American Academy of Neurology  
Child Neurology Section  
Strategic Plan

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I. Introduction to the Child Neurology Section

The Child Neurology Section exists to increase awareness of the unique needs of children with neurological disorders; to advise the American Academy of Neurology (AAN) on clinical, educational, legislative, and scientific various issues pertaining to children with neurological disorders; to represent the views and needs of child neurologists within the AAN; to increase awareness and encourage participation by child neurologists in the various committees and programs of the AAN; to help establish practice guidelines as they pertain to child neurologists; to promote ongoing clinical and scientific research in the field of child neurology; to establish collaboration with other organizations such as the Child Neurology Society (CNS), the American Academy of Pediatrics (AAP), the American Neurological Association (ANA), the American Epilepsy Society (AES) and various other societies in promoting and educating on the special needs of children with neurological disease; and to help shape legislation that pertains to child neurologists and children with neurological disorders.

The Child Neurology Section’s primary objectives are to increase the awareness of the needs of children with neurological disorders, to encourage the AAN to consider the special needs of child neurologists, and to increase awareness among child neurologists of the programs, committees, and opportunities for participation with the AAN. Increasing numbers of children with neurological disorders are surviving well into adulthood and need ongoing care by adult clinicians. There is a need for clinicians who can provide care for these young adults with special neurological needs as they enter adulthood.

II. Background/History of the Child Neurology Section

In 1993, AAN President-elect Kenneth Viste, MD, chair of the Committee on Sections (COS), asked Michael Goldstein, MD, to revive the Child Neurology Section so that the AAN could better represent children and child neurologists and so that child neurologists could become more involved in the AAN. The section at that point had not been active in over twenty years. To overcome concerns that the section would conflict with the CNS, the section helped to establish close ties between the AAN and the CNS on political and economic concerns as well as scientific and educational issues.

In 1998 there were about 200 members of the Child Neurology Section. As of 2008, there were over 600 members. Since the section was formed in 1994, members have had input regarding practice parameters and in 1996 helped develop the Vertical Integration Program for Child Neurology Scientific Program, hoping to attract more child neurologists to the annual meetings. The section began a newsletter in 1997 to discuss current issues in child neurology, and currently its web page, updated monthly, lists items of interest to child neurologists.

III. Current State of the Child Neurology Section

1. Clinical Practice & Patient Care
Child neurology is blessed with many skilled clinicians and gifted researchers who are devoted to the field and to the care of their patients. However, based on the demand for clinical services and the number of unfilled jobs, there are too few child neurologists to meet the current clinical, scientific, and educational needs. While there are more child neurologists now than a generation ago, in recent years we have not trained enough child neurologists to meet demands or to replace those who die or retire. Reimbursement is relatively poor and the training period is longer than it is for general neurology.

The scarcity of child neurologists is often exacerbated by a lack of support from other disciplines. Even in shortage areas, for example, adult neurologists and primary care physicians are sometimes reluctant to provide care for children with even basic neurological problems. Child neurologists are also asked to address behavioral, educational, and psychiatric disorders in children and adolescents in addition to more classic neurological conditions. Similarly, there are too few physicians specializing in developmental disabilities. The paucity of these related practitioners tends to intensify the shortage of child neurologists by shifting the evaluation and management of children who could be seen by other practitioners to a child neurologist. While child neurologists generally do a good job managing problems usually consigned to those subspecialties, we are not always fully trained in these aspects of neurological dysfunction. These issues must be better understood.

Despite an increased number of applicants to child neurology programs since the child neurology resident match began, the demand for services has increased in recent years due in part to shifts in the practice patterns of primary care physicians. Another concern is the uneven geographic distribution and clinical focus of the existing practitioners, resulting in a much more acute shortage in some regions than in others.

Many of the difficult, inter-related issues we face also affect other subspecialty groups both in neurology and in other disciplines. The rules governing our training, certification, and reimbursement are largely dictated by outside groups with sometimes ambiguous and contradictory rules and agendas. Real change will be difficult and slow, even if we can reach a consensus about the best approach to take. We need to take a hard look at some of the long-held assumptions that underpin some of these issues.

2. Research

Instruction of child neurology residents in research is often limited by the demands of clinical training, and additional years of post-doctoral research training are rendered less attractive by the length of child neurology residency training. The existing research pathway to certification by the American Board of Psychiatry and Neurology allows trainees to substitute one year of approved research for a year of general pediatrics. This pathway is useful for individuals who know at an early stage that they wish to pursue a research career but of limited help for individuals who consider research later.

Individuals who undertake a research career must have sufficient early support and time to allow them to become effective and independent researchers in an era where the quality of completed research is more stringently judged than in the past. It is difficult for a young researcher to perfect clinical or research skills when a shortage of child neurologists and poor reimbursement generates constant pressure to perform more and more clinical and educational duties. Young neurologists experience tremendous pressure to satisfy ever increasing clinical, educational, and scientific demands. Too many scientific careers are either never initiated or truncated due to inadequate encouragement, time protection, training, and mentorship. Lack of adequate training is particularly acute in clinical research. Development of new successful researchers requires an investment of institutional resources as well as time and energy by senior faculty. These issues must be better understood and appreciated.
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The goal of the Immediate Practice-Altering Clinical Trials (ImPACT) program of NINDS is to reduce the burden of neurological disease by identifying high priority questions about best clinical care for patients with neurological conditions and to facilitate practice-altering research that will answer those questions and improve care. We should support this and similar programs designed to narrow the gap between research and clinical care.

3. Education and Training

Education and guidance of child neurologists needs to be a priority of senior faculty in order to ensure that new members of the profession master the basic skills of history taking, neurological examination, and formulation as well as the subsequent selection of diagnostic tests and the initiation of treatment. We should periodically reassess what constitutes an optimal curriculum and try to develop innovative ways to teach neuroanatomy, neuropathology, genetics, and neurophysiology. Training in inflammatory conditions, infectious diseases, pharmacology, neonatal encephalopathy, and disorders such as autism and Tourette syndrome need to be enhanced. More effective training in psychosocial concerns needs to be developed.

We must continue to attract excellent medical students to child neurology in order to assure adequate future practitioners. However, the required five years of residency training in primary care and child neurology probably discourages many prospective residents from entering the field and discourages many of the individuals who complete child neurology training from considering post-residency clinical or research fellowships. Similarly, there is anecdotal evidence that the required year of training in clinical adult neurology may discourage interested pediatric residents from pursuing child neurology training. We should analyze the skills that are necessary to be a competent child neurologist and strive to align the training requirements accordingly. There may be strong opinions concerning the ideal duration of general pediatric or adult neurology training, but a purely dogmatic approach will not promote success. What is needed is judicious consideration of our options based as much as possible on sound data in an attempt to increase program flexibility while ensuring adequate basic training.

With the shortage and uneven geographic distribution of child neurologists, relatively few children with neurological dysfunction are evaluated by a child neurologist. We need to do whatever we can to facilitate the education of adult neurologists, pediatricians, and other physicians about the diagnosis and management of childhood neurological disease. To this end, we should develop innovative educational programs and practice guidelines for non-child neurologists.

4. Medical Economic Issues

Reimbursement issues exert a tremendous influence on the availability and accessibility of care for individuals with neurological disease. Poor reimbursement for evaluation and management codes almost certainly reduces the number of physicians who elect to enter neurology and encourages an emphasis on performing diagnostic studies. Poor reimbursement also affects patient care by reducing the time a practitioner can spend with a patient even in the face of complicated medical problems.

We need to promote better access to health care and subspecialty access for children and underserved groups with neurological diseases. Toward this end, it is imperative that parents of children with neurological diseases have more options to cover the cost of care. We need to work with other groups to decrease disparities in health care delivery.
One way to improve access to subspecialty care in regions of shortage is through telemedicine. The need for rapid stroke care decisions in hospitals with limited neurology services has prompted the AAN to establish the Telemedicine Subcommittee of the Practice Committee. However, telemedicine might be adapted to improve the care of children with neurologic illness, especially in areas that are underserved by child neurologists. A child neurologist should be a member of this committee. If telemedicine is to achieve long-term success, we must ensure that physicians who provide distant consultations are adequately reimbursed.

5. Legislative Issues

Many of the issues that affect the care of individuals with neurological disease and the job satisfaction of child neurologists are, sooner or later, influenced by elected or appointed government officials, providing us with an opportunity to achieve needed changes. Legislative and bureaucratic decisions, for example, affect reimbursement of medical fees, access to health care, funding of professional training, research funding, tort reform, and insurance issues.

The Brain Political Action Committee (Brain PAC) is one way we can enhance our influence in political and regulatory decisions. The Brain PAC Legislative Counsel is based in Washington, DC. The Brain PAC, for example, is credited with helping to pass recent favorable physician reimbursement legislation as well as the bill to fund 4-6 Epilepsy Centers of Excellence at VA Hospitals. Not all specialty organizations have a PAC, but Brain PAC puts neurologists on an equal footing with other medical specialties with PACs. As much as possible, we need to encourage our members to contribute to Brain PAC.

We need to work closely with other groups to decrease disparities in health care delivery and develop programs for uniform access to health care for children and underserved groups. Playing a role in the question of the education of children with or without disabilities, including what achievements should be mandated, what the content and purpose of education of children is, requiring better research concerning outcomes of learning disorders, attention disorders, behavioral disturbances, etc.

IV. SWOT (Strengths, Weaknesses, Opportunities & Threats) Analysis
(for patient care, research, education, economics, legislative initiatives)

A. Current Strengths in Five Designated Areas

We have an incredibly talented and committed group of clinical child neurologists and there is a high demand for additional clinical services. Only a few years ago, the concern was that managed care companies would drive sub-specialists out of business by insisting that basic neurological problems would be seen only by their primary care physicians. In fact, managed care seems to have had the opposite effect, perhaps because primary care physicians now must see more patients each day and tend to refer patients who would require too much of their time. Nearly half of child neurologists surveyed during the mid to late stages of their careers report that a career in child neurology has taken a toll on certain aspects of their private lives, but most nevertheless report a highly satisfying career. A high degree of professional satisfaction is an important positive force in the recruitment of the next generation of child neurologists.

We are fortunate to have good professional organizations such as the AAN and Child Neurology Society through which to formulate and promote professional, scientific, and educational activities. The two organizations serve different although complementary roles. We must realize, however, that for the AAN to support child neurology, we need to become more involved with the activities of the AAN.
Child neurology has benefited tremendously from the new developments in imaging and genetics. These advances enable today’s child neurologists to confidently diagnose and treat many conditions that once would have been difficult. There are plenty of patient care opportunities.

The recent creation of a child neurology resident match facilitates the recruitment of residents and potentially makes students aware of the field earlier in their career.

The internet provides widespread access to up-to-date clinical and research information as well as the opportunity for easy communication with colleagues. Such easy access to information enables the clinician to more skillfully diagnose and treat neurological disease and facilitates the education of residents and students in innovative ways. Internet-based information is also largely responsible for the creation of a more educated cadre of patients and families.

B. Weaknesses in the Five Designated Areas

Too few young physicians elect to enter the field of child neurology.

Poor re-imbursement for clinical services results in poorly paid physicians. Poor pay in turn contributes to the paucity of new practitioners who enter the field, decreased interest in entering or maintaining an academic career, and the decision of some established practitioners to opt for early retirement. Poor reimbursement for direct patient care influences many neurology residents to emphasize higher paying diagnostic studies rather than direct patient care. These issues are not unique to child neurology.

The current five year training requirement may discourage potential child neurology residents from selecting the field. The required 12 months of adult neurology training may discourage many people with a pediatric focus from selecting child neurology. The combined five years of training in general pediatrics and child neurology probably discourages some graduating residents from pursuing fellowship training in diagnostic techniques or research.

Practitioners in adult neurology and primary care are reluctant to assume care of even simple childhood neurological disorders and it is often difficult to transition older children with chronic neurological disorders to the care of knowledgeable adult practitioners as the patient reaches maturity.

C. Opportunities for Growth and Improvement in the Designated Areas

We should evaluate potential barriers that keep young physicians from selecting child neurology as a career (see item 1 under Threats). One option would include reducing the required adult neurology training from the current 12 months to six months. We should investigate whether to allow trainees to opt for either the current combined program leading to board certification in both general pediatrics and child neurology or to select a single year of pediatrics with later certification only in child neurology.

We should take full advantage of the AAN’s Digital Resource Library to create an extensive repository of exceptional teaching materials. These could include superb photographs and videos illustrating clinical disease, prepared slide presentations, and copyrighted publications owned by the AAN.

We should consider sending to the Section members via e-mail selected abstracts of interest from the annual AAN meeting. These could be circulated either just before the annual meeting or just afterward. This service would provide the members with an overview of the relevant papers and illustrate the wide array of topics of interest that are presented at the annual meeting.
We should promote adaptations to CPT coding and documentation rules that reduce the difficulty in getting paid for the work that is done. The AAN has been helpful with a few of these issues in the past.

D. Threats to Achieving Goals in Each Area

The paucity of physicians entering child neurology - The most immediate threat to child neurology as a discipline is the paucity of physicians who chose to enter the profession. Although the recent trend toward more child neurology residency applicants is encouraging, it is unlikely to match the increasing demand for services or quickly correct the substantial deficit of practitioners. A recent work force analysis commissioned by the Child Neurology Society estimated that we would need to increase the number of child neurologists by 50% or more in order to meet the current need for child neurologists in the US. The small number of child neurologists has far reaching ramifications that negatively affect both professional satisfaction and patient care.

Research funding and training in research techniques - Research funding is becoming increasingly difficult to obtain. An even more fundamental problem is how to train physicians in research techniques without adding multiple years to the training period, an issue that is even more important to child neurologists in light of their extra year of residency compared to adult neurology residents.

E. Current Status of AAN Input to Each Area

Currently the AAN has representative members on the American Board of Psychiatry and Neurology and the Neurology Residency Review Committee, the organizations that together regulate the training and certification requirements for child neurologists.

The AAN provides an opportunity to meet some of the educational goals mentioned in this document via its annual meeting educational programs, the journal Neurology, and Continuum. However, the number and variety of the educational programs are limited and the publications focus on older patients.

The AAN’s legislative and public policy program has been utilized on an ad hoc basis on behalf of child neurology issues.

V. Specific Goals and Objectives for the Child Neurology Section

Many of the concerns that have been identified in this document are difficult, multifaceted problems that will take time to fix and will require ongoing evaluation and effort. Thus the short term goals below are, in most instances, the first steps of a process that will evolve into longer term goals.

A. Short term goals (next 5 years)

1. Assemble leading educators to thoroughly analyze the skills needed to become a competent clinical child neurologist and formulate curriculum guidelines in both neurology and general pediatrics training that are designed to achieve this basic level of competency. This analysis should include skills in general pediatrics, adult neurology, and child neurology and thus the working group should include representatives from all three areas.

2. Once a standard skill set for clinical child neurologists has been agreed upon (see goal # 1), we should examine the current residency training and certification requirements in light of the basic skills that are needed to be a competent child neurologist and make recommendations that could lead to appropriate
alterations in the training requirements for skills relevant to general pediatrics, clinical adult neurology, and child neurology.

3. If changes in residency training requirements are recommended after the analysis above, we will use the opportunities provided by the AAN to effect the needed changes by the outside regulatory bodies. Initiating this process is a short term goal, and completing it is likely to become a longer term goal.

4. Promote child neurology education among adult neurologists and pediatricians by developing a basic skill set in childhood neurologic disorders that should be mastered by each group and developing readily available basic educational materials for each discipline. Options might include the creation of a focused curriculum for these groups supplemented by educational materials designed to meet the curriculum’s objectives.

5. Promote continued care of children with neurological disorders after they reach maturity. We should evaluate and improve procedures to shift to care by adult practitioners and create training opportunities for adult neurologists and adult primary care physicians who need to assume the care of maturing individuals with chronic neurological disorders.

6. Advocate for improved funding of clinical services via the AAN.

7. Study solutions devised by other subspecialty groups that might apply to the issues faced by child neurologists.

B. Long Term (next 5-10 years)

1. Continue to reassesses child neurology residency training requirements and track the effects of these modifications.

2. Periodically revise and update the child neurology residency curriculum for child and adult neurologists and for general pediatricians.

3. Continue to advocate for improved access to neurological care by child neurologists through efforts to increase the number of practitioners and

4. Promote increased basic and clinical research in topics relevant to child neurology and research done by child neurologists.

5. Seek better ways to transition the care of aging children with chronic neurological disorders to adult neurologists and internists, perhaps with some continued involvement by child neurologists as a bridge.

VI. Summary/Concluding Statement

The Child Neurology Section of the AAN exists to improve awareness and care of children with neurological disorders, promote the unique needs of child neurologists within the AAN, and facilitate involvement by child neurologists in the AAN. We have a core group of devoted clinical child neurologists who provide exceptional care and teaching. However, chief among the concerns of Child Neurology Section members is the small number of physicians entering the field, a problem that may in some instances be exacerbated by modifiable barriers in the current postgraduate training process. Other concerns are poor reimbursement for clinical services and poor access to subspecialty care (the latter resulting from the shortage of child neurologists as well as their uneven geographic distribution). Finally,
limitations in clinical research funding and training coupled with an often burdensome clinical load make it difficult for academic child neurologists to develop a successful research program.

Many of the difficulties outlined in this document are neither easy to correct nor unique to child neurologists. We should focus on achievable targets that, over time, can make a substantial difference. Some of these goals include reconfiguration of our training and certification process to ensure superb clinical training and promote program flexibility, improved care of children with neurological disorders by pediatricians and adult neurologists, and improved access to child neurologists. Many of the goals outlined above will require several years of coordinated effort by many people, but through this process we can effect change.