

vented. The patients, many of whom were elderly, who survived because of new therapies often required costly chronic care.

Sophisticated regimens to treat cancer reduced mortality. Aggressive health promotion and treatment of hypertension lowered death rates from heart disease and stroke. Fewer Americans smoked, their nutrition was better, and they exercised more. Improvements in health, however, had not benefitted all Americans uniformly. Twenty-one nations had a lower infant mortality rate than did the United States. The death rate for black infants was twice that of white babies. Substance abuse cost the nation \$200 billion annually and was a causal factor in many other health and social problems. An estimated 37 million people lacked health insurance, and millions more were underinsured.

It was the specter of acquired immune deficiency syndrome (AIDS) that caught the American medical establishment by surprise in the 1980s. Infectious disease had become a backwater among medical specialties; its threat was presumed by many to have been eliminated by medical and pharmaceutical progress. Not since the polio epidemic earlier in the century had there been such a public health crisis as the one caused by AIDS. By the late 1980s, 100,000 cases of AIDS were diagnosed; 59,000 people died. Tuberculosis, almost unknown to several generations of health care providers, re-emerged in vulnerable populations, such as those with AIDS. Billions of dollars were spent caring for AIDS patients and searching for a cure.

The new burdens to the health care system worsened already escalating concerns about health care costs in general. Total expenditures for health care went from \$248 billion in 1980 (9 percent of the GNP), to \$0.5 trillion in 1990 (12.5 percent of the GNP). Health care costs in-

creased by 10 percent a year, far exceeding the rate of inflation.

The United States' system of health care delivery underwent substantive reorganization during this decade. Hospitals became more business-like in their governance and management. The numbers of multihospital consortia increased. Alternative care delivery settings such as surgical centers and diagnostic facilities opened their doors. The numbers of for-profit health ventures rose. Managed care was promoted as one viable solution to unbridled health care utilization and expense.

NURSING KEEPS PACE WITH SOCIETAL CHANGES

The impact of 15 years of Federal subsidies for nursing education was clearly evident by 1980. The proportion of nurses prepared in baccalaureate programs continued to rise; however, the largest group of nurse graduates came from 2-year programs. The percentage of nurses with master's degrees had expanded by 50 percent between 1975 and 1980; the number of nurses prepared at the doctoral level doubled in the same period. Advanced nursing practice was more common. The majority of students studying for graduate degrees in 1970 planned careers in teaching or administration. By 1980, 7 of 10 master's degree students were in programs preparing them for advanced clinical practice.

There were 1.3 million nurses employed in the United States in 1980, twice as many as there had been in the late 1960s; but demand for their services showed no signs of abating. A new system of hospital reimbursement created in 1982 paid hospitals prospectively by placing patients into diagnostic categories. This form of financing, known as Diagnostic Related Groups (DRGs), profoundly influ-



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enced nursing practice. Hospitalized patient were now more acutely ill, and they were discharged sooner. They needed more sophisticated nursing care than ever before. Once discharged from the hospital, patients sometimes needed to be maintained with complex technology, such as respirators.

The division was at the center of the changes swirling around the nursing profession. A new leader, Jo Eleanor Elliott, former director of nursing programs at WCHEN, shepherded the organization through these uncertain times. Many in nursing were concerned about the methods used in the DRG system to measure patients' nursing care requirements. Developing a means to identify nursing costs and revenues became the focus of an ongoing division effort.

The Omnibus Reconciliation Act of 1981 drastically reduced institutional support to schools of nursing. Funding for advanced nurse education and nurse practitioner programs was extended, however. The 1981 changes reflected overall pressures to reduce Federal involvement in health professionals' education.

AN ERA OF FISCAL RESTRAINT

In this newly constricted fiscal environment, the DN apportioned its resources judiciously. It did not lose sight of its mission to promote quality nursing care for the public. Many quality assurance activities were funded and overseen by the division in the 1980s. One of these was concerned with the quality of temporary nursing services.

Hospitals increasingly used temporary nursing agencies to meet their staffing needs. Many in the profession were concerned that this form of nursing care delivery negatively affected patient care. In response, the DN funded a national survey of temporary nursing services that

documented the size of the industry and its impact on health care. Temporary nurses, their employers and the hospitals that contracted for them were studied. The findings revealed that overdependence on temporary nursing agencies was potentially deleterious to high quality patient care.

As the complexity of care for hospitalized patients increased, the nursing hours required by each patient expanded. Some institutions adopted a system of primary nursing, while others used team or functional nursing models of care delivery. A division-supported study of primary nursing uncovered key organizational variables fostering primary nursing practice.

A call for more research on primary nursing was made at an invitational workshop supported by the division in the early 1980s. The purpose of this conference was to explore ways to improve bedside nursing care. Among the many recommendations that emerged was a request for more Federal support for nursing education at all levels.

INNOVATIVE CONTRIBUTIONS IN THE 1980s

In the 1980s the DN provided its most significant doctoral program support to date. The number of programs in the United States grew from a handful in the 1970s to 47 by the end of the 1980s. Most of these courses of study were founded and nurtured with Federal dollars. The division financed several doctoral programs with curricula focused exclusively on nursing administration. Although interest in graduate programs in nursing administration began in the 1970s, funding was now increased. As the financial management of hospitals became more complex, nurse administrators needed the skills to investigate methods to quantify

nursing services, devise better ways of deploying nurses and explore new governance models.

The division co-supported the 1986 National Conference on Nursing Productivity, bringing together nurse administrators and researchers. With the great need for nurses, it was essential that they be employed in a manner that maximized their effectiveness. Conference participants explicated conceptual issues in measurement of the nursing workforce's productivity. Research questions were identified as a result of this meeting.

With DN funding in the 1980s, nursing research became more firmly anchored to theoretical frameworks. Research methodologies grew more sophisticated, and many well-designed clinical research projects were supported. One study explored the relationship between physical exercise and menopausal or postmenopausal symptoms. Another undertaking identified early predictors of developmental problems in children. Psychophysiological factors affecting prolonged labor during childbirth were identified as part of still another investigation subsidized by the division. Specific non-pharmacologic methods that reduced pain and anxiety during childbirth were introduced. The development of a special nipple used in hospital nurseries to feed premature infants also evolved as a result of division funding.

THE NATIONAL CENTER FOR NURSING RESEARCH

In 1986, the National Center for Nursing Research (NCNR), located in the National Institutes of Health (NIH), was inaugurated. By the early 1990s, it would be renamed the National Institute for Nursing Research. Forty years of nurturing research and researchers by the Division of Nursing provided the foundation for

this development. Nursing science was now on a par with other disciplines. The division's research branch moved to the National Institutes of Health to constitute the core of the new Center for Nursing Research.

NATIONAL AND INTERNATIONAL ENDEAVORS

In the decade of the 1980s, the DN helped advance international nursing in far-flung locations. The division sent staff to provide health services for Haitian refugees in Puerto Rico. They provided consultation to the governments of Nigeria and Micronesia in upgrading their nursing services. Mexico's first master's degree program in nursing was developed with the division consultation.



Public Health Service nurse with Tigrean refugee children, International Rescue Committee, Wad Kowly, Eastern Sudan (National Library of Medicine)

Back in the United States, another Federal study -- this one mandated by the 1979 NTA--was carried out by the Institute of Medicine. Its 1983 report, *Nursing and Nursing Education: Public Policies and Private Actions*, predicted that the future supply of generalist nurses would be in balance with societal needs. The study group did, however, recommend increased support for nursing education at the graduate level, particularly for nurse practitioner programs.

The number of division-supported master's degree programs expanded during the decade of the 1980s. Many certificate programs were relocated to schools of nursing and became graduate programs. In 1974 only 34 percent of division-funded nurse practitioner pro-

grams offered graduate degrees; this segment increased to 57 percent by the early 1980s. With division assistance, the number of master's degree programs in nursing doubled between 1970 and 1985. Graduate programs were opened in five states where previously none had existed. Many clinical nurse specialist programs were also financed. More likely to be practicing in acute care hospital settings than nurse practitioners, clinical nurse specialists filled various role functions, encompassing advanced practice, education, and consultation.

LEGISLATIVE AMENDMENTS IN THE MIDDLE AND LATE 1980s

The Nurse Training Act of 1985 included legislative changes. Funding for nurse anesthetist programs was one amendment to the law. Nurse anesthetist education was shifting from certificate to master's degree programs based in schools of nursing.

Competition between nurse practitioners and physicians accelerated during the 1980s as the physician supply grew. A debate ensued in the health care community concerning whether nurses substituted for physicians or complemented their practice. An 1986 Office of Technology Assessment study, *Nurse Practitioners, Physician Assistants, and Certified Nurse Midwives: A Policy Analysis*, concluded that these groups provided quality, critically needed, health care, particularly to underserved populations. It further determined that the studied providers were not being used to their fullest potential.

The DN recognized that one segment of the population who could benefit substantially from the services of nurse practitioners was the elderly. Their numbers continued to escalate. (In 1900, only 4 percent of the population was older than

65 years, but this percentage rose to 13 percent by 1986 and was expected to reach 21 percent by 2020. Average life expectancy went from 47 years in 1900 to 75 years by 1987. Older Americans were now categorized into two groups: the young/old (ages 65-80); and the old/old (those over 80 years.) Many of the latter group required nursing home care. Although the need was great, limited resources to pay for long-term care delayed full utilization of nurse practitioners in this setting.

Gradually, master's degree programs were created to focus on the needs of the elderly. The 1985 and 1988 amendments to the NTA extended Title VIII and specified funding for geriatric nursing education curricula, faculty development and student support. Geriatric nurse practitioner and clinical nurse specialist programs funded by the division prepared these caregivers. Innovative new programs were initiated, such as wellness centers for the elderly and primary care clinics in nursing homes.

CONTRIBUTIONS TO THE NURSING COMMUNITY

In the early 1980s the division recognized that nurses specializing in geriatrics needed high quality continuing education. Designed under the divisions' auspices, a course that included didactic and clinical experiences was developed for nurses specializing in the care of the elderly. This program prepared nurses for providing quality nursing care, supervising and educating ancillary staff, and managing health care systems serving older Americans. As part of this effort, the latest research and clinical scholarship was reviewed.

The division's role as a clearinghouse for nursing information continued during the 1980s as new nursing knowledge was

rapidly generated. One 16-volume series of publications contained bibliographic information on a variety of clinical and professional topics relevant to the profession.

Conferences were initiated to bring nurses together in ways that advanced nursing care. A home care conference in 1987 recognized that specialty's growing resurgence. A 1989 conference on AIDS, jointly supported by the DN and the NCNR, resulted in the development of a specific action plan for education, practice and policies that could be undertaken by the nursing community to reduce the disease's effects. The division's *National Sample Surveys of Registered Nurses* in 1980, 1984, and 1988 furnished ongoing, essential manpower information about the profession. The division remained a leader in ICONS, overseeing the dissemination and coordination of nursing data with others both inside and outside the Government.

A TUMULTUOUS DECADE FOR NURSING

The nursing profession added 450,000 nurses during the 1980s. By the end of 1989, there were 1.7 million nurses practicing in the United States. Contrary to the prediction of the 1983 Institute of Medicine study, there did not appear to be enough nurses. The demand for nurses continued, particularly in acute care settings. As the 1980s ended, the scarcity of nurses seemed to intensify.

In 1987, the Secretary's Commission on Nursing was appointed to ascertain whether or not a true shortage of nurses existed. Jo Eleanor Elliott, division director, and O. Marie Henry, chief nurse officer of the PHS, were active in this endeavor. Once again the division played a key role in project consultation, data collection, and analysis.

Determining that the shortage was real, the Secretary's Commission argued that it was caused not by too few nurses, but by an ever-increasing demand. Task force members called for better utilization of nurses' time, higher pay, and Federal financial aid to undergraduate as well as graduate students. With its recommendation for more investment in entry-level nursing education, the Secretary's Commission returned to a policy out of favor since early the 1970s, that of providing support for undergraduate nursing education. By 1989, nursing school enrollments, declining since the middle of the decade, began to rise again.

The decade of the 1980s was a challenging era for the DN. Through its leadership, nursing education and practice responded to the health care needs of the Nation in new and more creative ways. The elderly and other underserved populations had better nursing resources available to them. More sophisticated estimations of nursing work force requirements were generated.



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