

The Medical College of Wisconsin's Program to Strengthen Geriatrics Education

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Physicians must be facile in the care of elderly patients given the demographic realities of medical practice in the 21st century. However, medical students and residents demonstrate limited interest in geriatrics, highlighting the need for innovative and continuous exposure to geriatric-focused medical education. In response to this need, the Medical College of Wisconsin (MCW) successfully responded to requests for proposals from the John A. Hartford Foundation, in association with the American Association of Medical Colleges, and the Donald W. Reynolds Foundation to develop a longitudinal set of geriatric education initiatives for

medical students, residents, and fellows. These awards have allowed MCW to focus on improving trainee attitudes, skills, and knowledge so that physicians, early in their careers, could be optimally prepared to render geriatric care. This article highlights the unique elements that comprise MCW's geriatric initiatives (Table 1).

Student Outreach in Geriatrics

The first objective of the MCW Program to Strengthen Physician Training in Geriatrics is to increase medical student interest in geriatric care. The goal of this objective is to enhance student interest in geriatrics through the implementation of programs that increase student exposure to the geriatric population, dispel negative attitudes regarding aging and geriatric practice, and foster a network of faculty and students interested in geriatric medicine. This objective is led by a Director of Student Outreach in conjunction with a Healthy Aging Initiative in the MCW Department of Family and Community Medicine, and supported by a program coordinator and student efforts.

AGS Student Chapter

The MCW Student Chapter of the American Geriatrics Society (AGS) was established to bring students together to learn more about geriatric medicine, geriatric care, and elderly persons in society. Since August 2001, the AGS Chapter has held

eight events, ranging in attendance from 15 to 126 medical students, with an average of 78 students per event. Because many students hold stereotypical views of older adults—overestimating senior citizen dependence and frailty—the first event each year focuses on healthy aging. An older Wisconsin resident is invited to speak to the students about the experience of growing older and living independently. The first two healthy aging events featured older men, an 87-year-old marathon runner and bicyclist, and a 97 year old who received the 2002 “Volunteer of the Year” award from the state of Wisconsin. Other AGS chapter events, planned jointly by the students and the Student Outreach faculty and staff, have included panel discussions of careers in geriatrics and geriatric training, visiting professors, a presentation on older drivers, the Aging Game, a family caregiver panel discussion, and an integrated rounds with interface between basic and clinical sciences.

The Aging Game was unique because it provided students with an experiential opportunity to understand the physical changes associated with aging. Six game stations were arranged in a campus auditorium, each with simulation activities focusing on a different physical change, such as taste, hearing or mobility. Simulation activities and supporting handout material were designed to help students differentiate between age-related changes and changes secondary to illnesses

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prevalent in older adults. The overwhelmingly positive student response to this event has led to its recurrence as an annual session.

Chat and Chew Program

Chat and Chew, initiated in 1998, is a service-learning program in healthy aging in which medical students develop and deliver health presentations to elderly residents in Milwaukee public housing developments.¹ The presentation is followed by a shared healthy snack, in which students continue the discussion with the elderly housing residents. Students meet before and after the event to discuss issues that arise related to aging, diversity, and community health.

Medical Student Training Opportunities

Another approach to heighten student interest in geriatrics training is increasing their involvement in existing geriatric practice and research opportunities. In addition to MCW-based research opportunities in geriatrics, students are actively encouraged to apply to the American Federation for Aging Research (AFAR) Medical Student Geriatric Scholars Program and/or the American Geriatrics Society/Boston University co-sponsored Summer Institute in Geriatrics.

Curriculum Enhancements in Geriatrics Education

A second objective of the MCW Program to Strengthen Physician Training in Geriatrics is to increase student knowledge of geriatric medicine. A number of initiatives are being implemented to meet this objective. Examples include the creation of case-based "virtual patients" to be used in teaching medical students across all four years of their curriculum; the inclusion of a geriatrics option for third year medical students during their 2-month Medicine clerkship; and the creation of the M4 Integrated Ger-

Table 1. Medical College of Wisconsin programs to strengthen geriatric education

Program Area	Targeted Learner
Medical Student Outreach	M1-2
Curriculum Enhancements	M1-4
Medicine-Geriatrics Residency	PG1-4

M = Medical Student PG = Post Graduate Resident

iatrics Selective. This objective is led by the Reynolds faculty, with the support of the MCW Associate Dean for Curriculum.

Virtual Patients

As basic science and clinical research findings continue to explode, medical student educators must continuously balance their teaching time between core principles (e.g. metabolic pathways), new findings (e.g. genetic links), and clinical relevance. Concurrently, students continue to request more clinical relevance in their basic science courses and linking of underlying basic science/pathophysiology principles to their clinical patients. To address this challenge, MCW is developing a set of five virtual patients based on the records of elderly patients seen in the Froedtert and Medical College Clinics (Table 2). Cases were reviewed and sections highlighted based on input from a multi-disciplinary group of basic and clinical scientists with the unique feature that each patient ages 20 to 30 years.² (<http://www.mcw.edu/edserv/GeriatricsEducation/index.htm>)

For example, during the first year of medical school, the student meets Mr Andrews, a well 65-year-old retired pharmacist who is in for a health maintenance visit. Students are advised that the patient currently feels well but that he is being managed for high blood pressure (discovered 10 years ago), diabetes mellitus (discovered 5 years ago), and obesity (height 5'10", weight 250 pounds). While Mr Andrews indicates that he has been "heavy" all of his life, he continues to struggle with his diabetes diet

and has not been able to lose weight. During the first-year courses, Mr Andrews was integrated into Biochemistry via small group case discussions, lectures in Cell and Tissue Biology, Clinical Human Anatomy, Human Development, and Physiology. Mr Andrews was reunited with the students in the M2 Pathology (case-based learning discussions of atherosclerosis) and Pharmacology, and subsequently in the M3 Medicine clerkship, and the M4 Integrative Geriatric Selective. In each course/clerkship, different aspects of Mr Andrews' case progression are highlighted so that, over time, students' understanding of the relationships between basic science concepts and clinical practice are solidified around a patient.

The successful use of these paper cases within the existing medical student curriculum³ led to the creation of our "virtual patients." As teachers began to integrate the cases into their core basic and clinical science lectures, small group discussions, and/or case-based learning tutorials, they asked for pictures of the patient, copies of the radiographic images, the family history and genogram, laboratory findings, and other visual aspects of the case to make the patient "come alive."

In response, MCW is now developing a CD-ROM for each case (Mr Andrews and Mrs DuBois have been completed, Mr Malone and Mrs Tang will be completed by July 2003). Each CD includes 20 to 30 short video clips, each no longer than 2 minutes. The video clip portrays the geriatric patient and a family member over time, interacting with members of the geriatric health care team. The patient is portrayed

Table 2. Medical College of Wisconsin geriatric virtual patients

Patient	Age	Medical Condition(s)
Mr Karl Andrews	65 to 80	Cerebrovascular Disease, Diabetes Mellitus, Obesity, Peripheral Arterial Disease
Mrs Esther DuBois	70 to 85	Lack of Energy, Constipation, Heartburn, Arthritis, Breast Cancer and End-of-Life Care
Mr Clarence Malone	70 to 85	Depression/Dementia, CAD, Degenerative Joint Disease of Hip/Spine, Colonic Diverticulitis, Hiatal Hernia, Cataracts
Mrs Violetta Tang	70 to 90	Osteoporosis, Incontinence, Hearing Loss, Hypothyroidism, Hypertension
Mr Fred Clifford	83 to 98	Functional Aging, Hypertension, Vision and Hearing Loss, Community-Acquired Pneumonia, Prostatitis and BPH, Herpes Zoster

CAD = Coronary Artery Disease
BPH = Benign Prostatic Hyperplasia

by a professional actor who, with the assistance of a professional make-up artist and coached by a geriatrician, ages cognitively and functionally, consistent with the progress of the patient's health/diseases. For example, a clip of Mr Andrews at age 65 discussing his health and diet concerns with his physician can be viewed. As he ages, additional clips present Mr Andrews describing the pain in his calf (claudication), the sore on his big toe (diabetic ulceration), post-vascular surgery, and the impact of medical conditions on quality of life. Eventually Mr Andrews has a stroke (reported by his wife in an emergency call), with subsequent scenes portraying his rehabilitation sessions with a physical therapist and his return visit to the clinic with his wife.

Complementing these video clips are a series of images associated with the clinical findings. For example, Mr Andrews' radiographic images reveal a low attenuation area of the left hemisphere deep gray matter with involvement of the left middle cerebral infarct and non-occlusive atherosclerotic plaques of the right femoral artery. Additional images provide teachers with access to Mr Andrews' fasting blood plasma glucose levels presented over time, hypertensive retinopathy, family genetic history, and swallow studies.

M3 Medicine Clerkship Geriatrics Option

The MCW Department of Medicine now includes a geriatrics option for junior medical students (M3s) during the required 2-month medicine clerkship. This new option creates a unique mechanism by which students are able to complete their medicine requirement. The option is an intensive immersion into geriatric medicine. Simultaneously, the student participates in the required activities for all M3s doing their required medicine clerkship that month. The option has been offered since July 2002 and has since been consistently over-subscribed.

M4 Integrated Geriatric Selective

All M4s are required to choose a month-long selective that integrates clinical concepts with basic science principles. As part of the Reynolds Foundation award to MCW, an integrated selective in geriatric medicine was developed and first offered in 2001-2002. To date 12 M4s have enrolled in this experience. The course centers around the four virtual patient cases previously described (Table 2). Students participate in lectures, small group discussions, and clinical experiences and interact with geriatric standardized patients (SPs) linked to each case. SPs are

used to teach and assess interviewing skills in areas related to the cases and felt to be essential to caring for older adults. The integrated selective serves as a "capstone" experience in geriatric medicine where the M4 has a chance to master clinical skills (e.g., functional assessment, cognitive assessment, evaluation of urinary incontinence) and recall basic science concepts that underlie the diseases which commonly affect geriatric patients.

Medicine—Geriatrics Residency

The third objective of the MCW program is to improve the recruitment of high quality candidates into the field of geriatric medicine. After observing the success of other combined residency models in attracting outstanding students (e.g., medicine/pediatrics, medicine/neurology), MCW proposed to establish a prototype residency program combining internal medicine and geriatric medicine training. This involved three components: (1) developing a formal identity or structure for the program (recognition and identification by the appropriate credentialing agencies), (2) curriculum development, and (3) dissemination and recruitment.

As a result, the Medicine and Geriatrics (Med-Ger) residency track at MCW filled its two positions for the academic year 2002-2003 with two additional positions offered for 2003-2004 through the NRMP. Ultimately, two residents will be recruited for each year of the training program, resulting in eight residents at any one time.

The combined Med-Ger program differs from the traditional approach to training (3 years of internal medicine and 1 year of fellowship training) in that it provides longitudinal ambulatory and long-term care experiences in geriatrics, integrated with the standard "block rotation" experiences of internal medicine. It also provides greater

opportunities for prolonged contacts between trainees in the Med-Ger track and those in the categorical internal medicine track. This differs substantially from the traditional format, where 1-year geriatrics fellows generally have limited contacts with internal medicine trainees. The Med-Ger residents, by belonging to and working within a larger cohort of categorical medicine trainees, are able to disseminate their experiences and teachings in geriatrics into the larger program, thus assisting in "geriatricizing" the general medicine curriculum and training experience.

Summary

Medical care for geriatric patients requires physician training that promotes the acquisition of attitudes, knowledge and skills that will permit future practitioners to meet the health needs of increasing numbers of aged patients. MCW

has strengthened its traditional curriculum by focusing on student attitudes in the early pre-clinical years through outreach and interest group programs. Knowledge is integrated throughout the 4-year curriculum using our aging virtual patients. These patients are a teaching resource to the entire faculty. Attitudes, knowledge, and skills in geriatrics are further developed through an M3 geriatrics medicine option and the M4 Integrated Selective. Geriatric-specific skills are emphasized through the use of standardized patients and objective structured clinical examinations in the M4 Selective. It is anticipated that these student efforts will create interest in a novel residency experience (Med-Ger) that will ensure that upon successful completion of the program, residents are expert in geriatric medicine practice and meet criteria for board certification in geriatric medicine.

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