

Fostering Interdisciplinary Education for Pharmacy Students in a Rural Health Care Setting¹

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The need for interdisciplinary education in health professional curricula is explored through the description of a two-week, interdisciplinary, rural health immersion program, the Summer Institute. Nine students who attended the Institute experienced interdisciplinary teams through didactic and experiential learning, living, and working together. The value of the Summer Institute as an important component of health professional students' education is described through the detailed discussion of the process of development, implementation, and evaluation of the Summer Institute.

INTRODUCTION

Leaders in health care reform agree that an increasing emphasis must be placed on the role of interdisciplinary teams in health care delivery(1-6). The Pew Health Professions Commission, in a December, 1995 report, predicted that within the next decade there will be a surplus in the supply of physicians, nurses, and pharmacists(7). The surplus of these key health professionals will result in a restructuring of the way that work is carried out in health care institutions. Given this paradigm, students must learn the skills necessary to work in a truly collaborative fashion with other health care providers so that they are prepared for the future.

Interdisciplinary education has been proposed as one way to improve the efficiency and effectiveness of collaborative practice(8). Interdisciplinary education may occur in didactic courses, experiential courses, or both. The Institute of Medicine, in 1972, defined interdisciplinary education as "an educational experience that can include students from more than one health profession taught by faculty from one health profession, students in one health profession taught by faculty from more than one profession, or students from more than one health profession taught by faculty from more than one profession(9)." Interdisciplinary educational experiences may occur at the level of students, faculty, or both.

Shepard, Yeo, and McGann identified several key components to interdisciplinary education. These authors suggest that the following key components, needed for a successful program, include: (i) teaching through work with actual problems; (ii) sensitizing students to roles and responsibilities of other team members; (iii) sequencing of interdisciplinary experiences to follow establishment of own professional identity; (iv) modeling of interdisciplinary collaboration and teaching by faculty; (v) planning several episodes of interdisciplinary experiences, rather than one long episode(10).

Interdisciplinary education provides many benefits to student and faculty participants. Benefits include fostering better communications and future collaboration between and among students in health-care disciplines, increasing student and faculty participation in common content areas to maximize resources and reduce training costs; and producing cost-effective services to improve the health of patients.

The profession of pharmacy is currently facing a transition period in which pharmacists are striving for improvement in meeting the needs of their patients through enhanced collaboration with other health professionals and cost-effective services. With the introduction of pharmaceutical care by Hepler and Strand in 1990, the role of the pharmacist has expanded to become much more patient-centered and outcome-oriented(11). According to Hepler and Strand, if pharmaceutical care is to become the prevailing philosophy of pharmacy practice, cooperative relationships must be developed with other health professionals to enhance the outcomes of care for the patient. Although relatively slow to participate in interdisciplinary education, the discipline of pharmacy has begun to address the issues inherent in interdisciplinary health care. The American Council on Pharmaceutical Education (ACPE), Proposed Accreditation Guideline for the Entry-level PharmD Graduate, defines a key professional competency to prepare graduates of pharmacy programs to be generalist practitioners who "collaborate well with other health professionals"(6).

In order for the paradigm shift of pharmaceutical care to occur, educational programs must be modified to include interdisciplinary experiences in pharmacy curriculums. Although the need for interdisciplinary experiential learning is well-documented(11-13); documentation of successful models used to educate pharmacy students in an interdisciplinary fashion is limited. The purpose of this paper is to describe a unique, concentrated approach to interdisciplinary education and the process used to evaluate it. Implications for future interdisciplinary educational programs are discussed.

THE SUMMER INSTITUTE

The Partners

The challenge to provide an interdisciplinary educational experience to health professional students within the

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University of Wisconsin system led the Wisconsin Consortium for Interdisciplinary Training for Rural Areas, the Southwest Wisconsin Area Health Education Center (AHEC), and a rural underserved community located in southwestern Wisconsin to develop a "Summer Institute." The Wisconsin Consortium for Interdisciplinary Training in Rural Areas is a three year training grant supported by the Interdisciplinary Training for Rural Areas Grant Program in the Health Resources Service Administration (HRSA). The Wisconsin program involves faculty and students from four health-related disciplines: nursing, pharmacy, physician assistant, and social work. The purpose of the Interdisciplinary Training Grant is to prepare nonphysician health care providers to work as an interdisciplinary team to enhance access to and improve the quality of primary care delivery in rural, medically underserved communities.

The Southwest AHEC, funded through both federal and state initiatives, also is committed to improving the health care in Southwest Wisconsin's underserved communities through health professional education programs. The Consortium and AHEC share the programmatic goals of providing community-based, clinical educational experiences for health professional students in an effort to address the maldistribution of health professionals in Wisconsin's underserved communities.

The Curriculum

The curriculum for the Summer Institute was planned by a committee consisting of the clinical coordinator of the Consortium, the educational coordinator of the AHEC, the administrator and assistant administrator of the local hospital, and a social worker and a geriatric nurse practitioner employed by the county. University faculty from the disciplines of medicine, nursing, pharmacy, and social work provided input and guidance in developing the Institute. A major goal in developing the Summer Institute was to provide an experience that fit into the academic calendars of the disciplines of pharmacy, medicine, nursing, physical therapy, and social work, since this proved to be a major limiting factor in providing interdisciplinary education efforts in the past. In addition, the planning committee set out to utilize the previous work by Shepard and colleagues⁽¹⁰⁾ to attempt to incorporate an opportunity for students to work on an actual community problem, observe health professionals in their practice sites, and learn about the roles and responsibilities of health care disciplines. The result was a Summer Institute consisting of a two-week, full-time intensive experience for health professional students during the summer of 1996.

The curriculum combined didactic and experiential components, including lectures, panel discussions, observational experiences, and participation in a community project that focused on the need for family resources in the community. Four general principles guided the curriculum: (i) students will understand rural health care; (ii) students will understand the different roles of the members of the health care team and how they are interconnected; (iii) students will understand the challenges in health care delivery and how resources are maximized to compensate for scarce resources; and (iv) students will understand the relationship between health care, government, and economics.

Didactic learning included lectures about issues related to health care and the economics of rural, medically underserved communities². Guest lecturers from the local

area, the University, and state rural health organizations were utilized to present the didactic content.

In the experiential portion of the curriculum, each of the students observed or shadowed three health care professionals. On the first day of the Institute, the students were provided with a list of professionals who were willing to have a student observe them in practice. The students were required to observe one professional from their own discipline and two professionals of their choice. Many of the students chose to observe more than the required three professionals. The students were able to observe the institutional pharmacist, surgical nursing staff, the physical therapist, the medical social worker, and the respiratory therapist at the rural hospital, a social worker with the chronic mental health unit of the human services department, the nursing staff at the county's public health agency, and a nurse practitioner, a physician assistant, and a physician at the local family practice clinic. These observational experiences allowed the students to observe the ways in which health professionals in the county worked as a team to provide optimal health care. Despite these diverse experiences, a limitation of the observational visits was a lack of availability of some important team providers, specifically, a community pharmacist. The local pharmacy, the only one within a 20 mile area, experienced staffing shortages and was unable to participate.

In addition to the observational experiences, the students attended the weekly "care conference" held at the hospital. The care conference is a weekly meeting where representatives from pharmacy, the skilled nursing facility, home care agency, human services department, hospital, and primary care clinic meet with the patient or patient's family to discuss and plan their care. The patients that are discussed include patients with complex health care problems who are served by a number of organizations in the community. The care conferences provided students with an opportunity to observe an interdisciplinary team in practice.

Students shared their experiences and relevant comments about the observational experiences on the final day of the Institute when each had to provide a verbal report to the faculty and staff. In combination, the observational experiences and the care conferences provided the students with a better understanding of different professional roles and how professionals collaborate on patient care issues as evidenced by their comments.

A major activity of the Institute required the students to participate as part of an interdisciplinary team in a community project. Community members developed the student project based on their health care needs. Health care needs were determined as a result of a 1993 needs assessment completed by the Consortium, and were as follows: (i) family health concerns; (ii) medically uninsured; (iii) teenage pregnancy; (iv) the aging population; and (v) jobs and economic development. Community members and the committee chose to have the student project for the Summer Institute focus on the issue of family health. At the beginning of the Institute, the students were assigned to interview various key informants and focus groups that represented different segments of the county's population in order to assess the current family health care needs. A questionnaire was developed by two of the community members. The questions and format were adapted from the original 1993 survey developed by the Consortium, but focused specifically on family health issues. The results of the information

collecting exercise were presented to members of the community and Institute developers at the end of the Summer Institute. The responses collected by the students were used by the community in a grant proposal to develop a Family Resource Center.

The Students

Students were recruited for the Summer Institute simultaneous to the development of the curriculum. Recruitment was based on the future health care needs of the Lafayette County community. Specifically, community members identified the need for family practice physicians and other primary health care providers, pharmacists, mental health workers, and physical therapists. Students were asked to apply to attend the Summer Institute by providing a resume and written responses to three questions. Sixteen applications were reviewed and ranked by the planning committee members. No medical, physician assistant, or physical therapy students applied. Nine students, three nursing students, three social work students, and three pharmacy students, were invited to attend the Summer Institute. The students came from a variety of backgrounds, although most of them had lived in a non-metropolitan area. The students were from four different campuses.

Evaluation of the Institute

The Summer Institute was evaluated by the students and by those who developed the program. The student evaluation was comprised of three components. First, the students were provided with a pre-/post test which assessed the knowledge gained at the Institute. Second, the students completed a written evaluation of how the Institute met student learning goals. Finally, the students were able to discuss their thoughts and feelings about the Institute at a debriefing session held on the last day of the Institute. Those involved in the planning and implementation also participated in a debriefing session separate from that of the students to evaluate the program.

With generally positive evaluations resulting, it is clear that those who participated in the Summer Institute perceived it to be a success. Written responses on the pre-/post-tests indicated that students increased their depth of knowledge on the post-test. Results of the written evaluations indicated that as a result of the Institute students perceived they had increased their knowledge, gained a greater appreciation for the roles of their discipline and those of other health care providers, and felt generally positive about the experience. Finally, in the debriefing sessions both the students and faculty suggested some minor adjustments for future implementation of the program, but overall the feedback about the Institute was positive.

LIMITATIONS OF THE SUMMER INSTITUTE

Educators face many barriers to implementing successful interdisciplinary education programs, including difficulty in scheduling interdisciplinary experiences, "turf-guarding", and costliness of implementing interdisciplinary experiences. These same barriers faced today are those that were faced by educators over the past 20 years. The Summer Institute exposed the participants to interdisciplinary education in a concentrated manner, but this model of education needs improvement.

The Summer Institute addressed the barrier of finding a common time and place for students from different disci-

plines to come together to learn about rural health and interdisciplinary teams. The Institute was scheduled for a brief period of time in the summer because previous attempts by the Consortium to schedule interdisciplinary educational experiences during the academic year proved too difficult, primarily due to scheduling factors. Despite our best efforts, however, medical, physician assistant, and physical therapy students were unable to participate because their curriculums did not provide the flexibility for them to attend or they did not receive the application information early enough in the academic year to plan to attend. Likewise, challenges still exist in implementing interdisciplinary educational experiences sequentially in an entire curriculum and institution-wide.

Another limiting factor was the rural training site's inability to accommodate a greater number of students. Lack of housing resources and the small size of the local institutions made it impossible to bring more students to the Institute. With only three student disciplines represented, the student's exposure to other important team members was limited. In addition, the community's health care work force goals were not adequately addressed.

The costliness of administering interdisciplinary education is yet another barrier to interdisciplinary education that was temporarily addressed in this program through grant funding. The Institute was funded by the local community and two federal grants. With shrinking available resources and the high cost of implementing the Summer Institute, it remains questionable whether this program can be repeated once funding is discontinued. The health professions schools provided in-kind support for the Summer Institute through their participation in the planning and implementation of the program; however, none are able to commit to the resources needed to duplicate such a program without outside funding. A solution to this problem remains an ongoing issue.

The evaluation process was also limited by the small number of student participants. The small numbers and qualitative nature of the evaluations made it difficult to complete accurate statistical analysis of the program. Despite the knowledge gain and positive attitudes of the students, the question remains as to whether the participation in the Institute will cause changes in the way that students practice in the future. This remains an issue that requires more detailed and long-term evaluation.

IMPLICATIONS FOR FUTURE INTERDISCIPLINARY EDUCATION INTERVENTIONS

Although all of the components of a successful interdisciplinary education program, as described by Shepard, Yeo, and McGann(10), were not addressed in the Summer Institute program, the two-week experience served as an important interdisciplinary component in the health professional curricula of a small number of students. Incorporating the Summer Institute model into pharmacy introductory practice experiences may be one way in which interdisciplinary education can be delivered to pharmacy students and can be sustained in the pharmacy curriculum.

Beck and colleagues describe professional socialization as one of the key elements in an introductory practice experience(14). The interactions among the students and faculty at the Summer Institute afforded them the opportunity for professional socialization as they learned about their roles and the roles of other health professionals. The

formal interaction through Institute activities and the informal interaction through the living arrangements contributed to the students' understanding of their future roles. Pharmacy students in particular described the professional growth they experienced as they explained the role of a pharmacist to the other participants in the Institute.

The students' enthusiasm and the positive evaluations for the Summer Institute experience provide evidence that interdisciplinary education is both needed and desired in the pharmacy curriculum. Specifically, as pharmaceutical care is implemented and pharmacists expand their roles in primary care, pharmacy students will be required to work collaboratively with other health professionals. Interdisciplinary education will help pharmacy students prepare for their future roles in a way that currently is not being provided by individual educational programs. A concentrated immersion experience provides an approach to begin to accomplish the goals of interdisciplinary education.

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