

Bureau of Health Professions and various foundations, such as the John A. Hartford Foundation, the Brookdale Foundation, Pfizer/American Geriatrics Society, and the Merck/American Federation for Aging Research. Each fellowship has specific requirements, but the overall goal is to recruit the best physicians to academic geriatrics.

### RECRUITMENT TO RESEARCH

The actual number of trainees in geriatrics research fellowship programs is unknown. However, for 1992–1993, the Manpower Study counted 240 geriatrics fellows, with 24 in the third year and 7 in the fourth year of training; 70–80% of trainees continue into the second year of training and 25–30% into the third year [2].

Fellowship programs should strive to recruit and

train physicians for leadership roles in geriatrics/gerontology. To meet this goal, research training must have high priority, careful planning, a critical mass of trainers and trainees, and adequate financial support.

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## Geriatrics Program Development at the University of Michigan

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The University of Michigan (UM) has a tradition of academic program development in aging. During the past 10 years, several nationally prominent research programs were established, major clinical care initiatives were begun, and educational activities for health care professionals grew substantially.

Many of these activities were started in the Department of Internal Medicine. Eventually, an institution-wide planning process led to the creation of the Geriatrics Center. A new building that will house the Geriatrics Center will make geriatrics a central focus of the UM Medical Center and will recognize the importance of geriatrics clinical care, teaching, and research programs to its future success. The Geriatrics Center will be an active participant in the Medical Center's future planning efforts and in the development of the innovative approaches to health care and health professions education necessary to meet society's future needs.

### HISTORICAL OVERVIEW

In 1965 the Institute of Gerontology (IOG) at the University of Michigan (UM) was designated by the Michigan legislature to pursue research, education, and public service relating to the elderly. In the

early 1980s the IOG broadened its scope from social services and sociological research on aging to include biomedical research and help in establishing programs in aging within the UM Medical School.

In the late 1970s a Geriatrics Outpatient Clinic was established to provide comprehensive multidisciplinary geriatric assessment and ongoing primary care for the elderly. A new Division of Geriatric Medicine was established in 1984. A 1-year fellowship was expanded to 2 years with additional positions, and plans were made to expand the geriatric medicine faculty. Construction of a 120-bed nursing home at the Ann Arbor Department of Veterans Administration (DVA) Medical Center provided further opportunity for growth.

A task force proposed a medical center-wide expansion of clinical care, research, and educational initiatives in geriatrics. The Regents created a Geriatrics Center in 1987, and in 1989 the nation's first Claude Pepper Geriatric Research and Training Center was funded at UM. Groundbreaking for the \$88 million Cancer Center and Geriatrics Center Building occurred in September 1993, with completion expected in 1996. A Geriatric Research Education and Clinical Center (GRECC) was established at the Ann Arbor DVA Medical Center in 1988.

## **GERIATRICS CENTER PROGRAMS**

The Geriatrics Center's mission is to establish programs of excellence that will enhance clinically related biomedical and health-services research in geriatrics [1,2], provide educational opportunities in geriatrics for future healthcare leaders [1,3-6], and develop multidisciplinary clinical care programs for the elderly [7,8]. Programs involve multiple departments within the Medical School as well as other UM schools and institutes. An important priority for the Geriatrics Center is to bring together key faculty and trainees from these various units to develop state-of-the-art geriatrics clinical, research, and training programs.

## **CLINICAL CARE PROGRAMS**

A Geriatric Outpatient Clinic serves as a site for both geriatric assessment and primary care [9], with >8,000 patient visits during the past year. Multidisciplinary geriatrics consultation services operate at University Hospitals and the Ann Arbor VA Medical Center; each service averages approximately 30 consultations per month. Long-term care services are provided through a series of outreach clinics in senior citizen apartment buildings and affiliations with several long-term care facilities.

## **EDUCATIONAL PROGRAMS**

Geriatrics is taught every year during medical school, and a new emphasis on ambulatory care experiences provides increased opportunity for exposure to outpatient and long-term care services. House officers in internal medicine, family practice, psychiatry, and neurology all have experiences in geriatrics. Undergraduate and graduate level social work students, nursing students, pharmacy students, and trainees in clinical psychology, dentistry, and physical and occupational therapy participate in the center's programs. Although the fellowship program is primarily coordinated through the Division of Geriatric Medicine, a fellow from the Department of Family Practice is fully integrated into the overall geriatrics fellowship program. Fellowships in geriatric psychiatry and geriatric dentistry have also been established. With funding from the Bureau of Health Professions, an integrated curriculum has been created for all of the geriatrics fellows.

With support from a grant from the W. K. Kellogg Foundation, an interdisciplinary training program in geriatrics was established for health care professionals in the state of Michigan [10]. Teams of a physician, nurse, social worker, and administrator from six small- to medium-sized communities par-

ticipated in a special training curriculum. This curriculum was used as a model for the establishment in 1991 of the U.S.-Japan Training Institute in Geriatric Care, in which practicing health care professionals from Japan participate in a 2-week geriatrics summer training course in Ann Arbor.

## **RESEARCH PROGRAMS**

Four areas of research are emphasized based on existing UM research and training strengths and growth opportunities: impaired homeostasis, brain disorders, impaired mobility, and health and well being. More than 90 UM faculty are identified with interest in these research areas. These investigators have external grant support totaling >\$25 million in direct costs per year.

## **JUNIOR FACULTY DEVELOPMENT**

To develop future academic leaders in geriatrics [1,2,6], the Geriatrics Center places a heavy emphasis on research training.

*Research retreats* provide intensive research training, education, and career counseling for junior faculty, selected from both UM and outside institutions (including minority junior faculty selected in collaboration with Howard University). Each retreat provides research seminars by established investigators; discussion of the future research agenda in the program area; presentations of research by junior faculty; simulated peer review sessions of grant proposals submitted by junior faculty; and individual research and career consultations.

*Pilot project grants* support basic biomedical science, clinical physiology and pathophysiology, health services research, or behavioral and social science and must be in one of the center's four identified research programs. Collaborative projects involving faculty from more than one department, school, or institute are encouraged. Projects are supported for 1 year with an additional year of funding possible.

*Research cores* of the center provide specialized services and training to junior faculty. They provide a strong research base for future academic leaders in geriatrics and a fertile environment to develop new research initiatives.

The Core Facility for Aged Rodents facilitates animal research in aging. The Biomechanics Core provides training, enhances current research, and supports new research on mobility problems in the elderly. The Methodology, Data Management, and Analysis Core trains investigators in the collection and analysis of data by providing technical advice, assistance in planning, and access to secondary data sets. The focus is on methods appropriate to geriat-

rics research. The Human Subjects Core develops resources for human subjects research and provides research training in geriatrics and gerontology relating to human subjects. The Molecular Biology Core—a shared resource with UM—facilitates the use of new techniques, such as DNA sequencing and synthesis by a wide variety of investigators. Duplication of expense and effort is avoided, and individual investigators gain access to costly instrumentation.

## ORGANIZATIONAL RELATIONSHIPS

### The Department of Internal Medicine

The Department of Internal Medicine committed critical start-up funding for the Division of Geriatric Medicine and the Geriatrics Center, gave funds for faculty recruitment to expand the program, and provided advocacy for institution-wide geriatric program development. The department also assigned a senior level administrator from the chairman's office to work with the chief of the Division of Geriatric Medicine. This later became a full-time assignment encompassing both the Division and the Center.

In 1984 the department established a mandatory geriatrics rotation for internal medicine house officers. This was a critical step in integrating the Division of Geriatric Medicine into mainstream department activities. It also led to early acceptance by faculty and house officers of the importance of geriatrics to the department's overall activities.

### The UM Medical Center

The organizational plan for the Geriatrics Center established that the chief of the Division of Geriatric Medicine at UM Medical Center would also serve as director of the Geriatrics Center, reporting to the chairperson of the Department of Internal Medicine. Because the activities and responsibilities of the Geriatrics Center extend beyond the Department of Internal Medicine, a steering committee of department chairs was formed as an oversight and advisory group. This committee is chaired by the dean of the medical school, and the director of the Geriatrics Center is a member of the dean's advisory council. The Geriatrics Center is under the overall supervision of the vice-provost for medical affairs who reports to the provost and president of the university. The IOG is viewed as a university-wide program, so its director reports to the vice-

president for research, who in turn reports to the president of the university.

### Other Program Relationships

The Geriatrics Center also interacts with a number of major programs within and outside of UM, helping to broaden its impact. It has a particularly close relationship with the IOG. The Center's director also serves as IOG medical director, and many key Geriatrics Center faculty have joint appointments. Fellows in geriatric medicine participate in the IOG's research training program.

UM's Alzheimer's Disease Research Center is closely linked to the Brain Disorders Research Program of the Geriatrics Center. In addition, the center has close interactions with the Michigan Diabetes Research and Training Center, funded by the National Institutes of Health, and also serves as the national coordinating center for the Hartford Foundation's Academic Geriatrics Research Initiative, which includes 13 leading U.S. academic medical centers.

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