNM that it had been chosen to carry out the project. Three elements prefigured this decision. First, a stalwart PHC-oriented nurse was the Anambra State NANNM Chairman. Second, one of the nurse educators who had been a part of the development of the CE modules and assessment forms was from Anambra State. Finally, Nigeria is a multitribal nation. Efforts to treat each region equally are mandated under the dictum of maintaining federal character. Anambra represented the eastern region.

A problem of distorted communication emerged, however, due to the distant link between those who initiated the project and those who carried out the project. NANNM officials in Lagos understood that funding was available only for the first leadership training workshops in each state. They repeatedly affirmed to the sponsoring international bodies that Nigerian nurses were ready to make any sacrifice for their fellow citizens. Project implementers, several links away in the communication chain, had difficulty understanding how international bodies like the ICN, but more importantly UNICEF, could be called sponsors of a project without funding project supplies, transportation, and per diems for participants. Every other UNICEF project with which they were acquainted provided monetary support and supplies. To the implementers, who saw very real problems in the village, the substance of the project was meeting community needs, <u>not</u> continuing education.

One unfortunate aspect of the project was that the leadership of the Anambra State NANNM changed hands abruptly just before the implementation of the project. Project nurses repeatedly stated that they thought the resultant distrust and factionalism in NANNM undermined the project and they had told NANNM officials they did not want NANNM politics to interfere with the project they were enjoying so much.

The participants were assured by Anambra State NANNM officials that they would be reimbursed for their transportation to the village at 3 naira per day. The money was never paid. Officials explained that their rebate funds had not been sent from national headquarters. Therefore, they could not honor their pledge.

The participants were doing far more work for the project than they would have done at their regular employment. They went to the community at odd hours, on weekends, and holidays in order to "meet the families in their houses" and despite the very real dangers of traveling in Nigeria after dark. They provided their own transportation, abusing their vehicles on the village roads in a time of economic recession that made petrol more expensive than ever and repair of broken parts nearly impossible. The project coordinator commented that she had "never seen this type of devotion in Nigeria."

As a result of the lack of support perceived by the project nurses from the sponsoring organizations, there were feelings of demoralization and

disenchantment with the project. Some felt they were being used as guinea pigs in an experiment that would only benefit someone else. It is interesting to note that Jinadu and Jaiyeoba (1983) found that nurses (n=96) identified achievement and recognition as the two major factors contributing to job satisfaction (79.4%).

One of the reasons the nurses felt the lack of support so strongly was that many reported being mocked by co-workers who were not involved with the project. This criticism was for their foolishness at continuing with a project that promised them no material gain. Iwe (1987) wrote a scathing critique of this attitude of selfishness he perceived among his people in Nigeria.

When morale was low, the former Chief Nursing Officer of Anambra State, Mrs. M.M. Anagbogu, would be called upon to bolster sagging spirits. The decision by NANNM to use the village project as the field site of the workshop for the nurse leaders from Zaire and Swaziland who were preparing for similar projects in their countries, certainly improved project participants' esprit de corps.

National politics. The rhetoric of PHC is deep in Nigeria and the nurses took advantage of this buzzword and the government's commitment to it, to gain entree to local administrators. Most importantly, the nurses recognized the power of the military. By recruiting a patron in the person of a military officer, they were able to cut through mounds of red tape.

The nurses also recognized the possible ramifications of having a military officer suddenly appear in the village. Therefore, prior to the officer's first visit to the community, the nurses went from house to house to inform and reassure the community leaders and citizens that the military presence in the village was not an ominous threat.

National economy. Financial burdens are tremendous in Nigeria as has been previously discussed. The economic recession and devaluation of the naira has had its impact on the ability of federal and state agencies to respond to health sector demands. Severe shortages of drugs and supplies were obvious. NANNM, the local sponsoring entity, suffered from the economic crunch as much or more so than the government did.

Local Government Level

The political condition that had the most impact on the project at the local government level was the election of new LGA officials in late 1987. Since the military coup in 1985, there had been no elections and all political positions were filled by appointment. In a preliminary step to returning the reins of power to civilians in 1992, elections were held on the local government level.

It was at the precise moment in the project when the building of the health center was practically assured that the transition of power took place. The former official had been given a bonus budget and wanted to spend it in a magnanimous way. He approved the construction of the health center without

much difficulty. However, a new official was elected. He was, at first, also supportive. Funding a rural health center would be an excellent way to start his tenure. But, when he discovered that the land for the health center, and the village itself, was part of the fiefdom of a certain traditional chief, who had supported his opponent in the election, he immediately revoked his support and the health center was dropped from the construction list.

Village Level

One of the greatest frustrations experienced by the nurses was the negative impact of village politics on their work. The village was not a united community. The people spoke a common language, shared common religious and cultural orientations, but they shared no common history or tradition. They were like a minute confederation of states, co-existing but not necessarily cooperating.

Each faction wanted to profit from whatever the nurses might do, even if it meant undermining an activity designed to benefit the community as a whole. Fundamental to this divisiveness was the pervasive belief among the villagers that the nurses had money; a UNICEF project must have money. One man said, "there is so much jealousy that if a person has new clothes the others will say he got it from the nurses." The project coordinator summed it up when she said, "It isn't African tradition for someone who isn't a relative or friend or

being paid, to visit someone and offer help. These villagers wonder what use this is to us and will wait to see where the money is."

In no aspect of the project was this factionalism more evident than in the building of the health center. Location was a major issue. When the nurses negotiated one plot of land from the traditional chief, it was not in harmony with the preference of certain influential men. A rumor was quickly spread that the nurses intended to bring in the Housing Authority to bulldoze squatter homes on the health center site. The nurses painstakingly reapproached the chief and persuaded him to offer a second piece of land which was vacant and proceeded to have it surveyed. Unfortunately, disgruntled village elements had already gone to the newly elected local government chairman to demand a halt to the construction of a health center that threatened their homes.

Participant Level

Professional factors which influenced the project were the nature of NANNM itself and the interactions of the participants.

NANNM. NANNM is a labor union as well as a professional organization. In the United States, when nurses take action against working conditions they confront the private sector. When nurses in Nigeria complain about the conditions of their employment, they confront the federal government. The control of nursing is in the hands of the Ministry of Health, and its physicians. NANNM sent Dr. Olikoye Ransome-Kuti, current Minister of Health, a vote of

no confidence during their 1987 national convention. NANNM was fond of attributing to Dr. Ransome-Kuti the statement that nursing was a dead profession and the country would be better served if it turned out community health officers instead of nurses.

Consequently, the nurses ascribed many obstacles and constraints in the project to poor doctor-nurse relationships and a lack of federal and state Ministry of Health respect for nurses. The common reflection was that if doctors had been doing the project, UNICEF would have given them money. The nurses thus felt they had to prove to everyone, especially the Ministry of Health, that they were very capable of contributing to community health.

Participants. The project nurses were not immune from political problems and agitation. Friction occurred between and among the nurse teams. Both major project conflicts were rooted in traditional Nigerian definitions of hierarchy. The project coordinator was not an Igbo; she was Ibibio. Some nurses felt that as the project was taking place among the Igbo people, an Igbo should be in charge. The precedent can be found in the multitudinous federal indigene-protection laws. Also, the most senior nurse in terms of salary grade believed that she should be charge because she outranked the field officer, regardless of her experience and specialty training.

Through meetings with Mrs. Anagbogu, a well-respected and influential nurse in Anambra State, the issues were resolved. She was able to point out

that the project coordinator had spent her entire nursing career in Anambra and so was like an Igbo. She also helped the nurses to see that the field officer should be one with community training and experience. To the credit of the nurses, they were able to resolve most of their individual differences and continue with the project.

The background of the nurses was a pivotal factor in the project. This was not evident in the family assessment phase. Regardless of nursing background, the nurses identified problems and instituted interventions in a similar fashion. The major difference was that the leader in Zone 4 had more creativity in meeting problems, especially those which involved referral or liaison activities. She had more contacts, more suggestions, and more resources to mobilize on behalf of the families. The psychiatric nurses also contributed a perspective sometimes missing in community work (Wankiiri, (1984).

The nurse teams differed in strategies and interaction styles, but over the nine-month project period, the problem outcomes were very nearly the same. However, when it came time to identify community problems, determine intersectorial strategies, make linkages, and manage village contention, those who had not had community nursing experience were less sure of themselves.

The project teams continued to make family visits and fulfilled their intersectorial assignments well, but they needed the vision and organizational skills of the public health nurses. Technical skills are important in PHC, it is

true. But, as Hammond (1985) proposed, a PHC attitude which is creative, comprehensive, constructive, and egalitarian may be much more important to PHC success.

Cultural and Religious Beliefs and Values

Cultural and religious beliefs and values were a pervasive influence on the nursing activities in the village. In fact, the nature of the entire ICN/UNICEF/NANNM CE project was altered because of cultural values. The CE project was designed so that nurse teams would visit a maximum of eight to ten families. However, the nurses immediately saw that this strategy would never be accepted in a rural setting where all villagers would be aware of the comings and goings of the nurses.

In addition, the nurses did not feel that they could ethically give service to some and not to others in the same village. They had difficulty in making no interventions in the experimental village after the initial assessment period. One nurse expressed it well when she said, "our people are not rabbits for experiments; they have feelings."

As the nurses were working in their own culture, they were very adept at following cultural norms. Middlemen were used to negotiate appointments and services. Family planning lectures made concessions for religious beliefs, with a focus on child spacing for the mother's health, not elimination of pregnancy. All the nurses were Christians and could understand the religious perspectives of the

villagers. Meetings began with prayer. Religious songs were sung at the beginning of health education activities. Appeals to God and references to the omniscience of God were common interventions for many problems--from economical to physiological--especially as reassurance.

The Igbo see children as special gifts from God. The belief in reincarnation also creates a certain respect for children. Consequently, the nurses organized children's health meetings not only to teach the children, but to train them to be active health agents in their families. Moral advice to family members and to community leaders was always given with an appeal to Igbo and Christian traditions (cf. Amadi, 1982; Iwe, 1987).

The nurses believed that in a few cases in the village a health belief or behavior stemmed from unfounded superstition or radical religious fanaticism (i.e., a hex on an unborn child or refusal to feed children on the Sabbath). The nurses did not demean those beliefs, but tried to work with villagers so that those beliefs did not cause serious health problems. The Igbo people are well known for their "live and let live" philosophy (Amadi, 1982; Iwe, 1987).

It was most interesting to note, however, that the only traditional behaviors that received negative responses from the nurses were the practice of polygamy and the use of traditional healers. The nurses advised against polygamy as an economic measure, not from moral or feminist perspectives. Some of them had come from polygamous families.

The advice against using traditional healers was most noticeable in regard to chemists, herbalists, and patent medicine dealers, types of pseudo-Western services. The nurses did not counsel women to stop visiting TBAs, except for one woman the nurses believed was carrying her baby in transverse position. But, the women were advised to register with the maternal-child health center for antenatal care. The Westernized training of the nurses has probably put them in a position where they can acknowledge, accept, and even use traditional healers. They do seem reluctant, however, to work with traditional healers and seem obligated to extol the virtues of Western health care (cf. Fashina, 1984).

Again, it must be highlighted that the nurses were working within their own cultural and religious frames of reference. They could understand the subtle nuances of conversation and worked with them so as not to offend the villagers. The field officer explained, "You have to take the therapeutic kola (a reference to the Igbo custom of cutting and sharing a kola nut as a symbol of welcome); you have to do the cultural things. If you refuse you do more harm than taking their food." Furthermore, the nurses explained that as an outsider, the researcher would not be judged as harshly for not following acceptable Igbo behavior, as they would be.

Community Health Services and Community Development Sectors

The nurses interacted with health and development sectors with little discomfort (see Appendix U for intersectorial contacts made). These links were facilitated by friends and relatives in important civil service positions. The experienced public health nurse often mentioned that the project nurses tended to be impatient in establishing relationships and obtaining services. She said they didn't realize that "public wheels turn much slower than hospital wheels."

There was excellent rapport between the nurses and the staff of the village maternal-child health center. The nurses never tried to usurp the power or position of the center. Before zone teams began work for the day, they visited the health sister in charge of the clinic, because, as one zone leader said, "we are entering her territory."

More importantly, the nurses tried to intervene on behalf of the health center. They made referrals to the center and monitored treatment. The clinic then had to become more responsible than it had in the past (at least in the villagers' view) in meeting needs. Also, the nurses, as part of the project, lobbied strongly with the Ministry of Health and the Health Services Management Board to improve facilities and supplies at the clinic.

As previously mentioned, the only health related sector neglected by the nurses was that of traditional healers. The nurses did visit the TBAs of the village, but did not embark on any TBA training. The nursing approach focused

more on educating the villagers about the hazards of using non-Western healers than in actively opposing them. There was no obvious attempt by the TBAs to undermine the project.

The transient nature of the village and the poverty of its inhabitants made it almost impossible to mobilize any community development sector within the village. The villagers' social, kin, and age grade associations were usually in the traditional village. The village Landlords Association was the most influential group, but had few resources. The townspeople did agree to contribute their labor to the construction of the health center.

Environment

The environmental problems noted by the nurses have been previously described. The impact of the environment on the project was two-fold. First, the geologist-engineer who surveyed the village for possible road improvements indicated that the terrain and soil composition worked against maintaining passable roads, without a major construction. Even the asphalt and cement expressways in Anambra State were in poor condition in many locations. The hills sluiced water through the village and toward the expressway and the clay topsoil was washed quickly away. Because of this, only the major road into the village was improved.

The other environmental condition which influenced nursing activity in the project was the rainy season. The rains hampered the nurses' work during the

assessment phase by making it very difficult to travel to and in the village. More importantly, the rainy season brought new problems: colds, fever, catarrh, and joint pain. Although the nurses bemoaned the difficulties of working in the rainy season, they believed that it was important that the project be done during the both seasons so that the problems inherent in each could be addressed.

Nurse Perceptions

Part of the context is to see the project through the eyes of those who implemented it--the nurses (cf. Feuerstein, 1978). First, the constraints or obstacles to their project work will be discussed. Then, the supports or persistence factors of the project will be described. Table 4.33 summarizes these factors.

Constraints

The lack of sponsorship for transportation and supplies was the most frustrating constraint perceived by the nurses. They felt their efforts in the village were handcuffed because they could not give "even a panadol for fever." To Anambra NANNM's credit, it did supply stationery and office supplies for the project. The transportation problem became more acute as the project went from the family assessment phase to interventions on behalf of the community.

Table 4.33

Nurses' Perceptions of Obstacles and Persistence Factors in the Project

Obstacles	Persistence Factors
Lack of sponsorship for transporation and supplies.	Job satisfaction.
Occupational hazards.	Need to prove to federal and state ministries of health what nurses are able to do.
Clients not at home.	Making friends.
Lack of cooperation and village factions.	Improving own knowledge and skills.
Footdragging by intersectorial agencies.	It is a way to solve problems.
Respondents give false information.	You can see your contribution and results.
Nursing politics.	
Termination of the project.	

Telephone service was unreliable in Nigeria, non-existent in the village. All appointments, discussions, community leader approvals, introductions of community leaders to appropriate officials, and meetings had to take place without benefit of a telephone. Transportation was limited and becoming more expensive, making intersectorial linkages and community participation a challenge

of immense logistics. The nurses also indicated that they felt guilty about neglecting village families while they were making visits to development or health sectors. They did not have time to do both.

Working on the project brought a new set of occupational hazards. Some nurses claimed to have acquired infections while in the village. All unanimously agreed that traveling to the village in the evening or on weekends and holidays was dangerous and they risked their own safety as well as car theft by doing it. It was true that no one in Nigeria liked to be on the streets after nightfall because of increasing attacks by armed robbers. Some nurses also reported threats by certain village elements that were probably drug-related.

The morale and lack of support problems perceived by the nurses have been previously discussed. Other constraints in the project included the typical public health difficulties of not finding clients at home, having to work to overcome initial distrust, and the slow moving machinery of government sectors. The nurses rated these more as annoyances, however. The project team used a variety of techniques to break down village barriers. They invested time to become acquainted with the families. They told jokes, played with the children, and made conversation on household topics. And, they continued to reassure families that they were not government agents.

The nurses felt that village, government, and NANNM politics had diminished their achievements in the project. The failure to build the health

center was most irritating. One nurse explained, "Our people do not see education as meaningful. They want something touchable. Since there is no health center, they will say we failed."

The termination of the project was a major difficulty. The nurses had become quite emotionally attached to the villagers and ending those relationships was painful. They did not want to stop the project because they saw both need and progress, yet they could not continue to be released from their current employment. The field officer explained, "There must be continuity or the people of the village will see us as wearing the same cloth as politicians who make promises and don't fulfill them." The termination was made more regretful because the nurses believed that politics had negated their hard work to obtain the health center.

Supports

The nurses revealed that they had never felt the degree of job satisfaction before that they had felt as part of the project. They stated that the opportunity to solve problems and truly see one's contributions were very important factors in maintaining their efforts on the project. One stated, "This is the first time I have thought that I could make a difference." The nurse from the general hospital said she looked forward to seeing the villagers as they would come in for treatment. Some nurses wanted the Ministry of Health to post them permanently to the village. One psychiatric nurse said she now going

to apply for the Community Health Officer course because she had enjoyed working in the community so much, despite all the obstacles.

An important factor contributing to the nurses' persistence in the project was their desire to prove to the Ministry of Health what nurses could do. One nurse said, "We are in danger of losing our identity because the government is building up other auxiliary health personnel. This project is a way to bring glory back to the profession." Another said, "once I take on a challenge, I intend to see it through to the end." Improving one's knowledge and making new friends were also viewed as supports in the project.

The nurses favored the team approach suggested by the project as opposed to individual nurse visits. They said a team provided for safety, especially during what was called unsocial hours (evenings, weekends, holidays). A team also made it possible to help one another, to have more options, and to glean more information. Though the nurses said a team approach might inhibit client responses to personal questions and dilute rapport, they agreed that a team approach was best.

Nurses' Role in PHC

Because nearly every communique in Nigeria regarding health mentioned PHC, the nurses were very conversant about PHC. They could name the components of PHC and quote pieces of the Alma Ata declaration. However, it

was difficult for most of the nurses to describe realistically how PHC would be implemented. They knew the philosophy, but not the means.

In describing what nurses should do in PHC, the project team elaborated five roles. These roles were: (a) assessment of problems, (b) education in all health related spheres, (c) liaison for goods and services from health and development sectors, (d) referral for treatment, and (e) motivation and training of the community members to solve their health problems and make contacts with government ministries. The interventions that were made during the project certainly indicate congruence between the nurses' role perceptions and activities. The nurses firmed believed that while village health workers could contribute to PHC, nurses by virtue of their training and their closeness to the people, could do much more.

Summary

Data extracted from FAFs, CAFs, interviews, project records, participant observation and NDPs have been presented. The project village and nurse demographics have been given. Identified family and community problems, nursing interventions, and problem outcomes have been discussed. Contextual effects and nurses' perceptions of the project have been explicated.

CHAPTER FIVE

DISCUSSION

The discussion of the various components of this study is organized as follows: The findings will first be considered. Then, the significance of the study will be explained. Next, the limitations of the study will be enumerated. Implications for nursing and future research directions constitute the conclusion.

Findings

The conceptual model guiding this study linked the concepts of nursing, PHC, and the environment (see Figure 2.1). The proficiency of the model will be addressed from four perspectives. These include: (a) identified problems, nursing, and contextual effects, (b) project success factors, (c) theoretical contributions, and (d) model considerations.

Identified Problems, Nursing, and Contextual Effects

The family problems identified in the stratified random sample of 128 FAFs and the broad community problems were shaped by the environment, society, and culture in which the community existed. The major family problem categories, accounting for 64% of all problems identified, were **Environment/Hygiene, Physiologic,** and **Reproductive** (see Table 4.20 and Appendix Q). The community problems were prioritized as need for a passable road, potable water, improved access to health care, and need for education (see

Table 4.25). These results mirror Nigerian and international PHC concerns (Federal Republic of Nigeria, 1981; WHO/UNICEF, 1978).

Some family and community problems, such as poverty and lack of water, were a matter of environmental or social circumstance. Other problems were the result of behavior patterns, either deliberate because of cultural or social prescription (reproductive behaviors for example) or unknowing due to lack of knowledge or understanding (cf. Dunn, 1984). Those problems which were most refractory to amelioration through the nurses' interventions were those which were context bound. Social, economic, and psychological problems were least altered during the nine-month project. Categories of problems also displayed different progress trajectories over the course of the project (see Figures 4.1 through 4.8). **Reproductive, Psychological,** and **Social** problem outcomes, all with powerful cultural and societal demarcations, fluctuated more than others, indicating a need for more continual reinforcement in supporting change.

More fundamentally, these family and community problems distil into one basic need: to have a connection to resources and a conduit for information. The villagers provided key descriptors of this need in expressions such as "they [the nurses] told me things I did not know" and "you are the link between us and the government."

Not only did the context affect the kinds of problems identified in the village, and the outcomes of those problems, but it influenced nursing activity as

well (Morrow, 1982). Interventions were based on resources. Because the nurses had no access to medical supplies, and the community clubs or groups often solicited for philanthropic donations did not exist in the village, interventions reflected what assets the nurses possessed (see Table 4.23 and Appendix S). They had information to be shared, they had concern, and they had connections with health and development sectors. Consequently, **Education**, **Support**, and **Referral** represented 72.5% of the interventions given for all problems. Information giving through advice accounted for an additional 19% of the interventions.

It is striking that the preceding findings so parallel results from studies of community nursing practice in the United States, where there are more resources available to nurses. Teaching was a major public health nursing intervention (Barkauskas, 1980, 1984; Gulino & LaMonica, 1986; B.S. Morgan & Barden, 1985; Morris, 1985). Five other studies tested teaching strategies, indicating the preeminence of education as a community nursing intervention (Hall, 1980; Lowe, 1970; McNeil & Holland, 1972; Olds, Henderson, Tatelbaum, & Chamberlin, 1986; Yauger, 1972). It is conceivable, based on these data, that the essence of community nursing differs little between the developing and the developed world, despite varied social and cultural circumstances.

Two considerations are of particular import. First, education cannot be the allegorical silver bullet for all problems. In addition to profound cultural and

religious influences on behavior, which remain intact despite education, the opportunity for change based on education or advice must exist, or the education cannot be empowering. Regardless of education on the importance of high protein foods and local examples, a family may still have not had the money to supplement the diet. Despite this reality, 77.5% of the problems identified in the village sample were evaluated as resolved or improved (see Tables 4.26 and 4.29).

In the field of statistics the term ceiling or floor effect is often used to denote those situations where there may be some factor which precludes measurement beyond a certain value. In this study, the context imposed limits on potential problem outcomes for families and the community. Those problems which were better controlled by the village or the nurses, such as lack of knowledge or referral needs, could show a more maximal improvement. The village environment was cleaner, water was available by tanker (although the commitment is tenuous given the economic constraints of the government), and people were responding to health education discussions with health promotive behaviors.

When control slipped into political and societal spheres, any efforts by the community or the nurses could be made ineffective by political decisions or economic realities. The health center is a case in point. This is not a new revelation as the literature is replete with similar examples (e.g., Antia, 1988;

Bossert & Parker, 1984; Heggenhougen, 1984; Paul & Demarest, 1984). However, it does prompt a more discerning and perhaps benevolent evaluation of public health and PHC nursing success.

The World Health Organization (1982) suggested that nurses could make an important contribution to PHC through enhancement and expansion of traditional nurse roles. Nurses in Nigeria have an ironic autonomy. A nurse can suggest drugs to patients, without formal license to prescribe, which can then be obtained in a pharmacy. Nurses in rural areas have been known to perform minor operations. In many ways, Nigerian nurses can do whatever they feel capable of doing.

But, the traditional role of the nurse has been delimited by a focus on doctor-subservient hospital care and an educational system which promotes rote memorization, not creative problem solving (cf. Hammond, 1985). It must be pointed out, however, that project nurses were very creative. One explained how a mother could make her own bandages and wash and iron them to keep them clean. Another strategy involved making a natural cold box in which a diabetic's insulin could be kept. Whether from education or life's experiences, some project nurses seemed to have available to them more intervention options. For whatever reason, nursing characteristics such as education and experience enhanced intervention options.

The interventions in Zone 4, headed by a public health nurse, have characteristics which set them apart from the interventions in other zones (see Appendix S). There were more tangible support interventions, though all zones gave emotional reassurance and support. The Zone 4 team checked on school certificates, made appointments with individuals at the unemployment office, arranged small jobs, convinced a market wholesaler to consign goods to one of the women so that she could embark on petty trading without capital, contacted charities, and took women to the market to illustrate wise budgeting for nutritious foods. Zone 1 problems and interventions reflected the psychiatric assessment and treatment skills of the zone nurse team.

The project sphere in which enhanced and expanded nurse roles were most visible was in the intersectorial work performed by the nurses. Jaeger-Burns' (1981) report of a survey of national chief nursing officers indicated that this area is the weakest component of most national nursing curricula. Education and work experiences in Nigeria often do not promote either the nurse assertiveness or articulateness necessary to interact constructively with government, expatriate, and nongovernmental development and health sectors. The intersectorial successes of the nurses in this project in nine months was most attributable to their maturity and their connections.

The nurses had an average of 17.3 years of nursing experience. They were not novices. They held high positions in the nursing hierarchy in Enugu. Their

positions and experience gave them two crucial powers. They knew people--people of their age grade who were in positions of influence in the civil service. They also knew doctors and officials in the Ministry of Health. Therefore, they were not intimidated in approaching powerful individuals. It is doubtful that less mature and less experienced nurses, regardless of CE workshops, could have done as well in making intersectorial links.

The autonomy of practice was truly enjoyed by the project team. They made all decisions; something they did not do in the confines of the hospital. One said, "At last! This is a way for a nurse to work independently." Many commented that for the first time they were truly making a contribution to the health of their people.

One of the unanticipated findings of this study was the importance of the supportive presence of the nurses in the village. The townspeople indicated that there was a trust in the nurses, a reciprocal giving of service and an extension of confidence. It was as if the villagers saw the nurses as a symbolic umbilical cord, connecting them to the world of government, health care, and information, a world they felt too humble or ill-prepared to enter on their own.

Many conjectures accompany this finding. The major explanation lies in the villagers' perceptions that the nurses cared. Cultural tradition and now wealth has created distinct class structures in Nigeria, replete with stereotypical segregative inequities (Achebe, 1983; Iwe, 1987; Lamb, 1987). The government

and its officials are of much higher status than the poor and uneducated villagers. The nurses were able, through regular visits to families and village leaders, to work with this village in a way that did not demean their situation, but tried to improve it. This gave the villagers the feeling of being truly valued; a collective sense of affect, affirmation, and aid, to use social support terminology (Kahn, 1979). The bond of trust and reciprocity based on the activities of the nurses was the central factor contributing to the distress the nurses felt at the termination of the project.

Project Success Factors

The constraints and supports to the project have been discussed in the previous chapter. Despite their disappointment in failing to secure a health center in the village, the contribution of the nurses to the overall health of the community has been documented. With the exception of the Social problem category, over half of all identified problems were resolved or improved over the course of the project (see Tables 4.27 and 4.29). The nurses overcame many obstacles to achieve this success. One must ask why the Enugu nurses persevered when other Nigerian project sites did not.

Several factors influenced the completion of the project and its success. Most importantly, there was committed leadership. The intrigues of state and national NANNM politics made it difficult for state officials to play a significant role in the project. The vigor of the project coordinator (who had been part of

the NANNM team that developed the CE project) kept the project going in the beginning. She could see the vision of what nurses could do in PHC. Her administrative skills were important in organizing the project and the education workshops.

As the project progressed, and the reality of no supplies, no transportation, and no per diem to project workers became obvious, frustration and disillusionment set in. Participant conflicts resurfaced. Mrs. M.M. Anagbogu, former Anambra State Chief Nursing Officer, was asked to speak to the participants to mediate their disagreements and reinspire them. This she was able to do.

After the family assessments were completed, the mantle of leadership fell upon the field officer, the only nurse with appreciable public health experience. She became mediator, motivator, and director and managed not only the intricacies of politics but the delicacies of interpersonal relationships.

The project team as a whole exhibited a sense of altruism and dedication and encouraged one another. As the nurses worked with families--becoming a part of village life in a sense--strong ties were formed. The nurses felt compelled by an unwritten, but nevertheless deep, social contract to continue. Had these interpersonal relationships not been formed with the villagers, the nurses may have felt no obligation to continue the project.

Periodic successes in the project contributed to nurse persistence. All the nurses expressed excitement to see the families so anxious to have them visit them in their homes. As families changed behaviors, as the environment improved, and as intersectorial links were made, satisfaction overcame frustration and revived momentum. Praise from nurse leaders was so encouraging, especially when Enugu hosted international visitors from Zaire and Swaziland to view the project.

No one individual played all critical project roles. Each member of the project team made important contributions to the success of the project. Two facts are clear. Indigenous, acceptable, respected, and skilled leadership and project team commitment was essential to project success. And, nourishing staff morale was critical in maintaining project enthusiasm and persistence.

Theoretical Contributions

Two theoretical aspects of the project data must be considered. These are the dilemmas of managing individual versus aggregate needs, and nursing's interaction with the environment.

Individual versus Aggregate Needs

The issues of individual versus aggregate good are compounded in PHC by the disagreements in the literature regarding PHC and SPHC. On a village level, given the power of the nurses, there was little that could be done to change economic and political influences on health. However, within their

sphere of practice, the nurses were able to manage individual and community needs. In their minds, what was good for the community was good for each family in the community. Conversely, family improvements would lead to community improvements.

It was difficult for the nurses to manage the work required to make intersectorial community interventions and continue to visit individual families. The size of the project team and the difficulties in transportation and communication made it nearly impossible to do both at the same time. This reality created discomfort, especially when forays into the development sectors were so frustrating. It was easier to see success with families, who gave much more positive reinforcement to nursing efforts than did government officials.

The nurses were pragmatic in regards to SPHC issues. They recognized what could realistically be changed and focused on major community needs in a variety of development arenas. If a program like the NID was available, they were quick to take advantage of it. To these nurses, PHC was making any possible health benefit within their purview available to the village.

Nursing and the Environment

Theoretically, the nurses did respond to environmental problems. Much of their teaching was directed to making alterations in the environment. Water and roads were top community priorities. The nurses also worked within the social, cultural, and religious mores of the village as they planned family and group

interventions. When the political environment in the village threatened to disrupt their efforts, they were willing to confront the village leaders in order to solve the problem.

But, a more subtle point emerges clearly from this study. Nursing itself is proscribed by the environment. Even in cases of relative autonomy, options for nursing practice are bounded by environmental constraints. This is not to say that nurses are passive beings manipulated by the environment, but it suggests that idealistic definitions and exhortations for nursing practice in PHC must be tempered by a sense of reality.

Model Considerations

The conceptual model which guided this research was very efficient in forming a framework for the analysis of nursing in PHC (see Figure 2.1). The model was feasible as a research and practice guide. It allowed for an examination of community and family health, the influences of the environmental context, and the practice of nursing and how it is also influenced by the environment.

The data from this study support a more detailed emphasis on one aspect of the model. Originally, the concepts of environment, cultural and religious values and beliefs, societal and political circumstances, and the health and development sector were seen to influence individual, family, and community health. Nursing

was thought to be an additional influence on health, and was also influenced by the same contextual elements.

What was revealed by the data from this study is that though these sectors did influence family and community health, the resources of these same sectors were not available to any great extent in the village **until** the nurses became conduits for them. The most important and critical role a nurse can play in PHC may be connecting the community, as the circular arrow indicates, to available resources.

A pertinent question is whether the project was a feasible representation of the model in the real world. This project was carried out by 14 nurses. Seven were full-time. This was a ratio of approximately 10 full-time nurses to 3000 persons. The Nigerian ratio is 1 nurse to 3014 persons (World Bank, 1985). In actuality, it may be fiscally impossible to integrate the same project parameters into national or state health programs. In addition, the fact that the project nurses were so experienced, a major factor in project success, makes them a very expensive commodity. Nursing salaries in Nigeria begin at 2000-2400 naira per year. At the grade levels attained by the project nurses, their salaries were probably between 4600 and 8000 naira per year (M.I. Turton, personal communication, September, 1987).

It took a considerable amount of time for the nurses to assess all the village families. Three full months were needed. Perhaps fewer nurses would have

been able to make the intersectorial linkages and conduct group education programs, but then it could have been difficult to maintain family to family contact, except on an acute basis.

It must also be pointed out that rural areas are even less served than this village so near Enugu. Akpovi (1984) found that Nigerian nursing students were not willing to be posted to rural settings. There is doubt that experienced nurses such as those who carried out this project would be any more willing than students.

Though the economic costs are high, the impact the nurses made is not disputable. Although the impetus of the project was a CE program, the success of the project cannot be directly attributable to the workshop. The critical contribution of the workshop was not the education of the participants (except in the use of the FAF and CAF as a means to document nursing activity). It was, instead, the important courtship of nursing leaders to support the project.

Significance

The significance of this study can be addressed in several ways. First and foremost, it documents the contribution nurses can make to community health. Over 78% of identified family problems were resolved or improved during the nine-month project period. Progress was also made in meeting community problems. As the social and environmental context did not change during the

nine months of the project, the best reasonable explanation for the change was the presence of the nurses in the community.

This study also provided empirical data regarding the practice of nursing in PHC. The process of assessment and intervention for family and community problems has been documented. The study identified important factors contributing to project success. Leadership, creativity, and experience were crucial. It may be that PHC is not for the young and inexperienced new graduate, regardless of educational background. Even though there is a move to make nursing curricula more PHC relevant, there are additional critical PHC nursing attributes that develop with time. Experience, maturity, confidence, and connections are integral to achieving even a modicum of success with health and development sectors.

Theoretically the study contributes a parsimonious, yet efficacious, model for assessing the practice of nursing in PHC. The need to examine the limits of nursing options placed on practice by environmental and nurse characteristics is indeed significant.

The importance of the role of the nurse as connection for information and resources in PHC has been underscored in this study. The feelings of support and trust expressed by the community speak to a very salient, yet seldom addressed community characteristic--some aggregate conception of support or reliance. The contributions of social support to individual health have been well

investigated (cf. Broadhead et al., 1983; Caplan, 1974; Cobb, 1976). Community health in its broadest definition may have been influenced in this project by similar aggregate feelings of support.

The longitudinal nature of the study and the use of a variety of data sources strengthens its contribution to nursing and PHC knowledge. It represents the most detailed study of nursing in PHC and its impact on community and family health in the literature to date. As such, it will be useful as a basis for basic and post-basic curricula and practice decisions.

The fact that such a high level of positive outcomes for families and the community was achieved, without outside funding, is truly an important contribution documented by this study. The international and national impetus for the project was also notable and illustrates the need for continued commitment by nursing leaders to support the practice of nursing outside traditional confined roles (cf. Sullivan and Ohlson, cited in "Leadership Conference", 1989).

Some may criticize the project for being imposed on the village, instigated by an international agency, and therefore not reflective of Third World reality. However, this study does confirm the efforts of an indigenous group of nurses working in their own culture and within the limits of locally available resources--efforts which for the most part yielded positive results. Nurses can mobilize

communities and work intersectorially; they should, therefore, be considered as important and critical partners in national and state PHC plans and programs.

Limitations

The limitations of this study can be distilled into three groups. Each will be addressed in turn.

First, reliance on the FAFs and CAFs as data sources brings with it several problems. The data could only reflect information given by the family. At the beginning of the project there was some distrust. Families later admitted they had given false information. It is culturally inappropriate among some Igbo people to number their children. Family members could have also responded with false information in an effort to please the nurses, or give what was thought to be the acceptable answer. The high immunization rate reported on initial assessment may have been based on such responses.

There may also have been inconsistencies in the manner in which the nurses interpreted questions on the FAF. And, because recording was not always immediate, information was subject to nurse recall bias. It is true that the FAFs were proxy measures for actual nursing interventions. The nurses could have given many interventions which were never recorded.

Several factors, however, reduce the impact of these potential limitations. The nurses were repeatedly given instructions on the use of the forms and were encouraged to record data as soon after a visit to the village as possible.

Decisions on conflicting interpretations were made as a project group. And most importantly, the families gradually revealed more accurate data as trust developed. As the FAFs were not coded until the completion of the project, errors could have been corrected in the interim.

Secondly, the nurses are a source of bias in this study. They were not blind to the ICN/UNICEF/NANNM CE project or study purposes. Much of their motivation for persisting in the project was to prove what nurses could do in PHC. Therefore, their problem intervention and outcome evaluation documentation could be prejudiced. Participant observation indicated that this bias was minimal, nevertheless, the limitation must be noted.

Thirdly, the researcher contributes to the study limitations. She did not speak Igbo and had to rely on the nurses for interpretations of family and village group discussions. Despite attempts to be open minded and culturally sensitive, there are limitations to the interpretations of the data through the researcher's perspectives. Every attempt was made to reduce threats to the validity of the work arising from the researcher's presence, personality, culture, and language (cf. Brislin, Lonner, & Thorndike, 1973; Kirk & Miller, 1986). Situations were clarified with project nurses as quickly as possible to avoid misunderstandings. Ideas were discussed with a nurse who was not part of the project team in order to gain perspective. The use of an array of data sources was an important factor in reducing study limitations and increasing confidence

in the results. Still, the limitations imposed on the study by the researcher working in a culture not her own can not be ignored.

Implications for Nursing

The nurses who participated in this study did not lack knowledge about the components of PHC or its history. What they needed was experience in doing PHC. Didactic teaching strategies are important, but the application of principles and the acquisition of confidence truly occurs in the field. The CE workshop participants praised the community experience as the most beneficial part of the workshop content.

Nurse educators would be wise, then, to design basic and post-basic curricula that would augment classroom learning with significant experiences in the community (cf. Adeokun, 1978; WHO, 1977). And, as Hammond (1985) observed, PHC training must include the molding of attitudes, not just the acquisition of skills. There is a clinical component to the licensure examination in Nigeria, but it is hospital focused. Community skills could also be tested, which would promote a stronger community field component in schools of nursing.

Though nurses of varied backgrounds contributed greatly to the PHC project, those without public health backgrounds had fewer options when it came to managing many family and community problems. They had difficulty moving from the family level to the community level. Mentoring has received attention

in nursing as a teaching strategy. Skilled PHC nurses must have greater input in nursing education and program planning.

There is a need for constructive, assertive, but not defensive, dialogue between nursing leaders and ministries of health. The actual and perceived medical bias exerts a powerful negative influence on nurse attitudes. Mrs. Anagbogu said, "There is so much health work to be done in this country. Why do we have to argue with each other over whose work it is? There is more than enough work for all of us." Yet somehow, nurses must also document their practice and back their claims with empirical validation.

This study points out the boundaries and limits to nursing intervention options and problem outcomes. An assessment of those factors by nurse program administrators would allow for a perspicacious channeling of energy into areas where nurses could make a difference. Nursing leadership needs to be mobilized to create an environment in which nurses can effectively maximize their options to care. Yes, there are deep-rooted societal obstacles, but clarifying the challenge does not mean ceding the struggle.

Though there are differences in the social and cultural structures which separate nations and groups within nations, the call for cultural relativism and sensitivity should not negate an examination of the important elements of nursing that are similar wherever it is practiced (Ulin, 1982). Of the world's 3.6 million nurses, 3.1 million (85%) practice in developed countries where only one-

third of the world's population resides. The remaining 66% of the world's inhabitants have only 15% of the available nurses (Mejia, Pizurka, & Royston, 1979). Ways must be found to share knowledge to bolster nursing efforts internationally.

Another important implication of this study concerns appropriate research methodologies for nursing in PHC. The traditional experimental and quasi-experimental designs utilizing a control group may not be culturally or ethically acceptable to nurses practicing in developing nations. Methodologies which are capable of addressing complex meshing of variables and circumstances are necessary (Buzzard, 1984; Nichter, 1984). Longitudinal designs are critical.

Future Research

Several suggestions for future research can be made, based on this study. The first would be to use the same model and techniques to study nursing practice in PHC under less contrived conditions. In other words, this study illuminated what nurses **could** do in a PHC project, despite numerous obstacles. The next task is to discover what nurses **are doing** in government and nongovernmental assignments and compare the results with this study, including a cost-benefit analysis. This would then form a platform for addressing more appropriate utilization of human resources and strategies which should be taken to maximize nursing contributions.

Secondly, the study should be replicated in other settings within Nigeria and internationally to assess the varied nature of the interaction of nursing, PHC, and environment. One suggestion is to implement a project involving a specific population in the United States to examine the similarities and differences of PHC nursing practice in developed and developing countries. Many minority groups in the U.S. have needs for education and access to health care and nurses could serve as cultural brokers to meet these needs. PHC principles could be very useful in guiding nursing interventions for these groups.

The most neglected aspect of this study was its inability to truly elaborate villager perceptions. Community and family ideations of support in PHC also deserve investigation. Such research could define factors crucial to community health and change. An additional important contribution to the understanding of nursing and PHC would come from a study that returned to the project village to assess the staying power of the project impact after the nurses were gone. This is critical if nursing in PHC hopes to move past project to permanence.

Another meaningful aspect of future research would be to investigate the morale factor in nursing in PHC. What strategies can be employed by nurse administrators and community health officials to increase productivity and motivation when results are long in coming?

Benner (1984) has begun to document the characteristics of proficient bedside nurses and how those nurses become so adept. A similar study of the nature of expert nursing in PHC and traditional community health could provide decisive knowledge for educators and administrators alike. That knowledge could then be used to develop administrative and educational methods that maximize options for nursing interventions in PHC.

Like much of the research in health care in the developing world, there is a haunting aspect to this study. Many of the problems in the developing world already have answers. Clean water reduces diarrhea. Sanitation reduces morbidity. Will another study documenting that food supplements lead to better nutrition expand knowledge? The task is now to develop the knowledge of how to act on knowledge already possessed-- the knowledge of application, the knowledge of working within the intertwined mesh of political, social, and cultural constraints. How can contextual boundaries be breached? What are the ways to best make health changes when the obstacles are so imbedded in circumstance?

Though it seems overwhelming, the crux of the matter is--it must be done. As Jaeger-Burns (1981, p. 167) so poignantly asserted, "Nursing will no longer be judged only on its accumulation of knowledge, but on its trusteeship of that knowledge and its application to two-thirds of the world's population who do not have access to health care."

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APPENDIX A

Topics Covered in the ICN/UNICEF/NANNM Continuing Education Workshop

I. Primary Health Care (PHC): Its Implication for Nursing and Making it a Reality through Community Mobilization
   - A. Nigeria's National Health Strategy
   - B. PHC: Key Principles and Essential Elements
   - C. PHC: Its Implications for Nursing and Nurses
   - D. Intersectorial Linkages and Collaboration
   - E. Nursing's Contribution to Community Mobilization

II. Selecting and Mapping a Target Area

III. Getting to Know the Community
   - A. Identify Common Characteristics
   - B. How to Approach a Community
   - C. Essential Components of Community Participation

IV. Mechanisms to Promote and Sustain Community Participation
   - A. Partners in Health
   - B. Social, Civic, and Religious Organizations
   - C. Reinforcing Behaviors
   - D. Using Health Related Sectors

V. Data Components of the Family and Community Assessment Forms

VI. Collecting Family and Community Data

VII. Interpreting Data

VIII. Developing a Plan of Action within the Community
   - A. Using Assessment Data
   - B. Action Plans

IX. Implementing the Plan of Action

X. Evaluating the Community Action Plan
   - A. How to Develop a Plan
   - B. How to Help the Community Assess Progress
   - C. How to Revise Objectives

APPENDIX B

ICN/UNICEF/NANNM Continuing Education Project Budget

1. General Planning Meeting	N	6,278.80[a]
2. Interim Meeting for Development of Continuing Education Project Teaching Modules and Assessment Forms		3,920.20
3. Pilot Continuing Education Workshop		8,147.00
4. State Nursing Leaders Workshops 20 States @ 9,000.00		180,000.00[b,c]
5. Printing of Family and Community Assessment Forms		14,000.00
	N	212,346.00

Note. From "NANNM/ICN/UNICEF Project on Social Mobilization" by NANNM, 1987, Unpublished Manuscript, p. 6.

[a] The exchange rate at the time was approximately N3.5 to $1.00. The overall budget was approximately $60,670.00.

[b] As of December 1988, two state workshops (Kano and Anambra) had been held.

[c] The Federal Capital Territory of Abuja was included.

APPENDIX C

Family Assessment Form

Family Assessment Form

NAME (Surname) .....

ADDRESS .....

.....

RELIGION .....

ETHNIC GROUP .....

LANGUAGE .....

DATE OPENED .....

DATE CLOSED .....

TEAM MEMBERS .....

.....

.....

NANNM * ICN * UNICEF

MOTHER ..... AGE .....

Date of birth ..... Educational Level:

Can Read? Yes/No — Primary

Can Write? Yes/No — Secondary

Occupation ..... — Tertiary

No. of Pregnancies ..... No. of Live Births .....

No. of Living Children ..... Tetanus Toxoid? Yes/No

No. of other Children in household .....

Type of Antenatal Care .....

.....

.....

Any Labour or delivery complications? .....

.....

Type of Delivery (clinic, hospital, Traditional Birth Attendant)

.....

Does mother want more children? Yes/No

Family Spacing Practices .....

.....

Does mother have nanny, baby-nurse, housemaid, granny? (circle all that apply)

No. of hospital admissions .....Reason(s) .....

....

Mother's knowledge of:

– ORT/SSS?

– Immunizations?

– Nutrition?

– First Aid?

Membership in Social Groups (church, mosque, clubs)

(List) .....

.....

Health Services Utilized: Traditional Healer

Traditional Birth Attendant Health Centre Hospital

Spiritual/Faith Healer

Distance/minutes walk to health centre .....

Mother's General Health: .....

.....

.....

.....

.....

Current family problems or concerns (job, deaths, moving, drugs, alcohol, separation, delinquency)

.....

.....

.....

Does husband object to wife attending clinic? Yes/No

If husband has other wives, what position does this wife hold?

.....

(NOTE: If there are other wives, complete another form for each wife).

Does mother have deceased children? Yes/No .....
Number

Date/Age	Sex		Cause of death
	M	F	
	M	F	
	M	F	
	M	F	

NANNY/BABYNURSE/HOUSEMAID/GRANDMOTHER (who cares for children) Surname: ..... Age....

State of her health.....

.....

Membership in Social Groups? .....

.....

Knowledge of ORT/SSS, Immunizations, Nutrition, First Aid .....

.....

Concerns for the family .....

.....

FATHER ..... Age....

Date of Birth ..... Educational Level:

Can Read? Yes/No. Primary
Can Write Yes/No Secondary
Tertiary

Type of Work .....

Number of wives .....

Membership In Social Groups .....

.....

State of Health .....

.....

.....

Has given permission for wife(ves) to attend clinic? Yes/No

Any particular concerns regarding the health of the family? Yes/No
If Yes, specify:

.....

.....

Health Services Utilised .....

.....

CHILD'S NAME ..... Age ....

Sex: M F Date of birth ..... School Class .....

Position in Family .....

Social Groups .....

.....

	Date
BCG	
DPT1/POLIO1	
DPT2/POLIO2	
DPT3/POLIO3	
Measles	

Breast fed? Yes/No
Frequent diarrhoea? Yes/No
Frequent cough? Yes/No
Frequent fever/ convulsions? Yes/No
Frequent accidents? Yes/No
Malnourished Yes/No
Sickle cell anaemia Yes/No

State of health .....

.....

No. & reason(s) for hospitalizations .....

.....

CHILD'S NAME ..... Age ....

Sex: M F Date of birth ..... School Class .....

Position in Family .....

Social Groups .....

.....

	Date
BCG	
DPT1/POLIO1	
DPT2/POLIO2	
DPT3/POLIO3	
Measles	

Breast fed? Yes/No
Frequent diarrhoea? Yes/No
Frequent cough? Yes/No
Frequent fever/ convulsions? Yes/No
Frequent accidents? Yes/No
Malnourished Yes/No
Sickle cell anaemia Yes/No

State of health .....

.....

No. & reason(s) for hospitalizations .....

.....

CHILD'S NAME ..... Age ....

Sex: M F Date of birth ..... School Class .....

Position in Family .....

Social Groups .....

.....

	Date
BCG	
DPT1/POLIO1	
DPT2/POLIO2	
DPT3/POLIO3	
Measles	

Breast fed? Yes/No
Frequent diarrhoea? Yes/No
Frequent cough? Yes/No
Frequent fever/ convulsions? Yes/No
Frequent accidents? Yes/No
Malnourished Yes/No
Sickle cell anaemia Yes/No

State of health .....

.....

No. & reason(s) for hospitalizations .....

.....

CHILD'S NAME ..... Age ....

Sex: M F Date of birth ..... School Class .....

Position in Family .....

Social Groups .....

.....

	Date
BCG	
DPT1/POLIO1	
DPT2/POLIO2	
DPT3/POLIO3	
Measles	

Breast fed? Yes/No
Frequent diarrhoea? Yes/No
Frequent cough? Yes/No
Frequent fever/ convulsions? Yes/No
Frequent accidents? Yes/No
Malnourished Yes/No
Sickle cell anaemia Yes/No

State of health .....

.....

No. & reason(s) for hospitalizations .....

.....

CHILD'S NAME ..... Age ....

Sex: M F Date of birth ..... School Class .....

Position in Family .....

Social Groups .....

.....

	Date
BCG	
DPT1/POLIO1	
DPT2/POLIO2	
DPT3/POLIO3	
Measles	

Breast fed? Yes/No
Frequent diarrhoea? Yes/No
Frequent cough? Yes/No
Frequent fever/ convulsions? Yes/No
Frequent accidents? Yes/No
Malnourished Yes/No
Sickle cell anaemia Yes/No

State of health .....

.....

No. & reason(s) for hospitalizations .....

.....

CHILD'S NAME ..... Age ....

Sex: M F Date of birth ..... School Class .....

Position in Family .....

Social Groups .....

.....

	Date
BCG	
DPT1/POLIO1	
DPT2/POLIO2	
DPT3/POLIO3	
Measles	

Breast fed? Yes/No
Frequent diarrhoea? Yes/No
Frequent cough? Yes/No
Frequent fever/ convulsions? Yes/No
Frequent accidents? Yes/No
Malnourished Yes/No
Sickle cell anaemia Yes/No

State of health .....

.....

No. & reason(s) for hospitalizations .....

.....

CHILD'S NAME ..... Age ....

Sex: M F Date of birth ..... School Class .....

Position in Family .....

Social Groups .....

.....

	Date
BCG	
DPT1/POLIO1	
DPT2/POLIO2	
DPT3/POLIO3	
Measles	

Breast fed? Yes/No
Frequent diarrhoea? Yes/No
Frequent cough? Yes/No
Frequent fever/ convulsions? Yes/No
Frequent accidents? Yes/No
Malnourished Yes/No
Sickle cell anaemia Yes/No

State of health .....

.....

No. & reason(s) for hospitalizations .....

.....

CHILD'S NAME ..... Age ....

Sex: M F Date of birth ..... School Class .....

Position in Family .....

Social Groups .....

.....

	Date
BCG	
DPT1/POLIO1	
DPT2/POLIO2	
DPT3/POLIO3	
Measles	

Breast fed? Yes/No
Frequent diarrhoea? Yes/No
Frequent cough? Yes/No
Frequent fever/ convulsions? Yes/No
Frequent accidents? Yes/No
Malnourished Yes/No
Sickle cell anaemia Yes/No

State of health .....

.....

No. & reason(s) for hospitalizations .....

.....

CHILD'S NAME ..... Age ....

Sex: M F Date of birth ..... School Class .....

Position in Family .....

Social Groups .....

.....

	Date
BCG	
DPT1/POLIO1	
DPT2/POLIO2	
DPT3/POLIO3	
Measles	

Breast fed? Yes/No
Frequent diarrhoea? Yes/No
Frequent cough? Yes/No
Frequent fever/ convulsions? Yes/No
Frequent accidents? Yes/No
Malnourished Yes/No
Sickle cell anaemia Yes/No

State of health .....

.....

No. & reason(s) for hospitalizations .....

.....

CHILD'S NAME ..... Age ....

Sex: M F Date of birth ..... School Class .....

Position in Family .....

Social Groups .....

.....

	Date
BCG	
DPT1/POLIO1	
DPT2/POLIO2	
DPT3/POLIO3	
Measles	

Breast fed? Yes/No
Frequent diarrhoea? Yes/No
Frequent cough? Yes/No
Frequent fever/ convulsions? Yes/No
Frequent accidents? Yes/No
Malnourished Yes/No
Sickle cell anaemia Yes/No

State of health .....

.....

No. & reason(s) for hospitalizations .....

.....

HOUSEHOLD

Type of housing: Face to face Flat
Bungalow Modern

No. of rooms .....

No. of people in the household .....

No. of adults ..... No. of children .....

		Comments
Safe Cooking Facilities	Yes/No.	
Adequate Water Supply	Yes/No.	Source:
Adequate Food Storage	Yes/No	
TV in home	Yes/No	
Radio in home	Yes/No	
Adequate sewage facilities	Yes/No	
Type of Sewage Disposal		
Pit latrine bucket		
Water system bush		
Land for garden	Yes/No	
Fishing available	Yes/No	
House clean	Yes/No	
Adequate Ventilation	Yes/No	
Adequate Refuse Disposal	Yes/No	
Adequate Drainage	Yes/No	
Adequate Lighting	Yes/No	– Type
Raising Animals	Yes/No	
Safety hazard	Yes/No	
Telephone in home	Yes/No	

NOTE: Your nurses notes should include problems identified, family priorities, possible interventions, choice of intervention, obstacles and constraints, strategies for implementation, resources and linkages, and outcome.

NURSES' NOTES

DATE	OBSERVATIONS	ACTIONS

NURSES' NOTES

DATE	OBSERVATIONS	ACTIONS

NURSES' NOTES

DATE	OBSERVATIONS	ACTIONS

NURSES' NOTES

DATE	OBSERVATIONS	ACTIONS

APPENDIX D

Community Assessment Form

Community Assessment Form

NAME OF COMMUNITY .....

LOCATION .....

ETHNIC GROUP(S) .....

DATE OPENED .....

DATE CLOSED .....

TEAM MEMBERS .....

.....

.....

NANNM * ICN * UNICEF

1. Number of houses/buildings identified in target area. 1. .....

2 2.1 Number of families identified in target area 2.1 .....

2.2 No. of families interviewed 2.2 .....

3 Total number of people (men, women and children) in target area. 3. .....

4 Population by Age (number)

4.1 0 to 24 months 4.1 .....

4.2 2 to 5 years 4.2 .....

4.3 6 to 9 years 4.3 .....

4.4 10 to 14 years 4.4 .....

4.5 15 to 44 years 4.5 .....

4.6 45 years and over 4.6 .....

5. Average distance/minutes walk to health facility 5 .....

6. Mother's at Risk Number

6.1 Failure to space pregnancy 6.1 .....

6.2 Pregnant < 17 and > 35 years 6.2 .....

6.3 More than 5 children 6.3 .....

6.4 One or more deceased children 6.4 .....

6.5 Total mothers at risk 6.5 .....

7. Children at Risk

7.1 Was not breast fed 7.1 .....

7.2 < 24 months and not immunized 7.2 .....

7.3 > 2 years andnot immunized 7.3 .....

7.4 Frequent diarrhoea 7.4 .....

7.5 Frequent coughing 7.5 .....

7.6 Frequent fevers/convulsions 7.6 .....

7.7 Frequent Accidents 7.7 .....

7.8 Malnourished 7.8 .....

7.9 Sickle Cell Anaemia 7.9 .....

7.10 Total children at risk 7.10 .....

8. Water

		No. of families who have/use
8.1	Adequate Supply	8.1 .....
8.2	Clean	8.2 .....
8.3	Adequate drainage	8.3 .....
8.4	Sources	
8.41	Tap	8.41.....
8.42	Pipe	8.42.....
8.43	Pond	8.43 .....
8.44	Spring	8.44 .....
8.45	River/stream	8.45 .....
8.46	Rain	8.46 .....

9. Source of Light

9.1	Electricity	9.1 .....
9.2	Candles	9.2 .....
9.3	Oil wick lamps	9.3 .....
9.4	Lantern	9.4 .....

10. Health Facilities:

10.1	Traditional Healer	10.1 .....
10.2	Traditional Birth Attendants	10.2.....
10.3	Health Centre	10.3.....
10.4	Hospital	10.4.....
10.5	Spiritual/Faith Healers	10.5.....

11. Types of Communication:

11.1	Traditional Methods	
11.11	Drum	Yes/No
11.12	Bell/Messenger	Yes/No
11.13	Town Crier	Yes/No
11.14	Word of Mouth	Yes/No
11.2	Modern	
11.21	Mail/Express Mail	Yes/No
11.22	Road Signs	Yes/No
11.23	Posters/Signs	Yes/No
11.24	Printed Media	Yes/No

		No. of families who have
11.25	Radio	11.25.....
11.26	Television	11.26.....
11.27	Telephone	11.27.....

12. Local Sources of Food

		No. of Families
12.1	Gardening	12.1.....
12.2	Fishing	12.2.....
12.3	Raising Animals	12.3.....
12.4	Farming	12.4.....
12.5	Market	12.5.....

13. Environment	No. of families
13.1 Inadequate sewage facility	13.1 .....
Types: 13.11 Pit latrine	13.11 .....
13.12 Bucket	13.12 .....
13,13 Water Systen	13,13 .....
13.14 Bush	13.14 .....
13.2 Inadequate refuse disposal	13.2 .....
13.3 Inadequate ventilation	13.3. .....
13.4 Unsafe environment	13.4 .....
13.5 General Community	
Problems with:	
13.51 Site for refuse disposal	Yes/No
13.52 Refuse in area	Yes/No
13.53 Rodents (Rats)	Yes/No
13.54 Animals (i.e. chickens)	Yes/No
13.55 Air pollution	Yes/No
13.56 Noise pollution	Yes/No
13.57 Water pollution	Yes/No
13.58 Hazards (holes, brush)	Yes/No
13.59 Standard of living	Yes/No

Comments:

NOTE: The following items should be part of the Partners in Health Committee Notes and part of the Nurses Notes: Problems Identified, Community Priorities, Possible Interventions, Choice of Interventions, Obstacles, and Constraints, Strategies for Implementation, Resources and Linkages, and Outcomes.

PARTNERS IN HEALTH COMMITTEE

MEMBERS .....

. .....

.....

MEETINGS

DATE	ITEMS DISCUSSED	ACTION

PARTNERS IN HEALTH COMMITTEE MEETINGS

DATE	ITEMS DISCUSSED	ACTION

PARTNERS IN HEALTH COMMITTEE MEETINGS

DATE	ITEMS DISCUSSED	ACTION

NURSES NOTES

DATE	OBSERVATIONS	ACTION

NURSES NOTES

DATE	OBSERVATIONS	ACTION

NURSES NOTES

DATE	OBSERVATIONS	ACTION

NURSES NOTES

DATE	OBSERVATIONS	ACTION

NURSES NOTES

DATE	OBSERVATIONS	ACTION

NURSES NOTES

DATE	OBSERVATIONS	ACTION

APPENDIX E

Nurse Demographic Profile

I.D. Number:____

Age:_____ Tribe:_____

Gender:_____

Marital Status:_____

Number of Children:_____

Languages or dialects you speak: _____

To which social clubs, civic organizations, or religious groups do you belong:_____

Where did you receive your basic nursing education?

____ Hospital School of Nursing in Nigeria

____ Hospital School of Nursing Outside Nigeria,

If so, where:_____

____ University in Nigeria

____ University Outside Nigeria,

If so, where:_____

Please indicate any additional nursing education you have received:

____ Masters Degree. If so, where:_____

____ Community Health Officer Course. If so, when:_____

____ Tutor Training. If so, what specialty:_____

____ Other. Please describe:_____

_____

**Please feel free to use the back of these pages if you need more room for your answers.

What has been your work experience in nursing?

Type of Position	Number of Years Worked
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

What is your current position in nursing?_____

How long have you been in that position?_____

Have you had previous experience in Community/Public Health? Yes No
If yes, please describe your experience and the number of years of

experience:_____

_____

_____

Have you had previous experience in Primary Health Care? Yes No

If yes, please describe your experience:_____

_____

_____

Where did you first received education about Primary Health Care?

_____ As a student nurse.

_____ At a government workshop.

_____ At a NANNM workshop.

_____ From my nurse colleagues.

_____ Other. Please describe:_____

What is your travel time to your target community?_____

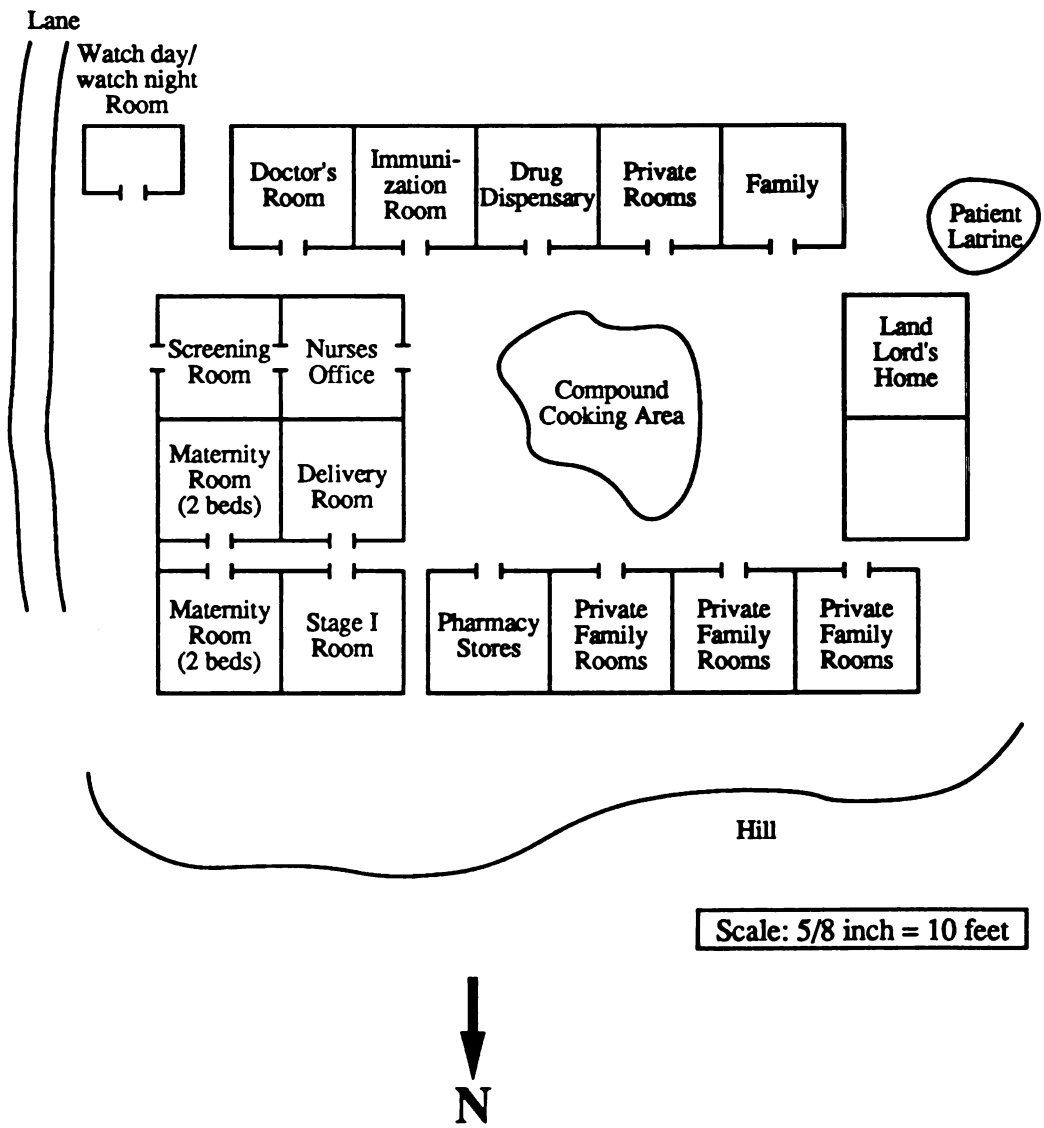
APPENDIX F

Nurse Interview Themes

1. What is the nurse's role in primary health care?
2. What were your major activities in primary health care and community mobilization?
3. What or who supports nursing in primary health care?
4. What were the major difficulties you faced in the project?
5. How did you solve the above problems?
6. What are the benefits and/or limitations to working in teams for community mobilization projects?
7. What were the positive benefits of your involvement in this project?
8. What suggestions do you have to improve projects like this one?

APPENDIX G

Layout of the Village Maternal-Child Health Center



APPENDIX H

Staff of the Village Maternal-Child Health Center

Category of Staff	Number Employed
Nursing Sisters with Midwifery Training[a]	2
Midwife	1
Community Health Assistants[b]	2
Community Health Aides[c]	5
Physician[d]	1

Note. This staff is expected to provide 24 hour, seven days a week coverage.

[a] One sister is in charge of the center.

[b] Have two years of training and can deliver babies, prescribe drugs, and give injections.

[c] Have one year training and can give minor treatments.

[d] The physician makes only limited periodic visits.

APPENDIX I

Occupations of Village Sample Mothers (n=127)

Occupation	Frequency/(%)	
Petty Trader	62	(48.8)
Housewife/No Outside Job	27	(21.3)
Farmer	20	(15.7)
Seamstress	6	(4.7)
Clerk	5	(3.9)
Apprentice	1	(0.8)
Civil Servant	1	(0.8)
Cleaner	1	(0.8)
Hairplaiter	1	(0.8)
Messenger	1	(0.8)
Nurse Aide	1	(0.8)
None Listed	1	(0.8)

Note. The sum of the percents may not equal 100 due to rounding.

APPENDIX J

Occupations of Village Sample Fathers (n=109)

Occupation	Frequency/(%)	
Civil Servant	14	(12.8)
Trader	13	(11.9)
Mason	10	(9.2)
Carpenter	10	(9.2)
Laborer	7	(6.4)
Driver	6	(5.5)
Farmer	6	(5.5)
Coal Miner	5	(4.6)
Mechanic	5	(4.6)
Orderly	4	(3.7)
Guard (Watchday or Watchnight)	3	(2.8)
Hotelier	3	(2.8)
Shoemaker	3	(2.8)
Barrow Pusher	2	(1.8)
Cook	2	(1.8)
Electrician	2	(1.8)
Pensioner	2	(1.8)
Plumber	2	(1.8)
Blacksmith	1	(0.9)
Clergyman	1	(0.9)
Clerk	1	(0.9)
Policeman	1	(0.9)
Storekeeper	1	(0.9)
Welder	1	(0.9)

Note. The sum of the percents may not equal 100 due to rounding.

APPENDIX K

Health Concerns of Village Sample Mothers (n=127)

Concern	Frequency/(%)	
No Concerns	59	(46.5)
Financial	21	(16.5)
Unemployment	10	(7.9)
Reproductive	6	(4.7)
General Ill Health	5	(3.9)
Bereavement and Financial	4	(3.1)
Child's Illness	4	(3.1)
Money for Health Care	4	(3.1)
Separation from Spouse	3	(2.4)
Childlessness	2	(1.6)
Infertility of Spouse	2	(1.6)
Money for Drugs	2	(1.6)
Bereavement for Lost Child	1	(0.8)
Bereavement and Illness	1	(0.8)
Child's Juvenile Delinquency	1	(0.8)
Husband's Alcoholism	1	(0.8)
Malnutrition	1	(0.8)

Note. The sum of the percents may not equal 100 due to rounding.

APPENDIX L

Types of Reproductive Problems of Village Sample Mothers (n=24)

Problem	Frequency/(%)
Post Partum Hemorrhage	5 (20.8)
Difficult Labor	4 (16.7)
Pre-Eclampsia	3 (12.5)
Retained Placenta	3 (12.5)
Premature Delivery	2 (8.3)
Abortion	1 (4.2)
Breast Abscess	1 (4.2)
CPD	1 (4.2)
Caesarian Section	1 (4.2)
Forceps Delivery	1 (4.2)
Hemorrhoids	1 (4.2)
Hypertension	1 (4.2)

Note. The sum of the percents may not equal 100 due to rounding.

APPENDIX M

Health Concerns of Village Sample Fathers (n=109)

Concern	Frequency/(%)	
No Concerns	61	(56.0)
Child's Illness	12	(11.0)
Finance	9	(8.3)
Ill Health	8	(7.3)
Relative's Illness	4	(3.7)
Child's Death and Finance	2	(1.8)
Infertility of Spouse	2	(1.8)
Is Trying to Feed the Family	2	(1.8)
Child's Death	1	(0.9)
Daughter is an Unwed Mother	1	(0.9)
Has More Female than Male Children	1	(0.9)
Finance due to Illness	1	(0.9)
Reproductive	1	(0.9)
Stress	1	(0.9)
Unemployed Children	1	(0.9)
Wants More Children	1	(0.9)

Note. The sum of the percents may not equal 100 due to rounding.

APPENDIX N

Reported Causes of Death of Children in the Village Sample (N=115)

Cause	Frequency/(%)	
Unknown	44	(38.2)
Fever	21	(18.3)
Stillbirth/Premature	15	(13.0)
Diarrhea	5	(4.3)
Respiratory Disease	5	(4.3)
Convulsions	4	(3.5)
Cholera	3	(2.6)
Died in the Civil War	3	(2.6)
Measles	3	(2.6)
Choked	2	(1.7)
Jaundice	2	(1.7)
Tetanus	2	(1.7)
Abortion	1	(0.9)
Burns	1	(0.9)
Kidney Disease	1	(0.9)
Kwashiorkor	1	(0.9)
Smallpox	1	(0.9)
Typhoid Fever	1	(0.9)

Note. The sum of the percents may not equal 100 due to rounding.

APPENDIX O

Variables Compared in ANOVA and Crosstabs

CONTINUOUS VARIABLES:

Mother's Age
Father's Age
Number of Pregnancies
Number of Live Births
Number of Living Children
Number of Rooms in the Family Dwelling
Number of People in the Family

CATEGORICAL VARIABLES:

Environment Clean
Environment Safe
Adequate Refuse Disposal
Adequate Ventilation
Adequate Water
Father's Education
Father's Ability to Read and Write
Mother's Education
Mother's Ability to Read and Write
Mother had Tetanus Injection
Mother Wants More Children
Mother's Knowledge of ORT
Mother's Knowledge of EPI
Mother's Knowledge of Nutrition
Mother's Knowledge of First Aid
Mother had a Reproductive Problem
Children Immunized
Children Malnourished

APPENDIX P

Reported Health Problems of Children Under Age 10 (N=261) in the Village Sample

Problem	Frequency/(%)	
No Problem Reported	214	(82.0)
Malnutrition	15	(5.7)
General Ill Health	11	(4.2)
Diarrhea	5	(1.9)
Fever	4	(1.5)
Cough	3	(1.1)
Abdominal Pain	1	(0.3)
Dental Caries	1	(0.3)
Fracture	1	(0.3)
Guinea Worm	1	(0.3)
Handicapped	1	(0.3)
Injection Abscess	1	(0.3)
Severe Sickle Cell Disease	1	(0.3)
Paralysis	1	(0.3)
Parasites	1	(0.3)

Note. The sum of the percents may not equal 100 due to rounding.

APPENDIX Q

Family Problems Identified in the Village Sample by Category and Subtype

Problem	ZONE 1	2	3	4	Total	(%)
	Frequencies					
FINANCIAL						
Unemployed husband				1	1	(1.4)
Unemployed wife			3	1	4	(5.8)
General unemployment			1	1	2	(2.9)
General poverty	26	2	9	14	51	(73.9)
Need money for health care			1		1	(1.4)
Need money to marry			1		1	(1.4)
Need money for food		1	1	1	3	(4.3)
Need money for relatives		2	2	1	5	(7.2)
Has a new job			1		1	(1.4)
Financial Totals	26	5	19	19	69	
ENVIRONMENT/HYGIENE						
Poor personal hygiene		1		4	5	(3.1)
Poor home sanitation	1			1	2	(1.2)
Poor compound sanitation				2	2	(1.2)
Poor general sanitation	17	6	5	16	44	(27.3)
Poor ventilation	12	5	8	14	39	(24.2)
Safety hazard	5	1		5	11	(6.8)
Poor drainages	3	1		1	5	(3.1)
Cooking in room	6	1		1	8	(5.0)
Poor latrine, use bush		3	2	2	7	(4.3)

Family Problems by Subtype, Continued

Problem	ZONE 1	2	3	4	Total	(%)
	Frequencies					
Water problems		1			1	(0.6)
Overcrowding	6	2	1	3	12	(7.5)
Animals in living space	1			2	3	(1.9)
Ramshackle housing		3	2	3	8	(5.0)
No water or electricity	7			2	9	(5.6)
Inadequate refuse disposal	1				1	(0.6)
Bad roads	1				1	(0.6)
Poor food storage		1			1	(0.6)
Rodents and mosquitoes		2			2	(1.2)
Environment/Hygiene Totals	60	27	18	56	161	
PHYSIOLOGICAL						
Malaria	3	1	1	2	7	(5.7)
Fever		7	3	2	12	(9.8)
Wound/skin infection		1	1	5	7	(5.7)
Parasites/worms		2		3	5	(4.1)
Trauma/fracture	2	1		1	4	(3.3)
Respiratory infection			2	1	3	(2.5)
Malnutrition	7	7	1	5	20	(16.4)
Abdominal pain	2	1	1	1	5	(4.1)
Headache	1	1	1		3	(2.5)
Diarrhea	3	1	1	2	7	(5.7)
General ill health			1	2	3	(2.5)
Chest pain	4				4	(3.3)
Arthritis	4			1	5	(4.1)
Insomnia	3				3	(2.5)
Hemorrhoids			2		2	(1.6)
Convulsions/seizures				1	1	(0.8)

Family Problems by Subtype, Continued

Problem	ZONE 1	2	3	4	Total	(%)
	Frequencies					
Eye problems		2	2		4	(3.3)
Peptic ulcers				1	1	(0.8)
Hypertension	1			1	2	(1.6)
Injection abcess	1				1	(0.8)
Tuberculosis	3				3	(2.5)
Epilepsy	2				2	(1.6)
Cold and diarrhea		1			1	(0.8)
Goitre		1			1	(0.8)
Weakness of old age			3		3	(2.5)
Anemia		1	2		3	(2.5)
Looks pale and weak		1			1	(0.8)
Rash			1		1	(0.8)
Nausea gravida			1		1	(0.8)
Umbilical hernia			1		1	(0.8)
Obesity				2	2	(1.6)
Deafness				3	3	(2.5)
Rectal prolapse				1	1	(0.8)
Physiologic Totals	36	28	24	34	122	
REPRODUCTIVE						
Primary infertility	3			2	5	(4.3)
Secondary infertility				5	5	(4.3)
Bleeding/irregular menses			1		1	(0.9)
Pregnant		5	13	5	23	(19.7)
Newly delivered	1	4	7	1	13	(11.1)
Wants family planning			3	18	21	(17.9)
Needs family planning/multiparity	4	7	13	11	35	(29.9)
Wants more children		2	3		5	(4.3)

Family Problems by Subtype, Continued

Problem	ZONE 1	2	3	4	Total	(%)
	Frequencies					
Wants more male children			1	1	2	(1.7)
High infant mortality				2	2	(1.7)
Post menopausal syndrome	1		2		3	(2.6)
Polygamous		1			1	(0.9)
Miscarriage			1		1	(0.9)
Reproductive Totals	9	19	44	45	117	
PSYCHOLOGICAL						
Depression	1		2	1	4	(10.5)
Anxiety	1			1	2	(5.3)
Bereavement for relative	7	3	2	1	13	(34.2)
Bereavement for children	1	2	1	2	6	(15.8)
Bereavement for husband	1				1	(2.6)
Child's mental imbalance	6				6	(15.8)
Worry about relative's illness	4			2	6	(15.8)
Psychological Totals	21	5	5	7	38	
HEALTH BELIEFS AND BEHAVIORS						
Visiting quack				1	1	(2.3)
Self medication		1	1	4	6	(14.0)
Not immunized	2	8	2	14	26	(60.5)

Family Problems by Subtype, Continued

Problem	ZONE 1	2	3	4	Total	(%)
	Frequencies					
Visiting traditional healer or TBA	1	1	1	1	4	(9.3)
Immunized	4				4	(9.3)
Anti-immunizations				2	2	(4.7)
Health Benefit Totals	9	10	4	22	43	
LACK OF KNOWLEDGE						
Oral rehydration therapy		5	4	2	11	(27.5)
First aid		1	1		2	(5.7)
Nutrition		1	4	8	13	(32.5)
Oral rehydration therapy/ first aid/nutrition/ immunizations		1	5	6	12	(30.0)
Children's developmental needs			1		1	(2.5)
Low intelligence				1	1	(2.5)
Lack of Knowledge Totals	8	15	17	40		
SOCIAL						
Marital discord	4	1	1	1	7	(20.0)
Delinquency			2		2	(5.7)
Alcoholism			2		2	(5.7)
Desertion by husband	2		1	3	6	(17.1)
Parents separated for economic reasons		2		4	6	(17.1)
Household conflict				5	5	(14.3)
Doesn't speak central Ibo			1		1	(2.9)

Family Problems by Subtype, Continued

Problem	ZONE 1	2	3	4	Total	(%)
	Frequencies					
One-parent syndrome				1	1	(2.9)
School certificate problems				3	3	(8.6)
Active against the project				1	1	(2.9)
Children not baptized				1	1	(2.9)
Social Totals	6	4	7	19	35	
GOOD HEALTH						
Good health	1	8	5	4	18	(94.7)
Possible project leader				1	1	(5.3)
Good Health Totals	1	8	5	5	19	

Note. The sums of the percents may not equal 100 due to rounding.

APPENDIX R

Family Problems Repeated in the Village Sample During the Project

Problem	Frequency
Multiparity/Needs Family Planning	14
Poverty	9
Pregnant	7
Child Not Immunized	5
Child's Mental Imbalance	3
Marital Discord	3
Infertility	3
Sanitation	3
Bereaved	2
Infection	2
Malaria	2
Malnutrition	2
Newly Delivered	2
Poor Housing	2
Alcoholism	1
Arthritis	1
Chest Pain	1
Cooking in Room	1
Chest Pain	1
Deafness	1
Depression	1
Desertion by Father	1
Diarrhea	1
Eye Trouble	1
Fracture	1
Hemorrhoids	1
High Infant Mortality	1
Insomnia	1
Obesity	1
Poor Ventilation	1
School Certificate Difficulties	1
Tuberculosis	1

APPENDIX S

Nursing Interventions in the Village Sample by Category and Subtype

Intervention	ZONE 1	2	3	4	Total	(%)
	Frequencies					
EDUCATION						
Taught						
Safe behavior/prevention	2	2			4	(0.8)
Family planning	2	9	19	32	62	(12.4)
ORT		9	13	18	40	(8.0)
Nutrition	10	11	32	32	85	(17.0)
General health education	9	10	1	3	23	(4.6)
General infant care	1	3	7	5	16	(3.2)
Sanitation and hygiene	14	12	11	41	78	(15.6)
How to purify water	2				2	(0.4)
First aid		1	9	5	15	(3.0)
Immunization		3	12	21	36	(7.2)
Breast care			1	2	3	(0.6)
Exercises				1	1	(0.2)
Dental care				3	3	(0.6)
How to reduce fever		1			1	(0.2)
PHC and the project				1	1	(0.2)
Explained						
Correct principles	2	1	1		4	(0.8)
Consequences of poor behavior	17	5	6	9	37	(7.4)
Disease process	1		2	2	5	(1.0)
Care of illness	1	2		1	4	(0.8)
Importance of breast feeding				1	1	(0.2)

Nursing Interventions by Subtype, Continued

Intervention	ZONE 1	2	3	4	Total	(%)
	Frequencies					
Demonstrated						
Gave local examples	6	3	4	17	30	(6.0)
Demonstrate ORT			1	2	3	(0.6)
Instructions						
Behavior is incorrect	16	3			19	(3.8)
Stop self medication		1	6	10	17	(3.4)
Follow prescribed treatment	1	1			2	(0.4)
Educate others		1	1	6	8	(1.6)
Education Totals	84	78	126	212	500	
REFERRAL						
To doctor/clinic	21	26	32	19	98	(69.5)
To doctor with note	1			2	3	(2.1)
Made appointment with doctor/clinic	1		1	2	4	(2.8)
To family planning clinic	3		6	7	16	(11.3)
For immunizations		5			5	(3.5)
To psychiatric hospital	7				7	(5.0)
For followup	2	1		1	4	(2.8)
To rehabilitation center	1				1	(0.7)
To National Immunization Day		1		2	3	(2.1)
Referral Totals	36	33	39	33	141	

Nursing Interventions by Subtype, Continued

Intervention	ZONE 1	2	3	4	Total	(%)
	Frequencies					
SUPPORT						
Reassurance	32	15	10	32	89	(36.8)
Put it in God's hands	1			1	2	(0.8)
"Everyone is in the same fix"	5		1	3	9	(3.7)
Liaison for goods				3	3	(1.2)
Liaison for opportunities				5	5	(2.1)
Cooperate with others	1	1		1	3	(1.2)
Encouraged, commended	5	29	10	17	65	(26.9)
"Socialize" more	1		1		2	(0.8)
Make intersectorial link	10			2	12	(5.0)
Talk to the Landlord	4	1		3	8	(3.3)
Taken to the NID	7			4	11	(4.5)
Talk to others on behalf of the family			3	7	10	(4.1)
Gave goods or money			1	3	4	(1.7)
Reviewed medical records				5	5	(2.1)
Made followup				5	5	(2.1)
Talk to school or employer				6	6	(2.5)
Mobilized neighbors to assist family				1	1	(0.4)
Went to market with client for nutrition teaching				2	2	(0.8)
Support Totals	66	46	30	100	242	

Nursing Interventions by Subtype, Continued

Intervention	ZONE 1	2	3	4	Total	(%)
	Frequencies					
ECONOMIC ADVICE						
Get another job/change jobs			1	1	2	(2.7)
Resort to petty trading, farming, or hair plaiting	21	4	14	7	46	(62.2)
Get any job no matter how minimal	2			1	3	(4.1)
Foster the children out				4	4	(5.4)
Make a budget, be prudent	2	2	2	4	10	(13.5)
Obtain resources from social groups				1	1	(1.4)
Save and cut expenses			1	1	2	(2.7)
Encourage children to work	1		1	2	4	(5.4)
Described the evils of idleness	1		1		2	(2.7)
Economic Advice Totals	27	6	20	21	74	
TREATMENT						
Prescribed drugs	2	6	1	2	11	(47.8)
Tepid sponge bath				1	1	(4.3)
Warm bath for arthritis	3		1	1	5	(21.7)
Range of motion exercises	2			1	3	(13.0)
Exposed the child		1			1	(4.3)
Did incision and drainage				1	1	(4.3)
Breast care for weaning the baby				1	1	(4.3)
Treatment Totals	7	7	2	7	23	

Nursing Interventions by Subtype, Continued

Intervention	ZONE 1	2	3	4	Total	(%)
	Frequencies					
PSYCHOLOGICAL						
Cope, adapt, sublimate	21			4	25	(30.9)
Have patience	4		1	4	9	(11.1)
Think less about problems	6		1	1	8	(9.9)
Avoid tension and stress	7				7	(8.6)
Bear trial, have courage	3		2	1	6	(7.4)
Psychotherapy to alleviate anxiety	10	1		3	14	(17.3)
Talk with others about the problem	1		1		2	(2.5)
Relax and rest			3	1	4	(4.9)
Health talk on emotional well-being		1		1	2	(2.5)
Husband will stop drinking as he ages			1		1	(1.2)
Discussed adolescent development needs				2	2	(2.5)
Make the best of a bad situation				1	1	(1.2)
Psychological Totals	52	2	9	18	21	
MODIFY THE ENVIRONMENT						
Organize house, cupboard	10	1		3	14	(12.1)
Use safety in cooking	2			1	3	(2.6)
Open windows and doors	14	7	8	21	50	(43.1)
Use mosquito nets	2			1	3	(2.6)
Clean up stagnant water	2	1	1	1	5	(4.3)
Clean the house	2	1		1	4	(3.4)

Nursing Interventions by Subtype, Continued

Intervention	ZONE 1	2	3	4	Total	(%)
	Frequencies					
Clean the compound	6			2	8	(6.9)
General cleanup	1		1	1	3	(2.6)
Go to home village to live				1	1	(0.9)
Get a bigger house, add a room		3	1		4	(3.4)
Remove medications from children's reach				2	2	(1.7)
Get a new place to live		1	3		4	(3.4)
Sleep in a better place	2				2	(1.7)
Keep animals from living areas	1			1	2	(1.7)
Get a dustbin	1				1	(0.9)
Use mosquito coil and rat bait	1		1		2	(1.7)
Send the children out		2			2	(1.7)
Keep husband with TB away from children	1				1	(0.9)
Take wastes to farm for fertilizer		1			1	(0.9)
Keep latrine clean, covered			1		1	(0.9)
Build a latrine			1		1	(0.9)
Repair the home				1	1	(0.9)
Put bedding in the sun				1	1	(0.9)
Modify Environment Totals	45	17	17	37	116	

Nursing Interventions by Subtype, Continued

Intervention	ZONE 1	2	3	4	Total	(%)
	Frequencies					
MORAL ADVICE						
Sex education		1			1	(2.4)
Stop drinking			1		1	(2.4)
Take responsibility for the family		2	3	5	10	(23.8)
Do not mourn the dead				1	1	(2.4)
Devote more time to children				1	1	(2.4)
Maintain good behavior				2	2	(4.8)
Avoid marrying more wives	2			1	3	(7.1)
Take adopted child as own			1		1	(2.4)
Forgive, make up	1		1	3	5	(11.9)
Be grateful for children			1		1	(2.4)
Be diplomatic in requests				1	1	(2.4)
Love girls as much as boys				1	1	(2.4)
Appreciate women's role				1	1	(2.4)
Children should obey parents				2	2	(4.8)
Families should live together				5	5	(11.9)
Do not steal				1	1	(2.4)
Take child to priest for baptism				1	1	(2.4)
Get married				1	1	(2.4)
Moral Advice Totals	4	3	8	27	42	

Note. The sum of the percents may not equal 100 due to rounding.

APPENDIX T

Topics of Group Health Education in the Village

FOR MOTHERS:

1. Family Planning
   A. Purposes of Family Planning
   B. Methods of Family Planning for Men and Women
2. Nutrition
   A. Nutritional Components of Basic Food Groups
   B. Local Examples of Nutritious Foods
   C. Nutritional Aspects of Growth in Children
   D. Nutritional Aspects of Pregnancy
   E. Connections between Nutrition and Disease
3. Hygiene
   A. Connection between Personal and Environmental Hygiene and Disease
   B. How to Improve Hygiene
      i. Personal
      ii. Safety Hazards
      iii. Refuse Disposal
      iv. Care of Latrine
4. Oral Rehydration Therapy and Sugar Salt Solution (ORT/SSS)
5. Expanded Programme on Immunizations (EPI)
6. First Aid and Prevention of Home Accidents
7. Roles of Family Members
   A. Duties of Children
   B. Appreciation of Women's Work and Role
8. Evils of Superstition

FOR CHILDREN:

1. Personal and Environmental Hygiene
   A. Dental Care
   B. Baths
   C. Nail Care
   D. Eating Habits
   E. Causes of Disease
2. Child's Duties in the Family
3. Good Behavior for Children
4. Physical Fitness and Exercise

FOR YOUTH:

1. Role of Youth in the Community
2. Marriage Counselling and Sex Education

APPENDIX U

Intersectorial Linkages Made by Nurses

VILLAGE:

- Maternal Child Health Center
- Roman Catholic Church
- Baptist Mission
- Village Committees
  - Leaders of Thought
  - Health
  - Project Task Force
  - Campaign and Enlightenment
  - Planning and Estimate
  - Disciplinary Committee
  - Landlords Association
  - Women

ENUGU LOCAL GOVERNMENT:

- The Chairman, Enugu Local Government
- Social Welfare Department
- Ministry of Works

CULTURAL LEADERS:

- The Odezuluigbo II of Nike, Igwe Nnaji

ANAMBRA STATE GOVERNMENT:

- The Governor, Anambra State
- Ministry of Works, Lands, and Housing
- Commissioner for Local Government and Rural Development
- Ministry of Health
- Health Services Management Board
- Ministry of Education
- Ministry of Roads and Rural Infrastructure
- Chief Nursing Officer

HEALTH SERVICES FACILITIES:

University of Nigeria Teaching Hospital (UNTH) Casualty and Clinics
Military Hospital
Orthopedic Hospital
Parklane Hospital
Psychiatric Hospital
Abakpo Nike Health Center
Rehabilitation Center
Special School for the Blind, Deaf, and Dumb at Orji River

HEALTH PROFESSIONALS:

National Association of Nigeria Nurses and Midwives, National Headquarters
National Association of Nigeria Nurses and Midwives, Anambra State
UNTH School of Nursing Faculty and Students
Matron, Military Hospital
Matron, Orthopedic Hospital
Matron, Parklane Hospital
Matron, Psychiatric Hospital
Selected Physicians and Nurses

OTHER PRIVATE NON-VILLAGE GROUPS:

Anonymous Donors
Ogbete Market Women
Reynolds Construction Company
St. John's Charity

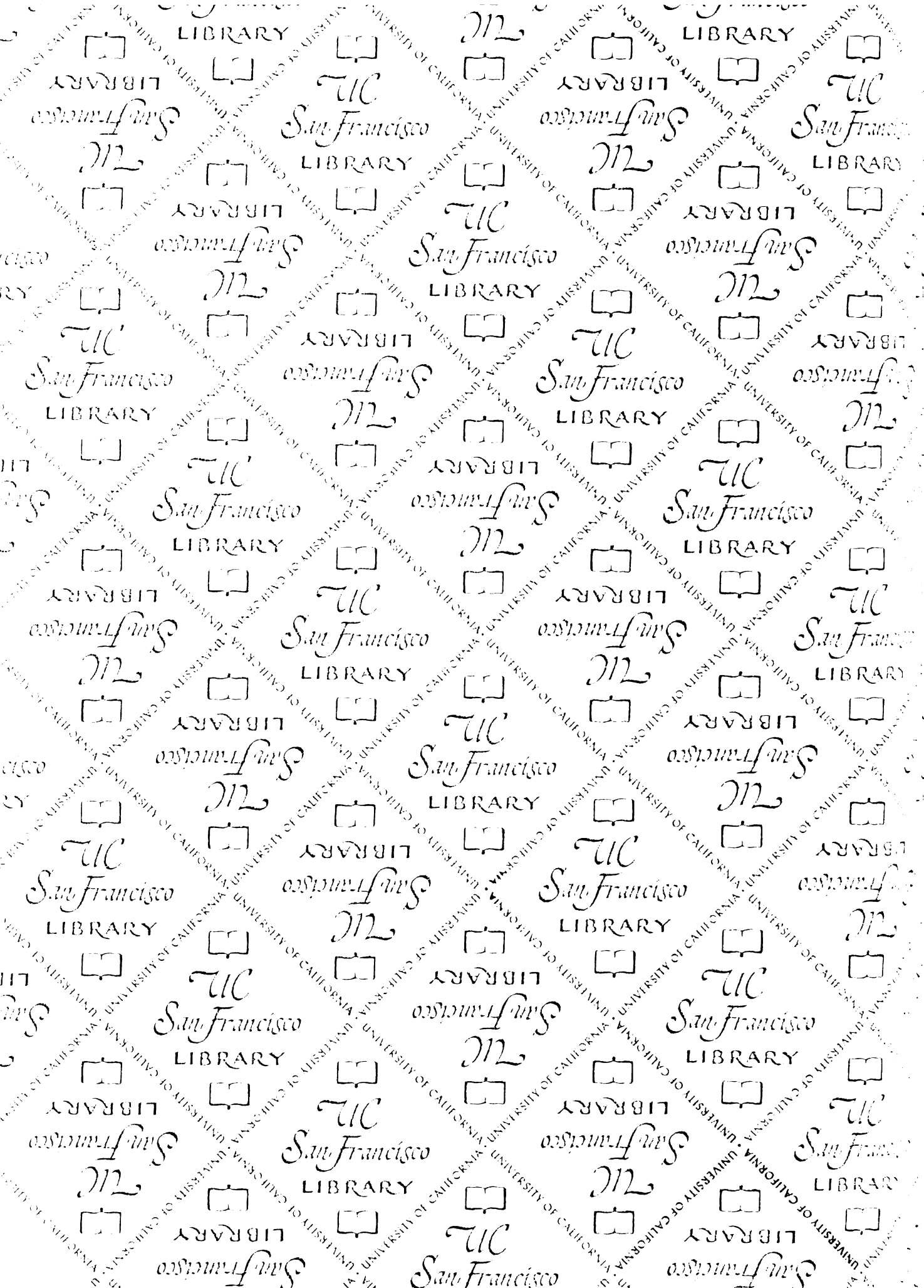
APPENDIX V

Frequencies for Study Outcome Variables: ICN/UNICEF/NANNM Continuing Education Project

Variable	Group: Control	Group: Experimental	Chi Square	df	p
	Frequencies (%)				
Problem[a] resolved					
Yes	42 (37)	98 (59)	12.38	1	<0.00
No	71 (63)	67 (41)			
Problem less severe					
Yes	44 (40)	131 (70)	25.34	1	<0.00
No	67 (60)	56 (30)			
Problem unresolved					
Yes	89 (64)	68 (44)	10.46	1	<0.00
No	50 (36)	85 (56)			
Problem worsened					
Yes	3 (03)	3 (02)	0.01	1	<0.91
No	97 (97)	125 (98)			

Note: From "The Enugu Village Experience: National Association of Nigeria Nurses and Midwives, Nigeria" by W.L. Holzemer, 1989, p. 30.

[a] Represents only those problems enumerated on the initial assessment visit.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