



Residency Bibliography

The following is a list of published research in geriatric residency development (as of March 2006). It is comprised primarily of medical research, but can be of use to those developing residency and/or fellowship curricula for geriatric physical therapy.

Published material for Clerkship and Course Directors/Developers found at:

<http://fammed.musc.edu/fmc/data/Geriatrics.htm>

- Heath JM, Dyer CB, Kerzner LJ, Mosqueda L, Murphy C. Four models of medical education about elder mistreatment. *Acad Med.* 77(11):1101-6, 2002 Nov. The authors describe four models of incorporating elder-mistreatment curricular content and collaboration with adult protective service (APS) community service agencies into geriatrics medical education.
- Karani R, Callahan EH, Thomas DC. An unfolding case with a linked OSCE: a curriculum in inpatient geriatric medicine. *Acad Med.* 77(9): 938, 2002 Sep.: This study sought to design, implement, and evaluate a unique educational curriculum in inpatient geriatrics for internal medicine housestaff.
- Supiano MA, Fantone JC, Grum C. A Web-based geriatrics portfolio to document medical students' learning outcomes. *Acad Med.* 77(9): 937-8, 2002 Sep.: The University of Michigan Medical School is integrating into its curriculum the attitudes, knowledge, and skills that pertain to the care of older individuals using a defined set of core learning outcomes encompassing all four years. Students demonstrate proficiency in these outcomes as a graduation requirement. The school developed an individualized, interactive, Web-based geriatrics portfolio to track the acquisition and mastery of these outcomes for students.
- Thornhill J, Richeson N, Roberts E. Senior mentor program: a geriatrics focused curriculum. *Acad Med.* 77(9): 934-5, 2002 Sep. Introducing medical students to a healthy elderly population and presenting the health care challenges in this population. This program provides a longitudinal experience for undergraduate students with local elders and will provide multiple opportunities for students to follow their same senior mentors over a four-year period both in the home and in the clinical setting. In partnership with the division of geriatrics, healthy patients over 65 were recruited to serve as senior mentors.
- Arnold L, Shue CK, Jones D. Implementation of geriatric education into the first and second years of a baccalaureate-MD degree program. *Acad Med.* 77(9): 933-4, 2002 Sep.: The UM-KC School of Medicine seeks to help first and second students view aging as a multidimensional process, challenge stereotypes about aging, learn about factors in healthy aging, and explore medical conditions of older patients by pairing them with a mentor on aging. The mentor is an older adult living independently and experiencing normal psychosocial issues of aging without major medical problems.
- Cleary LM, Lesky L, Schultz HJ, Smith L. Geriatrics in internal medicine clerkships and residencies: current status and opportunities. *Am J Med.* 111(9): 738-41, 2001 Dec 15.
- Marcdante KW, Simpson D, Duthie E. Threading geriatrics content through a four-year curriculum. *Acad Med.* 76(5): 526-7, 2001 May. A key feature of weaving such a curriculum is to provide materials that support, not replace, key concepts in existing course and clerkships.
- Anonymous. Core competencies for the care of older patients: recommendations of the American Geriatrics Society. The Education Committee Writing Group of the American Geriatrics Society. *Academic Medicine.* 75(3): 252-5, 2000 Mar. The aging of the U.S. population has led many organizations to call for an increase in the amount of clinical geriatrics training in medical education. A subcommittee of the American Geriatrics Society's Education Committee was assigned the task of defining core competencies for geriatrics education in medical schools. The subcommittee reviewed the available

- literature, surveyed selected programs in geriatrics education, and sought input from experts in geriatrics education. They then defined the core knowledge, attitudes, and skills students must develop to care for older people. This article summarizes these core competencies, which medical educators may find useful in developing new curricula on aging or in evaluating existing curricula.
- Summer AM, Donahue JB, Kaplan K. Introducing home visits and interdisciplinary learning to an existing geriatrics practicum for medical students. *Acad Med.* 74(5): 602, 1999 May.
 - Westmoreland GR, Litzelman DK. A geriatric medicine program in the internal medicine clerkship. *Acad Med.* 74(5): 592-3, 1999 May.
 - Stiles N, Haist S. A four-year longitudinal gerontology curriculum for medical students. *Acad Med.* 74(5): 584-5, 1999 May.
 - Huber P, Gold G, Michel JP. Innovation in an undergraduate geriatrics program. *Acad Med.* 73(5): 579-80, 1998 May.
 - Hall NK, Riesenbergr LA, Stein LK, Biddle WB. Longitudinal effectiveness of a medical school geriatrics clerkship. *Acad Med.* 72(10 Suppl 1): S28-30, 1997 Oct.
 - Wener S, Foley C, Jaffe A. Three years of a required geriatrics module for third-year medical students. *Acad Med.* 66(5): 292-4, 1991 May. The Parker Jewish Geriatric Institute, a teaching nursing home at which an accredited internal medicine geriatrics fellowship is based, co-developed with the Department of Family Practice of the medical school at the State University of New York at Stony Brook a mandatory geriatrics module for third-year medical students. The module's implementation over a three-year period (1985-1987) with 278 medical students is described.
 - Wieland D, Rubenstein LZ, Ouslander JG, Martin SE. Organizing an academic nursing home. Impacts on institutionalized elderly. *JAMA.* 255(19): 2622-7, 1986 May 16. In March 1984, a program for an academic nursing home was established at the Sepulveda Veterans Administration Medical Center. The program was designed to improve care of nursing home patients, provide interdisciplinary training for medical house staff and allied health students, and stimulate research. Overall, the costs of nursing home care were only minimally increased by the program. Results suggest that programs like the academic nursing home can lead to improved process and outcomes of nursing home care.
 - Powers JS, Burger C, Manian FA, Kuhn K, Lichtenstein MJ, Billings FT. A teaching nursing home: the Vanderbilt experience. *South Med. J.* 79(3): 267-71, 1986 Mar. A program to provide exposure to geriatrics as a teaching nursing home project was initiated at a large urban university medical center. Positive experiences, changes of attitude, and personal growth were noted among those involved in teaching, learning, and care of patients. A description of the program, its expansion, and plans for the future are detailed.
 - Woolliscroft JO, Calhoun JG, Maxim BR, Wolf FM. Medical education in facilities for the elderly. Impact on medical students, facility staff, and residents. *JAMA.* 252(24): 3382-5, 1984 Dec 28. The development of positive attitudes toward elderly patients has been identified as being an important factor in providing quality geriatric care. This study shows that students' attitudes toward the elderly can be positively changed through incorporation of training at appropriate community facilities for the elderly into existing curricula.
 - Powers CS, Savidge MA, Allen RM, Cooper-Witt CM. Implementing a mandatory geriatrics clerkship. *J Am Geriatr Soc.* 50(2): 369-73, 2002 Feb. This paper reports the experience of creating a 4-week, mandatory geriatrics clerkship for junior medical students at the University of Arkansas for Medical Sciences Hospital, the Central Arkansas Veterans Healthcare System Hospital, community nursing homes, and community hospice programs in Little Rock, Arkansas. This paper demonstrates that students acquired sufficient cognitive knowledge to complete satisfactorily the clerkship but did not highly value the experience.

- Alford CL, Miles T, Palmer R, Espino D. An introduction to geriatrics for first-year medical students. *J Am Geriatr Soc.* 49(6): 782-7, 2001 Jun. This study was to determine the impact of a new educational program. Attitudinal assessments were administered to the group before and after participation in the program and to a comparison group of nonintervention students at the University of Texas Health Science Center, San Antonio. The impact of the program was mixed. Although awareness of geriatrics and comfort with older people was increased, there was little change in career aspirations. Students in the program increased their awareness of physical decline in old age, setting the stage for teaching them about the physician's role with regard to function, and learned that geriatrics is a low-status specialty.
- Education in geriatric medicine. AGS Education Committee and Public Policy Advisory Group (PPAG). *J Am Geriatr Soc.* 49(2): 223-4, 2001 Feb. Positions: 1. Gerontology and geriatric medicine should be integrated into the curriculum for each year of medical school, and clinical experiences in geriatrics should be required. 2. Residency and fellowship training programs that involve primary or consultative care of elderly patients should be required to have scheduled clinical and didactic experience in geriatrics. The full spectrum of health care settings should be utilized for training. 3. Future faculty responsible for geriatric education within family medicine, internal medicine, and psychiatry should have academic geriatric fellowship training that includes instruction in clinical care, teaching, research, and administration. Faculty in other specialties who are responsible for geriatric education should have specific advanced training in gerontology and geriatric medicine, especially as it relates to their discipline. 4. Formal recognition of expertise in geriatric medicine should be considered by all specialties that provide care to older adults. 5. Practicing physicians who provide substantial care to older adults should be strongly encouraged to gain continuing medical education in geriatrics. All sectors of the health care market place, including both the for-profit and not-for-profit arenas should be penetrated. 6. Continued increased funding is needed for the support of medical student, residency, and fellowship training programs in geriatric medicine. This must be available for training in acute inpatient, outpatient, and long-term care settings. Additional funding is necessary to support the development of geriatrics faculty and a sufficient number of faculty to direct clinical research and educational programs.
- Landefeld CS, Callahan CM, Woolard N. 2003 Supplement to *Annals of Internal Medicine* General Internal Medicine and Geriatrics: Building a Foundation To Improve the Training of General Internists in the Care of Older Adults. *Ann Intern Med.* 2003; 139 609-614
<http://www.annals.org/cgi/content/abstract/139/7/609?etoc>
- Rubin CD, Stieglitz H, Vicoso B, Kirk L. Development of geriatrics-oriented faculty in general internal medicine. *Ann Intern Med.* 2003;139 615-620
<http://www.annals.org/cgi/content/abstract/139/7/615?etoc>
- Simon SR, Fabiny AR, Kotch J. Geriatrics training in general internal medicine fellowship programs: current practice, barriers, and strategies for improvement. *Ann Intern Med.* 2003;139 621-627
<http://www.annals.org/cgi/content/abstract/139/7/621?etoc>
- Thomas DC, Leipzig RM, Smith LG, Dunn K, Sullivan G, Callahan, E. Improving geriatrics training in internal medicine residency programs: best practices and sustainable solutions. *Ann Intern Med.* 2003;139 628-634
<http://www.annals.org/cgi/content/abstract/139/7/628?etoc>

And others

Xakellis G, Brangman SA, Ladson Hinton W, et al. Curricular Framework: Core Competencies in Multicultural Geriatric Care. *Journal of the American Geriatrics Society.* 2004;52(1):137-142.

Strategies to reduce the documented disparities in health and health care for the rapidly growing numbers of older patients from diverse ethnic populations include increased

cultural competence of providers. To assist geriatric faculty in medical and other health professional schools develop cultural competence training for their ethnogeriatric programs, the University of California Academic Geriatric Resource Program partnered with the Ethnogeriatric Committee of the American Geriatrics Society to develop a curricular framework. The framework includes core competencies based on the format of the Core Competencies for the Care of Older Patients developed by the Education Committee of the American Geriatrics Society. Competencies in attitudes, knowledge, and skills for medical providers caring for elders from diverse populations are specified. Also included are recommended teaching strategies and resources for faculty to pursue the development of full curricula.

Guidelines for fellowship training in geriatrics. AGS Education Committee. American Geriatrics Society. *J Am Geriatr Soc.* Nov 1998;46(11):1473-1477.

Saunders MJ, Yeh CK, Hou LT, Katz MS. Geriatric medical education and training in the United States. *J Chin Med Assoc.* Dec 2005;68(12):547-556.

Medical education in geriatrics is an important requirement to ready the profession to provide comprehensive health care to the world's and also Taiwan's aging population. The predoctoral curricula and postdoctoral training programs in the United States were developed and supported by government agencies and professional education societies. Geriatric medical education in American medical schools has improved in the past 20 years, yet is still facing many challenges. The purposes of this paper are to review the current progress of, and propose some main principles and policies for the development of geriatric medical education and current progress in the United States. Geriatric medical education should be mandatory to adequately prepare medical students, residents, fellows, and practicing physicians to treat the elderly. The current progress and practice of geriatric medical education at the University of Texas Health Science Center at San Antonio are presented as an example.

Warshaw GA, Bragg EJ, Shaull RW, Goldenhar LM, Lindsell CJ. Geriatric medicine fellowship programs: a national study from the Association of Directors of Geriatric Academic Programs' Longitudinal Study of Training and Practice in Geriatric Medicine. *J Am Geriatr Soc.* Jul 2003;51(7):1023-1030.

This report documents the development and growth of geriatric medicine fellowship training in the United States through 2002. A cross-sectional survey of geriatric medicine fellowship programs was conducted in the fall 2001. All allopathic (119) and osteopathic (7) accredited geriatric medicine fellowship-training programs in the United States were involved. Data were collected using self-administered mailed and Web-based survey instruments. Longitudinal data from the American Medical Association (AMA) and the Association of American Medical Colleges' (AAMC) National Graduate Medical Education (GME) Census, the Accreditation Council for Graduate Medical Education (ACGME), and the American Osteopathic Association (AOA) were also analyzed. The survey instrument was designed to gather data about faculty, fellows, program curricula, and program directors (PDs). In addition, annual AMA/AAMC data from 1991 to the present was compiled to examine trends in the number of fellowship programs and the number of fellows. The overall survey response rate was 76% (96 of 126 PDs). Most (54%) of the PDs had been in their current position 4 or more years (range: <1-20 years), and 59% of PDs reported that they had completed formal geriatric medicine fellowship training. The number of fellowship programs and the number of fellows entering programs has slowly increased over the past decade. During 2001-02, 338 fellows were training in allopathic programs and seven in osteopathic programs (all years of training). Forty-six percent (n = 44) of responding programs offered only 1-year fellowship-training experiences. PDs reported that application rates for fellowship positions were stable during the academic years (AYs) 1999-2002, with the median number of applications per first year position available in AY 2000-01 being 10 (range: 1-77). In 2001-02, data from the AMA/AAMC

National GME Census indicated a fill rate for first-year geriatric medicine fellowship positions of 69% (259 first-year fellows for 373 positions). During 2001-02, more than half of programs (53%) reported having two or fewer first-year fellows, whereas 31% had three or four first-year fellows. Thirty-three programs (36%) reported having no U.S. medical school graduate first-year fellows, and another 25 (28%) reported having only one. Of the 51 programs offering second-year fellowship training, PDs reported 61 post-first-year fellows (median 1, range: 0-7). During the past 10 years, 27 new allopathic geriatric medicine fellowship programs opened; there are now 119 programs. There are also seven osteopathic programs. The recruitment of high-quality U.S. medical school graduates into these programs remains a challenge for the discipline. Furthermore, the retention of first-year fellows for additional years of academic training has been difficult. Incentives will be needed to attract the best graduates of U.S. family practice and internal medicine training programs into academic careers in geriatric medicine.

Warshaw G, Murphy J, Buehler J, Singleton S. Geriatric medicine training for family practice residents in the 21st century: a report from the Residency Assistance Program/Hartford Geriatrics Initiative. *Fam Med*. Jan 2003;35(1):24-29.

Increasing the quality and quantity of geriatric medicine training for family practice residents is a particular challenge for family practice residents is a particular challenge for community-based programs. With support from the John A. Hartford Foundation of New York City, the American Academy of Family Physicians (AAFP) implemented in 1995 a multi-part project to improve the amount and quality of geriatric medicine education received by family practice residents. This report summarizes the initial results of the regional geriatric medicine curriculum retreats for residency directors. The goals of the retreats were to build recognition among the residency directors of the skills that future family physicians will require to be successful providers of primary care to older adults and to allow the residency directors to identify and develop solutions to barriers to improving geriatric medicine training for residents. Forty-six program directors participated in the three retreats between February 2000 and February 2001. The participants represented 52 programs and rural tracks in all geographic regions, small and large programs, and urban and rural settings. The program directors developed a consensus on the geriatric medicine knowledge, skills, and attitudes that should be expected of all family practice residency graduates; developed a list of basic, required educational resources for each family practice residency program; and proposed solutions to common obstacles to successful curriculum development.

Thomas DC, Leipzig RM, Smith LG, Dunn K, Sullivan G, Callahan E. Improving geriatrics training in internal medicine residency programs: best practices and sustainable solutions. *Ann Intern Med*. Oct 7 2003;139(7):628-634.

National surveys indicate a need for additional training in geriatrics during internal medicine residencies. This paper describes 1) "best practices" for integrating geriatrics education into internal medicine residency programs, 2) barriers to implementation of these practices, and 3) possible ways to improve geriatrics training for internal medicine residents. These best practices were determined by a systematic review of the literature and through interviews with leaders of 26 residency and geriatrics programs concerned with geriatrics training for residents. The most successful programs have clinical experiences with 3 key elements: model geriatric care in 1 or more settings (for example, in the hospital or in ambulatory practice), patient care across sites or transitions of care, and interdisciplinary teamwork. Barriers include attitudes, few faculty, need for relationships with nontraditional training sites, and lack of funding. Local solutions include engaging the internal medicine program director to accomplish a mutual goal—for example, by creating a model geriatrics training experience in which residents demonstrate their skill in a new Accreditation Council of Graduate Medical Education competency (such as systems-based practice). National solutions include reaching

consensus on the competencies in geriatrics that should be achieved by board-eligible internists. This may mean increasing the number of questions that test geriatrics competency in the certifying and in-training examinations, increasing numbers of faculty members able to teach and model geriatric care, developing "effective medical resident teaching" courses for nonphysician faculty, and lobbying for improved systems of care.

Robbins AS, Fink A, Kosecoff J, Vivell S, Beck JC. Studies in geriatric education: I Developing educational objectives. *J Am Geriatr Soc.* Apr 1982;30(4):281-288.

This study reports on the development of a comprehensive set of objectives for the education of undergraduates, graduates, and fellows in geriatric medicine. The objectives were derived from reviews of available educational materials and programs, and their significance was validated through consensus techniques that included over 100 workers with special expertise in geriatrics and gerontology from the United States, Canada, and the United Kingdom. A related and supplementary investigation, which also used consensus methods, uncovered ten general and disease-specific objectives considered to be essential outcomes of the education of geriatric fellows. Academic departments and specialty and subspecialty organizations should find the total set of objectives useful for planning and evaluating educational programs in geriatrics.

Counsell SR, Sullivan GM. Curriculum recommendations for resident training in nursing home care. A collaborative effort of the Society of General Internal Medicine Task Force on Geriatric Medicine, the Society of Teachers of Family Medicine Geriatrics Task Force, the American Medical Directors Association, and the American Geriatrics Society Education Committee. *J Am Geriatr Soc.* Nov 1994;42(11):1200-1201.

Panneton PE, Moritsugu KP, Miller AM. Training health professionals in the care of the elderly. *J Am Geriatr Soc.* Feb 1982;30(2):144-149.

Twenty-seven projects for the development of interdisciplinary geriatric curricula were supported by the Health Resources Administration's Bureau of Health Professions in fiscal 1979. A variety of clinical training sites were used (e.g., university gerontology centers, VA medical centers, senior citizen facilities, adult health care centers), and innovative teaching approaches were developed. For example, a combined medical/dental/optometry clinic is conducted by students at the three professional schools; medical students accompany volunteers serving Meals on Wheels; and dental students treat patients in nursing homes in a mobile dental unit. Students have gained insights into the problems of the elderly and the roles of other health professionals through the interdisciplinary-team training courses. Nurse-practitioner programs to prepare nurses to provide primary health care to the elderly were also supported by the Bureau, as were special projects to develop short-term in-service basic training programs for nurses' aides and orderlies in nursing homes, to upgrade the skills of the paraprofessionals who care for the elderly. In other projects, the geriatric educational needs of pharmacy students were assessed, and dental schools promoted remote-site training to improve access to dental care for the elderly.

Simpson D, Helm R, Drewniak T, et al. Objective Structured Video Examinations (OSVEs) for Geriatrics Education. *Gerontol Geriatr Educ.* 2006;26(4):7-24.

The Medical College of Wisconsin (MCW) and the Wisconsin Geriatric Education Center (WGEC) are committed to developing educational materials for primary care physicians in training. In response to the opportunity created by the Accreditation Council for Graduate Medical Education (ACGME) competency mandate, an MCW-led interdisciplinary working group has developed competency-linked video-based assessment tools for use in primary care residency training programs. Modeled after the Objective Structured Clinical Examinations (OSCE), used as part of the medical licensing examination process, we created geriatric-focused Objective Structured Video Examinations (OSVEs) as a strategy to infuse geriatrics into residency training. Each

OSVE tool contains a 1-3 minute video trigger that is associated with a series of multiple choice and/or constructed response questions (e.g., fill in the blank). These questions assess residents' understanding of video-demonstrated ACGME competencies including professionalism, systems-based practice, communication, and practice-based learning. An instructor's guide and scoring key are provided for each tool. Response to the OSVEs has been overwhelmingly enthusiastic including greater than 90% commitment by statewide faculty to use the tools in residency training.

Reuben DB. Geriatrics in Internal Medicine Residency Training: The Destination and Obstacles Along the Way. *American Journal of Medicine*. 1997;103(4):257-259.