

Nursing education continued to shift to institutions of higher learning. Between 1960 and 1970, the number of nurses with bachelor's degrees increased by 132 percent and those with advanced degrees by 139 percent. Since the legislation of the 1950s, more than 20,000 nurses had received education preparing them as teachers, researchers and administrators.

The number and specialization of nurses had grown because of the NTA. An estimated 700,000 registered nurses were practicing in January of 1970, 150,000 more than before the 1964 NTA. Demand still exceeded supply. Nursing practice was becoming increasingly sophisticated. The role of the clinical nurse specialist, a highly skilled nurse with a graduate nursing degree, was fostered as a result of DN support for advanced education.

More nurses were conducting research. In the late 1960s the division supported three research conferences at which the scientific basis of nursing practice was explored. Research findings were communicated to participants, and plans were made for future forums. Aided by funding for advanced education and research, nursing science was maturing. Fifteen years of division-funded pre- and postdoctoral fellowships had nurtured a small but highly productive cadre of nurse scientists who became foot soldiers for nursing research. These nurse scientists broadened the profession's vision of caring for the sick and increased respect for nursing in academic circles. The Federal Government's investment helped legitimize nursing's scientific basis for practice.

EMERGING POSSIBILITIES AND CHALLENGES: 1970-1980

NURSING IN A CHANGING SOCIETY

The United States in 1970 was a radically different place than it had been in 1960. The war in Vietnam divided the country. The idealism of the 1960s was replaced by cynicism and a growing conservatism that later would have implications for nursing funding.

Society's metamorphosis profoundly influenced nursing. As women clamored for more schooling, nursing education was integrated more firmly into academic institutions. The profession now competed with other occupations for bright young women. Nursing was influenced by the newly resurgent women's movement. Feminism brought new ideas to the profession and challenged old assumptions. Seeing the opportunity to move beyond medicine's paternalistic grasp, many nurses challenged physicians' and hospitals' authority.

By 1970, health care was the third-largest industry in America. There was some evidence that hospitals had become grossly overused. Because 80 percent of Americans were covered by some form of health insurance, it often cost the insured less to obtain health care in hospitals than in ambulatory settings.

The impact of Medicare and Medicaid legislation programs of the mid-1960s was significant. These "Great Society" programs expanded access to health care for the old and the medically indigent, provided educational support for health personnel, and increased funding for health research. A higher standard of living and biomedical science prolonged life beyond what could have been expected several

decades earlier. Investment in research and training had resulted in new therapies for managing disease.

Early in the decade three publications important to the nursing community became available. *Toward a Comprehensive Health Policy for the 1970s* reported health care was in crisis because of inadequate personnel. In 1970, a study group commissioned by the W.K. Kellogg Foundation published its findings on the quality of nursing practice and education. The Lysaught Report, formally known as *An Abstract for Action*, noted many of the same problems identified in earlier studies of nursing. The study group's recommendations included the need for a baccalaureate degree for entry into practice and an increased supply of nurses with advanced nursing degrees.

A MATURING PROFESSION

Nursing was still a young science, but by 1970 it was becoming more involved with theory development and clinical research. Research money awarded by the DN was used less for curriculum studies or descriptive research on nurses and more for clinical patient-oriented investigations. One study, for example, explored methods to minimize tissue damage when caring for patients with endotracheal tubes. Another experiment analyzed the relationship between pressure, temperature, moisture and shearing force in patients at risk for decubitus ulcers.

Advanced nursing practice was gaining momentum. The success of the initial pediatric nurse practitioner programs stimulated the development of curricula to prepare family, adult and women's health nurse practitioners, as well as other nurse specialists. *Extending the Scope of Nursing Practice*, a 1971 report by the Secretary of Health, Education, and Welfare, concluded that widening the

range of nursing functions was essential if the Nation was to provide equal access to health care for all of its citizens. It called for nurses to expand their practices to include some responsibilities traditionally performed only by physicians. Barriers to effective utilization of advanced practice nurses were pinpointed, and more collaboration between physicians and nurses was recommended. The DN staff helped to prepare this highly influential report, providing consultation and supplying manpower data.

In 1970 the division had been restructured around four primary components: nursing manpower, nursing education, nursing practice, and nursing research. Manpower analysis, growing ever more sophisticated, was critical to all DN programs and funding efforts. This function enabled the division to continue its long-term commitment to assuring an adequate supply of well-prepared nurses throughout the Nation.

THE 1971 NURSE TRAINING ACT

The Nurse Training Act of 1971 (PL. 92-158) broadened Title VIII authorities and represented the greatest investment yet in nursing education.

Teams from the DN toured the country describing the specific provisions of the latest amendment to the NTA. The legislation included all of the conditions of earlier enactment with important modifications. The mission of special project grants broadened, and funds were now specifically earmarked to encourage advanced nursing roles and to increase resources for underserved areas. Schools of nursing welcomed the new capitation grants authorized in the 1971 act. Capitation allowed schools to accommodate larger enrollments, improved student-to-faculty ratios, and helped the financial stability of many schools.

A new category of division funding helped prevent many financially distressed nursing schools from closing. Programs and contracts to increase the number of nurses and to facilitate student diversity were supported. Special projects were funded to prepare ex-military corpsmen as well as retiring policemen and firemen for a second career in nursing. These programs generated new knowledge about designing curricula for adult learners that was subsequently very important to other division activities.

Examples abound of division-supported projects that promoted diversity in nursing and improved access to care for the poor. One grant funded an associate degree program that met the nursing needs of a nearby Navajo reservation. Funds were made available to the National Student Nurses' Association to recruit, counsel and tutor nursing students from minority groups. Yet another project helped licensed practical nurses to become registered nurses by designing a schedule that permitted both work and study.

CREATIVE DIVISION OF NURSING INITIATIVES

Recognizing that inactive nurses were a potential source to bolster the health care work force, the division canvassed this group. The survey results indicated that many inactive nurses wanted to return to work. Based on this finding, the division made available additional funds for refresher activities, advocated day care centers, and supported increased scheduling flexibility for nurses in the workplace.

Division dollars helped stretch resources in areas of the country with few or inadequate nursing programs. One project grant, for example, resulted in a model in which eight schools of nursing pooled their resources to overcome individual facility and faculty shortages. Another

grant funded telelectures, a new technology that enabled nurses to receive updates on clinical and professional topics. Nurses supported in another project earned bachelor's degrees through electronically equipped, mobile learning centers.

Grant applicants received extensive consultation from DN staff in developing proposals. Division staff made site visits to provide additional advice to grant recipients. Division leaders and staff attended State and national nursing meetings to disseminate information and offer consultation on Federal resources. Manpower assistance to States was ongoing. With division help in the early 1970s, 10 States designed methods to overcome workforce deficits.

EMPHASIS ON ADVANCED PRACTICE NURSING AND RESEARCH

The focus on advanced practice nurses intensified in the 1970s. New graduate programs prepared clinical nurse specialists to meet the nursing needs of specialty populations such as burn victims. Graduate curricula were designed for nurse practitioners who could meet the primary care requirements of the disadvantaged in inner cities and other underserved areas. Early in the decade, the division began to fund certificate and master's degree nurse practitioner programs.

In the early 1970s the division gathered more data about the nurse practitioner role. Two 1973 conferences on nurse practitioner education at the University of Wisconsin in Madison were supported by the DN. Participants concentrated on role reformulation and developing methods of evaluating programs.

The first longitudinal study of nurse practitioners was commissioned by the divi-

sion to estimate the need for future Federal support by gathering data on the functions and utilization of nurse practitioners. The study also quantified the variability in, and appropriateness of, nurse practitioner preparation. A national perspective on their contributions to primary health care, particularly in medically underserved areas, was established as a result. The study demonstrated that nurse practitioners were a highly beneficial societal resource. Its results became the basis for funding for many years and facilitated the role's acceptance. It shaped the division's support for the role in the form of project grants, contracts and consultation.

With master's degree programs for nurses well underway throughout the country, the division began to increase its focus on doctoral education in nursing science. In 1970, the University of Pittsburgh was awarded a grant to support research training in maternal and pediatric nursing. Successful completion of the project led to the first Federally-funded Ph.D. program in nursing.

Division staff also promoted nursing science. Staff were active members on the ANA Council of Nurse Researchers. The field center in San Francisco continued to engage in nursing research until it was closed in the mid 1970s. A 1971 division-supported conference, entitled "Future Directions of Doctoral Education for Nurses," brought together 25 nurse educators, researchers, program directors and deans. These nursing leaders discussed ways in which doctorally educated nurses could balance clinical practice and research.

The DN awarded numerous grants to stimulate more nursing research. The Western Interstate Commission for Higher Education (WICHE), a regional consortium of universities in 13 States, began a 3-year project in 1971 to increase the quantity and quality of nursing research projects. The Western Council of Higher

Education in Nursing (WCHEN), an aggregate of 163 nursing schools, carried out the project. The rationale for the WCHEN project was to devise techniques to reduce the time-lag between research production and its application in actual nursing practice. Research clinics to provide mentors and consultants for nurse investigators were initiated as part of the venture.

Rapidly changing treatment modalities, new roles for nurses, and shifting health care delivery patterns heightened the need for nurses to meet and plan the profession's response. During the 1970s the division supported many conferences on a wide variety of nursing topics. Nurses met in 1972 to discuss accountability for patient care in a changing health care environment. "The 'Decanal' Role in Baccalaureate and Higher Degree Colleges of Nursing" brought together nursing school deans to discuss the role of future nursing educational leaders. At other meetings, nursing research methodologies were critiqued, and participants evaluated team versus primary nursing on a variety of outcome measures. These conferences brought nurse leaders together and provided them with support to maintain momentum in the profession's ongoing development.

HEALTH CARE CONCERNS IN THE MID 1970s

By 1975, health care costs consumed almost 10 per cent of the GNP. Congressional attention had shifted from health care personnel shortages to the maldistribution of existing providers. This change in philosophy occurred in spite of data that suggested both shortages and maldistribution existed in the nursing arena.

Congress recognized that not enough nurses practiced in rural and inner city

areas. Shortages also existed in leadership, teaching and advanced clinical practice. A crisis in elderly care began to evoke societal concern. Nursing homes had too few registered nurses; their personnel were undertrained and overworked. A series of governmental and privately commissioned reports analyzing nursing home failures and abuses were published in the middle and late 1970s.

THE 1975 NURSE TRAINING ACT

The 1975 Nurse Training Act continued the provisions contained in Title VIII of PL. 94-63 and provided separate authorities for advanced nurse education.

Armed with a new mandate, the DN set to work implementing the 1975 legislation. The act included specific authorities supporting the preparation of nurses with graduate preparation. Authority to meet the costs of planning, developing, and operating these programs was enacted. Special emphasis was placed on preparing gerontology nurses.

Other legislation mandated reports to the Congress on the supply, distribution and educational requirements for nurses. Included in subsequent reports were statistics regarding employment, compensation, specialty preparation and foreign nurse graduates.

THE NURSE PRACTITIONER MOVEMENT

In the 1970s, nursing schools began placing new emphasis on faculty practice. The philosophy of the University of Rochester's (New York) Unification Model, for example, was that faculty clinical practice strengthened all components of the educational programs. One division-sup-

ported program, combining nursing education and health care delivery for the elderly, was established at the University of Lowell in Massachusetts. This gerontologic nurse practitioner program was designed to provide comprehensive care to the elderly and serve as a practice site for nurse practitioner students. Gerontologic nurse practitioner faculty was responsible for the project's direction and for providing services to clients as part of a joint practice arrangement with physicians. Students provided primary care to clients under faculty supervision. In a program evaluation, clinic attendees had a high degree of patient compliance with prescribed regimens and positive health care outcomes.

Most nurse practitioner programs prepared clinicians who were readily accepted by the public and well-prepared to meet their clients' health care needs; however, the DN strove to further improve nurse practitioners' education. In the mid 1970s, the division supported a conference to study the successes and problems of the family nurse practitioner. Issues surrounding advanced nursing education were debated by the participating nurses and and physicians from 25 programs in 21 States.

Nurse practitioner programs contributed significantly to preparing nurses capable of providing primary care to the disadvantaged and geographically isolated. Between 1977 and 1979, the DN funded nursing clinics in psychiatric day care centers, head start programs, prisons and residential complexes for the elderly. Services offered included physical examinations, treatment of minor illnesses, counseling and primary prevention.

It was not only the disadvantaged who benefitted from nurse practitioners. The first occupational health nurse practitioner programs, supported by the division in the late 1970s, brought health promotion and illness prevention into the workplace. Nurse practitioners, particularly

those specializing in pediatrics and nurse-midwifery, were growing popular with the middle and upper classes.

THE LATE 1970s: A MORE EDUCATED NURSING PROFESSION

The division forged ahead in its support of doctoral preparation in nursing. Several conferences on doctoral education were supported in the late 1970s. Most of the nurse leaders attending were beneficiaries of nurse-scientist awards. Participants studied manpower requirements for doctorally prepared nurses and debated the roles for which nurses needed doctoral degrees. Strategies to gain university support for doctoral programs were presented by the division. This national planning was deemed by many to be critical to the later expansion of doctoral programs in nursing.

Although the number of nurses with advanced degrees was growing, documents submitted to Congress by the division in 1975 showed that only 3.4 percent of R.N.s had graduate preparation. As required by legislation, the reports summarized nursing manpower data. Highlighted in these communications was a call for more nurses with graduate-level preparation.

WORKFORCE ANALYSIS GROWS MORE SOPHISTICATED

A great deal of information was provided about the nursing workforce in the reports to Congress, including detailed statistics on all aspects of nursing employment. An elaborate plan for data acquisition and interpretation was developed in the mid 1970s. The variety and complexity of the care delivered by nurses in the

United States mitigated against using a single data analysis mechanism.

The division funded and managed contracts for the entire data collection and analytic process. Innovative new data modeling techniques arose from these efforts. For example, a study was funded that examined the impact of health system changes on requirements for nurses. Workforce projections included the impact of potential alterations to the health care system such as an increase in health maintenance organizations (HMOs), the enactment of national health insurance, and the expanded use of advanced practice nurses. Also, in the mid 1970s, WCHEN, under the auspices of its parent organization, WICHE, developed a systematic framework for State projections of nursing requirements in a variety of settings.

A national sample survey of registered nurses was undertaken in 1977. Biennial information on public health nurses continued to be compiled. Once aggregated and analyzed, the data were summarized for Congress. Included in the reports to Congress were a discussion of the issues surrounding nursing preparation and practice, the implications of the statistical findings for the nursing profession, and planning issues.

Complex philosophical issues related to health care were debated in the summaries. For example, the meaning of the concept "adequate nursing requirements" was sought. Did it mean enough nurses to keep health care institutions functioning? Did adequate numbers include capacity to expand services or improve them? Was adequacy based solely on a neoclassical economic model in which supply was predicated on resources? The DN's efforts in this area represented an attempt to determine quantifiable answers to elusive questions.

GRADUATES OF FOREIGN NURSING SCHOOLS

One result of the nursing shortage in America in the 1960s and 1970s was the increased utilization of nurses educated in foreign countries. Many nursing leaders in the United States were concerned that the quality of patient care might be jeopardized because foreign nurses lacked preparation in practice areas required for nursing students in the United States. There was also concern about the lack of a national database for this group. Heretofore, no national standards existed for foreign nurses. After following visa guidelines pertaining to any nonnative worker, foreign nurses applied for licensure in the State in which they wanted to practice. Their state board failure rate was high, and they faced exploitation by employers.

The division contracted with the ANA and Pace University to study the problem of foreign nurse graduates. It was recommended that foreign nurse graduates be required to pass a preimmigration competency examination of their clinical knowledge and English proficiency. The recommendation was put forward at a division-supported conference along with a proposal that a single organization be created with authority to oversee the credentialing of all foreign nurse graduates. The Commission on Graduates of Foreign Nursing Schools, founded in the late 1970s, was an outgrowth of this conference.

THE DIVISION OF NURSING AT THE END OF THE 1970s

Funding for research and its dissemination continued to be central to the DN's mission. The division had a unique national vantage point from which to observe the evolution of nursing inquiry.

Without a system to track ongoing research, investigators often duplicated one another's efforts. Many schools set about compiling and cataloging research instruments in the late 1970s. The division stepped in and published a collection of research instruments for all to use.

Innovative projects were funded to help circulate research findings. For instance, under one contract, the feasibility of employing satellite telecommunications to disseminate research findings was explored. Using this technology, health care providers and investigators communicated on clinical topics such as child health assessment. In another research-oriented series, primary care topics were telecast to 200 family nurse practitioners at six sites. The technology also was used to broadcast inservice education to 700 nurses in 20 communities.

A substantial body of nursing research was finally being generated, but the results were not always available to the nurse at the bedside. Toward the end of the decade, the division supported an ambitious project to translate research into nursing practice initiatives. This comprehensive project, conducted by the Michigan Nurses' Association, resulted in an 11-book series. The Conduct and Utilization of Research in Nursing (CURN) project developed and tested a model to promote the use of scientific nursing knowledge in clinical practice settings. Relevant clinical protocols were tested, evaluated and modified before being published. Innovative research findings were placed into a form useful for the clinical practitioner. One book, for example, presented a protocol, synthesized and transformed from related research, for the nurse to use when caring for preoperative patients. Included in the publication were reprints of relevant research articles and a guide to help the reader understand the protocol.

Specialization in nursing accelerated during the 1970s, and Federal grants pro-

vided nursing with support for its differentiation. Changing patterns of work, new technology, higher public expectations of health care, and professional ambition spurred nurses to select specific areas of nursing practice in which to develop their individual careers. Nurses practicing in acute care settings expanded their roles. Clinical nurse specialists oversaw nursing care and increased nursing's visibility among hospitalized patients. Critical care nurses' responsibility for making patient care decisions expanded rapidly.

Toward the end of the 1970s, division-funded experiments to reduce perceived primary care shortages continued at a rapid pace in spite of some physicians' concern about the nurse practitioner role. Changing educational patterns for nurses, increased specialization by physicians and nurses, and new social context (associated with the women's movement), all influenced nurses' striving to broaden their scope of practice.

The movement for advanced nursing practice had an effect on generic education. A new understanding of the work at advanced levels helped define the baccalaureate-prepared generalist role more clearly. Nonetheless, differences between nurses with a baccalaureate, associate degree or a diploma education were often difficult to quantify.

The DN had much to be proud of in its 35-year history. Its vigorous leadership in nursing research, education and practice elevated the profession's development to new heights. An entire generation of leaders had received Federal support through the Professional Nurse Traineeship Program. Investments in new nursing roles advanced the public's health and welfare, always the goal of the division's efforts. Nursing was a more heterogeneous profession. Continuing education supported by the DN enabled nurses to keep abreast of rapid changes in health care.

INNOVATION AND PROFESSIONAL MATURATION: 1980-1990

GROWING ECONOMIC AND SOCIAL CONSERVATISM

A growing tide of social and economic conservatism was emerging in 1980. The developing global economy created new opportunities and problems. The income gap between rich and poor widened, and the economic stress on the middle class increased. Many families found that two incomes were essential to maintain a middle-class lifestyle.

The changing focus of American industry was felt by many workers as high-pay-

ing manufacturing jobs were replaced by lower paying service positions. Many jobs moved from the city to the suburbs. As their tax base eroded, cities found it harder to provide essential social services.

AN OVERBURDENED HEALTH CARE SYSTEM

Depending on one's vantage point, it was the best of times or the worst of times for health care. Medicine was continually applauded for its life-saving achievements. Every year hundreds of new medical treatments and technologies were in-