

NEW DEVELOPMENTS IN OCCUPATIONAL HEALTH NURSE TRAINING AND EDUCATION IN THE UNITED STATES

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ABSTRACT

The past and present occupational health nurse training in the U.S.A. is described. It is emphasized that a major milestone in the training and education in this field was laid in 1977 when the National Institute for Occupational Safety and Health awarded grants to eleven universities in the country for establishing Educational Resource Training Centers in Occupational Safety and Health. Some details of educational programs are discussed.

In the year 1970, the Federal Occupational Safety and Health Act was passed mandating safe and healthful workplaces for approximately 90 million workers in the United States. The U.S. Department of Health, Education and Welfare (DHEW) was designated the responsibility of preparing and training health professionals for work in industry.

The Division of Training and Manpower Development (DTMD) of the National Institute for Occupational Safety and Health (NIOSH) is carrying out that mandate. Until now, this was accomplished through the direct training mechanism by our Division staff and through individual project grants to various universities in the country to train either physicians, nurses or environmental personnel.

In 1977, however, the Institute direction changed with the establishment of nine Educational Resource Centers (ERC) in the country and two more in 1978. This is a major breakthrough in the training of occupational safety and health (OSH) professionals primarily because of the interdisciplinary concept involved.

It provides for a single university or a consortium in a given geographical area to develop educational programs under one central umbrella for the four disciplines of medicine, nursing, safety and industrial hygiene. This type of interdisciplinary training effort has never been attempted before in the country.

Many universities submitted proposals to NIOSH for funding. Eleven met the requirements, were awarded grants for a period of approximately five years

and are now known as Educational Resource Training Centers in Occupational Safety and Health. Among the grant requirements were that the universities have:

1. Cooperative arrangements between a medical school, a nursing school and a school of public health;
2. Core training for all four disciplines of medicine, nursing, safety and industrial hygiene;
3. Short-term training or what we call continuing education for employed occupational health personnel and
4. An outreach program which is technical assistance and consultative services to other institutions in the region who wish to develop training programs.

Essentially, what was mandated was a concept of interdisciplinary education where physicians, nurses and environmental personnel could study, learn, and work together; where programs would be developed at undergraduate and graduate levels; where short courses would be planned and developed for those people already in industry, and where assistance would be provided by the university to other schools who wish to institute occupational health programs. It was also hoped that there would be a permeation or integration of the principles and concepts of occupational health into the curriculum in other schools within the universities, such as the School of Engineering and the School of Architecture.

The nursing area is a key element in the proposed programs. According to the report "A Nationwide Survey of the Occupational Safety and Health Work Force", undertaken by the DTMD and published this year, approximately 10 000 nurses in the United States are in the OSH field². Although this conflicts with surveys from previous years, it is estimated that an accurate range is between 9 900 and 22 400¹.

The nurses staff approximately 8 000 units in the country. Most (approximately 90%) are diploma nurses, i.e., graduates of three-year hospital schools of nursing. Over 50% of the units employ one nurse who primarily cares for job-related illness and injury and is involved in screening programs of the prevention of occupational disease³. In many cases, nursing responsibilities are large and have not been commensurate with the education and training required for carrying out an effective occupational health program.

Briefly, the basic preparation for all nurses in the country once thought to be the three-year hospital-based program, is now moving to the four-year program in the university. On this undergraduate level, nursing theory and practicum are taught. There are no in-depth specialty courses, although principles and concepts are taught in some areas such as public or community health. In some programs, occupational health and occupational health nursing are taught as a separate course or integrated into the community health core.

Specialization in any field of nursing occurs after the basic training in a university setting. This is the master's level one or two-year program. Because we have had very few master's level specialization programs in occupational

health nursing, nurses who work in industry have had no preparation for the kind of work they are doing. They must rely on short courses offered in a continuing education program to provide fundamental knowledge and upgrade their skills.

A few attempts have been made in the last twenty-five years to train occupational health nurses on a graduate level and these programs have produced the occupational health nursing leaders in the country today. The most renowned have been at Yale University from 1951 to 1961, the University of North Carolina from 1972 to 1975, New York University from 1975 to 1978, and most recently at the University of Cincinnati. The latter program commenced in 1976 and is still continuing.

When the eleven new Centers which would conduct occupational health nurse training were funded in 1977, only one (the University of Cincinnati) had an existing nursing program. The remaining ten were given the first year to plan and develop programs and recruit faculty.

Three of the Center nursing programs are located in schools of public health, i.e., where preparation of toxicologists, epidemiologists, statisticians and public health personnel takes place. Eight programs are in schools of nursing where only training of nurses occurs.

The focus of these programs is basically the same. Most universities are planning to prepare occupational health nurses as "clinical specialists" in the occupational health setting, with skills in physical assessment of workers and knowledge of the work environment, along with the organization of occupational health preventive programs for workers. A second emphasis will be on acquiring skills in administration, consultation or education since the field needs nursing leaders who will be prepared to teach in universities, consult on a State or Federal level or function as nursing managers in industry. A major element of all these graduate professional programs is the acquisition of research skills in order to provide a sound, scientific base for nursing practice.

One newly funded school, will begin their occupational health nursing program with a six to nine months "practitioner" program for nurses in industry who may or may not hold academic degrees, i.e., they may be graduates of two or three-year hospital schools of nursing. Although such programs are now being conducted for nurses in other fields, this will be, if implemented, the first program of this type in the field of occupational health nursing.

Another school is beginning their occupational health nursing program by developing three elective courses in the undergraduate nursing curriculum. Nursing students will have an option of taking these courses during their senior year if they exhibit an interest in occupational health. The three courses, Introduction of Occupational Health Nursing, Occupational Health Nursing Interventions and Implementation of Occupational Health Nursing, will provide the students with a theoretical foundation for practice and enable them to practice clinical skills in the industrial setting. This is a new type of program providing theory and practice in the specialized area of occupational health on an undergraduate level.

Employing qualified faculty is perhaps the major deterrent to the full development and implementation of the nursing programs. Six schools have faculty on board and five are still in the recruitment stage. Faculty have not been hired because there is a lack of nursing personnel in the occupational health field with qualifications consistent with university requirements and because nurses with occupational health expertise and graduate degrees are unavailable due to their employment in other top positions in the country. Currently, all efforts are being expanded to assist the universities in the recruitment process. This is recognized as crucial in order to develop sound, ongoing occupational health nursing programs.

Recruitment of new students does not appear to be a major problem. Many nurses in industry hold bachelor's degrees (a prerequisite for entry) and are seeking master's preparation in the field. Other nurses, not in occupational health, are recognizing the increasing importance of preventive health care primarily for workers and are opting to make mid-career changes.

When the grants were awarded, one of the major tasks facing the Division of Training and Manpower Development staff was the initiation and implementation of a monitoring procedure. This would insure that grant requirements were being met, i.e., professionals would be trained in sufficient numbers to meet the health needs of workers in the country.

Because this is not an easy task with eleven Centers funded and educational programs for four disciplines in each, the Educational Resource Center Manager System was established within the Division. It provides for the assigning of a Division staff person to be the liaison with the University ERC Director and his staff. Essentially, this person is responsible for monitoring the Center's activities which involve the development and implementation of the mandated programs areas. A major part of his work is assisting the Center in obtaining the technical assistance and consultation they require. This is where discipline area specialists in the Division make their contribution to the entire concept and program.

Nurses, physicians, industrial hygienists and safety specialists on the Division staff complement the manager in carrying out his functions. When program directors and faculty at the university require consultation in specific areas, i.e., curriculum development, continuing education or outreach, the specialists make a site visit and provide the necessary assistance. Written reports following visits are mandated and routed to the Center Managers. This is one way of assuring effective communications between discipline specialists and between specialists and managers.

Another major area where discipline specialists are utilized is in the area of continuing education. These programs are mandated for the employed occupational health professionals; and university faculty at the ERC's must plan and implement programs in medicine, nursing, safety and industrial hygiene. Within the Division, again, teams representing all disciplines have been assigned to monitor the continuing education activities. Their primary objective is to provide technical review of programs, curriculum materials and audio visual aids and actually participate in workshop presentations if needed.

Another way in which specialists support the Center activities is in the outreach area. When they become aware of a specific need for assistance anywhere in the country, the request is routed to the university faculty who then responds with appropriate consultation or technical assistance. Thus, it is evident that all efforts must be mobilized both within the Division of Training and Manpower Development and within the Center itself in assuring the implementation of strong educational programs.

As regards the nursing efforts within the Division toward these Center activities we faced a new challenge and somewhat frightening experience. No funding had ever been given to such a large number of schools at one time for the training of occupational health nurses. We recognized that consultation and assistance would be required from many people including other occupational health nursing leaders; thus, the services of two NIOSH nurse consultants were obtained. We mobilized our efforts in order to explore the needs of occupational health nurses, the competencies required, and we began to plan strategies for orienting and assisting the Center nursing faculty.

First, we had some searching questions. Where are we now in occupational health nursing and where would we like to be in the future? How do we want our nurses prepared for this field? What competencies do we want them to have? What kind of health and nursing care do workers need? Can the nurses in our country in occupational health today do what is necessary and needed and if not, what kind of additional learning experiences do they need? Finally, is the kind of preparation we foresee consistent with nursing education trends today in our country? Unfortunately, answers are not available for all of these questions, and some will only evolve with time and with good sound research. We do know, however, how many nurses we have and how they are prepared; we know what is good occupational health nursing practice and what is mandated by the law; and we know what trends in nursing education are making an impact on health care delivery today. Most important, we know that interdisciplinary education is necessary.

We then planned some activities we felt would be helpful for the proposed nursing faculty. We have a responsibility for building a strong foundation for the preparation of good practitioners and leaders, and we know we may not have this opportunity again. The ERC Managers and discipline specialists support us strongly in this endeavor.

Our first task was to convene a three-day workshop for Directors of the Occupational Health Nursing Component and supporting faculty. It was held in April 1978 and fifteen nurses attended from ten universities. The purpose was: 1) To establish channels of communication for potential future collaboration; 2) Learn about the current state of occupational health nursing programs, and past and current efforts to provide multi-level training for occupational health nurses; 3) Share efforts and potential plans for the development of the occupational health nursing program component; 4) Share current needs and identify select resources available; and 5) Learn about behaviors the occupational health nurse practitioner engages in and roles he or she is expected to assume in the

occupational setting. The workshop was successful. This was the first time such a group had been assembled – a group we hoped would be making major commitments to producing prepared occupational health nurses.

Our second major task is planning for a three-week course for Center nursing faculty next year. This is seen as a first and essential for nurse teachers who, although having strong expertise in the area of nursing, do not know about the work environment, its hazards and its potential for causing latent occupational diseases. They need to know there is identifiable content in the areas of toxicology, epidemiology, occupational diseases and the identification, evaluation and control of work hazards which need to be incorporated into the nursing curricula in order to prepare nurse specialists in the field. This is being planned as an intensive learning experience utilizing the didactic and group session format. Walk-thru surveys and visits to industry will also be incorporated into the course.

In this endeavor, industrial hygienists, safety professionals and physicians will be utilized both in planning and implementing the program. Additional labor and management experts will be called in to assist. In our opinion, the occupational health nurse is part of a team and in order for that team to function effectively, members must learn about each other's roles and responsibilities.

A third major outcome of our planning meetings resulted from our exploration of the general nursing education trends in the United States today. Would the prepared occupational health nurse we envision be prepared according to the standards of nursing education and would he or she stand on an equal level with other specialty prepared nurses? This forced us to look at the nurse "practitioner" movement which is recognized as the "wave of the future" in our health care delivery system. A nurse practitioner is "a registered nurse who has successfully completed a formal program of study, designed to prepare registered nurses to perform in an expanded role in the delivery of primary health care."⁴

This nurse functions independently, collaborates with a physician in carrying out the nursing responsibilities and provides continuity of health care for well people as well as for those with health problems. The training of this specialist is perceived as so important that it is the only program receiving major funding under the Federal Nurse Training Act in our country. These programs are usually developed on a graduate level for one year, but some are six to nine-month programs with a certificate awarded on successful completion. The first of these was in the specialty area of pediatric nursing ten years ago; others have since developed in adult health, family health and geriatric nursing.

The NIOSH nursing staff recognized that the nurse in occupational health must be equally well prepared as nurses in other fields but most important must possess the identifiable and specialized knowledge which distinguishes her practice from that of other nurses.

We therefore undertook a major project. In the nursing practitioner curriculum consisting of five core areas of practice, we overlaid occupational health nursing concepts into the basic objectives. The core areas are: physical

diagnosis and data gathering, assessment and management of common health problems in the occupational health setting, preventive health care and health education of the worker, role socialization, health care delivery systems and seminar on adult, family, and group development, dynamics, and treatment. We now have a beginning set of objectives to be used in part or as a total program by nursing faculty who are developing curricula to prepare a nurse specialist in the occupational health field.

In summary, much remains to be done to make all of these programs viable. University faculty must make strong commitments. New courses and curricula remain to be developed in the near future. Program promotion and recruitment of students will be ongoing. Continuous research and searching will take place to identify the roles of other disciplines as well. Review and evaluation of the programs will be crucial. Will we see positive changes in behavior on the part of the occupational health professionals? Industry response has been positive. For example, an awareness of the capabilities of the nurse professional has emerged and this has given new impetus to occupational health nurses wishing to promote their own growth and development as professionals. Several large corporations in the country are seeking chief nurses to administer their nursing services. Most important, how will the workers in the country benefit and what will be the impact of these training programs? That will be difficult to measure; what we can hope for is a cadre of qualified, knowledgeable professionals who will be the leaders, the researchers, the educators and in some cases, the practitioners. They in turn, will be expected to make meaningful contributions in the field.

As has been said, "What is past is prologue." We now stand at the threshold of a challenging and emerging area of nursing practice with a foreseeable future for better health care and a healthy environment for workers.

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