Congress Review

Review of the American Academy of Neurology (AAN) Annual Meeting 2026

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THE 2026 Annual Meeting of the American Academy of Neurology (AAN), held in Chicago, Illinois, from April 18th–22nd, brought together the global neurology community for 5 days of scientific discourse, clinical education, and discussion surrounding the advances in neurologic care. The meeting boasted a hybrid format with in-person and online participation, spanning neurodegenerative disease, stroke, neuroimmunology, epilepsy, headache medicine, movement disorders, neuro-oncology, and emerging technologies, giving those in attendance and at home plenty to explore.

Across plenary presentations, late-breaking science sessions, poster discussions, and educational forums, several recurring themes emerged: precision medicine expanding, prevention and brain health gaining traction, advances in biomarker-driven diagnosis, and the growing integration of AI and digital technologies into research and patient care.

The congress featured more than 3,500 scientific abstracts and over 190 educational programs, demonstrating the scale of the meeting and fast pace of neurological innovation. Particularly notable was the strong presence of late-breaking clinical trial data across several therapeutic areas, including Alzheimer disease, multiple sclerosis, migraine, neuromuscular disorders, and rare genetic neurologic diseases. Discussions increasingly focused not only on symptom management, but also on disease modification, earlier intervention, and long-term quality of life outcomes.

Neuroimmunology and neurodegenerative disease remained dominant areas of interest throughout the meeting. New findings presented in multiple sclerosis explored the impact of obesity, glucagon-like peptide-1 receptor agonists, and pediatric disease management, and much more, reflecting the growing emphasis on individualized care and long-term disease monitoring in the field. Emerging data in Huntington disease, generalized myasthenia gravis, essential tremor, and stiff person syndrome highlighted the continued momentum behind targeted therapies and gene-based treatment strategies.

Another defining feature of AAN 2026 was the prominence of brain health as a common concept across subspecialties, mirroring shifts in both research priorities and patient expectations. It was no surprise that the congress also showcased growing interest in AI predictive analytics and digital neurology tools.

The meeting maintained a strong focus on practical clinical relevance. Attendees and audience members were exposed to high-profile trial data. Many sessions explored real-world implementation challenges, healthcare disparities, telehealth integration, and multidisciplinary care delivery.

This congress review highlights a selection of the most clinically impactful studies, emerging trends, and expert perspectives presented at AAN 2026.

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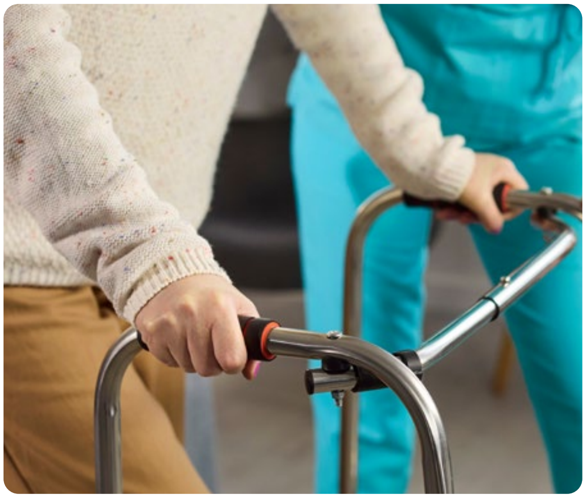
Stroke Rehabilitation Frequency Emerges as Key Recovery Factor

RESEARCH presented at AAN 2026 has suggested that increasing the frequency of inpatient physical therapy for people hospitalized with acute stroke may significantly reduce hospital length of stay without negatively affecting functional outcomes at discharge.[1]

In the retrospective BID-FAST study, investigators from Medical University of South Carolina, USA, evaluated whether implementing twice-daily physical therapy sessions during acute stroke admission could improve patient outcomes compared with the standard approach of 3–5 sessions per week. The study was designed in response to ongoing uncertainty surrounding the optimal intensity and timing of rehabilitation after stroke. While very early, intensive therapy can sometimes be poorly tolerated, the researchers proposed that shorter, more frequent sessions may improve participation and recovery during the acute phase.

The analysis included 296 patients treated across two consecutive 4-month periods at a comprehensive stroke center. The pre-implementation cohort received standard-frequency physical therapy, whereas the post-implementation cohort received the BID-FAST intervention consisting of twice-daily sessions. Outcomes assessed included hospital length of stay, discharge modified Rankin Scale (mRS), and discharge destination.



Following implementation of BID-FAST, mean hospital length of stay fell from 6.83 days to 4.61 days, representing a statistically significant reduction of 2.22 days (95% CI: 0.57–3.87; p=0.0086). Importantly, this reduction was not accompanied by worse functional outcomes. Discharge mRS scores remained comparable between the groups, with averages of 2.13 in the standard-frequency cohort and 2.07 in the BID-FAST cohort. Similarly, the proportion of patients discharged home showed no meaningful difference, increasing slightly from 56.1% to 58.2%.

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The authors concluded that therapy frequency may represent an important and modifiable aspect of acute stroke rehabilitation. Although the study design does not establish causality, the findings suggest that increasing physical therapy frequency could improve healthcare efficiency by shortening admissions without compromising patient recovery. The investigators noted that prospective studies will now be needed to confirm these observations and determine whether intensified rehabilitation strategies can also improve longer-term disability outcomes after stroke.

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Growing Burden of Headache Disorders Among Older Adults

HEADACHE disorders affected more than half a billion older adults globally in 2021, according to new research highlighting substantial sex and socioeconomic disparities in disease burden across regions.[2]

The analysis examined the global epidemiology of headache disorders in adults aged ≥55 years using data from the Global Burden of Disease (GBD) study between 1990–2021. Researchers evaluated prevalence, incidence, and disability-adjusted life-years (DALY) at global, regional, and national levels, while also investigating associations with socioeconomic development using the Sociodemographic Index (SDI).

In 2021, approximately 538 million older adults worldwide were living with headache disorders, corresponding to a prevalence of 36,219 cases per 100,000 population. The USA ranked among the top three countries globally for prevalence, with 43,133 cases per 100,000 population.

Although global age-standardized rates declined slightly over the study period (estimated annual percentage change: −0.056), the absolute number of DALYs increased by 115% since 1990, indicating a substantial rise in the overall burden of headache disorders among ageing populations.

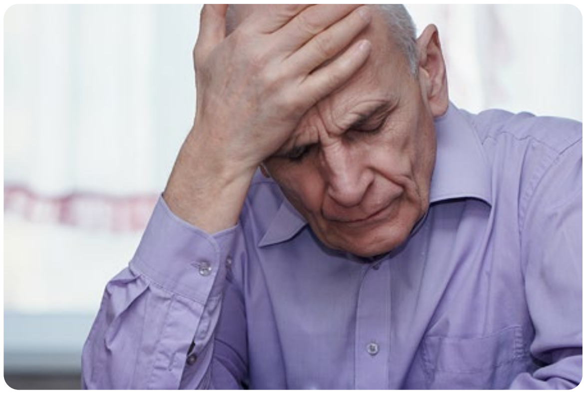
Migraine incidence increased by 1.90% during the study period, whereas tension-type headache incidence declined by 2.73%. Female adults consistently experienced a greater burden than males across all older age groups.

Significant regional and socioeconomic disparities were also identified. Middle-SDI regions showed the greatest increase in prevalence over time, while high-SDI regions had the highest prevalence rates overall in 2021 at 39,639 cases per 100,000 population. Eastern Europe recorded the highest DALY rates globally, suggesting a particularly severe disability burden in this region. East Asia had the greatest number of overall cases, reaching 117.9 million.

The findings underline the growing impact of headache disorders in older populations worldwide, particularly as global demographics continue to shift towards ageing societies. Researchers emphasized that headache disorders remain an under-recognized contributor to disability among older adults, despite their substantial effect on quality of life and daily functioning.

The authors concluded that integrating headache management into geriatric care pathways may help address this rising burden. They also highlighted the need for region-specific public health strategies to reduce disparities associated with sex and SDI.

The study was based on estimates from the GBD database and may therefore reflect variations in healthcare access, diagnostic practices, and reporting quality between countries. However, the analysis provides one of the most comprehensive assessments to date of headache disorders in older adults globally.



Digital Multiple Sclerosis Quality Measures Face Major Challenges

A NEW study has raised concerns about the feasibility of converting existing multiple sclerosis (MS) quality measures into reliable digital tools using electronic health record data.[3]

The retrospective cohort study evaluated the completion rate of the 2020 AAN MS quality measures among 1,101 adults with MS at a single specialist center. Participants had attended at least two clinic visits approximately 24 months apart. Investigators developed digital quality measures (dQMs) using electronic health record data and compared these with manually abstracted quality measures (mQMs) obtained through chart review in a random subgroup of 218 patients.

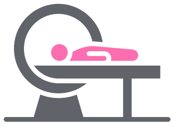
MS is a chronic neurological disease affecting the brain and spinal cord, often leading to progressive disability and a wide range of physical and cognitive symptoms. Quality measures are designed to standardize care and assess whether patients are receiving recommended monitoring, screening, and symptom management. The findings showed substantial differences between dQMs and mQMs for several important care metrics.

MRI screening completion rates were significantly lower using dQMs compared with mQMs (82% versus 93%; p<0.001). Similar discrepancies were observed for symptom management (8.7% versus 24%; p<0.001), cognitive screening (77% versus 88%; p<0.001), and fatigue management (2.1% versus 32%; p=0.046).

In contrast, fatigue screening rates were comparable between digital and manual measures (91% versus 89%; p=0.43), while cognitive management completion remained low across both approaches.

Researchers also reported that several AAN quality measures could not be converted into digital measures at all because the required information was not available as structured electronic health record data. These findings suggest that current electronic systems may not adequately capture the complexity of neurological care delivered in routine clinical practice.

The authors suggested that future MS quality measures should be designed with electronic health record integration in mind, helping clinicians use digital tools more consistently in practice while ensuring care delivery is captured more accurately.



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Community Stroke Rehabilitation Priorities Identified in Zambia

IMPROVING post-stroke rehabilitation in Zambia may require integrated community-based services and expanded caregiver support, according to findings presented at AAN 2026 from co-creation workshops involving stroke survivors and caregivers.

Stroke, a leading cause of long-term disability, is associated with impairments affecting mobility, communication, and cognition, yet rehabilitation access remains limited across much of Zambia.[4]

Researchers used a human-centered design approach to explore perceptions of potential community-based stroke rehabilitation models. Two co-creation workshops were conducted with 36 participants, including 18 stroke survivors and 18 caregivers, using facilitator-led activities such as term association exercises and journey mapping to evaluate seven possible rehabilitation services.

Participants identified several rehabilitation modalities as empowering and beneficial. Speech, physical health, mental health, and occupational therapy were consistently viewed positively. In contrast, employment retraining and social support services were less clearly understood by participants, while pastoral support generated skepticism because of concerns regarding potential corruption.

Journey mapping exercises identified several recurring themes influencing rehabilitation engagement. Participants described initial resistance to seeking support following hospital discharge, often followed by pursuit of external assistance because of social isolation or challenges managing caregiving responsibilities at home. Healthcare provider endorsement emerged as an important factor influencing willingness to engage with rehabilitation services.

Financial barriers were also consistently reported, particularly costs associated with transportation and accessing care. Caregiver training for delivery of rehabilitation at home was repeatedly prioritized. Participants emphasized the value of equipping caregivers with practical skills to support ongoing rehabilitation outside formal healthcare settings.

As a qualitative co-creation study, the findings reflect perspectives from a relatively small participant sample and may not be generalizable across all regions or healthcare settings in Zambia.

Researchers concluded that future stroke rehabilitation initiatives in Zambia should consider integrated local rehabilitation centers capable of delivering multidisciplinary services in a single setting, alongside pilot caregiver training programs designed to support in-home rehabilitation delivery. Further research could help determine how these models influence rehabilitation uptake, continuity of care, and long-term functional recovery following stroke.

Ocrelizumab Delayed Disability Progression in Progressive Multiple Sclerosis

NEW findings from the ORATORIO-HAND trial showed that ocrelizumab significantly delayed disability progression and worsening upper-limb function in patients with primary progressive multiple sclerosis (PPMS), including older patients and those with more advanced disease.[5]

PPMS is a chronic neurodegenerative condition characterized by steadily worsening neurological disability, often with limited treatment options. While previous studies established the benefit of ocrelizumab in delaying disease progression in PPMS, evidence in older patients and those with advanced disability has remained limited, particularly regarding preservation of hand and upper-limb function.

The Phase III ORATORIO-HAND trial evaluated the efficacy and safety of ocrelizumab compared with placebo in a broad PPMS population. Researchers enrolled adult patients aged up to 65 years with Expanded Disability Status Scale (EDSS) scores ranging from 3.0–8.0, reflecting substantial disability in many participants. Patients were randomized 1:1 to receive ocrelizumab 600 mg or placebo every 6 months for up to 144 weeks or until at least 340 progression events occurred.

The primary endpoint assessed 12-week confirmed composite disability progression, including worsening in the 9-Hole Peg Test, a measure of hand and upper-limb function, or EDSS progression.

Among 505 patients receiving ocrelizumab and 508 receiving placebo, median baseline age was 48 versus 47 years, respectively, while median EDSS score was 6.0 in both groups. Over the treatment period, confirmed disability progression occurred in 32.7% of patients receiving ocrelizumab, compared with 40.4% receiving placebo, corresponding to a 30% risk reduction (HR: 0.70; 95% CI: 0.57–0.86; p=0.0007).

Ocrelizumab also significantly reduced upper-limb disability worsening. Progression based on the 9-Hole Peg Test occurred in 16.7% of ocrelizumab-treated patients versus 24.9% of placebo-treated patients, representing a 41% risk reduction (p=0.0002). EDSS-confirmed progression was similarly reduced by 33% (p=0.0013).

> **Over the treatment period, confirmed disability progression occurred in 32.7% of patients receiving ocrelizumab**

Benefits appeared even greater in patients with MRI-active disease. In this subgroup, ocrelizumab reduced the risk of confirmed disability progression by 55% (HR: 0.45; 95% CI: 0.31–0.64; p<0.0001), alongside substantial reductions in hand function and EDSS worsening.

The safety profile of ocrelizumab was broadly consistent with previous studies. Infusion-related reactions occurred more frequently with ocrelizumab than placebo (20.8% versus 4.3%), while infections were reported in 48.4% and 44.7% of patients, respectively.

These findings suggest that ocrelizumab may provide clinically meaningful benefits in a wider PPMS population than previously established, including patients with more advanced disability and older age.

Sleep and Anxiety May Shape Persisting Post-Concussive Symptom Severity

PERSISTENT post-concussive symptoms (PPCS) may be shaped not only by injury severity, but also by anxiety, resilience, and sleep quality, according to new research presented at AAN 2026.[6]

Post-concussive symptoms can include headaches, fatigue, dizziness, memory difficulties, and emotional changes that continue for more than 3 months after head injury.

Researchers examined whether psychological and physiological factors independently predicted symptom burden in 30 people enrolled in a clinical trial investigating neuromodulation and recovery. These participants had a high burden of PPCS, defined as a score of ≥20 on the Rivermead Post Concussion Symptom Questionnaire at least 3 months after injury.

Participants completed a range of psychosocial and sleep assessments, while sleep was also tracked over 1 week using the Oura Ring (Oura Health, Oulu, Finland), a wearable device designed to monitor sleep and physiological patterns. Wearable monitoring may provide a practical way to assess sleep in real-world settings, but it offers less detail than laboratory-based sleep studies.

The findings showed that anxiety and resilience independently predicted symptom burden, supporting previous research in PPCS. When sleep measures were added to the analysis, anxiety, objective sleep efficiency, and subjective sleep impairment together explained 65% of the variation in post-concussion symptom burden.

Poor sleep efficiency was linked with greater symptom burden. Researchers suggest that these findings could be implemented to help clinicians better identify patients who may benefit from more individualized management approaches.

As the small cohort of participants were all already experiencing a high burden of symptoms, this may limit how broadly the findings apply. In addition, wearable sleep tracking provides indirect estimates of sleep quality rather than comprehensive clinical sleep assessment.

Still, the findings suggest that targeting anxiety, sleep impairment, and resilience simultaneously could improve care strategies for people with PPCS. The incorporation of wearable physiological monitoring into post-injury assessment could also support more personalized approaches to recovery in future studies.

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Machine Learning Model Highlights Institutional Influence on WLST Decisions

A MACHINE learning (ML) analysis of more than 155,000 patients with severe traumatic brain injury (TBI) found that institutional withdrawal of life-sustaining therapy (WLST) rates were among the strongest predictors of whether care would be withdrawn, independent of patient clinical condition. The findings suggest that local treatment culture may significantly influence WLST decisions and raise concerns about potential self-fulfilling prognostic bias in severe TBI care.[7]

Investigators developed ML models to predict WLST in patients with severe TBI using data from the American College of Surgeons Trauma Quality Improvement Program National Trauma Databank between 2017–2021. The researchers aimed to identify the most influential determinants of WLST and hypothesized that facility-specific WLST rates would emerge as a major predictive factor.

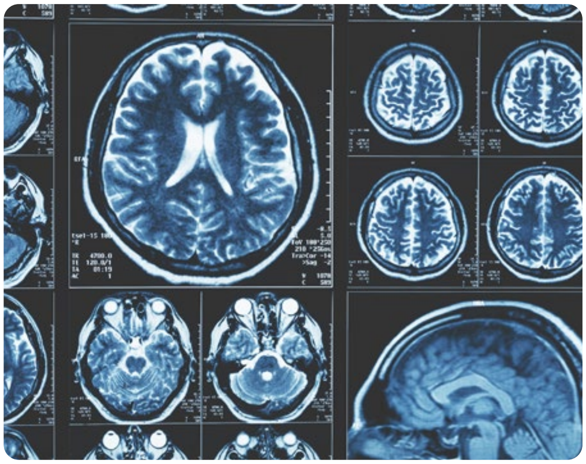
The observational study included patients with severe TBI defined by an Abbreviated Injury Scale (AIS)-Head score ≥1 and presenting Glasgow Coma Scale (GCS) score <9. Of more than 5.4 million trauma records screened, 155,639 patients met inclusion criteria. Among these, 32,385 patients (20.8%) underwent WLST. Mean patient age was 43 years, 26.5% were female, and the median time to WLST was 46.4 hours after presentation.

ML models were trained using variables available at different stages of admission and hospitalization. Predictive performance was high across all models, with area under the receiver operating characteristic curve values ranging from 0.875 for the admission model to 0.896 for the total length-of-stay model.

Shapley additive explanation analysis identified age, highest emergency department GCS score, and facility WLST rate as the most influential predictors of WLST decisions. The strong impact of institutional WLST rates suggested that local practice patterns and withdrawal culture may independently shape decision-making beyond objective measures of neurological injury severity.

> **The findings suggest that local treatment culture may significantly influence WLST decisions and raise concerns about potential self-fulfilling prognostic bias in severe TBI care**

The authors concluded that ML models can reliably predict WLST decisions in severe TBI, but the findings also highlight the need for more refined prognostic tools and greater awareness of potential institutional bias. As outcomes in severe TBI continue to improve, the researchers warned that premature WLST decisions influenced by pessimistic prognostication or center-specific culture may contribute to avoidable mortality.



Digital Dashboard Tracks Inpatient Neurology Care Quality

RESEARCHERS have developed a digital inpatient neurology dashboard that integrates electronic health records, billing data, and patient satisfaction metrics, enabling real-time tracking of quality indicators and supporting measurable improvements in hospital care delivery.[8]

Stroke-related neurology quality measures are routinely monitored because of established stroke center requirements, but equivalent standards for general inpatient neurology remain less developed. Limited program funding has also restricted large-scale quality initiatives. Investigators therefore sought to create a cost-conscious quality dashboard capable of tracking inpatient neurology performance indicators and supporting targeted improvement projects.

This healthcare quality improvement initiative was conducted between 2023–2025 by a core inpatient general neurology committee working alongside a health system Clinical Data Operations team. Researchers reviewed neurohospitalist literature to identify inpatient quality gaps and selected key performance indicators for monitoring. Data were extracted from three primary sources: Epic electronic health records, MSX billing and claims data for readmissions, and HCAHPS patient satisfaction surveys. Information was integrated into the Tableau visual analytics platform to create a dashboard capable of filtering results by date range, location, inpatient service, and provider.

The neurology dashboard continuously integrated new data and enabled visualization of longitudinal trends across inpatient services. One initial quality improvement project using dashboard data demonstrated a 20% improvement in medication reconciliation within 24 hours of hospital admission following an inpatient education intervention. Additional tracked indicators included MRI timing, readmission patterns, patient satisfaction scores, and rapid EEG utilization.

The researchers concluded that modern healthcare systems generate large volumes of underused clinical data, and that these data can support meaningful improvements in patient care when organized into accessible analytics platforms. They suggested that broader implementation of inpatient neurology dashboards may facilitate development of standardized quality indicators while supporting fiscally sustainable quality improvement initiatives across healthcare systems.

Care Partners of Anoxic Brain Injury Survivors Face Lasting Trauma

CAREGIVERS of survivors with severe anoxic brain injury experience high rates of prolonged grief, post-traumatic stress, and conflict with healthcare teams months after injury, according to new research highlighting the hidden psychological burden carried by care partners after cardiac arrest.[9]

Researchers investigated the emotional and practical challenges faced by surrogates caring for survivors with severe neurological impairment following anoxic brain injury. While previous studies have largely focused on patients with favorable neurological recovery, little is known about families supporting survivors with poor functional outcomes, chronic disability, or dependence on life-sustaining therapies.

The study enrolled care partners of severe anoxic brain injury survivors who had significant disability at discharge, radiological evidence of anoxic injury, or ongoing life-sustaining treatment requirements. Participants completed validated surveys assessing symptom burden, quality of life, grief, depression, anxiety, post-traumatic stress, caregiver burden, and advance care planning. Semi-structured interviews were also conducted to explore unmet care needs and experiences with healthcare systems.

Overall, 26 care partners representing 20 survivors completed 54 surveys and 55 interviews across inpatient and nursing home settings. Participants had a mean age of 57 years, 69% were female, and 38% identified as Black.

At 6 months after injury, psychological distress remained common. Investigators reported prolonged grief in 39% of care partners and post-traumatic stress symptoms in 56%. Many participants also described substantial caregiver burden and persistent disagreement with healthcare staff regarding goals of care, with 59% reporting conflict around decisions relating to survivorship and treatment.

> **Participants reported experiencing complex grief linked not only to fear of death, but also to the profound personality and functional changes experienced by survivors**

Qualitative analysis identified four major themes emerging from interviews. Care partners frequently perceived conflicting values and staff bias regarding prognosis and treatment decisions. Many expressed a strong desire for more meaningful relationships and communication with healthcare professionals. Lasting distrust of healthcare systems was also commonly described, particularly following difficult decision-making experiences. Finally, participants reported experiencing complex grief linked not only to fear of death, but also to the profound personality and functional changes experienced by survivors.

The authors concluded that care partners of severe anoxic brain injury survivors face enduring and under-recognized psychological sequelae long after hospital discharge. They emphasized the need for targeted clinical interventions, improved communication strategies, and greater psychosocial support to better address caregiver trauma and reduce conflict during long-term survivorship care.

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