



The Busse Legacy

By George L. Maddox, PhD

In a career that spanned over half a century at Duke, Ewald W. Busse, MD, was a pioneer in the development of gerontology and geriatrics and the founding director of the Duke Center for the Study of Aging and Human Development.

His arrival from the University of Colorado Medical Center in 1953 proved to be timely. Duke University Medical Center leadership had an emerging interest in the interdisciplinary research by physicians and in increasing the interaction of physicians with scientists outside the medical center that coincided with Busse's emerging interest in multidisciplinary research on social and behavioral factors associated with mental functioning in later life. Busse proved to be a man with vision.

While developing a department of psychiatry at Duke, Bud Busse, as he was known to friends and colleagues, seized an opportunity provided by the National Institutes of Health to develop research and training programs in human aging. He proved to be an innovative administrator.

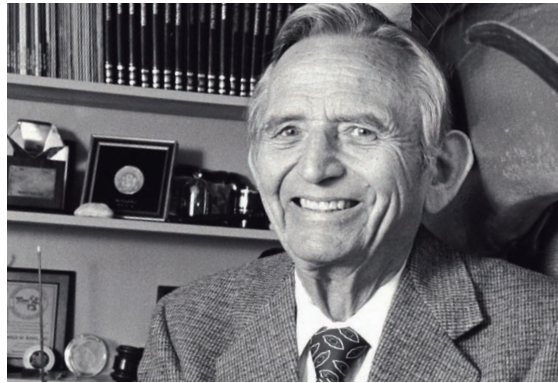
Within his first two years at Duke, he had chartered what he intended to be, and what later became, a multidisciplinary, university-wide Center for the Study of Aging that included scientists from departments in both the Medical Center and Arts and Sciences. He included among his advisors prominent intellectual leaders in both medicine and in behavioral and social sciences. All Center faculty were required to have an appointment in some academic department in the university. Members of the new Center's Advisory Council were appointed by the university president who was to receive an annual report of accomplishments.

While the Aging Center focused initially on research and postdoctoral training, in time Busse's initial objectives for the Aging Center were also expressed in a multidisciplinary undergraduate program in human development and aging. It later became a model for an internship program for "Leadership in an Aging Society" for both undergraduate and graduate students.

In 1957 the U.S. surgeon general Leroy Burney designated the two-year-old Duke Center as one of the first five regional Centers on Aging of the National Institutes of Health. Of these five, the Duke Center, which celebrated its 50th anniversary in 2005, was the only one to reach the milestone.

The capstone of these early developments in gerontology and geriatrics at Duke was the design and building of a wing of the Medical Center to house a team of multidisciplinary investigators

and their research and training programs. The Duke Endowment and the NIH were the primary contributors of a centrally located facility whose computing facilities, laboratories, research space, and offices came to represent Duke's timely commitment to the research and training needs of an aging population. The Aging Center became the visible space on campus where pioneering research and training on aging occurred.



While Busse had every reason to be pleased with the early years of the new Duke Center and the building that was named in his honor on the 30th anniversary of the program in 1980, he worried about its location in the Medical Center. Locating the Center more centrally on the campus, he felt, would have signaled more clearly his intent to emphasize that understanding human aging should be a university-wide multidisciplinary initiative.

Building sustainable all-university research and training programs in a major university was a major accomplishment that illustrated creative administrative leadership. But equally notable are Busse's contributions to the timely development of gerontology and geriatrics nationally and internationally in anticipation of the now clearly recognizable challenges of aging populations:

The Duke Longitudinal Studies of Normal Aging (1955-1980): These pioneering, widely noted multidisciplinary studies of older adults living in the community laid the basis for realistically optimistic expectations of aging well and for anticipating the health and welfare resources required to fulfill these expectations.

Mentoring the next generation of gerontologists and geriatricians: Busse maintained the enthusiastic curiosity of a scholar and investigator over his entire career. Young investigators found him interested in their ideas and careers, but a mentor who encouraged them to chart their own futures. The memorable Monday Night Meetings over several decades brought Aging Center investigators to the gracious home of Bud and Ort Busse to benefit from discussion of their research with colleagues from a wide variety of backgrounds. A conscientious mentor, Busse helped young colleagues to develop the personal and professional connections on which careers are built.

Developing an infrastructure for research: While shared space for scholars and investigators working on related issues



facilitates useful intellectual exchange, Busse anticipated correctly the value of three distinctive resources for his Center for the Study of Aging—a lecture series, a computing facility, and a colony of experimental animals. The Duke Center’s lecture series in the early years brought many leading scholars and investigators to the Duke campus to discuss current and developing knowledge and research. A state-of-the-art computing facility that was on the leading edge of computing on the campus brought the best hardware available and the best available software and statistical consultation to assist Center investigators. The Aging Center’s animal colony was among the first such facilities at Duke and was available to all appropriate investigators. These three resources, housed in the Aging Center, ensured the new Center’s visibility on the campus and attracted colleagues to research on issues of aging.

Personal and professional leadership: Busse’s academic and administrative leadership at Duke was evident in many ways. He was a successful department chair, Center director, and dean of medical education who, at his retirement, was honored by having the Center building named in his honor. But his leadership was far broader than the university. He was the initial president of the North Carolina Institute of Medicine, which created an annual Busse Award to honor individuals who have made outstanding contributions to the health and well-being of older adults. At the national level, he became president of and was honored for excellence by every organization in which he was active—the Gerontological Society of America, the American Geriatric Society, and the American Psychiatric Association. He was honored by election as a fellow of the Institute of Medicine and the National Academy of Sciences. He was president of the International Association of Gerontology and presided over its Congress in New York City in 1985.

Busse died in 2004. A large gathering in Duke Chapel celebrated his life and his founding of the Center for the Study of Aging and Human Development that has made such a difference to the university, the community, and the nation. ■



Designing the Duke Aging Center

By George L. Maddox, PhD

Archival evidence indicates that Ewald “Bud” Busse, MD, brought to Duke the idea of the aging center he was to create when he arrived at Duke Medical Center in 1953 as chair of the Department of Psychiatry. Busse’s two small federally-funded research grants at the University of Colorado in 1951 and 1953 had focused initially on understanding changes over time in central nervous functioning, first in children and then in older adults. He had concluded that his research on older adults benefited from the comparative observations of “normal older adults living in the community” and those with identifiable pathology, as well as from the insights of sociologists and psychologists in interpreting observed socio-economic differences. The theme of “multi-disciplinary longitudinal research of normal aging of older adults living in the community” appears subsequently as the signature research of Busse’s proposed Center for the Study of Aging.

Busse’s interest in developing a multi-disciplinary team for research on aging coincided with the decision to redesign medical education at Duke to promote increased interaction among academic disciplines and departments. The attractiveness of developing a program of research on aging was further enhanced by announced federal interest in exploring the health and welfare implications of population aging. The United States Public Health Service and the emergent National Institutes of Health were sending clear signals of interest in gerontology and geriatrics. Leading academic institutions were also taking note of aging: The University of Chicago and the University of Michigan had recently developed pioneering academic programs focused on the implications of individual and population aging. National organizations of gerontology and geriatrics had emerged and multidisciplinary handbooks on aging were being published.

In this environment, two years after Busse’s arrival at Duke in 1953, a comprehensive center for research and training in the service of older adults had clearly become a defining objective of his career at Duke. Over the next seven years Busse’s astute leadership produced a sustainable aging center. Here is how it was done.

Building a constituency. By 1955 key colleagues and administrators had embraced Busse’s idea of developing a center for the study of aging. President Hollis Edens appointed a multi-disciplinary, all-university Council on Gerontology, chaired by Busse, that included Paul Gross, a vice-president of the university and a distinguished chemist, and major academic figures in 15 academic departments in the medical center and university.

Establishing a signature research program. A distinctive program of research was implemented and funded:

- In 1955 the Longitudinal Studies of Normal Aging began with multi-disciplinary investigators studying comprehensively a panel of participants from the local community augmented by special studies of central nervous system functioning in late adulthood. This signature investigation was to continue for 25 years.
- In 1955 a series of public lectures and proceedings of annual conferences began to share the findings from research on aging with professionals and community members.
- In 1957 the surgeon general of the United States designated

Duke as one of five regional centers on aging; The Duke center was the only one of these five that would survive. In 1957 the National Institutes of Health began support of the longitudinal studies which continued through 1980.

- In 1959 Paul Gross and Busse received support from the Ford Foundation to study the socio-economic aspects of aging and named John McKinney, chair of the Department of Sociology, as the grant administrator. This research focused on issues of work and retirement, family relationships, and the economic challenges of aging populations.



Ewald W. Busse, MD, (right) with an Aging Center research subject in the 1950s. Busse was the founding director of Duke’s Center for the Study of Aging.

The Center for Aging gets a home of its own. In 1960 funds primarily from the Duke Endowment and the National Institutes of Health financed a new wing of the medical center to house the aging center’s personnel and programs. In 1980 this facility was named in honor of Busse.

During these seven remarkable initial years, Busse, and the young academics he attracted to the Center for Aging, were determined to build visible multi-disciplinary, university-wide programs attractive to colleagues in the university and to citizens in the community. Their organizational strategy included:

Developing broad-based leadership. Leadership development was a continuing goal of center development. Top leadership in the university and medical center endorsed the



new aging center, and colleagues throughout the university were informed regularly about center programs and opportunities to participate in them.

Timely seminars and conferences. Seminars and semi-annual conferences on various aspects of aging brought to the Duke campus and community the most visible and distinguished gerontologists and geriatricians of the day. The published proceedings beginning in 1959 include gerontological notables such as:

- James Birren, who was just beginning his pioneering handbooks on the biology, psychology, and sociology of aging;
- Robert Havighurst, Bernice Neugarten, and Ethel Shanas from the University of Chicago, who had recently begun a study of older adults in Kansas City and abroad;
- Nathan Shock, a pioneer in the study of the physiology of aging, who presented his longitudinal research on age-related decline in functioning—it anticipated the research unit that would, a decade later, become part of the National Institute on Aging in NIH.

Public conferences, involving both Duke faculty and colleagues from other institutions, on the health and welfare of older adults were regularly scheduled and the proceedings were published.

Focus on the community. The pioneering Longitudinal Studies of Normal Aging, which focused on a cross section of hundreds of older adults living in the Triangle Area of North Carolina, were widely publicized locally as well as nationally and perceived as a public service. Focus on the community residents, most of whom were aging well, countered the common image of older adults as primarily poor, ill, alone, and likely to be institutionalized. Center publications and programs illustrated a commitment to translate research in aging into serving older adults.

Providing essential tools for research. Center leadership anticipated two important needs of scientific investigators in the 1950s: computing facilities and experimental animals essential for biomedical research in that era. The Center for the Study of Aging pioneered on the Duke campus the development of computing hardware and software to assist in data analysis; it was a contributor to the development of the Triangle Universities Computing Center. Secondly, a dedicated animal research colony, one of the first on the campus, assisted center investigators and increased the visibility of aging research on the campus.

With a dedicated building and organizational infrastructure established, research in an increasingly visible aging center flourished. How the center translated gerontological and geriatric research into education, training, and service will follow in this series of brief reports on the history of the Duke Center for the Study of Aging. ■



Research on Normal Aging

By George L. Maddox, PhD

Archival evidence indicates that as early as 1953, Bud Busse, the founding director of the Aging Center at Duke, had in mind the design of a pioneering multidisciplinary research on aging that he wanted to begin when he arrived from the University of Colorado Medical School. In 1951 he had begun research supported by the Public Health Service that explored normal and pathological changes in brain wave (EEG) patterns in children and adults. Noting that observed differences in brain waves were associated with socioeconomic background, he invited the observations of social and behavioral scientists to interpret findings. In 1953, just as he was moving to Duke University Medical Center as chair of the Department of Psychiatry, he submitted a proposal for multidisciplinary longitudinal research on EEG patterns of older adults living in the community that became the prototype of the Duke studies of normal aging that began in 1955.

Publications describing research design and initial findings from the new longitudinal study began to appear in the late 1950s, and the first of three volumes of collected publications with the title *Normal Aging* under the editorship of Erdman Palmore appeared in 1970. In the introduction to this initial volume, Busse describes in detail his plan for a multidisciplinary longitudinal study of aging. He outlined “a physiological, psychological, and sociological study of aging” and anticipated accurately the challenges of assembling, administering, and maintaining an interdisciplinary team of investigators and of recruiting and maintaining a reasonably representative sample of community dwelling subjects 60 years of age and older. Asking subjects to give two days each year and eight hours of testing would test their interest and loyalty. While the “snowball technique of purposive sampling” to be used had limitations, he felt that with frequent checks for indications of bias, maintaining the loyalty of a clearly described sample was the best available option. Although the only rewards of being a member of the Duke study were free medical examinations and public recognition of participation in a study that generated a lot of favorable publication at the time, retention of the original diverse panelists was favorable. In fact, interest in the Duke study of aging remained high. Participants talked with pride about being participants.

The first of the three edited volumes of *Normal Aging* (1970) includes reports by 31 authors, whose studies of this panel of older adults living in Durham, North Carolina, had been published between 1955 and 1970 in 31 journals or books. The topics of these articles are predictably multidisciplinary—EEG patterns and patterns of health and illness in later life, reaction time, intelligence, perception and effect, as well as family characteristics, perceived health, activities and satisfaction, and views of aging and death. “Two Thousand Years of Married Life,” a chapter that documents the then surprising information of sexual activity in later life, received considerable local and national attention. Similar articles appear five additional times in later volumes of *Normal Aging*. Research on issues of interest in geriatric medicine, e.g., innovative clinical studies of relationships among cerebral blood flow, cardiovascular functioning, and intelligence, that could not be easily incorporated into the panel study were designated as “ancillary studies.”

In the second edited volume of *Normal Aging* (1974), 27 authors with multidisciplinary research interests were published. Given Busse’s interest in encouraging career in research on aging, it is not surprising to find younger scholars and post-





aging well



doctoral students among the authors. And the topics in this volume expectedly focus on age-related changes in health status reflecting changes in the immune system, skin, vision, and hearing. Reports on health practices in relation to obesity and cardiac function anticipated current interests in the effects of lifestyle on health and illness. Social roles reportedly continued to be adequate on average, and self-concepts tended to be positive in later life.

With 15 to 20 years of information about panel participants available, “predictors of longevity” appear in the titles of chapters as do predictors of “aging well.” Overall, aging well is best understood as not simply as absence of illness, but as maintenance of physical and intellectual capacities that interact favorably with opportunities for growth and development. A favorable interaction is described as the cumulative results of differential opportunities for health maintenance, adequate income, and the availability of a social support system when needed. The chances of aging well and living out one’s life in the community appear to be realistically optimistic.

An end note in the second volume of *Normal Aging* reports a second longitudinal study designed to improve the accuracy of forecasting the future of aging in the community. The Duke Adaptation Study followed the design of longitudinal research on aging recommended by Warner Schaie in 1965. In order to

differentiate aging effects from the effects of exposure to different historical circumstances, successive five-year cohorts of adults were followed longitudinally, and the socioeconomic context of their aging specified. The Duke Adaptation Study used this strategy to study a new sample of 502 men and women age 45 to 64 selected from the rolls of a large local health care organization in 1968 and retested them in 1972. Many of the questions and procedures used were comparable to those in the first longitudinal study, although some of the old examinations were dropped to make room for some new tests.

The third volume of *Normal Aging* (1985) was published in the 25th and final year of the Duke longitudinal studies of relatively healthy, typical older individuals aging in Durham. The 38 authors include a familiar cast of senior investigators but, as in volume II, the number of students and new junior faculty are more numerous and the names of individuals who were emerging as the new leaders of the Duke Center appear: Dan Blazer, Linda George, and Ilene Siegler. New topics include stress, coping, and successful aging, along with old standards such as EEG changes with age, predictors of longevity, locus of control, life satisfaction and life events, and risk of institutionalization.

On the 25th anniversary of the Duke Center, the publication in 1980 of *The Longitudinal Studies of Normal Aging, 1955–1980*, edited by Busse and Maddox and assisted by 12 colleagues in the Aging Center, marked the end of a distinctive era in the life of the Center. This edited volume provides a brief overview of the design and implementation of these two pioneering studies whose findings laid the basis for a realistically optimistic view of aging. Older adults are and remain extraordinarily varied. How they develop in adulthood and later life reflects the availability of health care, education, income, and available social support. Later life does produce some tough challenges. But for most older adults, evidence from the Duke Longitudinal Studies indicates that healthy lifestyles, the availability of social support from family and friends, adequate economic resources, and health care in later life make aging well both possible and probable. ■



Postdoctoral Research Training

By George L. Maddox, PhD

In 1955 Bud Busse, founding director of the Duke Aging Center, envisioned an all-university, multidisciplinary program of research, training, and service intended to serve an aging population. The first component of the Duke program was a multidisciplinary longitudinal study of aging in the community begun in 1957. The National Institutes of Health (NIH) recognized this initiative by naming Duke as one of five major universities to receive center grants to develop programs of research and research training to serve a rapidly growing older population.

With the Longitudinal Studies of Normal Aging under way and a team of multidisciplinary research investigators in place, in 1966 the Duke Center proposed to the NIH a research training program (RTP), “Behavior and Physiology in Aging,” to be directed by Carl Eisdorfer. The center’s established multidisciplinary research investigators in biomedicine and behavioral and social sciences were obviously important resources for a training program. The timing was right and NIH (initially funded by NICHD and transferred to the National Institute of Aging when it was created in 1974) awarded its first multidisciplinary research training program in aging. That program thrived and is now in its 42nd year.

An explanation of the continuing support of NIH for the Duke Postdoctoral RTP is succinctly summarized in the report of a multidisciplinary 22-person site visit in 1989. This mature RTP, the report concluded:

- is “well-designed...with a good track record of turning out investigators in aging...in an unusually rich environment for developing interest in aging and scientific skills;”
- has provided 38 well-published multidisciplinary mentors with active research funding and career interests in human aging who provide an unusually rich intellectual environment for individualized training in research;
- has complemented individualized training with regular exposure to core topics in research such as the multidisciplinary aspects of aging, research design and data analysis, ethical issues, and professional development; and
- has trained over the previous decade 89 postdoctoral fellows, 69 percent of whom have made a significant continuing commitment to aging research, usually in a college or university setting, and another 19 percent who have continued some involvement in aging research.

The Duke RTP, in sum, has been a “very successful program with a visible history of impressive cross-disciplinary research by productive fellows mentored by a strong faculty, a multidisciplinary environment, and ample resources.”

The site visit review clearly affirmed the continuing strength of the

original design of the Duke center for integrating multidisciplinary research and research training. The center’s RTP in aging benefited from interaction with other postdoctoral training programs in the university: Everett Ellinwood’s Neurosciences Program in Psychiatry; Ilene Sigler’s Adult Development Program in the Aging Center (both supported by NIMH); George Myers and Ken Land’s Demography Program in Sociology (NIA); and Harvey Cohen’s Geriatric Medicine Program (VA).

The only recommendations made by site visitors for strengthening the program were that even more emphasis should be placed on the established commitments to multidisciplinary training, behavioral and social research, and the recruitment of minority investigators.

The RTP has benefited from strong and creative leadership. Following the training program’s founding director Carl Eisdorfer, MD, PhD, now professor and chair of the Department of Psychiatry and Behavioral Sciences, Miami University School of Medicine, subsequent distinguished program leadership included Pete Elias, PhD, professor of psychology, University of Maine; Ilene Siegler, PhD, professor of medical psychology, Duke Department of Psychiatry; Harvey Cohen, MD, now Kempner Professor and chair, Duke Department of Medicine, and director, Duke Center for Aging; Erdman Palmore, PhD, professor emeritus of medical sociology, Duke Department of Psychiatry and Behavioral Science; Gail Marsh, PhD, professor emeritus of psychology, Duke Department of Psychiatry and Behavioral Science. Deborah Gold, PhD, associate professor of social psychology, Duke Department of Psychiatry and Behavioral Sciences, currently coordinates the program.

While the directors, preceptors, and over 200 fellows who have participated in the Duke RTP are recognized research investigators and scholars in gerontology and geriatrics, many have also been recognized for outstanding organizational leadership in the Gerontological Society of America, the American Geriatric Society, the Institute of Medicine, and in the National Advisory Council of NIA/NIH. They have also been recognized by their peers as Distinguished Mentors, for Distinguished Lifetime Contributions to Research and Teaching, and for membership on the NIA National Advisory Council.

Now in its fifth decade of continuous support by NIH, the Duke Center’s RTP continues the hallmark strengths of a successful postdoctoral research training program in aging: a multidisciplinary team of recognized scholars and investigators in aging, and a multidisciplinary learning environment that provides preceptors who are experienced mentors in career development. The historic Duke Research Training Program continues to be a major national resource for assuring essential scholarship and research in gerontology and geriatrics. ■



The OARS Legacy

By George L. Maddox, PhD

OARS, the Older Americans Resources and Services program, has earned a distinctive place in the Center's legacy with 35 years of research, education, and service that promote access to quality community-based long-term care for older adults. OARS was created within the Center for Aging and Human Development in 1972 in response to congressional concern about nursing home care of "questionable quality at high cost" soon after the passage of Medicare and Medicaid. The Duke Center was asked to explore community alternatives to institutional long-term care, and OARS was our response.

OARS anticipated important changes in the medical management of health and illness in later life. Its team of professionals was multidisciplinary and its focus on preventive and rehabilitative care that increases the capacity of older adults to function at home. The multidisciplinary Geriatric Evaluation and Treatment Clinic (GETC) was created to provide, when needed, comprehensive evaluation of older adults to guide them through the maze of specialty clinics characteristic of modern medicine. The perspectives of nursing, social work, physical therapy, and medicine combined to provide useful clinical and in-home evaluations and promote preventive care that would support aging at home.

The visibility and reputation of OARS was enhanced by its multidisciplinary procedure for assessing functioning in later life that was widely used in research on older populations. In both community and institutional settings, SOS (Services Outcome Screen), a short form of the Duke OARS functional evaluation, was widely used by social services agencies in North Carolina to assess the functional status of clients prior to the assignment of appropriate community services. OARS research indicated that perhaps 10 percent of older adults in institutional long-term care settings had functional capacity sufficient to return to the community. Also, a joint study with the U.S. General Accounting Office found that older adults in suburbs had poorer access to needed services than those in cities because services for older adults were centrally located for the convenience of professional caregivers.

In 1985 the support of foundations made possible the creation of the Long-Term Care Resources Program to promote care in the community, as well as the Leadership in an Aging Society program to enhance the next generation of leaders in community-based care for older adults. In the late 1980s, when federal policy and funding began to emphasize greater responsibility of states and communities to provide community-based alternatives to institutional care, the OARS emphasis on enhancing community-based care services became especially relevant.

In the 1990s the Kate B. Reynolds Charitable Trust

facilitated the development of the new Long-Term Care Resources Program at Duke with a grant to study whether the eight programs that the trust had supported to promote access to affordable, quality care were effective and, if so, why. The studies indicated that the programs had in fact made a difference in promoting community-based care. But equally important, the role of local leadership in promoting community-effective partnerships among providers was notable. The trust made a five-year, \$1-million commitment to the Long-Term Care Resources



George Maddox, PhD, Director, Long-Term Care Resources Program

Program to create what became the Aging at Home program. (ltc.duke.edu/occasional_8.htm)

Aging at Home was a successful three-pronged effort to improve the availability of appropriate care services in the long term. Aging at Home One stressed going to North Carolina communities as a marketplace of ideas about how local leaders perceived their problems and opportunities for providing community-based care. The response of communities was enthusiastic: 86 communities expressed interest, 36 were invited to submit proposals, and 11 communities were awarded support by a panel of experts. Ideas for responding to the needs for community caregiving were varied and innovative. Communities were eager to monitor and document how older adults were helped to age at home. While timely help from Duke was valued, the participating communities valued even more the benefit of sharing with each other the problems they encountered and the solutions that worked for them.

The success of the initial Aging at Home programs in improving community-based care suggested a new challenge. Community Alternatives Programs (CAP) that provide useful home care were missing in 12 of North Carolina's counties. Since counties were required to participate in the funding of CAP, boards of commissioners had to be persuaded. The success of Aging at Home One helped persuade commissioners in these rural, low-income counties to join the majority. Aging at Home Two was created and the state legislature and aging services leadership were pleased with the results.

Aging at Home Three continued to focus on counties where service managers demonstrated how additional resources could be used effectively to reduce unmet need for in-home care. Eighteen counties were supported by this initiative.

Monitoring of the three Aging at Home programs documented 6,742 referrals and 1,572 new clients for community-based services. Waiting times for services were reduced in all 41 of the counties served. The program's



philosophy of “Teaching and Learning” became widely recognized as a way to energize and empower home-care service providers. Three geographically strategic communities were designated as Teaching Communities to continue the tradition of Aging at Home and to serve as training sites for surrounding communities interested in community-based care.

The OARS legacy received national recognition in 2000 when the Robert Wood Johnson Foundation read the story of Aging at Home on the Aging Center Web site. The foundation found the idea interesting and chose it as a model for its national Community Partnerships for Older Adults program, an eight-year initiative that currently supports development of innovative long-term care services for older adults in 16 cities nationwide. Beverly Patnaik and George Maddox continue the OARS legacy by providing technical assistance to this program. The legacy is evident in an emphasis on how teaching and learning both informs and empowers community leadership. Timely technical assistance, particularly if one’s colleagues are involved, is important. Finally, documenting that a community program can make aging at home possible makes a significant difference in home care.

After 35 years, the legacy of OARS at Duke is alive and well. ■

This is the first in a series we will publish to inform our readers about the long and distinguished history of the Center.



The Duke Family Support Program: An Acclaimed Resource for AD Caregivers

By George L. Maddox, PhD

Translating research into practice, and professional advice into patient and caregiver behavior, are major challenges of contemporary health care.

The Duke Center for the Study of Aging and Human Development was designed to be an all-university, multidisciplinary center for conducting research that would be translated into training, education, and service for an aging population. In 1972 the Older Americans Resources and Services (OARS) Program and its Geriatric Evaluation and Treatment (GET) Clinic began to demonstrate how multidisciplinary patient evaluation and team care in the community could effectively serve older adult patients in an era of increasingly specialized medical and hospital care. Finding new ways to facilitate aging at home became a challenge.

The start of a statewide network

In 1978 the Duke Center illustrated its interest in community-based care with the initiation of a Family Support Program, created to assist families caring

at home for members with Alzheimer's disease (AD). At that time, the diagnosis and prognosis of AD were uncertain and insurance coverage problematic. With the prevention or cure of AD not possible, the Family Support Program was literally a bootstrap operation under the leadership of Lisa Gwyther, MSW, who joined the Center hoping to pursue a career in gerontology. What could be done "in the meantime" while people with AD and their families waited for prevention or cure?

Then Center director, I announced a meeting at Duke for families managing a person with AD at home. Fifteen people attended that first meeting—mostly from families served by the GET Clinic or participating in the research of Albert Heyman, MD, a noted Duke AD specialist. The response of the initial participants was both enthusiastic and grateful; they wanted to continue meeting and to encourage others to attend.



Lisa Gwyther, MSW

Attendance did increase steadily, and families came from great distances to participate. Responding to community interest around the state, Gwyther and I developed a popular presentation to discuss the characteristic challenges of helping a family member with AD at home and the value of community-based social support groups.

Gwyther proved to be an energetic, skillful community organizer. By 1982, Duke-initiated Family Support Programs were operating in 23 communities across North Carolina—from Manteo on the Atlantic coast to Murphy in the far west mountains. With Gwyther's stamina and initial support from North Carolina foundations such as Babcock and Reynolds, the Duke Hospital Auxiliary, and the emerging Alzheimer's Association, the new Aging Center program flourished and achieved state, regional, and national attention.

Requests for information about the Family Support Program have been numerous and continuing. Its publication, *The Caregiver*, which began in 1980 to report useful news about AD management and new scientific developments, currently has more than 10,000 subscribers in all 50 states and nine foreign countries.

A wealth of valuable resources

And the following publications, which describe the development of effective, sustainable family support groups for AD patients and special issues related to their



care, continue to be in demand and are available from the Duke Aging Center:

- *Steps to Success*—Identifies the key decisions AD caregivers must make in providing care at home (Lisa Gwyther, Edna Ballard, and Juliessa Pavon)
- *Mobilizing Networks of Mutual Support*—Illustrates how the North Carolina network of AD Support Groups was created, maintained, and expanded (Lisa Gwyther and Beverly Brooks)
- *You Are One of Us*—Written for church members and clergy to illustrate how they can make successful connections with AD families, this best-seller is now in its 30th printing and is also available from the NIA Alzheimer's Information Center (Lisa Gwyther)
- *Pressure Points*—Addresses the management of anger in AD family relationships (Edna Ballard, Lisa Gwyther, and Patrick Toal)

The Duke Family Support Program's contributions to the understanding of why social support networks promote well-being in late adulthood have been well-established by gerontological research. The social bonding among people in networks—whose members perceive a shared fate and affirm mutual responsibilities for one another in solving problems of living—are the recognized basis of effective support groups that have been widely used to manage a broad range of health problems. Kinship groups are, in fact, the prototypic mutual support networks that provide timely and appropriate informa-

tion, practical services, and emotional support.

Social support groups demonstrably can be effective. The challenge is to create sustainable kinship-like groups that provide timely, useful information, practical help, support in mastering problems of everyday living, models of emotional mastery in responding to traumatic circumstances, and models of successful coping. The Duke Family Support Program has demonstrated and documented effective ways to help families care for members at home.

The Duke Program translated this good idea into community-based support networks with notable success, anticipating by two decades the national recognition that support of family caregivers is an important resource for health care in later life. The U.S. Administration on Aging established the National Caregiver Support Program in 2000.

Gwyther's leadership has ensured the recognition of the Aging Center's Family Support Program as a major contribution to caregiving. Nationally, she was one of 30 founding members of the Alzheimer's Association. In 1998, she was recognized in the 20th-anniversary issue of *Contemporary Long-Term Care* as one of the 20 people who had made the greatest contributions in improving the long-term care of older adults in the previous two decades.

At the Duke Medical Center, as Director of Education at the Bryan Alzheimer's Disease Research Center since 1985, she founded and continues to direct

the now prestigious annual conference that reviews for both professional and lay audiences current developments in research and practice of caring for older adults with AD. In 1983 she was the first recipient of a Heinz Congressional Fellowship in Aging and Health that enabled her to work on the health staff in the office of Senate Majority Leader George Mitchell. In 2007 she was elected President of the Gerontological Society of America in recognition of a distinguished career melding scholarship and service that translated into service the sound research idea of social support for families caring for older adults with dementia at home.

The Duke Family Support Program has earned its national reputation for translating research into services for older adults with AD and for the families that care about and for them.

For more information, call 919-660-7510 or visit www.DukeFamilySupport.org. ■

The Duke Family Support Program
Telephone Hotline
919-660-7510 (Local) and
800-646-2028 (Toll-free)



Education: For a Lifetime and for Leadership

By George L. Maddox, PhD

The vision of an all-university, multidisciplinary center for the study of aging and human development at Duke initially focused on research, training, and their translation into service for older adults in an aging society. All senior fellows of the center had an appointment in an academic department, but the center itself offered neither academic courses nor degrees. However, in the 1970s the center broadened its agenda by initiating two educational programs that have contributed significantly to the intellectual life of the university and to educational opportunities of its undergraduate and graduate students, alumni, and citizens of the Triangle.

The Duke Aging Center collaborated with the University Continuing Education Program to create the nationally recognized Duke Institute for Learning in Retirement (formerly DILR, now the OSHER Foundation Lifelong Learning Institute), and created a multidisciplinary Undergraduate Program in Human Development in Duke's Trinity College and a related Leadership in an Aging Society Program that have provided learning opportunities and mentored internships in gerontology for Duke undergraduate, graduate, and professional students and older adults in the community.

Lifelong Learning

The idea of a lifelong learning program at Duke sprang from a collegial conversation early in the 1970s between Jean O'Barr, director of Continuing Education at Duke, and George Maddox, director of the Aging Center. O'Barr noted the growing number of educated women in their 50s with children no longer at home who were seeking new roles for themselves. Some of these women wanted careers; all wanted to remain intellectually engaged. Maddox noted similar interest in remaining intellectually engaged among both older men and women in the Triangle area, which was increasingly a destination for educated retirees. The capacity for learning in later life had been clearly established by research in the Center for Aging. Interest of local older adults in a program of lifetime learning was confirmed by their favorable response to

several courses designed by Continuing Education and financed by the Aging Center.

Maddox visited Duke president Terry Sanford to request his endorsement of a self-supporting lifelong learning program in Continuing Education for older adults. Sanford initially hesitated, asking "Is this the sort of thing Duke should be doing?" before affirming that lifelong learning is in fact a notable objective of both Duke University and its alumni. Sanford himself became interested in aging well, and during his term as a U.S. senator, wrote a book titled *Outlive Your Enemies: Grow Old Gracefully*.

A proposal for initial financing of a campus-based program emphasizing peer teaching and learning and flexible scheduling to fit adult lifestyles was submitted to the Edna McConnell Clark Foundation of New York in 1977 and was awarded \$96,000 to support the program's first three years. Founding members participated in designing a variety of interesting courses and activities that could be fully financed with reasonable fees. Forty-two members joined in 1977, 225 members in 1987, and on the 30th anniversary of the program in 1997, over 1,200 members were active.

Periodic formal reports document the extraordinary leadership and a diverse program of courses and activities that assured DILR's rise to national prominence in adult education. This achievement was recognized in 2004 by an Osher Foundation endowment of \$2 million, a \$250,000 operating fund, and the designation of DILR as an Osher Lifelong Learning Institute (OLLI). The citation accompanying these awards attribute the success of the Duke program to "a sophistication of governance structure and range of courses and special activities that are the finest anywhere in the United States." (Visit [learn more.duke.edu/olli](http://learn.more.duke.edu/olli))

The institute is housed on the campus of Duke University and has access to the Duke libraries, undergraduate and graduate courses, and participation in research studies of the Aging Center. Its members remain deeply involved in the community through participation in the public school and social service programs of the Duke-Durham Partnership.



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Learning to Lead

An incentive grant from Commonwealth Foundation to Duke University to promote intellectual integration of its medical school and Arts and Sciences campuses provided an educational opportunity for the Aging Center to promote interest in careers in gerontology. Wanting a distinctive multidisciplinary initiative that would involve faculty and topics likely to draw on the strengths of both campuses, Professor Ernie Friedl, then dean of Trinity College, recognized the pioneering multidisciplinary, all-university commitments of the Aging Center and requested a proposal.

Maddox asked Robert Thompson, a medical psychologist who also had a joint appointment in the medical center and in Trinity College, to collaborate in designing an interdisciplinary concentration in human development for Duke undergraduates. The popular Human Development Concentration they implemented became a prototype for other undergraduate multidisciplinary concentrations in Trinity College, and has for more than two decades enhanced multidisciplinary educational opportunities at Duke. The capstone senior seminar of the Human Development Concentration currently taught by Deborah Gold, who also directs the Aging Center’s Post-Doctoral Research Training Program, has been particularly innovative. Each senior writes a prototypic NIH-style research proposal on a topic in human development, and the seminar participants also select a topic for a paper on which all collaborate. Now in its third decade, the Human Development Concentration continues to be supported by Trinity College.

In 1985 the center’s new initiative in gerontological education also attracted the attention of Raymond Handlan, the executive director of what was to become Atlantic Philanthropies. Handlan approached Maddox with an invitation to develop a program to increase interest of students in careers in gerontology and geriatrics. The outcome was the generously supported Leadership in an Aging Society Program, which provided mentored summer internships exposing students to possible careers in research, policy, and practice to serve an aging society. This new initiative coincided with the interest of the Kate B. Reynolds Foundation in encouraging community initiatives assisting older adults to age at home and the growing interest of the university in its Duke-Durham Partnership that included encouraging experiential learning of students through involvement in the community.

The scope of the Leadership in an Aging Society Program broadened significantly as interest in mentored internships grew among students, community agencies, and foundations. Initially, only Duke undergraduates interested in professional careers in aging were eligible. In time, with the support of the Glaxo Wellcome Foundation and endowments from the Gabel and Fox families, support for interns was broadened to include undergraduates in other colleges and universities in North Carolina and eventually graduate and professional students. Through 2006, more than 300 students and interns participated in the Leadership in an Aging Society Program. Research on the actual careers chosen by program participants after graduation indicates that the great majority in fact have, as intended, pursued relevant careers in aging.



The Leadership Program broadened its vision further when it added internship opportunities for senior fellows, those 60 and older. The proposer of this innovation, Ann Johnson, a distinguished professional and advocate for older adults in North Carolina who was a member of the program’s advisory board, described the older interns as “individuals who want to be actively involved in making and implementing the policies and programs for an aging society.” The fellows in fact had an extraordinary opportunity to do just that. They devised and implemented service initiatives in their communities. They interned in the state legislature. And, in the early years of the North Carolina Senior Tarheel Legislature, the Duke senior fellows were regularly elected to top leadership positions.

When the University of North Carolina at Chapel Hill expressed interest in the Senior Fellows Program for the long term, the program was transferred there along with three years of support from Duke. It continues to thrive in its new home. ■



Gerontological Nursing at Duke: Four Decades of Excellence

By Eleanor McConnell, RN, PhD, and George L. Maddox, PhD

Virginia Stone, RN, PhD, FAAN, laid the groundwork for the Duke School of Nursing's nationally acclaimed gerontological nursing program more than 40 years ago. She might have never dreamed of the far-reaching impact of her efforts.

A pioneering mentor

Stone joined the Duke faculty in 1966, promoting gerontological nursing as director of graduate studies in the School of Nursing and as a senior fellow in the Duke Center for the Study of Aging and Human Development. In 1968, she established the country's first graduate program to prepare gerontological nurse specialists. Four decades later, Duke's top-ten ranked gerontological nursing program continues to prepare advanced-practice nurses specializing in geriatrics. Stone was on the executive committee of the American Nurses Association Division on Geriatric Nursing Practice, which published the first set of Standards for Geriatric Nursing Practice in 1970.

Stone's scholarly work focused on applying the newly emerging science based in gerontology and geriatrics to improve patient care. Her now-classic paper, "Give the Older Person Time," (AJN 10, 1969) made key findings from the Duke Longitudinal Studies of Normal Aging more accessible to practicing nurses. She also wrote a seminal paper that traces nursing care of the aged from the 1900s. The paper emphasized the role of science in the development of the gerontological nursing specialty and the field's progression from an initial focus on custodial care to today's practice, which is based on scientific knowledge of the aging process and its effects on health and illness.

Honored throughout her career as a teacher, Stone ensured that her students engaged with interdisciplinary colleagues at the Duke Aging Center and participated in groundbreaking demonstration projects such as the establishment of the Older Americans Resources and Services (OARS) Clinic. She showcased ongoing scientific work from the Duke longitudinal studies by integrating guest lectures from senior investigators in nursing school courses. Her master's-level students studied the prevention of common geriatric syndromes such as pressure sores and electrolyte disturbance as a predisposing factor in delirium.



Virginia Stone, RN, PhD, FAAN

Students make critical contributions to elder care

Many of these students went on to make critical contributions to improvements in care of the elderly. One notable graduate from that era, Sister Marilyn Schwab, MSN, headed the Oregon Health Sciences University Teaching Nursing Home project at the Benedictine Center in Mt. Angel, Oregon, which pioneered innovative, evidence-based approaches to nursing in the long-term-care setting.



Carol Clarke Hogue, RN, PhD, FAAN

In 1987, two of Stone's students, Mary Ann Matteson, PhD, and Eleanor McConnell, PhD—later Duke faculty and senior fellows at the Aging Center—became founding editors of the textbook *Matteson & McConnell's Gerontological Nursing: Concepts and Practice*, now in its third edition.

Stone's pioneering work in gerontological nursing also inspired two other nurse

scientists who have made seminal contributions to the work of the Aging Center.

Carol Clarke Hogue, RN, PhD, FAAN, held joint faculty appointments in the Schools of Nursing and Medicine, and also served as a senior fellow in the Aging Center from 1973–1986. Hogue was one of the first nurse investigators associated with the Duke Longitudinal Studies of Aging. Her early research on factors related to social support and health in middle-aged adults led to work on injury and injury control, resulting in several important articles on the epidemiology of late-life injuries, including a highly influential paper on the epidemiology of injury in old age presented in 1980 at the 2nd NIH conference on the Epidemiology of Aging.

After moving to the University of North Carolina at Chapel Hill, Hogue helped develop gerontological nursing science through her work as associate dean for graduate studies from 1992–2000 and as associate director for research at the UNC Institute on Aging from 1997 until her retirement in 2002. In retirement, she has continued to serve Duke through her service on the external advisory board of Duke University School of Nursing's NIH-funded Exploratory Nursing Research Center on Trajectories of Aging and



Care (TRAC Center). The Duke/Carolina Visiting Professorship in Geriatric Nursing was established in 2004 to honor her contributions to both universities.

Elizabeth “Jody” Clipp, PhD, RN, FAAN, served as Duke University’s first Bessie Baker Distinguished Professor of Nursing until her untimely death in August 2007. She came to Duke in 1984 as a post-doctoral fellow in the Aging Center with associate center director Linda George, PhD, and rose rapidly through the faculty ranks as a member of the Department of Medicine. Clipp joined the School of Nursing faculty in 2001, also serving as associate director for research at the Durham Veterans Affairs Medical Center’s Geriatric Research, Education and Clinical Center.

Clipp led several innovative longitudinal studies, first studying health trajectories across the life course among veterans, and later examining trajectories of informal caregivers of individuals with dementia. Her work had significant impact on revisions of Veterans Administration policies on health care of the chronically ill. Her contributions to aging research also included highly regarded collaborative work on the development of health-promotion interventions for older adults with cancer, quality of life in individuals with terminal illness, and end-of-life care. Clipp published more than 100 research articles in refereed journals, as well as numerous book chapters and scientific reviews.

Clipp was valued for her talents in developing research potential in both individuals and institutions. She served as a mentor for scores of scientists in gerontology, nursing, medicine, public health, pharmacy, psychology, and sociology. In addition, she established two nationally recognized research centers at Duke: the Geriatric Interdisciplinary Research Center (funded by the John A. Hartford Foundation) and the NIH-supported TRAC Center. The scientific productivity of these centers laid a strong foundation for the establishment of Duke’s PhD Program in Nursing. This program—which emphasizes intensive mentored research in the interface between persons with chronic illness and their care environments, and provides rigorous training in longitudinal methodology and



Elizabeth “Jody” Clipp, PhD, RN, FAAN

analysis—will prepare a new generation of nurse-scientists to continue the Duke heritage of excellence and leadership in research and academics that Clipp exemplified.

Since 2001, Duke’s number of gerontological nursing faculty, as well as the impact made by their scientific work, has grown exponentially. Approximately one-third of School of Nursing faculty lead scholarly programs focused on elder care. Many are actively engaged in interdisciplinary aging research on topics such as informal caregiving, improving care processes and outcomes for the elderly in institutional long-term care, and improving trajectories of chronic-illness management in both acute care and community settings.

Duke’s School of Nursing faculty continues Virginia Stone’s tradition of integrating emerging science into courses that prepare registered nurses for roles as direct-care providers, advanced-practice clinicians, and nurse scientists, as evidenced by the recent establishment of The Duke Center of Excellence for Geriatric Nursing Education. And nursing faculty is fully engaged in the work of the Center for Aging, attracting new post-doctoral fellows, serving as research collaborators and mentors, and advancing inter-professional training in geriatrics for all levels of trainees.

To learn more about the Duke University School of Nursing, visit nursing.duke.edu. ■



Geriatric Medicine

By George L. Maddox, PhD

Under the leadership of Harvey J. Cohen, MD, director of the Center on Aging and chair of the Department of Medicine, geriatrics has thrived at Duke over the past quarter of a century.

The foundation for a geriatrics medicine division that included research, training, and service administered in the Center for Aging was laid in 1978 when the Durham VA initiated an application for a Geriatric Research Education and Clinical Center (GRECC) and a grant from the Mallinckrodt Foundation to the Aging Center facilitated supplemental awards to the initial fellows for research and educational activities. In 1981 Kenneth Lyles, Nancy Stead, and in 1982 Jeffrey Crawford and Dale Simpson became the first of the more than 100 GRECC fellows who have benefited from a program committed to research and training that is translated into exceptional clinical care for older adults.

Over 60 percent of the program's fellows have continued a commitment to academic geriatric medicine. The excellence of Duke Geriatrics has been recognized by a Pepper Research training award, a Pepper Independence Center award, a Hartford Foundation award, and currently an award from the Donald Reynolds Foundation in support of outreach to assist in the development of faculty in geriatrics. Through the Reynolds Award, Duke joins Mt. Sinai School of Medicine, Johns Hopkins, and UCLA in a consortium to develop faculty to teach geriatrics across the United States. The curriculum for junior faculty at Duke and for physicians given mini-fellowships includes evidence-based medicine, long-term care, palliative care, subspecialties in medicine, and medical student education.

Roots of Geriatrics at Duke

While formal training in geriatric medicine is a development of the last quarter century in the Duke Center, interest in geriatric training and service run deep in its history.

In developing his comprehensive vision of a multidisciplinary program of research, training, and service for an aging society, Bud Busse, founding director of the Center, noted that age did not predict abnormalities in EEG patterns. The Duke Longitudinal Studies of Normal Aging were initially designed to understand the relationship between age and the probability of health and illness. This relationship was to be explored in a population of community subjects not only in regards to brain functioning but also cardiac functioning, mental health, metabolism, ophthalmology, dermatology, and well-being.

The evidence from these early studies designed to characterize health and illness in normal aging by well-known clinicians/investigators at DUMC such as Banks Anderson,

Edward Buckley, Carl Eisdorfer, John Nowlin, John Tindall, and Shan Wong is documented in the published volumes characterizing a sample of older population observed over a quarter of a century. While the risk of acute and chronic illness increases with age, aging well into late adulthood is a realistic expectation.

The implied next step was to translate this research into preventive and corrective care to increase the probability of aging well. In the initial 1957 NIH proposal to create the Duke Longitudinal Studies, Morton Bogdonoff, MD—an internist who had been a chief resident in medicine under Dr. Eugene Stead and Dr. Claude Nichols, a psychiatrist—was to explore the potential for geriatric training in the public outpatient clinics of Duke University Hospital. No records or publications that clarify their activities in clinical geriatrics have been found, although both had offices in the



Former Chancellor for Health Affairs William Anlyan

new Aging Center wing of Duke Clinic in 1960.

Dan Blazer, MD, also recalls that as early as 1965 Busse's Department of Psychiatry, not the Aging Center, offered a NIH-supported residency program in geriatric psychiatry, the first and—for a decade—the only such program supported by NIH. Busse, Adrian Voerwardt, Alan Whanger, and later Blazer developed a program in geriatric psychiatry that continues under the direction of David Steffans.

In the Aging Center in 1972 under its director George Maddox, the Older Americans Resources and Services (OARS) became a precursor of formal geriatrics research, training,



Bud Busse, founding director of the Center with a study patient

and service in the medical center. Funded by a federal grant to explore community alternatives to institutionalization of frail older adults, OARS developed a widely-used multidimensional procedure to gauge capacity for self-care in older adults summarized in the work of Gerda Fillenbaum. A companion development was the creation of what was to become the Geriatric Evaluation and Treatment Clinic (GETC) with a multidisciplinary team under the direction of Eric Pfeiffer, a psychiatrist, that included John Nowlin, an internist, Mary Ann Mattesin, a nurse, and Alice Meyers, a social worker. GETC, now in its 35th year, is still an active clinic of DUMC and continues as a component of the current Division of Geriatrics in Medicine. The OARS/GETC clinic explored the usefulness of home visiting in care management and of its triage function guiding older patients through the maze of specialty clinics characteristic of medical centers.

The *Center Report* of November 1980 describes the contribution of the Department of Community and family medicine to the development of geriatric medicine at Duke. The Mallinckrodt Foundation award that assisted the development of the GRECC Program at the VA also contributed to the development of geriatric training in family medicine. An arrangement with the noted British geriatrician Ferguson Anderson in Edinburgh, Scotland, facilitated an exchange of trainees. Elective rotations in Durham involving the county hospital, nursing homes, and the GET Clinic plus experience in home visits were designed by family medicine residents James Moore, William Friedman, and Greg Warshaw.

A Division of Geriatric Medicine

The creation of a Division of Geriatric Medicine at Duke began with a question to then Chancellor for Health Affairs William Anlyan from a member of his Hospital Advisory Board in 1979: What is Duke doing in geriatrics? To answer the question, Anlyan appointed a committee chaired by the then director of the Aging Center, George Maddox and including Keith Brodie, chair of Psychiatry, Harvey Estes, chair of Family Medicine, and James Wyngaarden, chair of Medicine, to draft an answer.

The committee answered in a series of memoranda that, while Duke had some useful programs and great potential for the development of geriatric medicine, the



Eugene Stead, MD



Alan Whanger

medical center's support for developing that potential should be more clearly affirmed. Further, the important role played by the Aging Center in laying the foundation for and developing geriatric medicine should be recognized.

Events in 1980 began to confirm the interest in and potential for the developing geriatric medicine at Duke. A geriatric fellowship was awarded to Jim Moore for curriculum development, and the Administration on Aging awarded Greg Warshaw a General Medicine fellowship. The year ended grandly with the announcement of a coveted VA GRECC fellowship program to be led by Harvey Cohen, Medicine, and Dan Gianturco, Psychiatry.

In July 1981 the creation of the Division of Geriatric Medicine based administratively in the Aging Center was announced. Academic appointments in the division would be in appropriate departments of the VA and Duke. An elective rotation for medical students was initiated. On this solid foundation, geriatric medicine has continued to thrive at Duke. ■



The Center on Aging at Fifty: Continuing to Lead

By George L. Maddox, PhD

In October 2005 Duke celebrated the 50th anniversary of the pioneering Center for the Study of Aging and Human Development that Bud Busse and his colleagues built. The Duke Center was the only one of the five initially funded by the National Institutes of Health that survived and flourished for over half a century as an all-university, multidisciplinary center integrating research and training in the service of older adults.

The Center's design in the 1950s anticipated correctly the emergence of Duke as a major national research institution. The Center's emphasis on multidisciplinary anticipated a dominant perspective in contemporary research. State-of-the-art computing and statistical consultation assisted Center investigators. And an animal facility, initially developed primarily for Center postdocs and investigators, attracted scientists from across the campus to the purpose-built Aging Center building. As an organization that intended to serve the entire university, the Center shrewdly involved the administrative and intellectual leadership of the university in an advisory council appointed by the university president. The Aging Center promoted the concept of "One Duke" in which the Medical Center and Arts and Sciences shared the goals of translating ideas into education and community service.

The Center from its beginning also anticipated a contemporary initiative at the university, the Duke-Durham Partnership. The annual lecture series that brought a broad range of scholars and scientists to the campus to discuss issues of health and well-being in later life attracted the interest of both community residents and academics. And the participation of community residents in the Center's Study of Normal Aging proved to be popular. Citizens were proud to be identified as participants in the Study of Normal Aging.

A team of experienced site visitors from the National Institute of Aging who evaluated the Center's Postdoctoral Research Program in 1989 confirmed that something special had occurred at Duke: "The Duke Center," they reported, "has produced very successful programs with a visible history of impressive cross-disciplinary research by a strong, productive faculty working in a multidisciplinary environment."

Dan Blazer, MD, PhD, current chair of the University Council on Aging and Human Development, reached a similar conclusion about the continuing strength of Center in 2008: "The Center has sustained its distinctive commitment as an all-university program to multidisciplinary longitudinal research that effectively translates research into training and service."

Longitudinal Multidisciplinary Research Continues

The tradition of multidisciplinary longitudinal research has continued to be strong at Duke. As the Center's signature longitudinal research on normal aging came to an end in 1980, Erdman Palmore and colleagues reported a 10-year follow-up of

the OARS study population in Durham County, North Carolina. The study focused specifically on the functioning of the "oldest old," adults 85 years of age and older, anticipating interest in the growing segment of the population at increased risk for requiring social and health services (JG 40:244). The findings suggested minimal decline in social functioning and moderate decline in activities and in physical and mental functioning. Expectedly, socioeconomic status was a key predictor of aging well.

In the 1980s Blazer and his colleagues began three inter-related epidemiological studies of the health and well-being of older adults that became a central focus of longitudinal research in the Aging Center. The initial Established Populations for Epidemiologic Studies of the Elderly (EPESEs) focused on medical



George L. Maddox, PhD
Professor Emeritus

care access and utilization by a large sample of adults 65 and older in a five-county area of Piedmont North Carolina. African Americans were over-sampled (e.g., JAGS, 2006:54(3), 5002-6). Over the period of a decade, the evidence indicated that patterns of medical care provision and use remained relatively stable, although the use of antidepressant medication increased. This study morphed easily

into a cooperative agreement with comparable EPESE studies in Massachusetts, Connecticut, and Iowa. The Duke component of the study permitted a comparison of urban and rural differences in health care needs and utilization of older adults (e.g., Blazer & Hybels JAGS: 52:12, 2052-6).

When the MacArthur Foundation began its Successful Aging project under the leadership of Jack Rowe, Blazer was the sole psychiatrist/epidemiologist on the team guiding the project.

Postdoctoral Research Training

The Center's Postdoctoral Research Training Program, now in its fifth decade of support by NIH, has benefited from the leadership of distinguished program directors and mentors who have trained over 200 fellows, most of whom have pursued careers in gerontological research and training.

The recognized success of this program in facilitating multidisciplinary research is well-illustrated in the career of David Madden, PhD. Madden, who began as a Center RTP fellow in 1977, has remained at the Center as professor of medical psychology and as director of the Center's successful interdisciplinary Cognitive Psychology Lab, which has trained 13 fellows. The lab, which focuses on the cognitive neuroscience of aging, draws on the theory and methods of neuropsychology, experimental psychology, and brain imaging. Madden's lab also connects with other labs at Duke, such as



the Center for Cognitive Neurosciences, the Brain Imaging and Neurosciences Center, and the Visual Cognition Lab, and with similar laboratories at Harvard, Wayne State, and Washington & Lee universities.

Translating Research into Evaluated Service

The Center's programs that translate research into service have aged well:

• In Geriatrics

The Duke Center continues to stress ways to assist older adults to age well in the community. In 1972 the Older Americans Resources and Services (OARS) program was created to promote community alternatives to institutionalization for frail older adults. Physicians, nurses, pharmacists, social workers, and physical therapists were trained to work as a team to make home visits and recommend clinical care when appropriate.

The OARS Geriatric Evaluation and Treatment Clinic (GETC), now in its fourth decade, continues to thrive as a component of the Division of Geriatrics administered by the Aging Center. This clinic of Duke University Medical Center assists older adults and their families in the initial evaluation and provision of appropriate care and referral for specialized care when necessary. In December 2007 Kenneth Schmader, MD, then director of the GETC, evaluated the 10,000th patient seen in that clinic since its inception. This multidisciplinary clinic continues to be an important training site for the Division of Geriatrics.



Kenneth Schmader, MD

Training in Geriatrics at Duke has increased significantly in recent decades. The GRECC program at the Veterans Administration over the past two decades has trained over 100 geriatricians, most of whom now train other geriatricians to practice and teach in academic medical settings. In 2004 a grant from the Donald W. Reynolds Foundation increased Duke's potential for training in geriatrics significantly. Reynolds awarded a total of \$12 million to create a consortium including Duke, Johns Hopkins, UCLA, and Mount Sinai medical centers for the development of geriatric clinician-educators. Experienced geriatricians at Duke train two fellows in the program each year. They also have hosted 14 training sessions involving 60 visiting faculty scholars in geriatrics from other institutions, mentoring them in curriculum design and implementation in geriatrics and providing a follow-up consultation.

The Duke Division of Geriatrics has consistently been ranked among the top five in the *U.S. News & World Report* and in 2004 was ranked third among academic programs. And with the appointment of Center director Harvey Cohen, MD, as chair of the Duke Department of Medicine, Duke has the rare distinction of having a major figure in the field of aging chairing a department of medicine.

Geriatrics research in the Pepper Center continues the legacy of multidisciplinary longitudinal research focusing on functional assessment and on understanding and preventing functional decline in late life.

In 1989 a Geriatric Education Center (GEC) was formed with a grant from the U.S. Health Resources and Services Administration. The primary purpose of the GEC was to provide clinically based geriatric training to health care professional of various disciplines. The training was organized into 13 modules on various topics, such as multidisciplinary geriatric assessment, memory disorders and neuropsychiatry, geriatric exercises, and long-term care management. The GEC trained several hundred physicians and other health professionals from the Southeast during its 10 years at the Center on Aging.

The Department of Psychiatry offers fellowships in geriatric psychiatry and care for the clinically depressed.

• In Gerontological Nursing

The Center and the Duke University School of Nursing have maintained a productive relationship over many years. Nurses have been continuously involved in the Center's research, training, and service programs. Virginia Stone, RN, PhD, a senior



Linda George, PhD

follow at the Center and an early advocate of gerontological nursing, facilitated the participation of nurses in the Center's OARS program. Two of her students became senior fellows themselves at the Center: Mary Ann Matteson, RN, PhD, a member of the OARS multidisciplinary team, and Eleanor McConnell, RN, PhD, authors of *Gerontological Nursing*, a textbook now in its third printing. Carol Hogue, RN, PhD, a nurse-investigator focusing on the epidemiology of injury in late life, was a member of the Center's Longitudinal Studies interdisciplinary research team. And the late Elizabeth Clipp, RN, PhD, had a distinguished career at Duke which began as a Center postdoc with Linda George, PhD, associate Center director. A member of the Duke Department of Medicine, a core investigator of the Durham VA GRECC, and director of a research program supported by NIH, she published



widely recognized studies of trajectories of health across the life course, informal care of the chronically ill, and end-of-life issues.

• In Family Support

The Center's Family Support Program, created by Lisa Gwyther, continues to be recognized as both a local and national resource in assisting families to care for the person with Alzheimer disease (AD). The nationally recognized annual forums organized by Gwyther continue to draw standing-room-only audiences to authoritative presentations on advances in the development and treatment of AD. And the program's publication, *The Caregiver*, is received by over 20,000 subscribers. But meeting local needs also remains a priority. A telephone hotline responds to inquiries from local and state caregivers, and support group meetings are regularly convened in the Center.



Eleanor McConnell, RN, PhD

• In Education

Although the Center has never developed degree programs in gerontology, the educational objectives of the university have been served in a variety of ways. Faculty identified with the Center have regularly taught courses and mentored undergraduate and graduate student research in a variety of departments. And ongoing commitment of the Center to undergraduate education began in 1985 when a multidisciplinary concentration of courses in human development was developed by the Aging Center for Trinity College undergraduates. This program became a model widely copied in other undergraduate concentrations at Duke, and has thrived for over two decades as an introduction of undergraduates to issues in human aging. The related foundation-supported Leadership in an Aging Society Program has offered interdisciplinary mentored internships to over 200 undergraduate, graduate, and professional students with career interests in gerontology and geriatrics.

The joint commitment between the Aging Center and Duke Continuing Education in 1977 to promote lifelong learning received national recognition on the 30th anniversary of the Duke Institute for Learning and Retirement. The Osher Foundation used this anniversary to announce a \$2-million endowment for the Duke Institute and an award of an additional \$250,000 for operating expenses of Duke's pioneering contribution to lifelong education for older adults, which currently serves more than 1,200 older adults in the community each year.

A Legacy of Leadership

The long history of the Center's leadership in research, training, education, and service in gerontology and geriatrics continues. The Center has contributed six presidents of the Gerontological Society of America, including its current president; three presidents of the American Geriatric Society; four members of National Advisory Councils of NIH; two members of the National Institute of Medicine; and a president and a secretary general of the International Association of Gerontology.

Past Is Prologue

For over a half century the all-university Aging Center has demonstrated the effective translation of multidisciplinary research into education and service. Center research has continued to document the changing dynamics of biological, psychological, and social factors that affect the health and well-being of populations over time. The Center's acclaimed multidisciplinary Postdoctoral Research Training Program is now in its fifth decade. Experience with longitudinal research and research training and its translation into effective service is particularly relevant for two recent initiatives of the university: The Duke Global Health Initiative and the Duke Institute on Care at the End of Life. Both these initiatives have important educational, training, and service components whose integration with research has historically been a commitment and strength of the Aging Center.

The Geriatric Division, administered by the Center in cooperation with the Veterans Administration Medical Center, will continue to promote medical training and services through its training programs and the Pepper Center's applied research, designed to improve the functional status and quality of life of adults as they age. The Osher Lifetime Learning Institute at Duke, in whose design and funding the Aging Center participated, continues in its fourth decade as an acclaimed national model. The Center's undergraduate concentration in human development and its related mentored internship program provide an established model of interdisciplinary education for undergraduates of particular relevance for the university.

The Aging Center was designed and continues to be an extraordinary resource as Duke enters a new era of global health initiatives. ■