Health Occupations Education: Avoiding Crisis or Creating Crisis

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Abstract: This paper describes the current role of health occupations education in meeting the need for health care professionals in Pennsylvania. After substantiating future employment needs in this field, health occupations education is explored in relation to curriculum needs, student profile, and teachers. Critical issues in Pennsylvania and their impact on health occupations education are described. Based on the data, it was concluded that health occupations education is creating a crisis, rather than avoiding a crisis, in the health care industry. The State Board of Education and the health care industry in Pennsylvania must become active partners and take leadership roles to provide the changes required to move health occupations education’s position on the crisis continuum from creating a crisis to avoiding a crisis in three critical areas: curriculum, articulation, and recruitment.

Numerous studies substantiate the need for health care professionals now and in the future. Classified advertisements in professional journals and newspapers are offering enormous employment

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opportunities in the health care field. Moreover, newspapers are reporting on hospital closings or reduction in services due to the lack of qualified personnel. How is health occupations education in Pennsylvania contributing to the demand for qualified personnel in the health care industry? Are we helping to avoid a crisis by supplying qualified graduates or are we creating a crisis by graduating unqualified persons?

Future Employment Situation

The health care industry is the fastest growing industry in the United States. The current shortage of health care workers is building to crisis proportions and poses a serious threat to the ability of health care facilities to provide critical services to citizens. It is difficult to project accurately the number and types of health occupations employees that will be needed over the next decade because of the vast changes taking place in technology, health care and ethics legislation, as well as current health care issues.

Avoiding Crisis, the title of a recent report from the Institute of Medicine (1988), reports results from the first large study of the enterprise known as allied health. Their conclusions are national in scope and refer to the long term future outlook:

Barring major economic or health care financing contractions, growth in the number of jobs for allied health workers will substantially exceed the nation’s average rate of growth for all jobs... For some fields, such as physical therapy, radiologic technology, medical record services, and occupational therapy, we foresee a need for decision makers to improve the working of the market so that severe imbalances in supply and demand may be
prevented. Employers are already concerned about difficulties in hiring in some of these fields, and there are signs that health care providers are beginning to search for ways of accommodating new realities. For some other fields, such as clinical laboratory technology and dental hygiene, there are factors that could cause instability in both supply and demand. Supply and demand for speech-language pathologists, audiologists, respiratory therapists, and dietitians are expected to be sufficiently well balanced. Nevertheless, for these and other allied health care occupations, changes in many factors could cause disequilibrium. These factors include: health care financing policies, technology change, decisions about education programs and regulatory policies. (p. 5)

In addition, the Institute chose to devote special attention to long-term care because of the increasing numbers among the aging population who need long-term care. Minimally trained nurse aides are often the primary caretakers with the most frequent patient contact and the Institute called for the federal government and other responsible governmental agencies to require education and training to raise the knowledge and level of these personnel. The Institute recommended that demonstration projects should be funded to encourage joint efforts by educators and employers in creating career paths for nurse aides; and that all allied health education and training programs include substantive content and practical clinical experience in the care of the chronically ill (p.12).

The Department of Labor (1987) in their publication, *Workforce 2000, Work and Workers for the 21st Century*, noted rapid changes in the
nature of the job market and projected increased employment opportunities for health care workers. The National Council on Vocational Education (1989) reported an overall increase of 15 to 20% in the number of health care employees needed in the next decade. The aging population will contribute to this demand.

Shortages will not be eased by the traditional entry of young workers into the field as demographic studies showed that the number of young entry-level workers will decrease dramatically over the next seven years. The Pennsylvania Department of Education (1988-89) indicated that secondary school enrollments at the twelfth grade level have declined by 50,000 students, while enrollments in secondary vocational education have declined by 40,000 during the present decade. Similar projections are predicted into the mid-1990s. Compounding the problem of declining secondary enrollments is the increase in elderly population and Pennsylvania has one of the fastest growing populations of older adults in the nation. Moreover, as the number of older adults increases, the need for qualified health care givers also increases.

Traditionally, health occupations education programs have prepared individuals for work in the health care industry but there has been a declining interest in health care professions. These professions have been staffed, in a large part, by women but the 1970s began a period of great expansion in other professional opportunities for women. In 1968, there were fewer than 2000 female graduates in law, medicine, and business. In 1978, 20,000 women received such degrees, and by 1985, the annual total was more than 40,000. Young women who once were willing to work for low wages are no longer attracted to the health care field (Richards, 1990).
Health Occupations Education

Health occupations education was mandated first in federal legislation with the passage of the George-Barden Act of 1946. The Act provided funds for practical nursing education. It was not until 1956, however, that the Health Amendment Act established health occupations education as a new program within vocational education. Prior to this time, health occupations education came under the jurisdiction of Trade and Industrial Education. As a result, health occupations teacher education followed the pattern of trade and industrial education for teacher certification. Teacher certification was provided by two routes: degree and non-degree. Many teachers of trade and industrial and health occupations followed the non-degree route. This route required a formal training period in a particular specialty area followed by two years of work experience in the specialty area. Individuals then had to pass an occupational competency examination. There were no examinations in health occupations education; therefore, individuals had to submit occupational credentials for evaluation. These credentials could include licenses mandated by the state (e.g., nursing); or certification required by professional organizations (e.g., American Medical Association and American Dental Association). The non-degree route required 60 credits with approximately equal numbers of general education and vocational education credits for teacher certification. This route and pattern of evaluation of credentials still occurs in Pennsylvania today (Richards, 1980).

Health occupations education is concerned with the education of people for health care practice at levels requiring less than the baccalaureate degree; it is estimated that 80% of the people now
employed in the nation’s health care system are prepared at this level. Table 1 depicts the most common health care occupations at the secondary level, and the teacher qualifications required by the Pennsylvania Department of Education (Richards, 1980, pp. 29-33). The occupations are consistent with accepted definitions except for health assistant. The health assistant curriculum prepares students in three program areas: (a) medical assistant, (b) dental assistant, and (c) nursing assistant. Students enrolled in the health assistant curriculum usually explore the three areas and then focus on one area prior to graduation.

**Curriculum Needs**

Health occupations require’s a variety of basic skills such as mathematics, science, and communication skills which are needed in most health careers. The curriculum for each health occupation specialty is so time consuming that little, if any, time is available for remedial work in basic skill areas. A science-based curriculum is important especially for the technical level. Communication skills are particularly important in dealing with patients, the public, and other health care professionals. Documentation on patients’ record is subject increasingly to legal scrutiny as evidenced in the number of malpractice suits being litigated. Skills also are needed in computer literacy, decision-making, ethics, interpersonal relations, safety, and personal health.

Major changes in skill requirements for future health occupations employees depend largely on factors outside the health care industry, such as world economy, environment, demographics, and diseases. If international markets suffer significant losses, the health care field
### Table 1

**Pennsylvania Teacher Qualifications for Secondary Health Occupations Education Programs.**

<table>
<thead>
<tr>
<th>HEALTH OCCUPATION</th>
<th>Registered Nurse</th>
<th>Certified Medical Asst.</th>
<th>Registered Medical Lab. Technologist</th>
<th>Registered X-ray Technologist</th>
<th>Dental Hygienist</th>
<th>Certified Dental Lab. Technologist</th>
<th>Certified Dental Asst.</th>
<th>Home Economics Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Assistant</td>
<td></td>
<td>x1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Assistant</td>
<td></td>
<td>x1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Laboratory Asst.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiological Assistant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dental Assistant</td>
<td>x1, 3</td>
<td></td>
<td></td>
<td>x2</td>
<td></td>
<td>x2 or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dental Laboratory Asst.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x2</td>
<td></td>
</tr>
<tr>
<td>Health Assistant</td>
<td>x1, 3</td>
<td></td>
<td></td>
<td>x2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Health Management Assistant</td>
<td>x1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** X denotes teacher qualifications needed for specific program

1. One year of staff experience and enrolled in appropriate teacher education institution.

2. Two years documented experience and enrolled in appropriate teacher education institution.

3. One year of documented experience in a dental office as a dental assistant.

4. Teachers providing instruction in this course represent two areas of specialization; one with health assistant certification, one with home economics certification.
may feel a recession. Should these markets be strengthened, then the pressure for increasingly sophisticated technology will continue to create demand for new types of allied health practitioners. Furthermore, changes in reimbursement, technology, legislation and regulation affect the services available and, subsequently, personnel needs (National Council on Vocational Education, 1989).

The National Council on Vocational Education (1989) reported that, from an educational perspective, the greatest need facing health occupations vocational education is to develop links among the different educational levels that recognize previous education and experience. With better coordination of programs, individuals could plan their careers better and make the most of financial and other resources. (p.18)

Perhaps, one day, there will be curricula designed on an honors track for bright high school students who prefer vocational education to begin their career preparation over the college preparatory model.

Student Profile

A recent profile was completed of health occupations education students in Pennsylvania. The majority of students enrolled in health occupations education programs for the 1988-89 school year were white (80%) females (95%). Fifty percent of the population consisted of disadvantaged and handicapped students. Data were not available for gainfully placed completers of the 1988-89 school year but were available for the 1987-88 school year. Gainfully placed completers are defined as graduates who are (a) employed related to training, (b) employed not related to training, (c) in military service, or (d) pursuing additional education. For the 1987-88 school year,
approximately 88% of completers were gainfully placed with an average hourly salary of $5.34, below the average hourly salary ($6.05) of completers for all vocational program areas (Richards, 1990).

Health Occupations Teachers

The profile also included the educational levels and salary rank of health occupations education teachers. As noted earlier, there are two routes to certification for health occupations education teachers: degree and nondegree which affect the educational levels of teachers. The nondegree route requires 60 credits for teacher certification. In the 1988-89 school year, 29% of the health occupations education teachers held no degree but had completed one to four years of college, while 33% had completed an undergraduate degree and 38% had completed a graduate degree (master’s or doctorate). Overall, 71% of the teachers had either an undergraduate or graduate degree. However, teacher salaries in relation to other program areas in vocational education were below the average ranking, seventh out of nine for the 1988-89 school year (Richards, 1990).

Crisis Issues in Pennsylvania

Economic Development

Pennsylvania, in addition to many other states, has embarked on economic development initiatives. Education is a continuing partner in these initiatives. The National Center on Education and Training at the Ohio State University (1990) recently submitted its final evaluation report on vocational education in Pennsylvania, The Pennsylvania Report: A New Agenda for Vocational-Technical Education, to the Pennsylvania Department of Education (PDE) and the State Board of Education. A specific recommendation relative to economic
development noted that PDE should actively promote the establishment of strong relationships between vocational-technical education, business, industry, and labor. Addressing this same problem, Dr. Ferman Moody, (1990) acting director of the State Bureau of Vocational Education, expressed the need for strengthening the ties between and among various local and state agencies for greater team work such as labor and industry, businesses, colleges, and universities (1990).

Health occupations education moved in this direction when, in April, 1990, the Hospital Association of Pennsylvania (HAP) signed an agreement known as “The HAP-HOSA Joint Venture Agreement” with the Pennsylvania Health Occupations Students of America (PENN-HOSA). The purpose of the Joint Venture is to promote the recruitment, retention, and education of capable students in health occupations programs within the Commonwealth through activities sponsored by PENN-HOSA and HAP. Pennsylvania and Texas are the only states to sign an agreement with a hospital association to promote health occupations education.

Enrollments

In 1979, 234,600 students were enrolled in secondary vocational education programs in Pennsylvania. By 1989, there were only 131,000 students showing a 43% decline in 10 years. Dr. Moody (1990) stated that 37% of the 43% decline has occurred since 1984-85 when Pennsylvania implemented the rigid academic standards for completing high school and notes that declining enrollment may have continued due to the lack of viable post-secondary initiatives and the image of vocational education as a dumping ground for poor students.

In addition to declining enrollment, it is important to note the number of handicapped and disadvantaged students. The Pennsylvania
Department of Education (1988-89) defined handicapped as:

a student evaluated as being brain damaged, deaf, hearing impaired, learning disabled, mentally retarded severely/profoundly, physically handicapped, socially and emotionally disturbed, speech and language impaired, or visually impaired, who because of those impairments requires special education and related services. (p.33)

In the same publication, disadvantaged is defined as "a student who is either academically or economically disadvantaged for reason other than handicapped and includes those who are of limited English proficiency" (p.33). However, Majorie Millard (1990), Supervisor of Special Vocational Programs and Services in Pennsylvania reported that “the number of disadvantaged students decreased by 13% and number of handicapped students decreased by 11% in secondary vocational programs over the last five years.” (p.2)

Similar to enrollment trends in vocational education, student enrollment in health occupations education decreased from 5,317 in 1979 to 3,233 in 1989 showing a 39% decline in 10 years. Thirty-six percent of the 39% decline has occurred since 1984-85 when rigid academic standards were implemented (Richards, 1990). Although handicapped and disadvantaged students enrollments have decreased in vocational programs over the past five years, this does not hold true for health occupations. Richards (1990) found that handicapped enrollments increased from 7% to 12% and disadvantaged increased from 35% to 38% over the five year period. For the 1988-89 school year, 50% of the students enrolled in health occupations education were handicapped and/or disadvantaged.
The National Center’s Report on Education and Training from the Ohio State University includes recommendations on curriculum for Pennsylvania. Specifically, the report stated:

An inter-disciplinary curriculum should be implemented that encourages the integration of academic education and vocational-technical education. Students should receive instruction in systems of technology, human relations, problem solving, decision making, and career selection and development in grades 8, 9 and 10 respectively. Guidance counselors... construct and implement an educational development plan, beginning no later than grade 8, with a yearly review and update, including the opportunity for major alterations after the student has completed the career selection and development course.

(Pennsylvania Advisory Council on Vocational Education, 1990, p.2)

Many vocational education students are unable to register for the science and mathematics courses needed for entry into post-secondary educational institutions. This is due, in part, to the structure of nearly 75% of area vocational technical schools in which students attend the area vocational technical schools for either a one-half day or a one-to-eight week turnabout arrangement with the participating schools. Too often, science and mathematics courses are not seen as necessary for vocational students. Part of this may be due to a lack of knowledge on the part of the guidance counselor.

The majority of health occupations education programs are housed in area vocational technical schools. In 1988-89, there were 291
students enrolled in 16 comprehensive high school programs compared to 2,942 students enrolled in 96 area vocational technical school programs. Graduates of health occupations education programs often have to take science and mathematics courses after leaving high school and prior to entering post-secondary educational institutions. These courses are offered at community colleges, colleges, or universities and increase the financial burden of the individual. To provide qualified personnel for the health care industry, courses must be offered at the secondary level as prerequisites to post-secondary education. Guidance counselors must be informed of prerequisites required of students who wish to continue their education.

In addition to educating guidance counselors, school administrators, directors, and principals must be informed in regards to educational requirements for the health care field. Although it is important for handicapped and disadvantaged youth to acquire vocational education knowledge and skills to become productive members of society, there is very limited potential for this individual in the health care field. Snyder (1990), in a recent publication of Mainstream listed an individual vocational education plan (IVEP) in health occupations (nurse aide) for the trainable mentally retarded, educable mentally retarded, learning disabled and seriously emotionally disabled students. Part of the plan included a rating, the expected level of achievement (i.e., exposure, guided practice, or mastery). Since all nurse aides must be certified by October 1, 1990, all competencies should have a rating of mastery. One questions whether handicapped and disadvantaged students can achieve mastery in the nurse aide curriculum or in other health occupations curricula.
Conclusions

If crisis were on a continuum line with avoiding to the left and creating to the right, health occupations education in Pennsylvania would probably be found close to center but on the right of the line. The State Board of Education and the health care industry must become more active partners in the economic development initiatives in Pennsylvania and take leadership roles to provide the changes required to move health occupations education to the left of the line, avoiding crisis.

Based on the available data, the State Board of Education should mandate a health occupations education curriculum which would provide the science and mathematics courses required for students interested in health care careers. The Board should mandate articulation between secondary and post-secondary educational levels in health occupations which would provide for coordination of programs, recognition of previous education and experience, and provisions for the best use of resources of time, effort, and money, by individuals.

The Board should mandate career selection and development courses in grades 8, 9, and 10, as recommended by the National Center on Education and Training, which would involve adolescents in health services and encourage careers in the health care industry (Pennsylvania Advisory Council on Vocational Education, 1990). Selection of students for health occupations education should be based on interest and academic ability, not on interest alone.

The health care industry should become an active partner with the State Board of Education in curriculum development, articulation, and recruitment of capable students. The industry is the best source of
the knowledge, attitudes, and skills required of health care
practitioners, an important component of curriculum development. As
educational institutions in the preparation of many health care
practitioners, the industry is an important link in developing
articulation agreements with secondary and post-secondary schools. The
signing of the "HAP-HOSA Joint Venture Agreement" with the Pennsylvania
Health Occupations Students of America demonstrates an active
commitment to recruiting, retaining, and educating capable students in
health occupations education programs in Pennsylvania.

The State Board of Education and the health care industry must
become active partners in the Commonwealth’s initiatives for the
preparation of qualified health care practitioners in order to change
health occupations education’s position on the crisis continuum from
creating crisis to avoiding crisis. Three areas are critical for their
involvement: curriculum, articulation, and recruitment. Together,
they can make a difference.

References

Department of Labor. (1987). Workforce 2000, work and workers for the


