

# A Historical Overview of Interdisciplinary Family Health: A Community-Based Interprofessional Health Professions Course

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## Abstract

The Interdisciplinary Family Health course at the University of Florida Health Science Center is a course for beginning health profession students designed to teach core values, such as community-based family health, health promotion and disease prevention, and teamwork in the context of home visits. In addition, the course provides a valuable service to volunteer families by helping them identify useful community resources, and by formulating wellness care plans for prevention of illness and stabilization of chronic illness.

In this article, the authors describe the historical development of the course, which began as a grant-supported pilot course for 20 medical students in 1996. After several additional grants helped fund an expansion involving other colleges, the course was given institutional support in 2001 and currently includes over 400 students and 70 faculty from four colleges working to improve the health status of over 150 local volunteer families. The theoretical constructs and objectives of the course were developed collaboratively by dedicated faculty from

five Health Science Center colleges over seven years. In addition to benefiting the community and students, the course has encouraged an atmosphere of collaboration among faculty and colleges that has been a tangible benefit to the academic health center. The development and continuing support of this course demonstrates that barriers to such efforts can be overcome by dedicated faculty and administration.

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**T**he education of health professionals has been a challenge in the current climate of shrinking educational budgets, increasing complexity of patient care, and specialization. In many academic health centers there is little collaboration between colleges with regard to research, education, or even clinical care. However, there has been an increasing interest in interdisciplinary and interprofessional education, because it is seen as modeling the attitudes and behaviors that will be needed for successful practice in the future.<sup>1–3</sup> One group has described interdisciplinary health professions education as a “global movement.”<sup>4</sup> A 2000 report from the Institute of Medicine<sup>5</sup> regarding patient safety emphasized the key role that interprofessional communication

and leadership play in safeguarding health care consumers and patients from errors in medical care. Collaborative practice, the natural endpoint of collaborative learning, is among the Accreditation Council for Graduate Medical Education competencies.<sup>6</sup> A recent report<sup>7</sup> emphasizes that high-quality health care for the 21st century will be built on the same principles that underlie collaborative, interprofessional care, not on individual provider autonomy. Unfortunately, the barriers to developing joint educational courses are considerable in the current institutional environment, and while many favor and propose these courses, successful long-term implementations are rare.

Colleges at our institution, the University of Florida, have developed and supported a model course for beginning health professions students that provides instruction and practice in communication skills, preventive services, community resources, teamwork, basic clinical skills, and self-reflection. The course, started in 1996 as a medical school course, currently includes over 400 students and 70 faculty from four colleges, and more than 150 community family volunteers. The success of the course, which was initially funded by outside sources, has led to institutional support to ensure the continuation of this unique effort.

In this article, we describe the development of the course as well as the educational constructs, goals, and objectives that have made it a success. We favor the use of the term “interprofessional” for activities that extend across professional boundaries; this term may avoid the confusion caused by the term “interdisciplinary,” which may also refer to, for example, subspecialty disciplines within medicine. However, because our course has become integrated into the colleges’ curricula, and because the term “interprofessional” is not widely used in academic health settings, we have continued to call our course Interdisciplinary Family Health (IFH).

## Course Tenets

Health professionals in practice may feel insufficiently trained in such critical areas as coping with diversity, working in teams with other health care professionals, practicing prevention, and effectively using community resources.<sup>8</sup> The IFH course addresses these issues using two major tenets: interprofessional education and community-based service learning. One justification for interprofessional education, and early exposure to other health practitioners, is the goal of collaborative practice. Interprofessional health care teams were of interest in the 1960s; the Great Society relied on the creation of

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community health centers staffed by teams of health professionals. These teams, designed to provide comprehensive and continuous care to underserved populations, had significant implications for the education and training of future health professionals.<sup>9</sup> While team practice was never widely accepted, a growing body of evidence shows that team practice is associated with improved quality measures.<sup>10-14</sup> Introducing students to collaborative work with other health profession students early in their careers can set the stage for ongoing collaborative practice.

Lurie<sup>15</sup> has recommended that medical schools promote a definition of professionalism that includes balanced responsibilities for individuals and communities. The tradition of house calls to promote healing and wellness as an integral part of practice is as old as health care. The assessment of the local health context and its contribution to health and disease were considered essential elements in prescribing intervention and treatment.<sup>16</sup> These activities were compromised primarily for reasons of efficiency. Recent interest in the field of population health has increased the awareness of the importance of community knowledge in providing care.<sup>17,18</sup> Home visits for learners can teach the unique art of communicating and interacting with a population in the community setting and can provide onsite education about the health care needs of the community. As a service-learning effort, our course was designed to educate students in the context of benefiting both individuals and the community.

### **The Early Years and Historical Course Review**

The Keeping Families Healthy (KFH) course at the University of Florida College of Medicine began in 1996 with grant funding from Health Professions Schools in Service to the Nation (HPSISN), with additional and ongoing support from the University of Florida Area Health Education Center. KFH, a two-semester course that represented a portion of a larger course offering, allowed first-year medical students the opportunity to integrate prevention, service, and humanism into the established educational curriculum. During the course, families volunteered as community lay teachers and allowed students to interact with them in their

homes. The goal of this interaction was to allow the medical students to learn lessons about families, cultures, economics, social determinants of health and preventive medicine, and hopefully to influence the development of a more effective and attentive physician. Additionally, the course provided a valuable service to the participating families by helping them identify community resources, and by formulating wellness care plans for the prevention of disease and stabilization of chronic illness.<sup>19</sup>

In 1997, a small group of faculty from three health profession schools at the University of Florida began an effort to create an interprofessional course, based on KFH, that would join students from the Colleges of Medicine, Nursing, and Pharmacy in a mutual service-learning experience. Two major structural barriers to creating an interprofessional learning experience would have to be overcome: first, the academic schedules of the three schools differed, and second, each school's curriculum committee was unlikely to offer room in the tightly packed course offerings for a new course. It was determined that the best opportunity for interprofessional learning existed in the first-year curriculum of each school when there were some mutual learning objectives for all three schools, including learning beginning interviewing skills, patient assessment, and biopsychosocial aspects of health behavior. With the support of intramural funding and with the assent of the curriculum committees from each of the colleges, the interprofessional faculty group planned and piloted two courses, Seniors Active in Interdisciplinary Geriatric Education (SAIGE) and Learning Interdisciplinary Family-Health Education (LIFE).

### **The SAIGE and LIFE Pilot Courses**

The SAIGE and LIFE pilot courses took place during two consecutive years, and ran concurrently with the KFH course. Both pilots included 27 randomly selected students from the three health profession colleges of medicine, nursing, and pharmacy. Interprofessional teams of students were required to conduct a minimum of six one-hour home visits over the course of two semesters, and met in small groups of nine students after each visit with three interprofessional pairs of faculty. The students were representative of their respective classes in terms of age

and gender. The amount of time spent on each course was the same as other medical students spent taking the KFH course; KFH students also made home visits in pairs and had small-group meetings that were supervised by physician faculty. The nursing and pharmacy students were excused from other community-based required courses in their respective colleges so that the course burden was equal to that of students who were not participating in the courses.

SAIGE, the initial course, was designed with a focus on geriatric health care, an area that is clearly enhanced by interprofessional team approaches. Dewey specified four criteria that define successful educational projects, and that served as the basis for SAIGE: projects must generate interest; be worthwhile intrinsically; present problems that awaken curiosity and create a demand for information; and cover a considerable time span, and be capable of fostering development over time.<sup>20</sup> In the SAIGE pilot course students worked in interprofessional teams of three students per team to provide home visits to community elderly volunteers. The goals were to explore attitudes toward geriatric care, to expose students to interprofessional learning, and to develop health care plans for the volunteers. The home visit model was flexible, allowing for student learning outside of the regular class time and serving as a vehicle for students to practice skills taught in their first year coursework, such as measuring vital signs, communication skills, and taking a health history, and allowing firsthand experience with the health and social concerns of the aging population. Although service learning is most often designed to create opportunities for students to volunteer in community agencies, the services SAIGE students provided included assistance in actualizing wellness goals and assessing needed social services for individuals. At the conclusion of the course, the attitudes of different professional students toward geriatric medicine were assessed; the results of the assessment demonstrated some differences between professions (pharmacy students were most interested in working specifically in the field of geriatrics), and also some determinants of interest in the field of geriatrics (a previous course in aging, student age, and interest in making home visits).<sup>21</sup>

Because we wanted to broaden the focus of learning beyond caring for the elderly, a second pilot, the LIFE program, followed the successful SAIGE course, expanding the service-learning approach to include people of all ages. As in the prior course, LIFE teams were instructed to call their volunteer families to schedule mutually agreeable visit times, and then to drive together as a team to the homes of their assigned families.

Student team assignments were designed to guide the students through the basic processes of introduction, interviewing skills, history-taking, and general health assessment. Photojournaling and reflective self-assessment were also part of the course requirements. All assignments emphasized the importance of biopsychosocial and patient-centered frames of reference for persons across the life cycle. A qualitative evaluation sponsored by the Gold Foundation revealed that students' reactions to working within an interprofessional team were overwhelmingly positive. Students who had had little former experience working with other health profession students indicated that they gained a new respect for the other students and their respective professions.<sup>22</sup> Students from both the SAIGE and LIFE courses practiced a holistic approach to evaluating patients and experienced the advantage of pooling skills of three important health professions.

As a result of the success of these two pilot courses, the interprofessional KFH course was expanded to include the total student population from the three represented colleges.

### **The Expanded Interdisciplinary Family Health Course**

In 2001, the name of the KFH course was changed to the Interdisciplinary Family Health (IFH) course in order to emphasize the interprofessional teamwork focus of the course. For the initial two years the expansion was funded by generous grants from the Merck Foundation and the University of Florida Area Health Education Center. The logistics of the change were significant, requiring an increase in personnel dedicated to the course. Every volunteer family was visited in their home by a staff member, and signed forms for informed consent and the Health Insurance Portability and Accountability Act (HIPAA). Web-based

course management software was used to simplify the distribution of course materials and communication. Significant recruiting efforts in each of the colleges were undertaken, with the goal of each college providing two faculty for each 12 students. Simply finding meeting rooms at the same time of day for multiple small groups required considerable effort, and there were no classrooms available large enough for the 500 students and faculty to meet jointly.

Three colleges (Dentistry, Pharmacy, and Medicine) and two departments in a fourth college (Public Health and Health Professions) require the course for all first-year students, although each determines the place of the course within its curriculum. In two colleges (Dentistry and Pharmacy) and one department (Clinical and Health Psychology) the course is part of a larger course; in the College of Medicine it is an independent course, and in one department (Physical Therapy) it represents a portion of a community service requirement. In 2004, we added students from a nutrition master's degree program located in our Institute of Food Science and Agriculture, and we hope to add students from our new public health program in the future.

IFH consists of a combination of small-group discussion meetings, lectures, and home visits and includes over 400 students and over 70 faculty from the four participating colleges ([www.families.health.ufl.edu](http://www.families.health.ufl.edu)). Each of the approximately 35 small groups consists of four teams of three students, with each team assigned a different family, and two interprofessional faculty members. The families, who are not compensated for their participation, cover a broad spectrum, including nuclear families, elderly persons living alone, and nontraditional families, and range from indigent and Medicaid families to retired faculty. Small groups are constructed such that there is a variety of family structures and socioeconomic strata within each group of four families. The course's learning objectives focus on the core curriculum areas of the health care disciplines: interviewing skills, family systems and health, community resources, and preventive medicine. In the IFH course, these topics are reflected on within a small-group format; by the end of the year, students come to know the stories of all the families in their group, not just the family

they visit. The discussion is supported by required readings, facilitated by faculty, and the content of curriculum is modeled on the home visit experience as in the earlier pilot projects.

The first home visit with the interprofessional team of students and the family volunteer focuses on the construction of a family genogram, with special emphasis on diet, habits, exercise, genetic diseases, preventable diseases, and disability. During the second home visit, students administer a family health survey regarding family support, health behaviors, and health beliefs. Once the initial health information is gathered, the second semester focuses on preventive health, and the families' risk factors and attitudes toward health behavior modification. If appropriate for their family, students may explore cardiovascular, cancer, occupational risks, and disease states associated with lifestyle choices such as smoking, diet, and exercise activities. Students discuss barriers to change, develop a "wellness prescription" and negotiate implementation with the family. Near the end of the academic year the students develop a final report in which they reflect on the experience, including the success of the intervention. Volunteer families are asked to reflect on their success at adhering to the wellness prescription and to provide feedback on the value of the course to their personal family health. At the conclusion of the year, students send a note to their volunteer family expressing their appreciation for their donation of time and willingness to share their home and health experiences with them.

Student, faculty, and family evaluations of the course are done annually, and a longitudinal evaluation of attitudes and outcomes is underway. The evaluations by the faculty and families are routinely excellent; 90% of the faculty continue teaching in the course each year. Less than 7% of families have chosen not to participate in subsequent years; of those, half chose not to participate because they moved from the area. Students' evaluations of the course are collected at the last small-group meeting. While a more detailed evaluation of results and outcomes is in preparation, a preliminary review of these evaluations reveals some important findings. Of 365 students who participated in 2003–04, 86% agreed that working on a project with students from other disciplines has enhanced their profes-

sional education. Eighty-four percent agreed that they became more aware of barriers to health promotion and wellness, and 70% noted a broader perspective on health care because of their interaction with their assigned family. Three-fourths of the students agreed that they had learned helpful information during home visits that they would never have obtained during visits in a health care setting. Over 90% of the students agreed that their small-group interprofessional faculty were successful in integrating the didactic course material into their real life experiences. Students overwhelmingly valued the concept of interdisciplinary learning and practice, even though they were only in their first year of training, and somewhat surprisingly, there were no differences among students from the four colleges in these attitudes. Studies currently underway include a long-term assessment of the stability of positive attitudes toward team practice, as well as a qualitative analysis of faculty's attitudes toward a family health survey instrument that was developed for the course.

### Barriers and Benefits

In spite of the success of the course, there have been significant challenges to creating an interprofessional training experience located in the community that meets the schedule and professional needs of all the health profession colleges. For example, the College of Nursing, one of the founding members of this effort, withdrew from the IFH course for several reasons, including funding concerns and their current emphasis on community-based nursing instruction outside of the IFH course. Some faculty feel unprepared for interprofessional teaching. Role issues can be a possible source of friction, both in terms of hierarchy and turf. Expanding curricula in all health profession colleges makes time difficult to obtain for additional learning experiences. Furthermore, interprofessional training requires a fundamental collaboration among faculty across disciplines, and often these collaborations are not supported or rewarded by academic institutions.

Incorporating interprofessional service learning into multiple college curricula requires action and incentives at all levels. All participants need to "buy in" to the concept of partnering to establish essential links between the university and the community partners it serves and edu-

cates. Administrators must be willing to provide support for service-learning programs, both in terms of faculty time and effort, and additionally to provide funding for staff who can accomplish the objectives. Administrative support for interprofessional educational efforts has been established in our institution by the deans and the vice president for health affairs. This support at the highest levels of administration is a requirement for successful maintenance of these complex and demanding efforts.

The challenges, however, are offset by benefits. The faculty, staff, and students who have worked most consistently with the community family volunteers have become familiar with collaborative teaching and practice merely by participation in the course. While the faculty represent a somewhat self-selected population, role issues among the faculty have been rare, and the faculty have expressed very positive attitudes toward the course and the concept of collaborative teaching; as previously noted, over 90% of the faculty agreed to teach for a second year. Several collaborative research and educational efforts addressing such topics as medical errors and evidence-based practice are in development because of the interaction among faculty, which was extremely rare prior to the development of this course. The sense of having direct patient involvement and responsibility for the first time is a tremendous attraction to our course; some first-year medical students noted that the early clinical contact and responsibility required by the course, discussed during their preadmission interviews, was one of the reasons they chose to attend our medical school. The benefits to the community are significant when taken as a whole. Home visits to families in the community offer more than a mere act of shared learning; they provide services that meet actual individual, family, and community needs and facilitate a partnership in problem solving. Through interprofessional health professions service learning, the resources in the college's programs can be more fully utilized by both the students and volunteer family participants. Many positive results can derive from home visitation with students becoming resource connections between colleges and community. Students in the IFH course act as "ambassadors to health" and represent the university to the community.

Finally, we offer our students the opportunity to adopt an ethic of service. Through the modeling of effective interprofessional teaching and service learning, we hope that the students will adopt lifelong habits of caring and service that will benefit them and their communities throughout the years by building their skills in both individual and population-based health care.

### Future Plans

In order to reinforce team competencies, continued exposure to team practice and learning is essential throughout health professions curricula. Continuing analytic support is necessary to document the impact of these efforts. Requirements to accomplish this goal include the following:

- Continued commitment at the highest levels of the administration. This commitment will overcome many barriers including schedule issues, faculty time commitment, and revenue streams.
- Development of interprofessional education and experiences at all levels of the educational process, including pre-clinical, clinical, and specialty training, and continuing education.
- Development of model practices and sites demonstrating team practice. Because a growing literature demonstrates that health care is improved by implementing team-based models, this model should be the desired structure of most clinical settings that deal with chronic disease.<sup>10-13</sup> These models will be central to the development of a cadre of collaboratively trained health professionals who will provide efficient, evidence-based care that is cost-effective.

### Conclusion

The need for educating health profession students together early in their professional training may be even greater than it was in 1996, when our course began. Interdisciplinary team competence has been listed by the Pew Health Professions Commission as one of 21 required competencies,<sup>23</sup> and interprofessional service learning has been identified by the Institute of Medicine as an important educational complement to quality care.<sup>24</sup>

In spite of the challenges, we have demonstrated that committed faculty, with

administrative support, can develop creative interprofessional learning experiences that can influence the attitudes of early health profession students. The effectiveness of the effort has inspired the development of additional collaborative learning content, such as instruction about medical errors. We believe that interprofessional education and service learning will become routinely accepted tools in the future training of health professionals.

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**References**

1 Shugars DA, O'Neil EH, Bader JD (eds). *Healthy America: Practitioners for 2005: An Agenda for Action for U.S. Health Professional Schools*. A Report of the Pew Health Professions Commission. Durham, NC: The Pew Health Professions Commission, 1991.

2 Walker PH, Baldwin D, Fitzpatrick JJ, Ryan SR. Building community: interprofessional health professions education and relation-

ship-centered care. *J Allied Health*. 1998;27:173-8.

3 *Enhancing Interactions Between Nursing and Medicine: Opportunities in Health Professional Education*. New York: Josiah Macy, Jr. Foundation, 2000.

4 Lavin MA, Ruebling I, Banks R, et al. Interdisciplinary health professional education: a historical review. *Adv Health Sci Educ Theory Pract*. 2001;6:25-47.

5 Kohn L, Corrigan J, Donaldson M (eds). *Committee on Quality of Health Care in America, Institute of Medicine, 2000. To Err Is Human: Building a Safer Health System*. Washington, DC: National Academies Press.

6 Frey K, Edwards F, Altman K, Spahr N, Gorman RS. The "Collaborative Care" curriculum: an educational model addressing key ACGME core competencies in primary care residency training. *Med Educ*. 2003;37:786-9.

7 *Committee on the Quality of Health Care in America, Institute of Medicine, 2001. Crossing the Quality Chasm: A New Health System for the 21<sup>st</sup> Century*. Washington, DC: National Academies Press.

8 Drinka T, Clark P. *Health Care Teamwork*. Westport, CT: Auburn House, 2000.

9 Baldwin D Jr. *Interdisciplinary Development of Health Professionals to Maximize Health Provider Resources in Rural Areas*. National Rural Health Association HRSA contract, 240-89-0037. Washington, DC: Bureau of Health Professions, 1993.

10 Rich MW, Beckham V, Wittenberg C, Leven CL, Freedland KE, Carney RM. A multidisciplinary intervention to prevent the readmission of elderly patients with congestive heart failure. *N Engl J Med*. 1995;333:1190-5.

11 Aubert R, Herman W, Waters J, et al. Nurse case management to improve glycemic control in diabetic patients in a health maintenance organization: a randomized controlled trial. *Ann Intern Med*. 1998;129:605-12.

12 Delaronde S. Using case management to increase anti-inflammatory medication use among a managed care population with asthma. *J Asthma*. 2002;39:55-63.

13 Rollman BL, Hanusa BH, Lowe HJ, Gilbert T, Kapoor WN, Schulberg HC. A randomized trial using computerized decision support to

improve the quality of treatment for major depression in primary care. *J Gen Intern Med*. 2002;17:493-503.

14 Shine KI. Health care quality and how to achieve it. *Acad Med*. 2002;77:91-9.

15 Lurie N. *Healthy People 2010: Setting the Nation's Public Health Agenda*. *Acad Med*. 2000;75:12-3.

16 Ro M, Treadwell H, Northridge M. *Community health workers and community voices: promoting good health* ([http://www.communityvoices.org/Uploads/CHW\\_FINAL\\_00108\\_00042.pdf](http://www.communityvoices.org/Uploads/CHW_FINAL_00108_00042.pdf)). Accessed 4 January 2005. *Community Voices Publications*, 2003.

17 Unverzagt M, Wallerstein N, Benson JA, Tomedi A, Palley TB. Integrating population health into a family medicine clerkship. *Fam Med*. 2003;35:45-51.

18 Derosé SF, Petitti DB. Measuring quality of care and performance from a population health care perspective. *Annu Rev Public Health*. 2003;24:363-84.

19 Waddell RF, Davidson RA. The role of the community in educating medical students: initial impressions from a new program. *Educ Health*. 2000;13:67-71.

20 Giles D, Eyer J. The theoretical roots of service-learning in John Dewey: towards a theory of service-learning. *Mich J Community Serv Learn Res*. 1994;1(1):43-76.

21 Burg MA, Waddell RF, Doty R, Horne C, Weilgas MA, Davidson RA. Student interest in geriatric medicine: comparing beginning medical, nursing, and pharmacy students. *Gerontol Geriatr Educ*. 2001;21:1-12.

22 Waddell R, Burg M, McCarty J, Davidson R. Evaluation of an interdisciplinary course for medical, nursing, and pharmacy students. *Ann Behav Sci Med Educ*. 2002;8:85-91.

23 O'Neil EH, *Pew Health Professions Commission. Re-creating Health Professional Practice for a New Century: The Fourth Report of the Pew Health Professions Commission*. San Francisco: Pew Health Professions Commission, 1998.

24 Greiner AC, Knebel E (eds). *Committee on the Health Professions Education Summit, Institute of Medicine, 2003. Health Professions Education: A Bridge to Quality*. Washington, DC: National Academies Press.