

REVIEW ARTICLE

# Capturing the power of academic medicine to enhance health and health care of the elderly in the USA

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As in Japan, the US population is aging progressively, a trend that will challenge the health-care system to provide for the chronic, multiple and complex needs of its elderly citizens. and as in Japan, the US academic health enterprise has only belatedly mounted a response to that challenge. Herein is reviewed a quarter of a century of the author's personal experience in developing new programs in gerontology and geriatric medicine from a base in the Department of Internal Medicine at three US academic health centers (AHC): The University of Washington (as Division Head), Johns Hopkins University (as Vice-Chair), and Wake Forest University (as Chair). Rather than to build a program from a new department of geriatrics, this strategy was chosen to capture the power and resources of the department of internal medicine, the largest university department, to 'gerontologize' the institution, beginning with general internal medicine and all of the medical subspecialties (the approach also chosen to date at all but a handful of US AHC). The keystone of success at each institution has been careful faculty development through fellowship training in clinical geriatrics, education and research. Over the same interval major national progress has occurred, including expanded research and training at the National Institute on Aging and the Department of Veterans Affairs, and accreditation of more than 100 fellowship programs for training and certification of geriatricians. However, less than 1% of US medical graduates elect to pursue such training. Hence such geriatricians will remain concentrated at AHC, and most future geriatric care in the USA will be provided by a broad array of specialists, who will be educated and trained in geriatrics by these academic geriatricians.

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## Introduction

At a rate unprecedented in world history, the average age of people on Earth is increasing at a rate that will accelerate throughout the first half of the 21st century. Among the nations of the world with the largest proportion of older citizens, those of Asia and Europe pre-

dominate, notably including Japan, where the fraction above 65 will reach 35% beyond 2025. However, as the rest of the world continues its socioeconomic development and birth rates decline in parallel (a pattern seen in all nations that have undergone such development), the progressive aging of the population will become a worldwide phenomenon of increasing magnitude throughout the 21st century.

## America's population is aging

As a nation founded less than 250 years ago, the USA has always had a relatively young population. Examination of the distribution of the population of the USA by age between 1960 and 2040 discloses that a major shift

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is well underway, one that will not reach a new steady state until at least mid-century. Since 1960 the US population has been dominated by the 'baby boomers' (those born following the end of World War II as the US armed forces returned home and new families were initiated). In 1960 these baby boomers were infants and young children at the base of the population pyramid. However, by the year 2000 the baby boomers were in middle age and as they matured had come to dominate US social, governmental and economic institutions. By the year 2020 this cohort of baby boomers will be entering old age (defined herein as above age 75); because of the greater longevity of women than men they will be a population with progressive skewing toward a predominance of surviving older women. By the year 2040, when this shift will have reached its peak, the baby boomers themselves will be the elderly, again dominated by older women, especially among the truly elderly, those above age 85. Thus between 1900 and the year 2050 there will have been a growth in Americans over age 65 from 4.0% to 21.7% of the population. Moreover, and more germane to the discipline of geriatrics, the population of those over 85 will have grown disproportionately by an even greater number and percentage, totaling an estimated population of more than 18.5 million by the year 2050. Even centenarians will have increased dramatically in a manner suggesting an exponential rise in their numbers in the latter half of the 20th century and extending to the middle of the 21st century.

This unprecedented demographic shift carries major implications for the health, welfare and health care of all Americans and especially those in the older cohorts. Already the per capita utilization of health-care resources by the elderly in America has outstripped their consumption by the population as a whole. Thus, whereas in 1990 those over 65 (recipients of federally assured health care through the Medicare program) constituted 11% of the population, they consumed 30% of all personal health care, spent 38% of total days in hospital, represented 26% of hospital discharges, underwent 22% of surgical procedures and 17% of physician office visits and represented fully 88% of nursing home discharges in the USA. Furthermore, as the population continues to age, according to present use patterns the proportion of the elderly requiring long-term care services will continue to increase. Already in the USA, among those 65–74 years of age approximately 14% require long-term care services. In the age group 75–84 years, fully one-quarter require long-term care services in the community and 7% in nursing homes. At the ages of 85 and above, nearly 20% reside in nursing homes and another 46% who live in the community require long-term care services.

And although much of the health care of the elderly is covered by federal insurance, the total personal health

care spending by the non-institutionalized elderly as a percentage of their income remains substantial (21%). This is especially the case for those in the poor and near poor income categories, persons living on fixed incomes for whom healthcare expenditures consume one-quarter to one-third of their income.

The issue of the economic burden of providing adequate health care for its aging population already assumes major political and social implications in America, even though the USA is still far from the peak in aging of its population. The per capita cost of health care in the USA is already by far the highest on earth, and Americans spend the largest proportion of their gross domestic product (GDP) on health care, currently approaching 15%, even as our percentage of the population over 65 is but 13%. Thus the looming demographic shift toward an older population in the USA presents a challenge to the nation as a whole in spite of the size of the economy. This trend threatens to bankrupt both the Medicare and Social Security programs and is a major political issue. It is also personally capturing the attention of the baby boomers as they face their own aging and already are responsible for much of the support of their elderly parents.

### **Mismatch between the health-care problems of the elderly and the health-care system in the USA**

The healthcare problems of the elderly are typically chronic, complex, medical, social, psychological, multiple and interacting, progressive, rarely curable and often terminal. However, the health-care system in America is not well designed to address these needs because it is focused on acute care, focused on curative care, fragmented and poorly coordinated, costly, with incentives that reinforce high technology and high cost, economically skewed to discourage the coordinated care of the elderly, and led by a medical workforce inadequately educated and trained to care for elderly patients.

Thus the progressive aging of the US population presents a major challenge to the health-care system not only to provide care for the increasing numbers of the elderly but also to do so in a manner that is both appropriate and cost-effective. Hence a broad approach to reengineer the health-care system to make it more effective and efficient in addressing this looming challenge is urgently needed in the USA.

### **Who will provide medical care for the elderly in the USA?**

It is useful to review the distribution of health-care utilization and visits to US physicians by the elderly according to the medical specialties involved. In 2000, 45% of all visits by persons age 65 and above were to

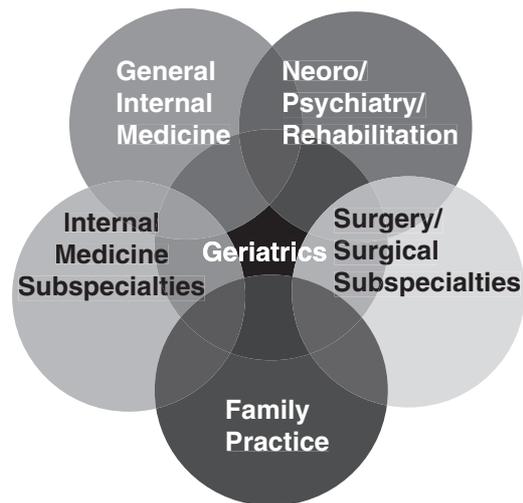
primary care physicians, principally medical internists (26%) and general and family practitioners (19%). The remainder of physician visits for the Medicare population were broadly distributed among medical and surgical specialists and subspecialists, psychiatrists, neurologists and other doctors. Of note, these data from the Medicare program specifically do not include the proportion of physician visits made to geriatricians, who constitute but a tiny fraction of the medical workforce. This pattern of dispersion of health-care visits by older patients to physicians other than geriatricians is predicted to remain substantially unchanged in the future. Therefore, in the foreseeable future any effort directed toward enhancing geriatric care in the USA will have to be widely shared among nearly all medical and surgical specialists (excluding perhaps only obstetricians and pediatricians) rather than focused in a large new cohort of geriatricians (who currently constitute less than 1% of US medical graduate).

It is thus anticipated that family physicians and internists will continue to deliver the great majority of primary health care to the aging US population, while the small cadre of geriatricians will account for but a very small proportion of the primary care of patients above age 60, 70 or 80 years, and perhaps be especially concentrated in the care of patients aged above 85 years. Thus geriatric medical care in the USA will be delivered by general internists, internal medicine subspecialists, family practitioners, general surgeons and surgical subspecialists, and those practising neurology, psychiatry, and rehabilitation, with geriatricians at the center of this constellation serving to deliver a tiny fraction of total geriatric health care and that usually in consultation and collaboration with specialists from these other multiple disciplines (Fig. 1).

### Training of physicians to care for the elderly in America will take place at academic health centers

The US academic health centers (AHC) are hubs for education, research and exemplary clinical care in the USA. Each center consists of a medical school (currently there are 126 in the 50 states) and variously include schools of the allied health professions (nursing, dentistry, pharmacy, social work and public health). The AHC also consist of one or more teaching hospitals and contain research facilities, centers and related programs in biomedicine and public health. However, AHC are especially out of alignment to train physicians in the appropriate care of the elderly.

The populations served by such AHC are generally disproportionately represented by younger patients, especially the poor and disadvantaged, and the care delivered at AHC is generally highest in cost. There is more emergency care at AHC, and the more acute and



**Figure 1** Geriatrics at the center of the multispecialty approach to medical care of the elderly. Reproduced with permission: Oreopoulos DG, Hazzard WR, Luke R (eds): *Nephrology and geriatrics integrated: Proceedings of the Conference Integrating Geriatrics into Nephrology held in Jasper, Alberta, Canada 31 July–5 August 1988*. Boston, Kluwer Academic Publishers, 2000, p. 25.

intensive tertiary care at such centers employs the latest and most costly technology. Moreover, there is more referral care and less primary care, and continuity of care (a central requirement of effective geriatrics) is often difficult to assure at such centers.

Nevertheless, AHC are the sites where the most advances in research, education and care will occur in America. Therefore to improve health care of the elderly in America, the AHC must be captured in an agenda of change. Because all branches of medicine (and the allied health professions) will be involved in the care of the elderly, all such branches must be included in this agenda.

This will require adherence to the following guidelines:

(1) Because only a small fraction of US physicians are likely to receive advanced training to become geriatricians, the vast majority of geriatric medical care will be delivered by non-geriatricians.

(2) Therefore all physicians must receive at least basic education and training in geriatrics during medical school and residency training following graduation from medical school.

(3) Furthermore, because the care of elderly patients is complex and must extend through time and across levels of care and into the community, to deliver appropriate care of elderly patients through time and across site and provide appropriate education and training in the care of the elderly, AHC must extend their geriatric programs beyond their walls, to include the care of patients in their homes, at ambulatory care centers and at long-term care sites.

(4) To optimize geriatric medical care in the USA, the efforts of the small number of geriatricians should be concentrated in AHC and their contributions multiplied as educators, researchers, exemplary clinicians and geriatrics program leaders.

(5) To assure that the quality of geriatric care is of the highest order, these academic geriatricians must be able to compete with the 'best and the brightest' from all disciplines in the AHC. This requires that they be recruited from the top ranks of medical students and residents and trained rigorously in medicine, neuropsychiatry, rehabilitation, surgery, geriatric medicine, teaching and research as it pertains to aging and the care of the elderly.

(6) Their training must reach beyond medical and surgical disciplines to include experience in collaboration in the care of elderly patients by multidisciplinary teams, notably including social workers, nurses and rehabilitation therapists.

(7) To assure their success, these scarce geriatricians must receive adequate support and protection from excessive service demands at each stage of their training and throughout their academic careers.

### **Quarter of a century of experience in geriatrics program development at three AHC: a personal odyssey<sup>1-5</sup>**

While serving as Director of the North-west Lipid Research Clinic in the Division of Endocrinology and Metabolism of the Department of Medicine at the University of Washington in Seattle in 1976, I was requested by Robert Petersdorf (Chairman of the Department of Medicine), Edwin Bierman (Chief of the Division of Endocrinology, Metabolism, and Nutrition and initial head of a research program in Gerontology at the University), and Carl Eisdorfer (Chairman of Psychiatry) to initiate a program in gerontology and geriatric medicine, one that would combine education and research with model geriatrics clinical services as a venue for clinical training and academic program development. Flattered by the invitation and excited by the opportunity, I accepted at once and was appointed with little fanfare and no negotiation for resources. However, I also realized that I knew very little about aging and even less about geriatrics. Therefore I first paid a call on Paul Beeson, who had recently retired as Professor of Medicine at Oxford (following previous successful medicine department chairmanships in the USA at Yale and Emory) and become a distinguished physician of the Veterans Administration in Seattle and professor at the University of Washington. Because at Oxford he had been impressed by his exposure to a model of geriatrics as an academic specialty, he advised that I consider a sabbatical year in the UK learning geriatrics from the British, who had designated geriatrics as a medical spe-

cialty upon creation of the National Health Service following the World War II and established a department of geriatrics at all medical schools and hospitals.

In preparing for that sabbatical in 1977-1978, I conducted a brief inventory of the status of US geriatrics I would face upon my return. This disclosed the following: there were no trained geriatricians; no geriatrics faculty to develop model geriatrics care programs, train geriatricians, educate medical students, residents, or practicing physicians, or conduct aging-related research. There was no recognition as a specialty by the American Board of Internal Medicine (ABIM), and no specialized (fellowship) training programs for faculty development or clinical geriatrics training.

However, by 1978 there were encouraging beginnings of federal and academic support for aging research and geriatrics in the USA. The Veterans Affairs (VA) Geriatric Research, Education and Clinical Centers (GRECC) program began in 1975 (and has subsequently spread to nearly all regional VA centers). Furthermore, in 1975 the National Institutes of Health (NIH) established the National Institute on Aging (NIA) for aging-related research and research training. Furthermore, by 1978 a few AHC had also initiated small programs in geriatrics at such US medical schools as Duke, Cornell, Harvard and UCLA, as well as my own institution, the University of Washington. Thus while small beginnings of program development were evident, there was clearly much to be done, and I would need all the advice and help I could find in order to make a difference on behalf of the coming 'age wave' of elderly Americans.

### **A personal challenge and a transforming experience: a sabbatical year in the UK**

Following Professor Beeson's advice, I undertook a sabbatical year of study in Great Britain in 1977-1978 to learn the British model of geriatrics at Oxford (Cowley Road Hospital) and St Thomas' Medical School in London (South-western Hospital).

What I observed in the UK during that year in both of these geriatrics departments was a small, selfless, devoted faculty and dedicated staff; little research time, funds, training or expertise; little interaction with academic or clinical colleagues in the acute hospital or ambulatory care clinics; confinement of these programs to long-term care hospitals, which were often antiquated, poorly equipped and separated geographically and administratively from acute care hospitals and clinics; little exposure of geriatrics faculty and program to medical students and non-geriatrics trainees; and a continuing struggle to attract and retain top-rank medical staff.

Thus in 1978 the following question could be posed: should model aging programs at US AHC focus gerontology and geriatrics within departments of geriatrics, as

in the UK and most nations with aging populations? Or should units (divisions or sections) of gerontology and geriatrics be established within relevant academic departments (notably internal medicine, family medicine, or psychiatry) but with strong ties to other departments and schools, perhaps in a center on aging?

The potential advantages of a department of geriatrics would include a clear reporting relationship to the AHC leader (Dean or Vice-President), a position of power potentially equivalent to other departments (medicine, surgery, psychiatry, neurology, basic sciences etc.); and clear identity of the program and department to the public and potential funding agencies and donors.

However, the disadvantages faced by a department of geriatrics were also clear. Those would include potential redundancy with other departments and programs that serve elderly patients; rivalry with those large and well-established departments for patients, students, residents, fellows, space and money; rivalry with those departments (including basic sciences) for aging-related research facilities and funds; and risk of isolation, neglect and mediocrity.

This last disadvantage was the deciding factor for me. Thus on balance I felt that it was important to attempt to build a first quality program from as close as possible to the center of institutional power, influence and resources upon my return to the University of Washington in Seattle – and that meant centering the program in the department of medicine. I determined that this initiative would be developed according to the principles enumerated here.

## Organizing principles of US academic geriatrics program development

### *Principle 1*

Success in the US AHC requires strength in research as well as in all elements of the academic mission.

Success in research will attract talent, funds, space, recognition and respect.

Development of excellent faculty ('talent') to lead and participate in an academic geriatrics program is the keystone of success. This requires careful attention to recruitment of physicians with the greatest potential to become academic leaders and their orderly career development across the states of medical school, residency, clinical geriatrics fellowship (and possibly medical subspecialty training) and research training in a continuum that may span as many as 17–23 years (Table 1).<sup>6</sup>

This success will breed further success in education of medical students (MD), residents (post-MD), fellows (after residency) and practising physicians.

To provide a venue for this education and training and to establish the clinical validity of our academic enterprise, we must develop successful model programs

**Table 1** Scheme of US academic medical faculty preparation

Institution	Years
Medical school (post-baccalaureate)	4
Residency (post-MD)	3–4
Geriatrics fellowship	1
Subspecialty fellowship	2–4
Research fellowship	2–3
Junior faculty research development	5
Total	17–23

to demonstrate our commitment to the health and welfare of the elderly and to excellence and innovation in their health care. This will entail first quality multi-disciplinary clinical care: high-quality physicians and practitioners of other relevant health-care disciplines (nursing, social work, dentistry, pharmacy, public health, allied health professions (rehabilitation, nutrition etc.)).

Adherence to these standards will generate a self-reinforcing cycle of ever-increasing success (and to proceed otherwise would risk a downward spiral toward mediocrity and isolation).

### *Principle 2*

Because most departments and disciplines relevant to the care of the elderly had already been well developed in the US at AHC by 1978 (and had the greatest talent, facilities and institutional support), we would join them in promoting enhanced geriatric care and aging-related research in a broad academic agenda on behalf of aging and the elderly rather than attempt to compete with them and develop potentially redundant and costly programs and services in a separate department of geriatrics ('If you can't beat them, join them'; an old US saying).

### *Principle 3*

Because the clinical department with greatest power, resources and respect in almost every AHC was the department of medicine, this is where we would focus our primary developmental efforts, because the department of medicine has the largest faculty, largest medical student teaching responsibility, largest residency training programs, largest subspecialty fellowship training programs, largest clinical programs and the largest program of clinical research and research training and NIH grant support for that research and training.

### *Principle 4*

Because the success of our efforts would depend on attracting the best talent and creating new faculty, we

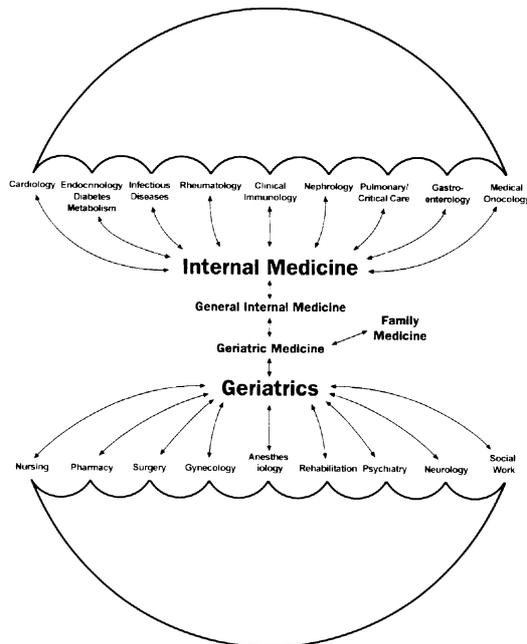
would place primary emphasis on recruiting that talent and the training of future faculty in fellowships that combine geriatric clinical and research training in a continuum of professional development spanning 5–8 years.

### Principle 5

Although our efforts would be concentrated in the department of (internal) medicine, our effectiveness in addressing the health-care needs of the growing number of older Americans would be judged by our ability to involve virtually all departments and their faculty in this effort (to ‘gerontologize’ the AHC) given that nearly all physicians (internists, family physicians, surgeons and surgical subspecialists, psychiatrists, neurologists, physical medicine and rehabilitation physicians) will provide care for the elderly, whose needs will grow dramatically in the coming decades. An institution-wide umbrella organization in a center on aging would be an attractive model for such a broad initiative. Those complex and multiple departmental and divisional relationships are illustrated in Fig. 2.

## University of Washington (1976–1982): Seattle, Washington

Upon my return from the UK I conducted an informal inventory of institutional strengths and challenges. The



**Figure 2** Closely related fields of internal medicine and geriatrics. Reproduced with permission: Hazzard WR. Internal Medicine: at the nexus of the health care system in responding to the demographic imperative of an aging population. *Am J Med* 2001; 110: 507–513.

strengths at the University of Washington to be brought to bear on program development included a strong, research-intensive university; a strong medical school (the only one in the five north-western states); a magnet for medical and scientific expertise (the University of Washington consistently attracts top talent both regionally and nationally and competes favorably for NIH, VA and other research resources); and an early interest in aging (since 1960s) and support from key department heads in medicine, psychiatry and pathology (George Martin).

However, the challenges at the University of Washington were also formidable: no faculty in geriatric medicine, no dedicated space for geriatrics, no dedicated research facilities for geriatrics, no dedicated institutional funds for geriatrics and many well-established competing programs.

In my youth and naïveté I considered this an irresistible opportunity!

My strategy at the University of Washington would include the following: (i) before my sabbatical, to begin planning for a new senior care service at Harborview Medical Center, a teaching hospital with strong community ties and the site of my academic program in the North-west Lipid Research Clinic (I was succeeded as its Director by Robert Knopp, MD, following my sabbatical); (ii) upon my return to Seattle, to initiate the Senior Care program at Harborview as a teaching service to attract students and residents and serve as the clinical site for fellowship training; (iii) establish a division of gerontology and geriatric medicine in the department of medicine; (iv) establish a fellowship training program to develop future faculty; (v) continue our well-established clinical research program in human lipoprotein metabolism as relevant to cardiovascular disease prevention and treatment at the North-west Lipid Research Clinic, focusing on its modulation by sex steroids and the mechanism of the sex differential in longevity; and (vi) attract program support funds from the NIA and other sources (Administration on Aging, National Heart, Lung, and Blood Institute etc.).

The outcome at the University of Washington included hopeful beginnings in all of those domains. Nevertheless, I still felt somewhat too separated from the mainstream of departmental and institutional activities. Therefore in 1982 I moved to Johns Hopkins University in Baltimore, Maryland as vice-Chairman of the Department of Medicine (headed by Victor McKusick) and director of a newly constituted Program on Aging.

## Johns Hopkins Medical Institutions (1982–1986): Baltimore, Maryland

The strengths at Johns Hopkins included a tradition of excellence as a superb, world-renowned medical insti-

tution since the days of William Osler, excellent research programs, excellent clinical facilities, excellent faculty and students, superior research at the Gerontology Research Center of the NIA (located, however, on the East Baltimore Hopkins Bayview campus) and a new institutional and departmental commitment to developing a strong program in aging.

Balanced against these strengths were the following challenges: (i) gerontology faculty and facilities were geographically, functionally and philosophically separated from the Hopkins mainstream at the Bayview campus; (ii) the clinical facilities at Bayview were old, outdated and neglected; (iii) the clinical training in gerontology at Bayview was perceived as second rate and similarly devalued and neglected even on that campus; (iv) there was little interest in aging at the main Hopkins hospital and medical school in spite of the new mandate; and (v) there were many well-established, competing programs, especially at the main Hopkins medical campus.

Therefore the plan at Hopkins included the following: (i) recruit a respected clinical leader as program exemplar: John Burton, MD (now a world-renowned geriatrician, clinician-educator and program leader); (ii) collaborate closely with NIA staff at the Gerontology Research Center (e.g. Reubin Andres, MD, inventor of the glucose and insulin ‘clamp’ techniques); (iii) recruit a research leader: Andrew Goldberg, MD (now a world-renowned gerontological investigator, especially in exercise, metabolism and rehabilitation); (iv) secure NIA research funds: the Teaching Nursing Home Program Project was awarded to study the effort of exercise and weight loss on metabolic, neuropsychological and sleep functions; (v) attract private support for program and faculty development: Robert Wood Johnson Foundation, John A Hartford Foundation, individual donors; (vi) initiate a geriatric fellowship program: recruit fellows and develop faculty through combined clinical and research training, integrated with the fellowship programs of the NIA at the Gerontology Research Center; (vii) develop liaisons with the Department of Psychiatry and the School of Hygiene and Public Health at Johns Hopkins; (viii) begin to raise the profile of geriatrics at the main Hopkins campus, which in turn would involve initiating a small research program there: steroids and human lipoprotein metabolism, initiating a small educational program in geriatrics for Hopkins medical students, beginning a small section of geriatrics in the Division of (General) Internal Medicine, establishing a center on aging as an umbrella organization at Hopkins, and personifying and advocating for geriatrics in my position as Vice-Chairman of Medicine with a special emphasis on residency training.

The outcome at Hopkins? Once again promising beginnings in all endeavors. Nevertheless, I still

wished to try the ultimate experiment, to ‘gerontologize’ an institution from the chair of the department most central to its success: internal medicine. Therefore I accepted an invitation to join the faculty at the Bowman Gray Medical School of Wake Forest University, yet further south, in Winston-Salem, North Carolina, as Chairman of the Department of Internal Medicine.

### **Wake Forest University (Bowman Gray) School of Medicine (1986–1998): Winston-Salem, North Carolina**

As the new chairman of the department of internal medicine, I surveyed the institution for its potential to become a national model for academic geriatrics with internal medicine as its hub.<sup>5,7,8</sup> This vision is also reflected in Fig. 2. My inventory of strengths and opportunities at Wake Forest included the following.

Strengths: (i) well-run private medical school with strong clinical and teaching traditions, newly aspiring to increased academic recognition and diversified funding through research; (ii) strong support for the concept of an aging program from the university, hospital and medical school (especially from its Dean, Richard Janeway); (iii) location in a lovely, affordable, family friendly, medium-sized southern community with strong support from the parent Wake Forest University; (iv) major new institutional initiatives in public health at the medical school; and (v) my position as head of the largest department in the university; this would afford the opportunity to exert the broadest influence in integrating aging throughout the institution.

Challenges: (i) modest academic reputation of the medical school and university; (ii) modest academic reputation of the department of internal medicine within the institution; (iii) modest-sized community; (iv) modest programs in most other academic departments; and (v) two other nationally recognized medical schools were located in the state and would compete for resources (Duke and University of North Carolina), one of which (Duke) already boasted of a long-standing, distinguished center on aging.

The plan at Wake Forest was therefore as follows: (i) establish research and academic excellence as a top new priority for the entire department of internal medicine; (ii) establish a new section on gerontology and geriatric medicine and recruit a strong chief with solid academic credentials (Walter Ettinger, MD, our first geriatrics fellow at Johns Hopkins); (iii) recruit and develop faculty with expertise and research in aging for all of the sections in the department of internal medicine (cardiology, gastroenterology, nephrology, infectious diseases, endocrinology and metabolism, oncology, rheumatology, pulmonary/critical care medicine, general internal medicine); (iv) establish strong

ties with the new department of public health sciences (led by Curt Furberg, MD) for research and fellowship training; (v) initiate a fellowship training program for faculty development and clinical training (jointly with the departments of family medicine and public health science); (vi) begin a modest clinical program in geriatrics to establish validity and visibility and serve as a fellowship and residency training vehicle, which would involve a consultation service, primary care/geriatric evaluation clinic and long-term care (at two nursing homes); (vii) begin medical student and resident geriatric education: a 20 h, required 2nd year course for medical students and a month-long required geriatric rotation for medical residents; (viii) secure extramural funding support (John A Hartford Foundation (Center of Excellence), Fullerton Foundation (for the medical student education program), NIA (fellowship training grant and Claude D Pepper Older Americans Independence Center)); and (ix) develop a center on aging (J Paul Sticht Center on Aging) by initiating programs of the Center with the Hartford grant (1987–1990), beginning planning and fundraising for a building to house clinical and academic programs in aging, and opening the facility to house the center (after 10 years, in 1997): 22 000 m<sup>2</sup> state-of-the-art facility for ambulatory and inpatient care in geriatric medicine, psychiatry and rehabilitation and for research in gerontology and geriatrics.

Outcomes at Wake Forest by 1998 included (i) a section on gerontology and geriatric medicine with strong programs in clinical geriatrics, research and education; (ii) an aging focus in the section of general internal medicine; (iii) identifiable aging-related faculty and programs in all sections of the subspecialties of internal medicine; (iv) strong interdepartmental research programs in the Sticht Center (Marco Pahor, MD, subsequently succeeded Walter Ettinger as director and is the current principal investigator of the Pepper Center with a focus on research in frailty); and (v) succeeded as Chair by another geriatrician (William Applegate, MD, who has since become Dean of the School of Medicine; presently two other geriatricians head US academic departments of internal medicine).

However, after 13 years the lure of the Pacific northwest beckoned once again for its combination of personal and professional attractions. Hence my family and I underwent a transition back to Seattle and the University of Washington in 1999. There I serve as Professor of Medicine and Director of Geriatrics and Extended Care at the VA Puget Sound Health Care System, reporting to my original successor as chief of the Division of Gerontology and Geriatric Medicine at Harborview (Itamar Abrass, MD). Thus our lives have come full circle as we face the prospect of a final phase of personal and professional fulfillment in our green

and mountainous State and a city of great beauty and vitality.

## **Meanwhile, what has happened on the national scene in US geriatrics?**

### *National Institutes of Health*

The NIA has grown dramatically: its budget now exceeds \$1bn; there is a broad agenda in research and training involving Alzheimer's and related neurodegenerative disorders (50% of budget), social and behavioral gerontology, basic biogerontology and clinical gerontology and geriatrics (e.g. Claude D Pepper Older American Independence Centers, osteoporosis, sarcopenia, frailty).

Other NIH institutes are focusing more on aging-related areas: for example, the National Heart, Lung and Blood Institute (NHLBI) is focusing on cardiovascular disease in the elderly; the National Cancer Institute is focusing on cancer in the elderly; the National Institute of Musculoskeletal Disease is studying osteoarthritis; the National Eye Institute is focusing on macular degeneration; the National Institute of Mental Health is studying Alzheimer's disease; and the National Institute of Neurological Diseases is focusing on Parkinson's.

### **Health resources and services administration**

Geriatric Education Centers have been funded since the 1980s and Geriatric Academic Career Awards have been established for clinician-educators since 2002

### **Department of Veterans Affairs**

The Department of Veterans Affairs continues its tradition of leadership in geriatrics. All VA facilities offer an array of services specifically targeted at older veterans (comprehensive assessment, primary care, long-term care across a spectrum of sites and levels of care, palliative care), the GRECC Program has been extended to 20 of its 21 regional districts and the VA supports more than half of all geriatrics fellowship positions, including advanced academic fellowships in aging research and education at selected GRECC sites for future leaders of this field.

### **Medical education and training**

#### *Medical students*

Curricula at all US medical schools have identifiable geriatrics education (although there is still a required rotation in but 10%), with a focus of emphasis by the Association of American Medical Colleges (AAMC) under a Hartford Foundation grant.

### ***Residency training***

Geriatric rotations are required for all residents in internal medicine, family practice, obstetrics–gynecology and psychiatry.

### **Certification of geriatricians**

Geriatrics was established as a domain of added qualification in 1988 by ABIM and the American Board of Family Practice (ABFP). Certifying examinations jointly developed by both boards were conducted biennially from 1988 to 1998. Practising physicians were allowed to take the examination without fellowship training until 1994. Subsequently only candidates who have completed at least 1 year of fellowship training in an accredited program have been eligible to become certified.<sup>9</sup> The examination is currently given annually, and all certified geriatricians are required to re-certify every 10 years.

There are more than 100 1 year geriatric fellowship training programs in internal medicine (85%) and family medicine<sup>10</sup> accredited by the Residency Review Committees of both specialties.<sup>11</sup>

There are also 1 year fellowship programs in geriatric psychiatry that lead to certification by the American Board of Neurology and Psychiatry.

### **Philanthropy**

The John A Hartford Foundation based in New York City has for the past 20 years pursued a single philanthropic focus on geriatrics and care of the elderly and especially on development of future academic leaders in the field (recently expanded to include Nursing and Social Work). It provides mid-career physician faculty fellowships (1980s); centers of excellence (> 20); a medical student program (to enhance recruitment to geriatric careers); internal medicine residency geriatric curriculum enrichment; (v) Program on Integrating Geriatrics into the Subspecialties of Internal Medicine (1994–);<sup>12</sup> (vi) Program on Integrating Geriatrics into the Surgical and Medical Specialties (Dennis Jahnigen/David Solomon/John Burton): Jahnigen Awards (with Atlantic Philanthropies) for promising junior faculty in fields other than internal medicine; (vii) Association of Subspecialty Professors (ASP) Geriatric Development Initiative (T Franklin Williams Jr Awards, with Atlantic Philanthropies) for promising junior faculty in the medical subspecialties; (viii) Society of General Internal Medicine (SGIM) (program of geriatric involvement at annual meetings and preparation of future general internal medicine faculty with special interests in geriatrics); and (ix) Paul Beeson Faculty Scholars in Aging Awards (administered by the American Federation for Aging Research (AFAR), with sup-

port from the Hartford Foundation, Commonwealth Foundation, Starr Foundation, the Alliance for Aging Research and Atlantic Philanthropies, now joined by NIA), for promising future academic physician leaders in aging, including neural scientists, pathologists, basic scientists, general and subspecialty internists and geriatricians.

The Donald W Reynolds Foundation has also developed a focus on geriatrics and funded the establishment of two departments of geriatrics and grants for geriatrics education and clinical educator faculty development.

### **Professional organizations in geriatrics and gerontology**

Several have emerged and two in particular are especially large and strong.

#### ***American Geriatrics Society***

The American Geriatrics Society has more than 6000 members (physicians, nurses, other professionals) and has had progressive growth and strength over the past 20 years. It publishes the Geriatrics Review Syllabus (GRS) and has strong advocacy and public policy programs, strong educational programs and excellent, well-attended annual meetings.

#### ***Gerontological Society of America***

The Gerontological Society of America (GSA) has a strong, multidisciplinary academic base, especially in non-medical aspects of gerontology.

There are also International Longevity Centers (led by Robert Butler, the first NIA director) in the USA, Japan, UK, France and the Dominican Republic.

### **Textbooks and journals**

These have evolved as the field has grown and matured: (i) *Journal of the American Geriatrics Society* – now a leading, widely referenced journal; (ii) *Journals of Gerontology* (sponsored by GSA); (iii) *The Gerontologist* (sponsored by GSA); and (iv) two well-received American geriatric textbooks.<sup>13</sup>

### **Summary of outcomes and status by 2003**

Geriatrics and gerontology have developed a great deal over the past quarter of a century in the USA, but not as fast as the population of older Americans has grown and not nearly to the extent that will be required to meet their health-care and social needs.

Geriatrics is imbedded in medical education at all levels but much more will be required. Aging research is

developing well, especially in Alzheimer's and related neurodegenerative disorders, but much more will be required.

The special needs and health-care requirements of the elderly are still under-appreciated, notably the need for more time devoted to patients for multidisciplinary assessment and care coordination, and their care is under-compensated, especially (ironically) by Medicare. Most geriatricians must therefore support their care of elderly patients by cross-subsidy from the care of their non-Medicare patients, for whom reimbursement is more robust, and many internists and family physicians have had to limit their commitment to the care of Medicare patients in order to survive financially. Thus, paradoxically, the Medicare program of Federal insurance targeted toward the care of elderly Americans specifically jeopardizes that care by inadequately reimbursing health-care services to the elderly by physicians and other health-care providers.

The field has grown and matured yet it still languishes near the bottom of the ladder of professional respect and attractiveness in both the academic and practice communities. This represents a vexing conundrum of low professional status at a time of greatly increasing needs and is underscored by the progressive decline in the number of certified geriatricians between 1996 and 2004. This reflects the modest enrollment in geriatric fellowships (as noted here, fewer than 1% of graduating US medical students pursue geriatric fellowship training each year), and the relatively small proportion (approx. 50%) of geriatricians initially certified (notably before accredited fellowship training was required to become eligible for certification) who are currently being re-certified 10 years later. This reality reinforces the importance of incorporating geriatrics into the education of all US physicians and retaining the focus of a large proportion of trained geriatricians on academic careers wherein their activities as educators, researchers, clinical role models and leaders can be maximally leveraged through the careers of students they train and their discoveries that will continue to advance the field.

The developmental strategy chosen to forego the option of concentrating aging in a department of geriatrics chosen at the University of Washington in 1978 continues to remain the path selected by the vast majority of US medical schools (of note, there are currently such departments at 20 of the 80 medical schools in Japan). However, the number of geriatrics departments in the US has grown from one to five (of 126) in just the past 5 years, accelerated by philanthropic contributions directed toward the creation of such departments. Thus we must continue to pose the question as to whether this may yet become the dominant model in the future in the USA.<sup>7</sup>

## So where do we stand in our progress in 2003?

There is so, so much further to go than we have come. To succeed, we will need all the talent and resources we can acquire! Our progress will not continue without careful attention to our challenges and unending effort by current leaders of the field and especially succeeding generations to meet those challenges.

Nevertheless, given the demographic momentum and growing needs of our ever-aging society, we are ultimately certain to receive the resources and support required and attract the talent to meet this great challenge – but when?

## The bottom line

What a challenge! What an opportunity!

## References

- Hazzard WR. Three views on geriatric medicine: 2. An American's ode to British geriatrics. *Age Ageing* 1979; **8**: 141–143.
- Hazzard WR, Evashwick CJ. Academic gerontology and geriatric medicine. *Gerontol Geriatr Educ* 1982; **2**: 305–312.
- Hazzard WR. An American's ode to British geriatrics revisited. *Age Ageing* 1986; **5**: 307–311.
- Hazzard WR. The Department of Medicine at the Bowman Gray School of Medicine of Wake Forest University: changing priorities in changing times. *NC Med J* 1988; **49**: 425–428.
- Hazzard WR. To build an academic geriatric program of distinction: lessons learned from experience at three US and two British academic health centers. In: Hazzard WR, ed. Proceedings of a Conference: Geriatrics Curriculum Development Conference and Initiative. *Am J Med* 1994; **97** (Suppl. 4A): 6S–7S.
- Hazzard WR. A report card on academic geriatrics in 1991: the struggle for academic respectability. *Ann Intern Med* 1991; **115**: 229–230.
- Hazzard WR. The Department of Internal Medicine: hub of the academic health center response to the aging imperative. *Ann Intern Med* 2000; **133**: 293–296.
- Hazzard WR. Internal medicine: at the nexus of the health care system in responding to the demographic imperative of an aging population. *Am J Med* 2001; **110**: 507–513.
- Hazzard WR. Geriatric fellowship training: a revisionist proposal. *J Am Geriatr Soc* 1992; **40**: 1175–1177.
- Hazzard WR, Currin DL, Woolard N. Revisiting the one-year geriatric fellowship option: a preliminary assessment. *J Am Geriatr Soc* 2000; **48**: 686–690.
- 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* 2003; **51**: 1023–1030.
- Hazzard WR, Woolard N, Regenstreif DI. Integrating geriatrics into the subspecialties of Internal Medicine. *J Am Geriatr Soc* 1997; **45**: 638–640.
- Hazzard WR, Blass JP, Halter JB, Ouslander JG, Tinetti M. *Principles of Geriatric Medicine and Gerontology*, 5th edn. New York: McGraw-Hill, 2003.