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Interdisciplinary Gerontology Curricula in the Health Sciences

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## Interdisciplinary Gerontology Curricula in the Health Sciences

### Background

The numbers of elders in the US population is increasing steadily. In 2003, the Administration on Aging found that 12.3% of the nation's population was over 65 years of age. Furthermore, by 2030, it is predicted that elders will account for 20% of the US population, with 13% of people aged 85 years or older (AOA, 2003). Elders also constitute over 48% of hospitalized patients and 69% of home care patients (HHS, 2000). This change in demographics has caused academics to examine the quality and quantity of gerontology education in higher education programs throughout the country.

Many recent studies have addressed the increasing health care needs of elders and one consensus prevails: more qualified professionals are needed in all disciplines to care for the growing geriatric population (AACN, 2002; Burke, 2003; Eleazer, Liken, Hirth, Johnson, Lucas, Egbert, Boland & Wieland, 2004; Johnson, 2004; & Jonsson, Gustafson, Hansen, Saks & Pitkala, 2003; Warshaw & Bragg, 2003). Elderly people constitute over 48 percent of hospital patients and 69% of home care patients (HHS, 2000), emphasizing the need for gerontology education for health care providers of many different occupations including: social work, nursing, physical therapy, and medicine, among others (AACN, 2002). For example, the number of master's prepared geriatric nurses is relatively small; about "1,800 nurses are certified by the American Nurses Credentialing Center (ANCC) as Geriatric Nurse Practitioners, and only 500+ are certified as Gerontological Clinical Nurse Specialists (GCNS)" (AACN, 2002). These few geriatric nurses cannot adequately address the needs of the growing geriatric population. This means that other, less qualified nurses are providing care for the geriatric population. Efforts of health science education should focus on offering additional programs and certificates to improve knowledge about caring for geriatric patients.

The White House Conference on Aging has devised three main recommendations relating to issues surrounding training/education, recruitment, and reimbursement for interdisciplinary geriatric teams. The conference highlighted the need for interdisciplinary geriatric training. They found that "today there are approximately 6,600 certified geriatricians when it is projected that 36,000 geriatricians are needed by 2030" (White House Conference on Aging [WHCoA], 2005). Additionally only 1% of nurses are certified in geriatrics, less than one-third of 1% of physical therapists are certified in geriatrics, and only 720 pharmacists have geriatric certification. Social workers have no national certification for geriatric social work, and dietitians have no formal program for geriatric nutrition (WHCoA, 2005). The WHCoA also stated that, "less than 3% of current medical students take any elective courses in geriatrics. Only 23% of nursing programs had any required courses in geriatrics and only 14% had any elective courses" (WHCoA, 2005).

The Association for Gerontology in Higher Education (AGHE), an educational unit of the Gerontological Society of America (GSA), has identified a set of standards for the evaluation of gerontology programs to designate qualified gerontology programs as AGHE Programs of Merit

(POM). To achieve this designation, senior faculty from three colleges or institutions of higher education, other than the one being evaluated review a self-study report from the POM applicant. The self-study must meet a set of prerequisites for POM inclusion which include: “(1) Courses offered for credit, (2) Comprehensive coverage of physical, mental, and social aspects of content, (3) Courses sequenced from an introductory level to advanced level, (4) A program/curriculum title that clearly identifies the emphasis on aging and/or older people, (5) Courses that deal primarily with content on aging or old age, (6) Courses listed in the campus catalog and schedule of classes, (7) Students admitted to the program or recognized as being enrolled in it, and (8) Recognition and support by the host institution” (AGHE, 2005). The AGHE offers a list of approved programs that have been designated as POMs (AGHE, 2005); however, the interdisciplinary aspects of these programs are not specifically defined or acknowledged.

The purpose of this project was to assess the scope and variation of interdisciplinary health science gerontology curricula at selected AGHE approved institutions in order to provide guidance to educators developing, revising, or evaluating program to prepare an interdisciplinary group of geriatric health care providers.

## Methods

Each of the 282 POMs approved by the AGHE and listed on the association’s website were reviewed through extensive Internet research in 2004. Institutions that offered multiple programs in the field of gerontology, experienced faculty, large course offerings and sub-concentrations that appeared to have specific programs to apply to all health disciplines were more specifically reviewed. Of these institutions, 19 schools were chosen to serve as a basis for an analysis of the types of programs offered (undergraduate certificate, undergraduate minor, graduate certificate, masters degree, and postmasters degree).

Additional data were then collected from the individual programs to determine the number of credit hours necessary for program completion, the distribution of core course requirements in multidisciplinary subject concentrations (e.g., social/cultural sciences, biology, psychology, policy, etc.), the number of elective courses, and clinical requirements. For the purposes of this study, post-masters degree programs and undergraduate medical education were not evaluated according to the preceding information and were instead identified as either having postmasters degree programs or not. For those programs without specific course requirements posted online, an e-mail was sent to the head of the program asking for further information. No follow-up phone calls about this information were necessary.

An initial review of the gerontology program mission statements and/or policies did not specifically identify which interdisciplinary students should consider gerontology specialization or which interdisciplinary majors would benefit from the specific gerontology programs. To better understand the variation among which professions could enroll in the gerontology programs, a list of all the programs offered by each of the included institutions were used to identify the interdisciplinary content of the institutions. Included interdisciplinary programs were: athletic training, audiology, communication disorders, health science, kinesiology/exercise

science, medical technology/laboratory science, nursing, nutrition, occupational therapy, pharmacology, physical therapy, psychology, public health, social and rehabilitation services, social work, sociology, and speech and language pathology. These disciplines were chosen because they have specific implications to the geriatric population, especially within the health sciences.

## Results

Our analysis reveals that all of the programs offered at both the undergraduate and graduate levels enrolled students from multiple disciplines. These programs are available to students of all health science specialties as well as liberal arts specialties. Gerontology majors and specific departments dedicated to gerontology also exist.

Of the 19 institutions included in this study, ten offered undergraduate certificates in gerontology, nine offered undergraduate minors in gerontology, 16 offered graduate certificates in gerontology, ten offered masters degrees in gerontology, and eight offered postmasters gerontology programs. Every institution of higher education had at least three health science programs with a mean of seven and a median of 3 health science programs. The mean number of interdisciplinary programs per institution was nine and ranged from five to 14 and a median of five. Psychology and sociology were the most common programs offered at all (100%) of the institutions. The three most common health science programs offered were nursing (84%), kinesiology/exercise science (68%), and social work (58%).

### *Undergraduate Certificates*

Of the ten institutions of higher education offering undergraduate certificates in gerontology, the mean number of course requirements was 20 semester hours (SH) with a range of 12-27. Six of these institutions of higher education require a clinical component. Seven of the schools required core courses in the multidisciplinary sciences, though the distribution within these sciences varied; six schools required a social cultural course, six schools required a biology course, five schools required a psychology course, one school required a policy course, and six schools required courses that were a combination of the multidisciplinary sciences. Additionally, eight of the schools required elective courses. The mean number of elective credits was seven semester hours with a range of 4-12 and a median of nine. Three of these institutions did not have core course requirement information that could be analyzed for interdisciplinary science offerings.

### *Undergraduate Minors*

Of the nine institutions of higher education offering undergraduate minors in gerontology, the mean number of course requirements was 19 SH, with a range of 15-21. Four of these institutions of higher education required a clinical component. Nine of the schools required core courses in the multidisciplinary sciences, but of these nine schools, three did not specify which multidisciplinary science course(s) a student must take to satisfy core requirements and/or all of the course requirements were a combination of the multidisciplinary sciences. Of the remaining six schools requiring multidisciplinary science core courses, five schools required a

social/cultural science course, five schools required a biology course, four schools required a psychology course, and five schools required courses that were a combination of the interdisciplinary sciences. Additionally, all nine of the schools required elective courses. The mean number of electives was six semester hours with a range of 3-12 and a median of nine.

### *Graduate Certificates*

Of the 16 institutions offering graduate minors in gerontology, the mean number of course requirements was 17 semester hours with a range of 12-30. Nine of these institutions of higher education required a clinical component, one “possibly” required a clinical component, and one school said that a clinical rotation was “desirable”. Thirteen of the schools required core courses in the multidisciplinary sciences, but of these, four did not specify which multidisciplinary science course a student must take to satisfy core requirements and all of the course requirements were a combination of the multidisciplinary sciences. Of the remaining nine schools requiring multidisciplinary science core courses, eight schools required a social/cultural science course, nine schools required a biology course, seven schools required a psychology course, three schools required a policy course, and six schools required courses that were a combination of the multidisciplinary sciences. Additionally, 12 of the schools required elective courses. The mean number of electives was six SH with a range of 3-15 and a median of three.

### *Masters Degree Programs*

Of the ten institutions of higher education offering masters degree programs, the mean number of course requirements was 39 semester hours with a range of 30-52. Eight of these institutions of higher education required a clinical component and the other two did not have this information specified. Nine of the schools required core courses in the multidisciplinary sciences. Of these nine schools requiring multidisciplinary science core courses, six schools required a social/cultural science course, six schools required a biology course, seven schools required a psychology course, eight schools required a policy course, and eight schools required courses that were a combination of the multidisciplinary sciences. Additionally, eight of the schools required elective courses. The mean number of electives was ten SH, with a range of 6-18 and a median of nine.

### *Discussion/Implications*

In response to the need for more health care personnel from all discipline with expertise in geriatrics, institutions of higher education with health science majors have begun offering interdisciplinary undergraduate certificates in gerontology, undergraduate minors in gerontology, graduate certificates in gerontology, masters degrees in gerontology, and post-master degree specialties in gerontology. There is no published literature assessing the interdisciplinary health science focus of these Gerontology programs. Physician educators have also begun reviewing and assessing the geriatric content of their programs. Eleazer et al. (2004) concluded that medical schools need to consider incorporating geriatric content covered in multiple courses into a vertical curriculum in gerontology. This is similar to the health science approach in that gerontology programs are being developed to address the specific challenges of caring for elders

in courses dedicated to geriatrics. The challenge of health science programs is balancing the interdisciplinary nature of geriatric education.

John H. Skinner (2001) noted that although there is a growing interest in interdisciplinary gerontology education, many barriers deter the full implementation an interdisciplinary program. Skinner defines the difference between the interdisciplinary approach to education, which “require[s] the presence of more than one discipline as a prerequisite in the study of complex problems, but relies on the interdependence of the disciplines working together in the search for solutions to these problems”, and the multidisciplinary approach to education, which “refers to ‘different disciplines involved in the same task and working alongside each of them but functioning independently’” (Skinner, 2001, pg 74). By applying these definitions to the findings of this study, it becomes apparent that evaluating the interdisciplinary health science content of the Gerontological programs is challenging; however, evidence of multidisciplinary programs appears well established.

This study has shown that 100% of the programs offered at the 19 institutions were available to students of all disciplines. Additionally, 15 of the 19 institutions included in this study offered Gerontology programs at both the undergraduate and graduate level. A majority of the programs require multidisciplinary core courses grounded in the biological, psychological, and sociological sciences. The extent of the interdisciplinary health science content of the programs, however, was difficult to assess. Some of the programs required discipline specific courses but it is unclear where the interdisciplinary aspect of the programs lies. Ideally, interdisciplinary health science courses would expect students of various disciplines to examine problems together, form teams to enhance their ability to solve the problem, share a common goal, and consider the knowledge and skills of each individual discipline as relevant and equally important to complete the task (Skinner, 2001).

Another noteworthy finding is that more than half of the programs (excluding the undergraduate minors) require a clinical component. Clinical practicums generally seem to be a valued part of the gerontology curricula. However, it is unclear how the clinical components tie into the interdisciplinary framework. If possible, the clinical placements should consist of a group of students from various health science specialties with a common clinical instructor, allowing the students to evaluate the level of patient care from the many different discipline specialties during seminar or post-conferences. This will allow for students to examine how the interdisciplinary focus can benefit the level and quality of care they provide.

### *Limitations*

This study assessed data found through internet searches of higher education websites. The accuracy and timeliness of this data is dependent upon each institution’s ability to keep data current. Although some details were verified through follow-up email communication most information was not. Additionally, this assessment does not provide information about a program’s success in recruiting students from multiple disciplines. In other words, we reported how these programs were described “on paper” but know little about enrollment, completion, and student outcomes. Alumni evaluations may also provide information on the relevant value of

the gerontology curriculum as applied to the health care workplace. Future studies will be needed to address these limitations.

### Conclusion

Gerontology has been evolving for over half a century since the formation of the club for research on aging in 1939 (GSA, 2003). The interdisciplinary nature of this field was acknowledged in 1945 with the formation of the Gerontological Society of America (GSA) whose purpose was “to promote the scientific study of aging, to encourage exchanges among researchers and practitioners from various disciplines related to gerontology, and to foster the use of Gerontological research in forming public policy” (GSA, 2003).

The importance of gerontology as a field cannot be disputed. Today the field is being redefined; the old are becoming older, increasing the need for an interdisciplinary team approach to meeting the needs of the expanding geriatric population. The need for interdisciplinary geriatric education programs is critical. As we have shown, opportunities exist at graduate and undergraduate levels for multiple health science disciplines to learn to meet this need. How these program models will ultimately enhance our health care workforce to better care for elders is yet to be measured.

Table 1. Key Characteristics of Undergraduate and Graduate Gerontology Curricula in Study Sample

	# of Institutions offering the Program	Mean Total of Program Semesters Hours*	Mean number of health science disciplines*	% of institutions with Clinical requirements*
Undergraduate Certificate	10	20	9	60%
Undergraduate Minor	9	19	10	44%
Graduate Certificate	16	17	9	56%
Masters Degree	10	39	9	80%

\*Numbers rounded to the nearest whole number

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