Strategic Plan

Geriatric Neurology Section
of the American Academy of Neurology (AAN)

I. Introduction

a. Definition of the subspecialty

Geriatric neurology is the neurologic subspecialty that focuses on neurologic disorders of the elderly. Although there is no strict age delimitation, geriatric neurology generally encompasses patients aged 65 years and older. Its scope includes an understanding of the effects of usual aging on the nervous system, the special vulnerabilities of the aging nervous system, the neurologic disorders that frequently affect the elderly, and the methods of neurologic evaluation, diagnosis, treatment, and management as modified to accommodate the geriatric population. It incorporates the principles of geriatric medicine, including consideration of the developmental changes of aging, management of co-morbidities, focus on daily function, and utilization of community and family resources to provide comprehensive care.

b. General statement on conditions it covers

The purview of geriatric neurology includes the neurology of normal aging; mild cognitive impairment; Alzheimer’s disease and other dementing diseases; gait disorders; Parkinson’s disease and other neurodegenerative movement disorders; cerebrovascular disease; other age-associated illnesses of the central nervous system, peripheral nervous system, and muscle; and medication effects on the nervous system. A major focus of geriatric neurology is the evaluation, diagnosis, and management of cognitively impaired older adults.

c. Overview of interaction with other specialties

Geriatric neurology overlaps with several areas of neurology, including behavioral neurology, movement disorders, stroke, sleep disorders, and neurorehabilitation. Geriatric neurology interfaces with other medical and allied health fields. These include geriatric internal medicine and family medicine, geriatric psychiatry, long-term care medicine, rehabilitation, urology, orthopedics, ophthalmology, otolaryngology, sleep medicine, pain and palliative care, pharmacology, neuropsychology, medical ethics, occupational therapy, physical therapy, nursing, and social work.

d. Purpose of the document

The subspecialty of geriatric neurology recognizes special neurologic health needs of the elderly, special characteristics of the aging nervous system, and the need for interdisciplinary collaboration in the field. The number of people in the United States over the age of 65 is expected to double in the next 50 years, with those over the age of 85 comprising the most rapidly growing group. Some risk factors for neurologic disease in the elderly can be modified through diet, exercise, smoking cessation, and management of hypertension, diabetes, hyperlipidemia, and other medical disorders. In the absence of other major modifiable risk factors or new forms of preventative or ameliorative therapy, it is anticipated that the number of people with age-related neurologic conditions will increase greatly during this time. There are now important areas in which

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interventions appreciably improve the quality of life for both the patient and caregiver. Maximizing success in these areas requires specialized clinical expertise in geriatric neurology, the ability to work effectively with other health care providers, and an understanding of emerging research on aging and age-related neurologic dysfunction.

Section members are interested in the Geriatric Neurology Section for reasons that include the following:

- Help develop and define the subspecialty and scope of practice of geriatric neurology.
- Learn more about the care of geriatric neurology patients and about clinical and basic sciences underpinning the practice of geriatric neurology.
- Learn about and discuss practice, coding, and reimbursement issues pertinent to geriatric neurology.
- Learn about and contribute to certification and accreditation processes germane to geriatric neurology.
- Network and collaborate with others interested in geriatric neurology.
- Participate in Academy activities such as (a) developing, selecting, and evaluating educational and scientific sessions at the Annual Meeting dealing with aspects of geriatric neurology; (b) suggesting topics for, and helping to review, pertinent practice parameters and technology statements, and CONTINUUM manuscripts; (c) serving as ad hoc experts for the AAN on clinical, scientific, and legislative issues related to Geriatric Neurology; and (d) advocating for geriatric neurology and for patients with disorders of geriatric neurology.

Mission statement

The Mission of geriatric neurology is to promote and provide the highest quality evaluation, diagnosis, treatment, and management of neurologic disorders of the elderly.

II. Background and History of Subspecialty and Section

a. Landmark early works and milestones

Geriatric neurology is nearly as old as neurology itself. It is perhaps no coincidence that for Jean-Martin Charcot, holder of the first chair in clinical diseases of the nervous system, interests in geriatrics were intertwined with those in neurology (e.g., Goetz, *Arch. Neurol.* 2002;59:1821-4). The AAN Geriatric Neurology Section was created in 1989 with the mission to increase awareness of and foster interest and expertise in issues of geriatric neurology in areas of patient care, research, education, and public policy, and to enhance the roles of geriatrics in neurology training programs and the of neurology in geriatric training programs.

Dr. Martin Albert served as the first section chair. Committees were established for Education, Clinical Practice, Public Policy, Research, Liaison, and Membership. A course on geriatric neurology was first offered during the 1990 AAN Annual Meeting. An eloquent overview of the new field and of the new Section was published in 1991 by Dr. David Drachman (*Neurology* 41;1333-4). Subspecialty recognition, certification and accreditation were important early concerns of the Section. A geriatric neurology curriculum was developed under the direction of Dr. Sid Gilman and completed in 1994 under the oversight of Dr. Janice Knoefel. The curriculum was formally approved by the Section in 2000 and modified in 2009 as a part of process leading to certification and accreditation criteria developed for the United Council on Neurologic Subspecialties (UCNS). The first UCNS certification examination was held in December 2009.
In 1988, the Potamkin Prize for Alzheimer's Disease and Related Disorders was established by the Potamkin family to recognize and promote excellence in research on the cause and treatment of Alzheimer’s disease. The first prize was awarded to Dr. Robert Terry. In 2001, a Section proposal for a Geriatric Neurology Research Award was approved. The award, intended to stimulate and encourage research in fields of interest to the Geriatric Neurology Section, recognizes individuals in early stages of their careers who have made independent research contributions to geriatric neurology. The first award was given in 2002 to Dr. James Bruce Leverenz.

b. Growth of the subspecialty or Section to current status

In 1990, its second year of existence, Section membership had already reached 260. Membership reached a stable level of about 400 in 1993, and there are currently about 425 members on the Geriatric Neurology listserv.

c. Pertinent journals and societies

There are no societies devoted specifically to geriatric neurology. There are a number of pertinent journals, most focused on dementia. These include the following: • *Alzheimer Disease and Associated Disorders*, • *Alzheimer’s and Dementia*, • *American Journal of Alzheimer’s Disease and Other Dementias*, • *American Journal of Geriatric Psychiatry*, • *International Journal of Geriatric Psychiatry*, and • *Journal of Alzheimer’s Disease*. Other journals with overlapping interests include those devoted more broadly to geriatric medicine and gerontology (e.g., • *Age and Ageing*, • *Experimental Aging Research*, • *Journal of the American Geriatrics Society*, • *Journals of Gerontology*, and • *Neurobiology of Aging*) and to post-reproductive women’s health (e.g., • *Climacteric* and • *Menopause*).

All general neurology journals (e.g., • *Annals of Neurology*, • *Archives of Neurology*, • *Brain*, and • *Journal of Neurology, Neurosurgery, and Psychiatry*, and • *Neurology*) frequently publish articles on geriatric neurology.

d. Current board certification and other subspecialty organizations and boards

Geriatric Neurology is approved as a UCNS subspecialty. Because of its relatively small size, geriatric neurology is not on its own eligible for subspecialty accreditation by the American Board of Psychiatry and Neurology (ABPN), a member board of the American Board of Medical Specialties. Recent discussion among Section and ABPN representatives suggested no easy solution to this structural barrier.

e. Other professional and disease-related organizations relevant to the subspecialty

Members of the American Geriatrics Society and the American Association for Geriatric Psychiatry have clinical expertise and interests that overlap with those of geriatric neurologists. The Gerontological Society of America is more broadly based and has geriatric neurologists among its members. There are also shared interests with behavioral neurology. Societies oriented more toward behavioral neurology include the American Neuropsychiatry Society, Cognitive Neuroscience Society, International Neuropsychological Society, and Society for Behavioral and Cognitive Neurology. There are strong overlapping interests with the World Federation of Neurology Dementia Research Group and with the Alzheimer's Association International Society to Advance Alzheimer Research and Treatment. Societies focusing on mid life and late life women’s health, such as the North American Menopause Society and the International Menopause Society, are increasingly concerned with disorders of the aging nervous system, including dementia, mild cognitive impairment, stroke, and Parkinson’s disease. The National Transportation Research Board has committees and programs that deal with aging drivers and transportation needs of the elderly. The American Medical Director's Association is devoted to long-term care medicine.
III. Current state

a. Patient care and practice

There is ample opportunity for the practice of geriatric neurology in the clinic or office, acute hospital setting, long-term or assisted living care facilities, and the home. In the office setting, the geriatric neurologist faces assessment and management of complex disorders, such as dementia and post-stroke follow-up. Family conferences are frequently required to evaluate complex medical, social, legal and interpersonal issues. Because of the stressful demands of geriatric caregiving, the spouse or adult-child caregiver may require counseling or respite care. Geriatric neurologists often help determine the level of needed care, and they help inform the family about placement issues and about neurologic contraindications to safe operation of a motor vehicle.

In the acute hospital, geriatric neurologists function as vital members of the treatment team in unraveling difficult diagnostic problems and helping to ensure successful outcomes in older patients with confusional states, depressed level of consciousness, and other neurologic symptoms. Common problems include stroke, post-operative behavioral and neurologic changes, acute metabolic or infectious disease, and neurologic accompaniments of geriatric medical disorders. Elderly patients with common neurologic illnesses are often viewed as unstable and critically ill, even outside the intensive care setting. In the intensive care unit, the geriatric neurologist provides assistance and guidance for diagnosis and treatment. Responsibilities often include directing family conferences where therapeutic options and prognosis are reviewed and explained. Hospice and other end-of-life issues may be addressed at these meetings. The geriatric neurologist also functions as a consultant or service coordinator in hospital-based or freestanding rehabilitation units.

In long-term care and assisted living facilities, geriatric neurologists may direct or assist in special care units, such as those caring for dementia and other chronic neurologic conditions. Depression, agitation, and other behavioral symptoms can be especially difficult to manage, as can urinary incontinence and impaired gait.

Geriatric neurologists serving as members of Comprehensive Geriatric Assessment teams provide valuable guidance to other health care professionals regarding patients with complex neurologic problems. Such teams function in ambulatory care, as well as hospital and rehabilitation unit settings. Geriatric neurologists also serve as hospital Stroke Team members, participating in acute assessment and intervention, as well as in long-term care follow-up.

Dementia experts are increasingly called upon to determine whether expensive technology and interventions are warranted. This role will have growing importance as pressures increase to deliver high quality care at lower cost (increased practice efficiency). The introduction of clinical amyloid PET imaging in 2012 represents one example of the need for expertise in dementia care to avoid indiscriminate and misuse of this promising new technology. Amyloid PET imaging, along with metabolic PET imaging, neurotransmitter imaging (e.g. dopamine imaging), and use of blood and cerebrospinal fluid (CSF) biomarkers are proximate examples that are likely to transform the way geriatric neurology is practiced and viewed by others. Geriatric neurologists are likely to have a more important role in decisions to perform invasive procedures such as shunting for adult hydrocephalus and in neurocritical care.

b. Research

Geriatric neurology addresses neurologic disorders of aging. The particular research focus of geriatric neurology, more than that of any other discipline or subspecialty, is on cognitive impairment in older adults. Research occurs at the basic, translational, and clinical levels. Translational and clinical research tools are derived from such disciplines as neuroepidemiology and clinical trial methodology, health services research, neuropsychology, brain imaging, clinical neurophysiology, neuropharmacology, molecular biology, and genetics. These approaches aim to identify and characterize diagnostic entities and age-related aspects of
disease pathophysiology, treatment, and prognosis. The underpinnings of common geriatric syndromes — including cognitive impairment, confusion, gait disorders, and “frailty” — are often neurologic and thus come particularly under the purview of geriatric neurology. An understanding of these entities is critical, given their functional impact in older people and their public health burden.

**c. Education**

In an aging North American population, training in the diagnosis and treatment of geriatric neurologic disorders should be an essential component of a neurology residency training program. There are very few formal resident rotations in geriatric neurology. Geriatric issues tend to be considered under the purview of other rotations, such as movement disorders, behavioral neurology, or vascular neurology. Whereas many residents are therefore acquainted with specific geriatric disorders (e.g., Alzheimer disease), they are not exposed to a more comprehensive overview of issues and disorders related to the aging nervous system.

In recognition of the above, a formal educational process that includes one year of postgraduate fellowship training in Geriatric Neurology has been approved by the UCNS. About 19 training programs offer year-long fellowships in geriatric neurology, and some offer additional time for research training.

**d. Medical economics issues**

The burden of neurologic disease is heavy and disproportionate among the elderly. Alzheimer’s disease, among the most prevalent of these geriatric disorders, is the third most expensive illness in the US in terms of direct and indirect health care costs. For patients with dementia, the Alzheimer’s Association predicts annual Medicare costs of $160 billion in 2010 and $189 billion by 2015. Development of effective disease-modifying agents and the earlier identification of cognitive disorders may lessen the economic impact, though costs of such medications may in part offset savings from reductions in disease prevalence and severity. Other major health care expenditures are for costs of patients with acute and chronic stroke, Parkinson’s disease, and other neurologic disorders affecting cognition, behavior, mobility, and functional independence. As the US population ages, the number of people affected by these illnesses will continue to rise, placing increasing demands on strained health care resources.

The economic outlook from a practice perspective is daunting. The practice of geriatric neurology involves care of frail patients with complex problems, compounded by co-morbid conditions and concomitant medications; but critical care codes are not remunerated outside the intensive care setting. Like our pediatric neurology colleagues, geriatric neurologists focus on the family unit as well as the individual patient, and care often involves outside social agencies. Patients, whose historical skills are often compromised, may attend appointments without a surrogate historian and may be unable to advocate for their own care. Involving the surrogate can be crucial, but the surrogate’s participation lengthens the encounter. Care may be shared among caregivers, some of whom may not accompany the patient to visits or exchange pertinent information among themselves. Many illnesses confronted by geriatric neurologists involve life-changing diagnoses; affect independence, mobility, economic status, and living situation; and require end-of-life planning and decision-making.

Critically, these diagnostic and therapeutic complexities are not reflected in reimbursement rates. Neurologic practices on average derive half of their fees from E/M codes, the highest proportion of any medical specialty. This proportion is almost certainly higher for geriatric neurologists, whose billable procedures are few. Standard evaluation and management (E/M) code reimbursement does not adequately compensate geriatric practitioners for the time, complexity, and risk involved in caring for these patients, and there is no current movement toward rationalizing reimbursement. CMS began the Physician Quality Reporting System (PQRS) in 2006 that started as a voluntary program but starting in 2013 physicians will be required to participate to avoid penalties. Currently, most appropriate for geriatric neurology, there are six Parkinson’s disease measures and nine dementia measures. For the PQRS Dementia Measures Group, the physician needs to
report on staging of dementia, cognitive assessment, functional status assessment, neuropsychiatric symptoms assessment, management of neuropsychiatric symptoms, screening for depressive symptoms, counseling regarding safety concerns, counseling regarding risks of driving, and caregiver education and support.

e. Legislative issues

Some legislative issues important to geriatric neurology also pertain to general neurology. Many diseases encompassed within the practice of geriatric neurology are encountered, albeit it less frequently, in younger patient cohorts. Other issues, however, are unique.

A momentous legislative event for geriatric neurology was implementation of Medicare in 1965. By establishing a guaranteed national health insurance program for seniors, the federal government assured access to health care for eligible older adults, at the same time entwining geriatric care with government oversight. A noteworthy expansion of senior health benefits and government involvement in geriatric care occurred with the 2003 passage of the Medicare drug benefit, implemented in 2006. Passage expanded senior access to medications but it also has led to much confusion. Beneficiaries/seniors have had to figure out how to sign up for a Medicare Part D drug plan from amongst numerous choices or use a Medicare Advantage plan with prescription drug coverage. They are penalized the longer it takes them to sign up for a prescription plan after starting Medicare. They are also responsible to pay part of the medication costs. There is a ‘donut hole’ which refers to the gap wherein patients are expected to pay for all drug costs up to a specified limit after a certain amount of money has been spent. As a result of this odd restriction, many seniors face hard choices late in the fiscal year as they fall into this financial hole.

In March 2010 the Patient Protection and Affordable Care Act (PPACA) was passed and was for the most part upheld by the Supreme Court in June 2012. This law provided for payment of Medicare preventive services and Medicare drug discounts. In the first 12 months of Medicare a “Welcome to Medicare” preventative visit and then a yearly Annual Wellness Visit (AWV) are now covered. Certain screenings without deductible or co payments are also covered with some restrictions for numerous conditions including bone mass measurements, colorectal cancer screenings, flu shots, pneumonia shots, prostate cancer screenings, depression screenings, among others. However, currently payment for cognitive screening is not paid for separately. Nevertheless, Centers for Medicare and Medicaid Services (CMS) are requiring physicians to perform a cognitive assessment during the yearly AWV by assessing “the beneficiary’s cognitive function by direct observation, with due consideration of information obtained by way of patient reports and concerns raised by family members, friends, caretakers, or others”. Physicians should also assess a patient’s “ability to successfully perform ADLs”.

The PPACA also gradually reduces the donut hole (coverage gap) for prescription drug costs until the gap goes away in 2020. The costs for brand name drugs in the coverage gap gradually reduces each year from 50% in 2012 to 25% in 2020 and for generic drugs from 86% in 2012 to 25% in 2020 until the out-of-pocket spending limit is reached.

Another component of the PPACA, the Community Living Assistance Services and Supports (CLASS) Act was a voluntary, federally administered, consumer financed insurance plan program open to all working Americans. It would have provided a basic lifetime benefit of a least $50 a day (indexed to inflation) in the event of prolonged physical illness, disability, or severe cognitive impairment (such as Alzheimer’s disease) that keeps a person from living independently. However, a provision was added by congress to ensure the CLASS act would remain solvent for at least 75 years. Unfortunately the modifications needed in the act for that provision were unable to pass in congress and the administration abandoned the CLASS act in October 2012.

Policy makers will need to find a better solution for the long-term care problem that will affect a growing number of seniors and indeed impact our entire healthcare system.
Many seniors are impaired in their ability to operate a motor vehicle because of neurologic disease yet have limited options for transportation for doctors’ appointments, shopping, and other essential needs. Reporting requirements for cognitive impairment vary by state and create potential liability for geriatric neurologists who care for disproportionate numbers of patients with disorientation, attentional deficits, mild cognitive impairment, or dementia.

In 2011, the National Alzheimer’s Project Act (NAPA) was signed into law and funding started in 2012. NAPA set forth five goals: prevent and effectively treat Alzheimer’s disease by 2025, enhance care quality and efficiency, supports for people with Alzheimer’s disease and their families, public awareness and engagement, and data to track progress. Current efforts increase research dollars, improve public awareness of the disease, support provider education programs, invest in caregiver support, and support improved data collection.

The Alzheimer’s Association is supporting the Health Outcomes, Planning and Education (HOPE) for Alzheimer’s Act, not yet passed, which in part supports increasing initial detection of cognitive impairment and provides for a comprehensive diagnostic evaluation including referral to specialists like geriatric neurologists.

In 2012, CMS has asked states to engage nursing homes in reduction of atypical antipsychotic medications by 15%. CMS is concerned with inappropriate use of antipsychotic drugs that may have negative effects on dementia patients. The Advancing Excellence in America’s Nursing Homes Campaign website (http://www.nhqualitycampaign.org) is the national repository for resources and clinical tools to assist nursing homes to achieve the goals of this initiative. Geriatric neurologists should educate and practice appropriate use and discourage and educate on inappropriate use of antipsychotics rather than focus on any arbitrary number for reduction in use.

IV. SWOT analyses

a. Patient care and practice

**Strengths.** Geriatric neurologists have unique expertise in the evaluation and management of geriatric neurologic illness in the context of complex medical, management, and social needs confronting the elderly patient. The prevalence of geriatric illness, particularly dementia and other neurodegenerative disorders, continues to increase rapidly and threatens to overwhelm health care resources within the decades ahead. Geriatric neurologists are positioned to provide valuable assistance in planning for public health programs that identify at-risk older adults and treat those with geriatric neurologic diseases. By training and experience, the geriatric neurologist is best equipped to provide accurate diagnoses and compassionate, evidence-based management of the elderly with neurologic disease, and to guide patients and their families.

New tools are becoming available to improve the accuracy and confidence of diagnosis and management of dementing and neurodegenerative diseases. These include blood, CSF and imaging biomarkers that can be used for diagnosis, prognosis, and to assess outcomes. Geriatric neurologists are in the best position to decide whether to order such testing and to appropriately incorporate the results into clinical decision-making. As concern about health care costs increases, thoughtful use of new technology will be a major benefit that geriatric neurologists can demonstrate.

**Weaknesses.** As a relatively new subspecialty, models of geriatric practice are not widely established and there continue to be significant variations in practice. These variations provide opportunities for innovation and a flexible response to health care reform, but also present practitioners with challenges to achieve high levels of efficiency and patient satisfaction. It is difficult to present financial advantageous and sustainable
models of practice to health systems and insurers find the complexities and diversity of practices hard to understand.

**Weaknesses.** Major coding and reimbursement issues complicate the role of a geriatric neurologist. Billing codes do not at present properly distinguish — on the one hand — geriatric neurology visits for patient and family counseling and for therapeutic needs assessment and management from — on the other hand — other office, hospital, long-term care unit, home care and assisted living facility visits. The geriatric neurologist’s current inability to bill properly for cognitive services is an important disincentive to the provision of appropriate care. Some important conditions evaluated and managed by geriatric neurologists (e.g., gait abnormality) are recognized by an International Classification of Diseases (ICD) symptom code that reduces reimbursement.

**Opportunities.** The AWV for Medicare recipients now requires yearly cognitive and functional assessments. Geriatric neurologists can be at the forefront to provide tools and services for cognitive and functional screening. Growing demand for geriatric neurology services should translate into a higher profile and higher recognition for the discipline.

There is emerging recognition of the complexities of evaluating cognitive impairment in the elderly. The challenge of appropriately incorporating metabolic and amyloid PET imaging has recently brought the value of expertise in dementia care to broad attention. Geriatric neurologists are in the best position to establish standards of care and guidelines for appropriate and inappropriate use of imaging, especially integrating imaging results into critical diagnostic and management decision-making.

**Threats.** Escalating health care costs threaten to compromise care of the complex geriatric patient, whose disproportionate needs are reflected in higher health care expenditures. Time-intensive evaluation and management of these patients and the absence of reimbursable procedures are disincentives to the choice of geriatric neurology as a career pathway.

**Research**

**Strengths.** Demographic imperatives of an aging population are widely recognized. Neurologic disease is acknowledged as highly prevalent, widely feared, and a leading cause of geriatric disability. Delineation of the incidence, prevalence, economic impact, and societal burden of geriatric neurologic disease is known to be vitally important. One consequence of public and government awareness has been the establishment of specialized National Institutes of Health (NIH) centers and programs, which facilitate research into treatment and diagnosis of geriatric neurologic disease. These specifically include Alzheimer’s disease and Parkinson’s disease (Udall) research centers, the Alzheimer’s Disease Cooperative Study group, and the Alzheimer’s Disease Neuroimaging Initiative. Growing public, scientific, government, and private sector awareness of the opportunities for advances in understanding and treatment of geriatric neurologic disorders fosters opportunity for basic and clinical advancement. *In vitro and in vivo* models of age-related disorders such as Alzheimer’s disease and Parkinson’s disease have made important inroads to an understanding of these disorders. Treatment assessment methodologies are increasingly rigorous, and therapeutic interventions are increasingly evidence based.

**Weaknesses.** Patient-oriented, translational research is a relatively neglected area of investigation, as are practice-based research, health services research and research on comparative effectiveness of current modes of therapy. An important challenge is to train basic, translational, and clinical scientists with the interests and requisite tools to study complex disorders of the aging nervous system. Difficulty in obtaining fellowship funding is particularly limiting for young neurologists with clinical research interests in geriatric neurology.

Current laboratory models are inadequate in a number of areas, including vascular syndromes of the aging brain; cognitive, behavioral, and affective disorders; gait and motor impairments; and functional decline.
resulting from usual and pathological brain aging. An important goal is to bridge from model systems in the laboratory to humans. Treatments are often first tested in model systems, and it is important that older animals, including primates where clearly appropriate, be considered in therapeutic studies, just as it is important that the elderly be included in clinical trials.

Research on successful brain aging — a neglected corner of neurologic research — will surely bring new insight to usual aging and on age-associated neurologic disease. Neuroimaging, neurophysiological techniques, and cognitive neuroscience research help bridge the clinical and basic domains. Engineering approaches can enhance our ability to apply technologies to the daily lives of older patients. To translate insights from the basic sciences into clinical practice, a stronger infrastructure is needed of clinical sites with the expertise to conduct this research.

**Opportunities.** The multifaceted nature of geriatric neurology within an aging population creates opportunities for multidisciplinary research extending from bench to bedside to society. Geriatric neurologists are perhaps best positioned to appreciate how age modifies manifestations of important neurologic disorders, manifestations of medical disorders presenting with neurologic symptoms, and responses to treatment. They understand how these disorders affect patients, families, and society.

Molecular biology and genetics will continue to further our understanding of specific neurodegenerative disorders. “Omic” (e.g., genomic, proteomic, metabolomic) markers have the potential to provide unique insights into the identification and pathogenesis of geriatric neurologic disease. The identification of TDP-43 as a novel protein in the brains of patients with frontotemporal dementia is an example of the potential for new insights gained at a molecular level.

**Threats.** Despite recognition of the importance of geriatric neurologic disease, basic and patient oriented research in these disorders remains relatively underfunded. When physicians, funding agencies, and pharma focus largely on short-term advances, the resulting small incremental clinical benefit from basic, translational, and clinical research may dampen enthusiasm for future research investment.

c. **Education**

**Strengths.** The aging population creates demand and opportunities for educational initiatives in geriatric neurology. Foundations such as the Alzheimer’s Association, the American Parkinson’s Disease Association, and the Association for Frontotemporal Dementia have increased public and professional awareness of the prevalence and the public health importance of age-associated neurologic disorders. The UCNS accreditation and certification process has been established, and the first certification examination occurred December 2009.

**Weaknesses.** The complexity of geriatric disorders, the lack of “poster child” appeal, and the overlap with other subspecialty interests make the discipline unattractive to some neurology trainees and detract from a cohesive view of the discipline. The relatively small number of geriatric neurologists makes it difficult to contemplate status as an ABPN approved subspecialty in stark contrast, for example, to Geriatric Psychiatry (strong overlapping interests in dementia) or Vascular Neurology (overlapping interests in stroke). The requirement for greater face time coupled with relatively poor Medicare and Medicaid reimbursement renders the field less appealing than procedure-dominated subspecialties. Core competencies differ, but it remains difficult to disambiguate core patient constituencies of geriatric neurology from those of behavioral neurology.

**Opportunities.** Research advances in diagnosis and treatment will stimulate interest in the discipline among physicians, scientists, and the lay public. Diagnostic advances, for example, include those in areas of structural and functional neuroimaging and in the development of blood and spinal fluid biomarkers. Enhanced interest may well augment curricular time devoted to geriatric neurology topics and stimulate
growth of fellowship training programs. Alzheimer Disease Center programs and Udall Centers for Parkinson’s Disease Research programs provide platforms for developing multidisciplinary approaches to research, diagnosis, clinical care and education. There are also educational opportunities at the medical school level and at the neurology residency level. Components of the geriatric neurology core curriculum can be introduced into neurology training programs and assessed as part of the Residency In Training Examination (RITE). There is both the need and opportunity to introduce concepts of geriatric neurology into the curriculum of medical students and of residents in such disciplines as family medicine, geriatrics, and psychiatry. Other opportunities exist for members of other disciplines or allied health professions (e.g., physician assistants, advanced nurse practitioners, and rehabilitation therapists). Finally, there are opportunities to conduct courses in the principles and practice of geriatric neurology at other professional meetings, for example, the annual meeting of the American Geriatrics Society.

**Threats.** The graying of the baby boomers will increase the number of patients with geriatric neurology disorders and will overburden the pool of neurologists with geriatric neurology expertise. Patient care will be compromised, and other specialists (e.g., geriatric psychiatrists; geriatricians) could eclipse the limited role of neurologists without bringing to bear the same perspective, expertise and experience. Reimbursement issues may dampen the enthusiasm of clinically oriented neurologists to focus on problems of a geriatric population.

d. **Medical economics issues**

**Strengths.** There is a growing awareness in the lay and professional community of geriatric neurologic disease, including Alzheimer’s disease and related disorders, gait disorders, stroke, and Parkinson’s disease. Geriatric neurologists are highly motivated, devoted to their patients, and dedicated to improving their care.

**Weaknesses.** The medical and social complexity of geriatric neurology patients places increasing demands on practitioners of this specialty. An onerous administrative burden decreases time for patient care, increases costs of practice, and threatens to overshadow quality of patient care as the driving force in clinical practice.

**Opportunities.** Research advances can lead to earlier, more accurate diagnoses, improved treatment, improved quality of life, and reduced caregiver and societal burden. Better understanding of the genetic and molecular pathophysiology of Alzheimer’s disease, Parkinson’s disease, and other neurodegenerative disorders promises development of disease-modifying rather than symptomatic therapies. Pay-for-performance standards if rationally applied could improve care of geriatric neurology patients and reward practitioners who provide appropriate high-level care. Government designated Centers for Excellence in geriatric neurologic care, similar to those recently mandated for Epilepsy, could help develop best practice standards for practitioners and institutions.

**Threats.** The unprecedented aging of the US, Canadian, and world populations will increase the burden of geriatric neurologic disease and the demand for geriatric neurology services. This enduring trend is not matched by a growth in the number of neurologists. In the US, the number of neurologist Full-Time-Equivalents will peak in approximately 2012 and fall to 20% below demand by 2020 (AAN Workforce Task Force, Neurology, 2000). Failure to reverse this trend will reduce access to qualified neurologists, particularly in the geriatric population. The mismatch between supply and demand will exacerbate geographic misdistribution of health care access, increase the burden of geriatric neurologic disease, and increase health care and societal costs. Funding for research in geriatric neurology is not a top priority for major funders, including the NIH, when the prevalence and burden of geriatric neurologic disease is considered. Delays in finding better treatments and cures for geriatric neurologic illnesses will have an enormous impact on public health. The increasing ability to identify deterministic and permissive genes for age-related neurologic illness may exclude some patients from insurance coverage if universal health care coverage is not realized.
e. Legislative Issues

Strengths. Importance of geriatric neurologic disease (e.g., Alzheimer’s disease, Parkinson’s disease, stroke) is recognized at federal and state levels. The AWV for Medicare recipients now requires yearly cognitive and functional assessments. This could strengthen reimbursements and referrals to geriatric specialists.

Weaknesses. Disease manifests primarily after the age of peak economic productivity is perceived differently and often assigned lower priority than childhood disorders and illnesses occurring during one’s economic prime. There is no coherent strategy for long-term care provisions of those with chronic diseases. Legislative priorities are shaped by the economic implications.

Opportunities. As the US and other countries struggle to provide equitable quality health care to an aging population, we must ensure that geriatric neurology has a leadership role in the emerging health care environment, in order to ensure quality care to our patients. Such initiatives as Physician Quality Reporting System (PQRS), Medical Homes, Quality Assessment, and Health Information Technology, to name but a few, must make certain that seniors have access to geriatric neurology care and that the unique challenges in the neurologic care of the elderly are considered. Geriatric neurologists can take leadership roles in educating providers for appropriate use of anti-psychotics. Specific legislative issues of interest to geriatric neurology include the following:

- PQRS to allow geriatric neurologists to receive incentive payments for their quality care
- HOPE for Alzheimer’s Act to support a comprehensive diagnostic evaluation including referral to specialists like geriatric neurologists
- PPACA with encouragement of the AWV which now requires yearly cognitive and functional assessments
- Medicare reimbursement with emphasis on cognitive services.
- NAPA to increase public awareness of dementia conditions and increase research funding
- Quality measures and comparative effectiveness research for geriatric neurology generated from research specific to geriatric neurology, and generalized from other fields.
- Placing geriatric neurology in a Same Day Service Category, akin to geriatric psychiatry.
- Guarantee that Mental Health Parity is implemented for the care of dementia patients.
- Ending the practice of applying the improvement standard to payment decisions for therapy services of chronic conditions that will not improve (Jimmo v. Sebelius class action lawsuit)
- Resolution of the Medicare Part D “Donut Hole.”
- Further assistance to seniors in selecting their best Medicare Part D plan.
- Reduction of the cost of brand name and generic drugs in the coverage gap
- Covered access for appropriate, evidence-based diagnostic tests such as biomarkers as they become viable for clinical use.
- Better options for home health care and long term health care for seniors.
- Help develop transportation options after driving retirement for vulnerable seniors.
- Increased funding for the NIH (especially the National Institute on Aging and the National Institute for Neurological Disorders and Stroke) for neurologic diseases of old age.
- Maintaining and expanding Medicare coverage for some health costs during research.
- Support health initiatives that have direct bearing on geriatric neurology.
Threats. Legislative threats include a failure to recognize the impact of dementing diseases on Medicaid budgets, the lack of understanding of the need for cognitive screening assessments for dementia conditions and their potential to reduce costly care crises; the lack of understanding of the complexity of evaluations and management decision making required for high quality care of geriatric neurologic disease; the lack of understanding of the appropriate use of antipsychotics in dementia behavioral healthcare; the failure to recognize that support of family caregivers can reduce the need for much more expensive institutional care; a weak commitment to improving the health, function, and quality of life of geriatric neurology patients; a weak commitment to providing resources for family members and caregivers coping with patients with overwhelming needs; and dwindling enthusiasm for costly medical research where short-term gains are often difficult to appreciate.

Many seniors are impaired in their ability to operate a motor vehicle because of neurologic disease yet have limited options for transportation for doctors’ appointments, shopping, and other essential needs. Reporting requirements for cognitive impairment vary by state and create potential liability for geriatric neurologists who care for disproportionate numbers of patients with confusion, mild cognitive impairment, or dementia.

Increased life expectancy and improvements in life-extending technologies have expanded numbers of the disabled elderly needing home health services or long-term care in skilled nursing facilities. Some older adults must spend into bankruptcy to qualify for Medicaid chronic care coverage. Long-term care insurance plans have yet to fill the need for expanded care. A component of the PPACA, the Community Living Assistance Services and Supports (CLASS) Act which was designed to address long-term care insurance needs was abandoned in October 2012. Policy makers will need to find a better solution for the long-term care problem that will affect a growing number of seniors and indeed impact our entire healthcare system.

V. Specific Vision, Goals and Objectives for the Subspecialty and Section

a. Short term (over next 5 years)

Specific goals and targets

PATIENT CARE AND PRACTICE.

• Enhanced recognition and delineation of geriatric neurology as a critical subspecialty serving an aging population.

• Increased involvement of geriatric neurologists in the care of patients in this population with neurologic disorders.

• Advocate for use of critical care codes for geriatric neurology patients outside the intensive care setting.

RESEARCH.

• Increased federal support for research into causes, identification, and treatment of dementia and other geriatric neurologic disorders commensurate with their prevalence and burden. A minimum goal of 20%, adjusted for inflation, over present levels is recommended.

• Enhanced infrastructure for observational cohorts (e.g., for diagnostic biomarkers and genetic studies) and for clinical trials through the establishment of clinical memory disorder centers at sites without NIH Alzheimer’s Disease Centers.
EDUCATION.

- Development and funding of geriatric neurology training fellowships. The Robert Katzman Clinical Research Training Fellowship, established by the AAN in collaboration with the Alzheimer’s Association, provides one model of such fellowships.
- Development and funding of clinical research fellowships in areas of dementia, other forms of age-associated cognitive impairment, and other geriatric neurologic disorders.
- Obtaining recognition and benefits of subspecialty certification and training accreditation equivalent to those afforded by the ABPN.
- Enhanced medical education on topics of geriatric neurology at levels that include medical students, neurology residents, residents in geriatrics and geriatric psychiatry, medical postgraduates, and allied health professionals.
- Review and revision of the AAN Geriatric Neurology core curriculum on a quinquennial basis.

MEDICAL ECONOMIC ISSUES.

- Promotion of equitable compensation for E/M procedures required to evaluate, diagnose, and manage geriatric neurology patients.
- Recognizing the critical role played by geriatric neurologists in the care of their patients, advocating for the classification of geriatric neurology as a “principle care” discipline for the purposes of reimbursement.
- Developing “best practices guidelines” in geriatric neurology and promoting their use in pay-for-performance reimbursement.

LEGISLATIVE ISSUES.

- Advance the US legislative agenda of interest to geriatric neurologists through the AAN by such means as the following:
  (a) Advocacy activities and committees of the AAN Professional Association, (b) Action alerts through Vocus, (c) Neurology on the Hill, (d) Palatucci Advocacy Leadership Forum, (e) Viste Health Policy Fellowships, (f) State Affairs Committee, (g) Legislative Affairs Committee, (h) Support for advocacy coalitions germane to the geriatric neurologic mission (e.g., the Michigan Dementia Coalition), (i) Informing Section members of legislative activities, and (j) Soliciting advocacy initiatives from Section members.
- Support legislation that encourages early cognitive and functional screening assessments and comprehensive diagnostic evaluations for dementia by specialists like geriatric neurologists.

Operational strategies to achieve goals, action items, and role of the AAN

Strategies to achieve goals described above, and to meet other objectives that might emerge from Section members and its committees, should be developed through existing Section Working Groups (Education, Practice, and Science) and through ad hoc Working Groups as required. Specific action items should emerge from the Working Groups themselves. The Executive Committee should serve to provide oversight and coordination. The role of the AAN is to serve as a resource for information, expertise, administrative support, and guidance as agreed upon goals are pursued and action items are implemented.
b. Long term (over the next 5-10 years)

Long term goals can be broadly viewed as the establishment of geriatric neurology as a viable subspecialty fulfilling its core Mission and providing professional satisfaction to its practitioners; sustained, commensurate research support for geriatric neurologic disorders; establishment of rigorous training programs in geriatric neurology and in clinical and translational geriatric neurology research; and integration of principles of geriatric neurologic into neurology training.

VI. Summary and Concluding Statement

a. Summary of mission, vision, and core values for geriatric neurology

Mission. The Mission of geriatric neurology is to promote and provide the highest quality expert evaluation, diagnosis, treatment, and management of neurologic disorders of the elderly.

Vision. The Vision of geriatric neurology is to be the premier medical specialty dedicated to this Mission through means that include the following:

(1) Delineating the scope of, and promoting excellence in, geriatric neurology practice,

(2) Educating and training geriatric neurologists and other clinical practitioners and students,

(3) Stimulating basic, translational and clinical research on disorders of the aging nervous system, and

(4) Advocating for patients with geriatric neurologic disorders and their caregivers.

Core values. Core values are those of the AAN as applied to the practice and science of geriatric neurology: leadership, integrity, professionalism, respect, and compassion.

b. Global conclusion and assessment of subspecialty’s place within the larger scope of AAN, other subspecialties, neurology in general, and related fields.

Many adult neurologists will assert — and correctly so — that they routinely diagnosis and treat neurologic disorders affecting the elderly. However, as pointed out some years ago by Dr. David Drachman, “in geriatric neurology single diagnoses are the exception. Disability is far more often the product of multiple causes interacting to produce a converging complex of deficits” (Neurology 1991;41:1333). Geriatric neurologists are distinguished from other specialists in their unique ability to consider this complex of deficits; to deal with complicated interactions among assorted therapies; and to interface with — and incorporate family members and social agencies into — evaluation and management.

It will no doubt be challenging to maintain and enhance geriatric neurology as a vigorous subspecialty offering to our patients the highest in quality evaluation, diagnosis, and management and, at the same time, providing competitive compensation and professional satisfaction to its practitioners. Other challenges are to obtain funding to promote education and training in principles and specifics of geriatric neurology to students and professionals within and outside of neurology; and to obtain administrative and financial support for basic, translational, clinical, and health services research on neurologic disorders of the elderly. The fact that geriatric neurology is, and is likely to remain, a relatively small subspecialty argues for strategic alliances with subspecialties sharing overlapping clinical interests and professional challenges. These include behavioral neurologists, movement disorders neurologists, and geriatric psychiatrists. UCNS accreditation of
training programs and certification of expertise are important, incremental steps forward in the development
of geriatric neurology as a subspecialty.

A final overarching challenge concerns the mission of the subspecialty. The predominant clinical interest of
most geriatric neurologists is cognitive impairment. This focus is appropriate, considering the high
prevalence of dementing disorders in the geriatric population, complex assessment and management issues,
devastating consequences for patients and families, and onerous economic and societal burden. Indeed,
several years ago, Section membership approved a name change to the Section of Geriatric Neurology and
Dementia; this change was ultimately not accepted by the AAN Board of Directors. However, geriatric
neurology, as reflected by its Mission and Vision, its core curriculum, and the UCNS certification and
accreditation requirements, is much broader in scope. Geriatric neurologic syndromes enumerated within the
core curriculum, for example, include cerebrovascular disease apart from vascular cognitive impairment,
movement and gait disorders, sleep disorders, epilepsy, autonomic dysfunction, and others. It remains for
geriatric neurologists to embrace the wider scope envisioned within these documents or to recast its Mission
and core competencies to accord more closely to the usual, current practice of most geriatric neurologists.