EDITOR’S NOTE

This issue of Congress Quarterly (cnsQ) is dedicated to the 2015 Annual Report for the Congress of Neurological Surgeons. Inside, we highlight many of the heart and soul programs of the CNS and the impact of collaboration across the globe. President Nate Selden outlined the many innovations and new initiatives of the CNS this past year in addition to highlighting the close relationships with other organizations and societies, which was key to the success of these programs. By partnering with the Society of Neurological Surgeons, the Accreditation Council for Graduate Medical Education, the American Board of Neurological Surgery, the Foundation for the National Institute of Health, Joint Washington Committee and Office, and many others, the CNS was able to exceed its strategic goals while keeping the primary mission in sight at every step. Let’s remind ourselves of the mission of the CNS, which is the following:

The CNS exists to enhance health and improve lives worldwide through the advancement of neurosurgical education and scientific exchange.

Below is a list of several key accomplishments of the CNS engine over the year:

- Under the leadership of Editor in Chief Dr. Nelson M. Oyesiku, Neurosurgery reached the highest Impact Factor since its inception in 1977
- Launch of Neurosurgery Portal Project in cooperation with SNS and AANS
- Launch of mCASE Exchange, a completely novel online and mobile platform for case review and image sharing
- Fourteen evidence based guidelines over three years
- Dr. Kim Burchiel, a pioneer in functional and stereotactic neurosurgery, pain, and epilepsy, and mentor of President Nate Selden, served as the Honored Guest at the CNS Annual Meeting in New Orleans
- Dr. Karin Muraszko, former mentor of President Nate Selden was presented with the CNS Distinguished Service Award
- CNS Annual Meeting in New Orleans
- Approximately 4,750 registrants attended the 2015 CNS Annual Meeting
- CNS membership worldwide surpasses 9000 members
- More than 419 hours of CME content with over 181 CME activities was offered for neurosurgeons and allied physicians this year alone
- DO neurosurgeons were approved for Active membership by the CNS Executive Committee
- CNS Foundation partnered with the Foundation for the National Institutes of Health to fund the NINDS/CNS Getch Scholar K12 Award
- Dr. Karin Muraszko, former mentor of President Nate Selden was presented with the CNS Distinguished Service Award
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- CNS Foundation partnered with the Foundation for the National Institutes of Health to fund the NINDS/CNS Getch Scholar K12 Award
- Lastly, which I am most proud of as an Air Force veteran, the CNS Executive Committee approved complimentary annual CNS dues for Active Duty Military members to honor those who serve our country

On behalf of the CNS leadership, hats off to all the volunteers of the CNS who have “carried the message” and accomplished so much over the year. We look forward to next year under the leadership of 2015-2016 President Dr. Russell Lonser.
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CNSQ BACK PAGE
Looking back on 2015, I am proud of all the CNS has accomplished and honored to have had the opportunity to work with so many outstanding neurosurgical leaders and innovators. One key to the past year was effective collaboration with other societies, specialties, and organizations, all for the betterment of our profession.

A collaboration I am especially proud of is our partnership with the Turkish Neurosurgical Society (TNS). The CNS and TNS partnered throughout the past two years to deliver outstanding neurosurgical education. In April of 2014 and 2015, CNS faculty and education division volunteers traveled to Antalya, Turkey, for the International Basic Neurological Course (IBNC). At the IBNC, CNS faculty helped teach more than 200 students from over 70 developing nations worldwide, and hosted a vascular simulation course using CNS SIM modules. In 2015, the CNS delegation also participated as the international guest society at the TNS Annual Scientific Conference. Our CNS-TNS partnership continued this fall in New Orleans, where more than 25 leaders from the TNS served as faculty for courses and educational sessions throughout the CNS Annual Meeting. Highlighting the collaboration, Professor Yücel Yilmaz, president emeritus of Kadir Has University in Istanbul, delivered a talk on “Troy, Cradle of Western Civilization” during the Sunday Opening General Session.

The Congress is also very proud to partner closely with our colleagues in the Society of Neurological Surgeons (SNS), the Accreditation Council for Graduate Medical Education (ACGME), and the American Board of Neurological Surgery (ABNS) to enhance the progress of education in our specialty. Since 2011, the CNS has partnered with the SNS to produce the nationwide PGY1 Neurosurgery Boot Camp courses, enhancing safety and professionalism at the beginning of training for all US residents. The ACGME has recommended Boot Camp participation for all US neurosurgery residents.

Over the past year, we have also launched the Neurosurgery Portal project in cooperation with the SNS and AANS. When it launches in early 2016, the Portal will serve as a dynamic and interactive classroom that will define and teach the core of our specialty, providing residents with access to surgical videos, lectures, and short quizzes, and also generating objective progress reports for residents and program directors. Together, the Boot Camp Courses and the Neurosurgery Portal represent key pieces of a plan for systematic and intentional neurosurgical education designed to enhance the progress of our specialty.

Since our foundation, the CNS has grown and enriched neurosurgery by collaborating with the newest sources of talent for our specialty, including CNS founding members returning from World War II hospital service. The ACGME this year announced a comprehensive new partnership with US osteopathic physicians. The CNS has joined this historic collaboration by becoming the first neurosurgical society to extend full, active membership to qualified osteopathic neurosurgeons. Welcoming these colleagues to the Congress is about putting access to quality neurosurgical care for patients in need first, as well as honoring the inclusive heritage of the CNS.

CNS partnerships in the last year include research as well as education. In 2015, the CNS along with the CNS Foundation entered into an unprecedented collaboration with the Foundation for the National Institutes of Health (FNIH) and the National Institute of Neurological Disorders and Stroke (NINDS) to fund and administer an ongoing national career development program. The NINDS/CNS Getch Scholar K12 Award provides two years of funding to an early career neurosurgeon to train as a highly competitive clinician scientist. We expect NINDS/Getch scholars to form a core of scientific leaders for the future of neurosurgery.

As we have for decades, CNS volunteers worked incessantly over the past year to create the most impactful and high quality education.
available in the US for practicing neurosurgeons. In collaboration with evidence-based medicine experts from the CNS and AANS joint sections as well as from other specialties, the CNS continues to serve as the sole engine for neurosurgical practice guidelines creation. CNS-produced guidelines are crucial to promote the highest quality care and to preserve access for all patients in need of neurosurgical intervention.

This year, we also launched the CNS mCASE Exchange, a completely novel online and mobile platform for case review and image-sharing. mCASE Exchange brings together colleagues from down the hall or across the globe in real time to share advice and insight about the toughest clinical problems we face day to day. The CNS has provided every member with the cutting-edge networking technology that powers mCASE Exchange. Together, each of us contributes our knowledge to the shared community that makes mCASE Exchange, and CNS membership, so valuable.

Some of our most impactful collaborations on behalf of neurosurgery happen in Washington, D.C., where the CNS and AANS Joint Washington Committee and Office have a disproportionately large effect on health care policy, regulation, and reimbursement. In 2015, the CNS also collaborated with other medical specialties in the Alliance of Specialty Medicine and the Surgical Coalition in successful efforts to repeal the Medical Device Tax and to preserve payments for the 90-day global post-operative care period. In many other ways, like joint CME reporting to the ABNS instituted this year, the CNS and AANS are working more closely together than ever to improve the daily working environment of our members and to add value to the career of every practicing neurosurgeon.

I want to extend my sincere thanks to every CNS member for the opportunity to serve you and the CNS during this exciting time. I am tremendously optimistic about the future of our organization under the strong leadership of Dr. Russ Lonser and the 2015-16 CNS Executive Committee. I also look forward to every opportunity I will have during the rest of my career to support the ongoing work of the CNS along with you, as an engaged and supportive member.
MENTORSHIP: Service, Education, Progress

The 65th Annual Meeting of the Congress of Neurological Surgeons

By Steven N. Kalkanis, MD; Elad I Levy, MD; and Ruby Thomas

Approximately 4,750 neurosurgeons, medical professionals, industry representatives, and guests gathered in New Orleans, September 26-30, for the 2015 Congress of Neurological Surgeons Annual Meeting. The meeting highlighted mentorship’s role in advancing our profession from one generation to the next.

Campagna Chair of Neurological Surgery at Oregon Health & Science University Dr. Nathan Selden delivered the 2015 Presidential Address on the meeting theme, “Mentorship: Service, Education, Progress.” Reflecting on how mentoring is essential to the field of neurosurgery, Dr. Selden reminded us that the rewards of mentorship come from helping our students and those who come after to succeed and build upon what they have learned from us. He described the influence in his life of one of his own mentors, Dr. Karin Muraszko, Julian T. Hoff Professor and chair of the department of neurosurgery at the University of Michigan. Dr. Muraszko was later presented with the CNS Distinguished Service Award.

Another of Dr. Selden’s mentors, Dr. Kim Burchiel, served as the Honored Guest. A pioneer in functional and stereotactic neurosurgery, pain surgery, and epilepsy neurosurgery, Dr. Burchiel gave talks on the progress over the last two decades in deep brain stimulation, on the latest indications and surgical treatment options for trigeminal neuralgia, and on new paradigms for neurosurgical education.

Thought-provoking Guest Speakers

Capping our plenary session in the birthplace of jazz was Grammy- and Oscar-winning jazz musician, band leader, and composer Herbie Hancock, who delivered the CNS Michael L. J. Apuzzo Lecture on Creativity and Innovation.

Rudy Giuliani, 107th mayor of New York City, gave the Walter E. Dandy Oration, expounding on six principles of leadership: strong beliefs, optimism, courage, teamwork, preparation, and communication.

Dr. Karin Muraszko, the first woman to chair a U.S. neurosurgery department, received the CNS Distinguished Service Award. CNN filmed the award presentation and her interview with former pupil Dr. Sanjay Gupta in the exhibit hall.

Dr. Nelson M. Oyesiku with attendees at the Young Neurosurgeon’s Luncheon.
FOX News political analyst Juan Williams was the John Thompson History of Medicine Lecturer. Williams shared his Washington-insider perspective on potential outcomes of the 2016 U.S. Presidential election.

Other notable guest speakers included Atul Grover, chief public policy officer of the Association of American Medical Colleges; Trevor Robbins, professor of cognitive neuroscience at the University of Cambridge; Don Walsh, the explorer and oceanographer who co-piloted the Bathyscaphe Trieste to the deepest part of the ocean; and Nobuhiro Mikuni, president of the Japanese Congress of Neurological Surgeons.

Turkish Neurosurgical Society
Our 2015 International Partner, the Turkish Neurosurgical Society, contributed many outstanding faculty to this year’s program. We heard from TNS President Dr. Zeki Sekerci and TNS Vice President Dr. Talat Kiris during the plenary sessions, and enjoyed an enriching historical talk on “Troy, the Cradle of Western Civilization” from Dr. Yücel Yilmaz, president emeritus of Kadir Has University in Istanbul.

Notable Numbers
Medical Attendees

73% CNS members
24% residents, fellows, and medical students
20% from outside the United States
60 countries and 50 states represented
• Countries with highest attendance:
  United States, Canada, Turkey, Brazil, Japan
• U.S. states with highest attendance:
  California, Minnesota, Michigan, Texas, Illinois

Abstract Award Recipients

Achal Singh Achrol, MD
National Brain Tumor Society Mahaley Clinical Research Award

Michael Bohl, MD
Julius Goodman Resident Award

Prashant Chittiboina, MD, MPH
American Brain Tumor Association Young Investigator Award

Christopher Salvatore Graffeo, MD, FACS
Depuy Synthes Award for Resident Research on Spinal Cord and Spinal Column Injury

Kyle Gregory Halvorson, MD
Columbia Softball Charity Award

John S. Kuo, MD, PhD, FACS
Preuss Award

Jared M. Pisapia, MD, MTR
Integra Foundation Award

Isaac Jonathan Pomeraniec, BSc
Stryker Neuro-Oncology Award

Sophia Shakur, MD
Sherry Apple Resident Travel Scholarship

Mohammed F. Shamji, MD, PhD
Ronald R. Tasker Award

Ashish Sonig, MD, MS, MCh
Galbraith Award

Robert Starke, MD, MSc
CNS Resident Award

Joerg-Christian Tonn, MD
BrainLab Community Neurosurgery Award

Raul A. Vasquez-Castellanos, MD
Sam Hassenbusch Young Neurosurgeon Award

Doris D. Wang, MD, PhD
Stereotactic and Functional Neurosurgery Resident Award

Helen S. Wei, MD
Synthes Cerebrovascular Award

Hasan Zaidi, BS, MD
Synthes Skull Base Surgery Award

Pascal O. Zinn, MD
Journal of Neuro-Oncology Award

Scott L. Zuckerman, MD, FACS
Depuy Synthes Award for Resident Research on Brain and Craniofacial Injury
Robust Original Science Program
We received more than 1,600 abstract submissions this year, a five-year record. The late-breaking category received another 118 submissions. As a result, we were able to select a very strong Original Science Program, which included 105 oral presentations, 480 poster presentations, and 12 late-breaking oral presentations. Eighteen awards were presented for abstracts of outstanding merit.

Notable Numbers
Customizable Education
- 2 Full-day Symposia
- 27 Practical Courses
- 26 Luncheon Seminars
- 3 Flipped Classroom Seminars
- 4 Dinner Seminars

News from the Exhibit Hall
The CNS exhibit hall has become more interactive than ever. The SCANvenger hunt, a QR-code-based activity, attracted participation from hundreds of attendees and generated new avenues of engagement with our 158 exhibitors, who showcased some truly exciting new technology.

The CNS Member Services booth also welcomed special guests. This year’s meeting theme prominently featured neurosurgical founding father Walter E. Dandy, and many members of the Dandy family were on hand for the rerelease of *Walter E. Dandy: The Personal Side of a Premier Neurosurgeon*, a biography by Dr. Dandy’s daughter Mary Ellen Marmaduke.

Member Participation Matters
Hundreds of talented individuals and corporate sponsors contributed their resources, time, and ideas to make the 2015 CNS Annual Meeting an inspiring five days of learning and fellowship. Thank you to all CNS members who participated in small ways and large—a meeting like this only comes together because of you. We hope to see even more CNS members get involved in the 2016 Annual Meeting, September 24-28, 2016, in gorgeous San Diego, California.

65th CNS Annual Meeting Distinguished Honorees

CNS Honored Guest
Kim J. Burchiel, MD, FACS

CNS Distinguished Service Award Winner
Karin M. Muraszko, MD, FACS

CNS Founder’s Laurel Award Winner
Edward R. Laws, MD, FACS

Christopher C. Getch Fellowship
Brian Patrick Walcott, MD

Mary Ellen Marmaduke signs books for Walter Dandy fans.
This has been an eventful year for the CNS Publications Committee and the CNS Editorial Office as we have worked to establish Operative Neurosurgery (ONS) as a separate publication from Neurosurgery. This separation from the CNS' flagship journal has truly paved the way for Operative Neurosurgery to become “The Surgeon’s Armamentarium,” an indispensable resource for the practicing surgeon to advance patient care.

With this transition, ONS is now accessible through its own website: OperativeNeurosurgery-Online.com, where CNS Members and subscribers can access full-text articles as well as supplemental multimedia material such as operative videos. Authors will utilize a distinct submission and peer review site, allowing them to submit manuscripts specifically for publication in this valuable resource. The evolution also means that Operative Neurosurgery (ONS), which has had its own registered ISSN since 2014, is undergoing a citation analysis by JCR for Impact Factor. If accepted, ONS would receive its Impact Factor in the June 2016 Journal Citation Report. The CNS also previewed the pilot version of a new digital platform, available at ONS-SA.com, at the 2015 Annual Meeting. This platform utilizes a robust search engine and multimedia content delivery system to place journal content, deconstructed and aggregated according to the needs of surgeons at all levels, on any mobile device.

Meanwhile, Neurosurgery had an outstanding year, and with a new editorial board in place, has reviewed a record number of submissions from more than 50 countries worldwide. In addition, Neurosurgery published two special spine supplements in 2015: a “best of” collection from the past five years, and the AOSpine focus issue, The Aging Spine. Access to the journal continues to expand online (via Ovid), with total user sessions increasing more than 25 percent, and more than 400,000 full-text articles accessed. Citations continue to grow as well; Neurosurgery’s 2014 Impact Factor was 3.620, ranking it 21 out of 198 journals in the surgery category. This represents the journal’s highest Impact Factor since its inception in 1977. In 2016 and beyond, Neurosurgery will continue to focus on publishing the very latest, high-impact science in the specialty with the debut of new, focused topical reviews in the related clinical neurosciences and thematic invited supplements from expert authors and guest editors.

Clinical Neurosurgery also underwent changes in 2015, with Dr. Krystal Tomei stepping into the editor-in-chief role previously held by Dr. Gerald Grant. We thank Dr. Grant for his ten years of service to Clinical Neurosurgery. In keeping with tradition, Volume 62 features highlights from the 2014 Annual Meeting in Boston, including the Presidential Address by Dr. Daniel Resnick and two presentations from Honored Guest Dr. Edward Benzel. We’ll be introducing a new online-only format in 2016 and anticipate it will allow us to expand upon CNS Annual Meeting content.

Our Congress Quarterly (CNSQ) editorial board delivered another four great issues in 2015, with Dr. Gerald Grant taking over the editorial reins, a position previously held by Dr. James S. Harrop. Our winter issue focused on the game-changing technology from the Neurovation symposium held at the 2014 Annual Meeting, while our spring issue projected what neurosurgery might look like in 2065 across a number of subspecialty practice areas. After publishing a 2015 Annual Meeting preview issue early in summer, we dedicated the fall issue to spotlighting neurosurgery’s role in a number of national disasters. This impactful issue featured interviews with neurosurgeons at the front lines of the Asiana Airlines crash, Hurricane Katrina, the shooting of former US State Representative Gabby Giffords, and more. The Publications Committee and CNSQ Editorial Board wish to thank the many CNS members and volunteers who have collaborated on articles and contributed to the publication this year.
As the CNS surpasses a historic membership roster of 9,000 doctors under the leadership of 2015 President Nate Selden, I would like to take a moment to reflect on our organization. I have had the wonderful opportunity over the past three years to meet and speak with a large number of neurosurgeons about the values of CNS membership. While the benefits of membership are clear and obvious to the vast majority of neurosurgeons, I have also been challenged to delineate how CNS membership benefits each and every neurosurgeon. This has not only been an educational process for me, but also has given the CNS the opportunity to respond to the needs and concerns of our membership. While the CNS responds organically to our changing healthcare environment, the benefits of membership can be artificially divided into several categories, including: 1) Education, 2) Advocacy, 3) Community, and 4) Outreach.

First, the CNS serves as the major innovator in neurosurgical lifelong education. Whether through the engagement of our in-training colleagues, SANS, MOC, webinars, or our national and satellite meetings, a central charge of the organization has been to ensure that neurosurgeons continue to be informed about the most relevant and contemporary information they need to serve their patients.

Second, the CNS continues to defend neurosurgeons through advocacy. I believe that nearly all practicing neurosurgeons face almost daily assaults in the arenas of patient access to care, reimbursement, and fear of litigation. Through the Washington Committee, the Rapid Response Team, and the Public Relations Committee, the CNS is there to defend you and your patients. However, these activities require resources and funding, and a large share of your membership dues serves this noble purpose.

Third, the CNS is a community of neurosurgeons. We practice a unique and evolving art. As such, having a community of likeminded individuals is psychologically and developmentally critical. Very few people understand what we do, and sharing our experiences, whether through our online community or in person at our communal gatherings, is both cathartic and necessary.

Finally, the CNS serves as a venue for outreach. Whether it is to potential trainees through our programs for medical students, to mid-level providers, to related medical sub-specialties through our sections, or to our international colleagues, the CNS serves to connect us all so we can best advance the field of neurosurgery.

Let me conclude by pointing out the changing nature of our practice environment. It is anticipated that in the coming years we will see great transformations to our practice environment. How will we prepare when we don’t even know what is coming? In these coming years, the CNS will face great challenges in order to serve and meet the needs of its membership.
Resident Membership
Residents account for 20% (1,796) of total CNS membership, with 1,587 North American residents and fellows, and 210 International Vista resident members. On completion of residency, North American neurosurgeons are promoted into the Transitional Membership category, before converting to full Active Members. There are currently 280 Transitional Members. The annual trends in North American resident and fellow membership are provided in Figure 2, with the notable inflection point corresponding to the granting of complimentary ACGME resident membership in 2011.

Another Successful Collaboration: 2015 EANS/CNS Educational Initiative
Joint resident educational programs broaden the training experience of US residents and promote international collaboration in neurosurgery.

January - Uppsala, Sweden – Vascular Course
Christopher M. Holland, Emory University
William Stetler, Jr., University of Michigan
Jesse J. Savage, University of Virginia
Luis E. Kolb, Yale University School of Medicine

August - Lisbon, Portugal – Functional Course
Kalil G. Abdullah, University of Pennsylvania
Alexander Ksendzovsky, National Institutes of Health
Kai J. Miller, Stanford University
Hilarie C. Tomasiewicz, New York Presbyterian Hosp./Weill Cornell

New Collaborations in Membership

The CNS Welcomes DO Neurosurgeons
In a historic move forward for the field of neurosurgery, the CNS Executive Committee approved DO neurosurgeons for Active Membership in a unanimous vote in January 2015.

This initiative is the result of collaboration between the CNS and ACOS, and offers a unique opportunity to AOBS/AOA certified neurosurgeons.

Thank you, Military Neurosurgeons!
This year the CNS was honored to announce new benefits for its Active Duty Military member neurosurgeons, including complimentary annual CNS member dues. The CNS also offered complimentary registration for the CNS Annual Meeting, complimentary access to five live webinars, and a SANS Neurotrauma module (with use of discount code).

Additionally, the CNS minimum CME credit hour requirement and Annual Meeting attendance requirement is waived for deployed military members during term of deployment.

To learn more about CNS Active member benefits, visit cns.org/membership, email membership@cns.org or call 847-240-2500.
To learn more about CNS Active Duty Military member benefits or to register, contact us at membership@cns.org or 847-240-2500.
The mission of the Congress of Neurological Surgeons is to enhance health and improve lives worldwide through the advancement of neurosurgical education and scientific exchange. The CNS resident committee aims to focus specifically on the educational needs of residents as they proceed through their training and prepare for their chosen career.

We held focus groups with CNS resident members to improve our understanding of what resources the residents were interested in, how they learn, and what they are looking for within an organization. We realize the needs of our resident members may differ from our practicing physician members, and want to ensure that we are developing resources for all stages of the neurosurgical career.

The major initiative of the resident committee has been the creation of CNS Leadership Fellows, an opportunity for residents to apply for and serve formally on CNS committees. This allows residents to engage in leadership early in their career as well as give them an opportunity to impact our organization with their contributions. Our inaugural class of 35 leadership fellows have been doing amazing work, helping to create resources, working to develop cases for education, reaching out internationally to identify how we can also work collaboratively with our international partner organizations, and more.

We have increased the number of live courses that we offer to residents, and this year were pleased to offer a Simulation-based Neurosurgical Training course at the CNS Annual Meeting, targeted towards PGY-3-5 year residents. In addition, we are offering a new Surgical Treatment of the Craniocervical Junction course targeted toward senior residents, and continue to offer our 3-D Surgical Anatomy course also targeted towards senior and chief residents. We continue to work with the SNS to provide the PGY-1 Boot Camp Fundamental Skills course. Internationally, the CNS partners with the European Association of Neurosurgical Societies to provide joint resident programs throughout Europe.

For residents who are unable to make it to a live course, we offer more than 76 webinars, 32 online courses, and more than 120 recorded Annual Meeting presentations, all free to CNS Resident members. Residents also get discounted rates for SANS board review questions and a complementary digital subscription to Neurosurgery.

Based upon the feedback we received, the CNS now sends targeted communication in the form of a resident edition of the Congress Weekly e-newsletter with information relevant to our resident members. We also continue to reach out via social media.

We are working to create career resources to help guide residents transitioning into practice, which should be coming soon to the website. We continue to look towards developing more quick-reference materials for residents, including web-based materials as well as smartphone apps. We have garnered excellent feedback and input from residents and hope to develop even more resources and opportunities for our resident members in the coming year.
The Heart and Soul of the CNS
Delivering the Very Best High-impact Neurosurgical Education

By Bernard R. Bendok, MD, and Michele Heaphy

The CNS has a legacy of leadership in providing highly effective and innovative neurosurgical education, and promoting global scientific exchange among neurosurgeons. As the first neurosurgical society to achieve ACCME Accreditation with Commendation, the CNS continues to lead in both online and live CME offerings for neurosurgeons, consistently developing new courses and updating its existing offerings. From live courses like the Oral Board Review Course, the Annual Meeting, and the Spine Complications Course, to online offerings like SANS, live webinars, and archived courses, the CNS offers 181 CME activities with more than 419 hours of CME content. Last year, neurosurgeons and allied physicians claimed a total of 53,491 CME hours from the CNS (Figure 1), demonstrating that member and nonmember neurosurgeons consistently select the CNS for year-round, top-tier CME.

The Power of Collaboration
The CNS is able to produce such a generous catalog of offerings each year in large part because of the tremendous effort of the more than 67 volunteer leaders in the CNS Education Division and its related subcommittees. In 2015, this volunteer army logged innumerable hours creating new educational program concepts, developing course content, producing webinars, vetting SANS questions and expanding CNS’s online offerings. This dedicated volunteer team, along with our staff, allows the CNS to continue delivering the most cutting-edge programs, products, and courses to our members year after year at affordable rates.

The following articles highlight a few of the premier educational offerings delivered by the CNS’s Education Division in 2015. Take a moment to reacquaint yourself with all of our engaging and dynamic neurosurgical educational offerings!
The CNS Spine Complications Course was developed in 2014 as a peer review quality-improvement opportunity for practicing spine surgeons. Participants in the course share, in an intimate environment designed to facilitate open and honest conversations, complications that occur in every spine practice. All participants are given the opportunity to present. Total participation is limited to no more than 40 surgeons in order to preserve the informal and close nature of the conversations.

In 2015, the course was held in Lake Tahoe, California, and received very good feedback. The next course is taking place February 4–7, 2016, at the Westgate Park City Resort & Spa in Park City, Utah, with the theme Crossing the Chasm: Critical Peer Review for Spine Surgeons.

Each day consists of a few brief didactic presentations followed by open discussion of actual complications. “Close saves,” the “disaster from up the street,” and “the resident did it,” are not acceptable topics for presentations. Participants present their own complications and what they learned from their experience. Senior faculty guide conversation with the purpose of sharing insight and knowledge about the causes and management of common and bizarre complications.

A mid-day break allows for skiing or other recreational activities. Optional sessions during the break cover new legislative quality initiatives, evolving technologies, and other current topics, and are available for those who wish to maximize their CME experience. Afternoon and evening sessions, including a working dinner, provide additional opportunity for case review and follow-up.

You are invited to join course Directors Drs. Daniel K. Resnick, Michael Steinmetz, and Praveen Mummaneni to present your complication this February in Park City. Register at cns.org/scc.

“Outstanding small group conference. The small size encouraged open discussion and critical thinking about complications.” —Jeffrey Tomlin, MD

“This course gives you access to some of the experts that you don’t usually get access to.” —Matthew Philips, MD

“Excellent discussion. Multidisciplinary perspective of ortho and neuro was excellent.” —Sigurd Berven, MD

Thank you to our Industry Ambassador Medtronic For Their Continued Support!
Traditionally, study approaches for neurosurgery candidates preparing for the oral boards have been mired by antiquated educational resources and inefficient modalities. In the past decade, there has been a paradigm shift in the delivery of medical education. The Congress of Neurological Surgeons (CNS) has become a pioneer in this regard by focusing on modern multimodal approaches and emphasizing early preparation to prevent the pitfalls associated with cramming and other ineffective study strategies. The ideal board preparation course should take into account the time constraints of the exam candidates, be offered well in advance of test dates to provide sufficient time for private study, and provide a comprehensive platform for interaction with both faculty and other test-takers. With this contemporary educational format in mind, the CNS came up with structured and comprehensive review material directed towards the American Board of Neurological Surgeons (ABNS) Oral Board Examination and delivered it in a strategic fashion (Figure 1).

Online Oral Board Study Resources
To complement the live course and board review sessions, the CNS provides the students with a repertoire of online study resources. One of the resources offered is a series of 90-minute live webinars in all neurosurgical subspecialty areas. These live webinars are archived and are available for purchase from the CNS website. A second online resource the CNS offers is the Self-Assessment in Neurological Surgery (SANS). This interactive question bank helps candidates identify knowledge gaps and condition themselves for board-style questions. The third important online resource is Neurosurgery Watch. Each month, the Neurosurgery Watch panel reviews over 50 journals and summarizes the key points of significant recently published neurosurgical research. The fourth resource offered is Operative Neurosurgery’s 3D video archive. These videos immerse the user, providing depth perception and surgical technique instruction from prominent neurosurgeons in the field. Finally, the CNS web portal provides a “Case of the Month” which can be used to think through cases as one would on the Oral Board.

This comprehensive and high impact multimodal approach is strategically set up three to four months before the oral boards, ensuring maximum effectiveness, practicality, and efficiency in board examination preparation. The educational model of combining a live course with online resources and a guide to the Annual Meeting offerings is very useful in achieving high student performance on the ABNS Oral Board Examination.
Creativity and Collaboration Fuel Online Webinar Success

By Shekar N. Kurpad, MD, PhD

This past year has seen many exciting firsts for the CNS’s online learning program. The CNS offered over twenty webinars this year, and this flagship offering has seen much success. There has been a significant push to integrate CNS webinar offerings with other online services as well as with the Annual Meeting Platform this year.

The Oral Board Exam Preparation series of live webinars held twice a year continue to be tremendously successful. The faculty has done a great job in keeping instruction in these webinars at a high level. This past year, we offered a total of 13 Oral Board Preparation webinars; all of them are archived online and available with the click of a mouse. There were over 450 registrants for the live webinar series with each averaging over 30 registrants. Nearly 100 percent of registrants attended the webinars. We continue to gather data for feedback regarding webinar quality as well as monitor pre- and post-test questions to examine whether knowledge gaps are being effectively addressed. The average approval rating for the webinar series exceeds 90 percent with several approaching 100 percent. Additionally, we are seeing an average of 20 percent improvement in post versus pre-test performances, indicating that our board preparation webinars are effectively addressing key areas.

With the leadership and foresight of Drs. Bendok and Selden, the CNS began a novel version of the webinars this past year. Loosely based on the principles of learning embodied in the Khan Academy, we began offering flipped classroom webinars. The concept essentially utilized a live webinar format for didactic instruction timed to occur two weeks to one month prior to the Annual Meeting in New Orleans. This was then linked to a Luncheon Seminar covering the same topic at the Annual Meeting. The three webinar offerings in this program discussed the use of anticoagulation, athletic head injuries, and the treatment of pituitary adenomas. We were able to engage world renowned experts in both the webinars and the Luncheon Seminars. We felt that maintaining the same faculty in both settings was extremely important to facilitate continuity. The results of these efforts have been encouraging. We received an average of 25 attendees per webinar with universally positive feedback. The program has been so successful that we are actively considering broadening the scope of the flipped classroom series to include more topics in the coming years.

We have also actively pursued corporate sponsored webinars this year. Zeiss Inc. kindly sponsored a special tumor webinar highlighting the use of 5-ALA Fluorescence, which was hosted by Dr. Hadjipanayis in an successful webinar this past spring this is an effort we hope to repeat on this and other topics in the coming years.

We have also seen steady traffic with our archived webinars. Web hits for our archived offerings continue to be robust, and attendance numbers parallel the live webinars. Overall, the CNS webinars continue to be innovative vehicles for continued education of neurosurgeons worldwide, and plans are underway to further grow collaborative webinar offerings in the coming year. We continue to offer online educational opportunities in the creative spirit of the CNS, ever broadening their reach and effectiveness in better training our physicians and improving patient care.
SANS Lifelong Learning
Evolving, Focused, and Growing
By Ashok R. Asthagiri, MD

For decades, surgeons have depended on SANS Lifelong Learning, an exclusive CNS product designed to enhance medical knowledge and self-assessment in neurosurgery, reinforce practice patterns, and recognize knowledge gaps to help neurosurgeons prepare for standardized examinations. The CNS is now making it easier for users to delve into important concepts within neurosurgical specialties by offering new subspecialty-focused SANS modules designed to explore medical knowledge in a more in-depth, comprehensive curriculum-based format.

The vision is to embrace the concept of milestones-based curriculum development and transform SANS into a comprehensive, up-to-date assessment and learning tool. Over the past two years, we have bolstered the editorial process through the formation of an Editorial Review and Advisory Board, and have brought in national leaders in various subspecialties to collaborate with content generation and the question revision process.

Through the course of the next few years, users of SANS will notice a significant increase in the number of educational offerings that can provide meaningful ways to provide self-assessment—from aspiring medical students who want to prepare for a rotation to experienced neurosurgeons who need to brush up on key concepts before taking the MOC exam. Among the many benefits of turning SANS into a modular format guided by senior advisors in each subspecialty of neurosurgery is that we will now be able to consistently identify and assimilate ratifying developments that should change clinical practice.

The first module unveiled was the SANS Cerebrovascular Module, with the SANS Pain and Peripheral Nerve Module arriving in early 2016. This year we will also embark on a major change toward embracing a mobile platform, which will make SANS not just a unique tool that provides curriculum through a question-based interactive format, but also provides a convenient and efficient way to use SANS, no matter where you are. Because it will be mobile friendly on iPhone, iPad, and Android devices, users will be able purchase what they need, when they need it. The evolutionary principle is for SANS to continue to develop interactively, providing a more relevant, comprehensive curriculum to our users.

In addition to our online offerings, the SANS team guides a highly-successful Maintenance of Certification (MOC) live course that helps prepare American Board of Neurological Surgery Diplomates for their ten year Cognitive Examination. Now in its fourth year, the 24-hour SANS MOC Board Review Course incorporates SANS questions in an interactive review session which complements the ongoing, online subspecialty curriculum. The course also fulfills the ABNS MOC Part II requirement for self-assessment and dovetails with the Annual Meeting of the Section on Disorders of the Spine and Peripheral Nerves held every spring. The SANS MOC Board Review Course offers a broad and comprehensive review of the neurosurgical specialty and provides a unique opportunity to prepare for recertification or to receive a refresher on the neurosurgical specialty.
Case of the Month (COTM), based on number of touches (about 200-400 participants each month), is one of the most successful educational offerings of the CNS. Initially, the concept of COTM was conceived as an open forum for CNS members to discuss interesting or complex cases. In the last several years, COTM has evolved into a very popular educational tool with SANS-type questions that the participant answers. After answering the questions, the participant reads a didactic educational piece with evidence-based references.

An editorial board of eight subspecialty content experts create cases with questions and didactic educational pieces each month addressing knowledge gaps in the neurosurgery community. The cases, questions, and didactic pieces undergo a rigorous vetting process by the editorial board before being posted online.

The makeup of the COTM participants tends to favor international neurosurgeons with a significant representation from residents and fellows. The strengths of COTM are its significant domestic and international outreach to neurosurgeons and ability to provide education addressing knowledge gaps in short, succinct snippets, which seem to account for its popular appeal. The outreach of COTM is boosted by social media marketing and linking to COTM on the CNS website. In 2016 year, COTM aims to incorporate mCase e-rounds and cross-link each offering. There are many exciting educational possibilities to be explored in the future that will continue to grow the outreach of COTM.

> IN THE LAST SEVERAL YEARS, COTM HAS EVOLVED INTO A VERY POPULAR EDUCATION TOOL WITH SANS-TYPE QUESTIONS THAT THE PARTICIPANT ANSWERS. <
The Power of Shared Expertise
By Matthew J. McGirt, MD, and Antonia Callas

Digital tools, such as the Internet, smartphones, and 3D printing, are revolutionizing the world and transforming the way we access information and communicate with each other. With its long history of educational innovation, the CNS continues to lead the way by incorporating digital technology that helps neurosurgeons do their job more effectively.

In 2015, the CNS partnered with eRounds to launch mCase Exchange, a private, online community that allows CNS members to share and discuss cases with each other in a mobile, practice-based learning environment. Officially launched this past September at the CNS Annual Meeting in New Orleans (Figure 1), mCase Exchange is a tool that offers learning through shared clinical experience—and offers unprecedented connectivity among CNS member neurosurgeons.

McCae Exchange is a much more effective and safe means of collaboration than simple text messaging or emailing of images, which could contain personal health information (PHI). The platform provides security tools that allow users to quickly erase any personally identifiable content. The community is secure and users are verified, giving CNS members the confidence to leverage the power of shared experience anytime or anywhere.

By applying forward-thinking social media technology to practice-based education, the CNS empowers its members to organize and share more than 140,000 collective years of neurosurgical knowledge through one platform. The mCase Exchange community brings the experience and knowledge of many to a single surgeon-patient decision.

The mCase Exchange Platform is available to all Active and International members. Visit cns.org/mcase for a QuickStart guide and video. If you are a CNS member, your login information was emailed to you. If you did not receive an email, please contact CNS membership at membership@cns.org.

> “MCASE EXCHANGE IS LIKE FRIENDS AND COLLEAGUES AROUND THE OLD LIGHT BOX LOOKING AT FILMS FOR A TOUGH CASE, BUT NOW YOUR FRIENDS AND COLLEAGUES CAN BE ANYWHERE, RADICALLY EXPANDING THE POWER OF EXPERTISE. I LOVE THE USER EXPERIENCE.”

—NATHAN R. Selden, MD, PhD, 2015 CNS PRESIDENT

Dr. Matthew McGirt’s unveils mCase at the 2016 CNS Annual Meeting.
The CNS Foundation Update
Supporting the Next Generation of Neurosurgical Leaders and Sustaining the Future of Practice Guidelines
By Daniel K. Resnick, MD, and Michele Lengerman, CAE

The CNS Foundation, Inc., a 501(c)3 organization, was founded in 2012 for the purpose of supporting the creation and dissemination of neurosurgical practice guidelines and the promotion of domestic and international educational programs that enhance the quality of neurosurgical care. Now, just three years into its existence, the CNS Foundation hit its stride with three exciting new projects.

First, the CNS Foundation partnered with the Foundation for the National Institutes of Health (FNIH) to fund the NINDS/CNS Getch Scholar K12 Award, which promotes high quality, novel, creative research, and innovative investigation for early career neurosurgeon-scientists. This award provides two years of funding to help launch a dual, clinical-research career for neurosurgeons who possess the unique clinical and research skills that identify them as the next generation of neurosurgical leaders. The NINDS/CNS Getch Scholar may use the award to launch a faculty career at his or her residency institution, or to begin a faculty clinical/research career at a new institution. The mentored training associated with this award will prepare the recipient to combine an outstanding research career with a clinical neurosurgery career and advance the understanding and treatment of neurological disorders. The award opened for applications in August 2015.

The CNS Foundation also awarded two fellowship awards for 2015-2016 through its existing CNS Fellowship program. A CNS Foundation Education Fellowship of $10,000 was awarded to Lucy He, MD, a resident currently in her fourth year of training at Vanderbilt University Medical Center, Nashville, Tennessee, while a CNS Foundation Innovation Fellowship of $10,000 was awarded to Louis Savastano, MD, a resident currently in his third year of training at the University of Michigan, Ann Arbor, Michigan.

The Foundation also launched a new Guidelines Fellowship program designed to cultivate the next generation of experts in evidence-based practice guidelines development. Fellowship awardees under this new program will travel to select evidence-based medicine centers to pursue specialized training in statistical methodology and guidelines formulation in a given subspecialty area of neurosurgery. Upon completion of their training, awardees will serve on the CNS Guidelines Committee helping to develop and update practice guidelines. The CNS Foundation is currently in the process of securing funds for this new program; the Section on Disorders of the Spine and Peripheral Nerves was the first organization to contribute, committing a $10,000 grant to support a fellow in spine guidelines development. The awards are expected to open for applications in 2016.

At the summer meeting of the Foundation Board of Directors, the Foundation awarded a grant to the Congress of Neurological Surgeons that will allow the CNS to produce guidelines more efficiently. The grant funds the implementation and deployment of technology that will significantly improve the workflow for professional guidelines development and ultimately, over time, allow the CNS to produce more guidelines within the available resources. This grant was funded through individual donations to Guidelines Development and Foundation general funds.

The CNS Foundation continues to exhibit strong financial performance, collecting $16,440 in individual donations, $20,000 in corporate grants, and $13,100 from fundraising events in 2015. We are excited about the progress that has been made this past year toward improving the quality of neurosurgical care worldwide and preserving access to quality care here in the United States. We are confident that Dr. Nate Selden and the Foundation Board of Directors will successfully build on this momentum in 2016.
Throughout the past year, our Washington Committee and Washington Office have worked tirelessly to protect the ability of neurosurgeons to practice medicine freely and ensure the continued advancement of the specialty of neurological surgery for the benefit of neurological patients. The CNS—through its representatives to the committee, Nicholas C. Bambakidis, Zoher Ghogawala, and Michael P. Steinmetz—has played a fundamental role on a number of health policy fronts. These include advocating for adequate reimbursement, pushing for medical liability reform, streamlining quality improvement initiatives, and obtaining relief from the morass of government regulations. Going forward, the Washington Committee and Washington Office continue to be at the forefront of the health policy debates to promote the highest quality of patient care and to create a system that offers greater value tomorrow than it does today.

The following report provides a snapshot of organized neurosurgery’s advocacy efforts and achievements.

**Fighting for Fair Reimbursement**

Every year for more than a decade, physicians have faced a significant Medicare payment cut—the result of a flawed sustainable growth rate (SGR) formula. After nearly 14 years of lobbying and 17 temporary “patches,” on April 16, 2015, President Obama signed into law the Medicare Access and CHIP Reauthorization Act (MACRA), which repealed Medicare’s SGR physician payment system and prevented a 21 percent pay cut. The bill passed the House and Senate by overwhelming margins. In addition to repealing the SGR, the legislation:

- Consolidates the current Physician Quality Reporting System (PQRS), Electronic Health Record (EHR) and Value-Based Payment Modifier (VM) programs, and eliminates the penalties associated with these programs;
- Includes positive incentives for quality improvement payment programs that allow all physicians the opportunity to earn bonus payments;
- Enhances the ability of physicians—rather than the government—to develop quality measures and clinical practice improvement activities;
- Clarifies that quality improvement program requirements do not create new standards of care for purposes of medical malpractice lawsuits; and
- Reverses the CMS decision to eliminate the 10- and 90-day global surgery payments.

The estimated financial impact of preventing the 2015 SGR and global surgery-related cuts is $276 million or $69,000 per neurosurgeon. In addition, although difficult to precisely estimate, at a minimum, when MACRA’s incentive program becomes operational, in 2019 this legislation will prevent penalties totaling $46 million or $11,500 per neurosurgeon. Individual neurosurgeons will also have the opportunity to earn significant bonus payments of up to $23,000 in 2019 and even higher amounts in future years.

Over the course of the next several years, organized neurosurgery will focus on guiding this legislation through the implementation process to ensure that the CMS develops the new Medicare physician payment system as directed and intended by Congress.

We have also aggressively challenged third-party payer coverage policies, which often limit reimbursement for many common neurosurgical procedures. The Coding and Reimbursement Committee (CRC), along with representatives from the Quality Improvement Workgroup, Joint Guidelines Committee, the Joint Sections, and Washington Committee, work together to respond to these coverage issues to provide a balanced assessment of the current literature and experience with procedures under review. The CRC’s “Rapid Response Teams” are organized to lead these efforts, and working with the Council of State Neurosurgical Societies (CSNS), utilized new tools to track and respond to proposed coverage policies to ensure that neurosurgical patients get access to the full range of treatment options of neurosurgical care.

Throughout the past year, the CNS provided comments on a variety of proposed coverage policies from Medicare and other payers, including Aetna, United, Cigna, various Blue Cross-Blue Shield plans, Noridian, Washington State Health Care Authority, Wellpoint, and others. These comments involved topics such as cervical, thoracic, and lumbar spine fusion; lumbar artificial disc; epidural steroids for low back pain; intraoperative electromyographic monitoring; carotid artery stenting; intracranial stenting; mechanical embolectomy; thrombolysis; stereotactic radiosurgery; responsive neurostimulation for epilepsy; and deep brain stimulation.

**Regulatory Relief**

Faced with a growing morass of regulations, organized neurosurgery, through the Wash-
Aviva Abosch, MD, PhD, president of the American Society for Stereotactic and Functional Neurosurgery, meets with Rep. Mike Coffman (R-Colo.) in Washington, DC.

Washington Committee chair, John A. Wilson, MD (pictured on the left) leads a group of physicians at a meeting on Capitol Hill with Rep. Walter Jones (R-N.C.).

### 2015 Legislative Agenda:

<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Status</th>
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<tr>
<td><strong>Reforming the Reform</strong></td>
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<tr>
<td>Abolish the Independent Payment Advisory Board (IPAB)</td>
<td>Passed the House on 6/23/15</td>
</tr>
<tr>
<td>Expand Support for Quality Resident Training &amp; Education</td>
<td>Bills Pending</td>
</tr>
<tr>
<td>Continue Progress with Medical Innovations: • Repeal Medical Device Tax • FDA Reform (21st Century Cures Act)</td>
<td>• Passed the House on 6/18/15 • Passed the House on 7/1/15</td>
</tr>
<tr>
<td>Alleviate the Medical Liability Crisis</td>
<td>Bills Pending</td>
</tr>
<tr>
<td>Provide Funding to Preserve and Enhance Access to Trauma &amp; Emergency Care</td>
<td>Passed House on 3/16/15</td>
</tr>
<tr>
<td><strong>Modernizing Medicare</strong></td>
<td></td>
</tr>
<tr>
<td>Move Medicare To A Defined Contribution System</td>
<td>Included in House-passed 2016 Budget Resolution on 4/30/15</td>
</tr>
<tr>
<td>Champion An Improved Medicare Physician Payment System: Repeal the SGR and Rescind CMS Plan Eliminate 10- and 90-Day Global Surgery Payments</td>
<td>Became law on 4/16/15</td>
</tr>
<tr>
<td>Restructure &amp; Streamline Quality Improvement Programs (PQRS, EHR, VM)</td>
<td>Became law on 4/16/15</td>
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CNS, CMS shifted course and announced that it would implement a one-year grace period for transitioning to ICD-10. Beginning on Oct. 1, 2015, Medicare claims will not be denied solely on the specificity of the ICD-10 diagnosis codes provided, as long as the physician submitted an ICD-10 code from an appropriate family. In addition, Medicare claims will not be audited based on the specificity of the diagnosis codes as long as they are from the appropriate family of codes. To avoid potential problems with mid-year coding changes in CMS quality programs for the 2015 reporting year, physicians using the appropriate family of diagnosis codes will not be penalized if CMS experiences difficulties in accurately calculating quality scores. CMS will also establish an ICD-10 Ombudsman to help receive and triage physician problems. Finally,
in certain circumstances, CMS may also make advanced payments to providers if challenges arise during the ICD-10 grace period. Studies have shown that the ICD 10 costs ranged from an estimated **$83,290 for a small practice up to $2,728,780 for a large practice** so making progress on this issue is an enormous financial benefit to neurosurgeons.

**Reforming the Reform**

While the Affordable Care Act (ACA) is the law of the land, the Washington Committee has not ceased in advocating significant changes to this landmark healthcare reform law. A top priority remains abolishing the Independent Payment Advisory Board (IPAB). The IPAB is a 15-member unelected and unaccountable government board, whose principal responsibility is to cut Medicare. In leading the Physician IPAB Repeal Coalition, we were instrumental in getting the “Protecting Seniors’ Access to Medicare Act” (H.R. 1190/S. 141) introduced in Congress. This legislation passed in the House of Representatives on June 23, 2015, and support for this bipartisan bill continues to grow in the Senate. Action on this bill, which repeals the IPAB, is currently pending in the Senate.

Neurosurgeons have been on the cutting edge of innovation in patient care, but American medical innovation is at serious risk. To ensure continued forward progress with medical innovations, we have joined the fight to repeal the 2.3 percent excise tax levied on the sales of medical devices. Bipartisan legislation to repeal this tax, the “Protect Medical Innovation Act” (H.R. 160) passed the House of Representatives on June 18, 2015. The “Medical Device Access and Innovation Protection Act” (S. 149) the companion bill in the Senate, also enjoys significant support. In fact, Senate leadership has started a process to allow the Senate to consider the House-passed bill without first sending it to committee. If ultimately enacted, the bill would eliminate $24.4 billion in taxes over the 2015-2025 period.

**Medical Liability Reform**

Neurosurgery is the specialty that faces the highest premiums, the most lawsuits, and the largest average indemnity payments. As such, we recognize the need for improving the medical liability climate for neurosurgeons. While federal medical liability reform legislation remains elusive, the Washington Committee continues to lead efforts to pass reform. First and foremost, the passage of MACRA incorporated the “Standard of Care Projection Act,” which ensures that any care standards and practice guidelines derived from the Affordable Care Act (ACA), Medicare or other federal programs—including PQRS, EHR and other quality incentive programs—cannot be used to establish a standard of care in medical malpractice actions. The “Health Care Safety Net Enhancement Act of 2015” (H.R. 836/S. 884) would provide crucial medical liability protections to neurosurgeons providing EMTALA-related care. The “Saving Lives, Savings Cost Act” (H.R. 2603/S. 1475) would provide certain protections for physicians following clinical practice guidelines. Finally, the “Sports Medicine Licensure Clarity Act” (H.R. 921/S. 689) would provide protections for certain sports medicine professions who provide certain medical service in a secondary State.

**Promoting Quality Care**

We have worked diligently to ensure patients have access to the highest quality of care. One example is our effort to obtain high quality standards for the delivery of stroke care. In this regard, CNS representatives to the Washington Committee and Cerebrovascular Section, along with Washington Office staff, have led the effort to ensure high quality stroke care. Through our leadership of the Cerebrovascular Coalition (CVC), the CNS has coordinated ongoing conversations with the Joint Commission and American Heart Association in seeking for revisions to the criteria for Comprehensive Stroke Center certification.

**Communications Outreach**

In addition to its direct lobbying and grassroots advocacy in Washington, D.C., the Washington Committee garners support for neurosurgery’s health policy positions by carrying out a nationwide earned media campaign, and by providing the media with timely information that can be used for their reporting. The Washington Office’s traditional media/communication efforts include Op Eds, letters to the editor, radio “tours” and desk side briefings with reporters from the Wall Street Journal, Washington Post, CBS, NBC, POLITICO and others. Since December 2012, the Washington Office has generated 116 traditional media hits reaching a circulation/audience of over 9 million. In addition to traditional media, organized neurosurgery’s digital media platforms continue to see a significant expansion and have garnered over 45 million individual impressions. Furthermore, these media platforms have amassed a subscription audience of 40,000. By using these social media platforms, we are reaching opinion-influencers in the media, on Capitol Hill, and in various health policy circles that would not have been easily achieved through more traditional means.

We invite you to visit Neurosurgery Blog: More Than Brain Surgery and subscribe to it, as well as read our monthly e-newsletter Neurosurgeons Taking Action and connect with us on our various social media platforms, to keep up with the many health-policy activities happening in the nation’s capital and beyond the Beltway. 

For more information about CNS advocacy efforts, contact Katie O. Orrico, director of the Washington Office, at korrico@neurosurgery.org.
Guiding Decisions with Evidence Based Tools

By Steven N. Kalkanis, MD, and Antonia Callas

The CNS established its in-house guidelines program in 2013, in response to growing knowledge gaps within the profession across a wide variety of topics in need of evidence-based decision-making. CNS guidelines serve as an educational tool for the diagnosis, management, and treatment of multiple brain and spine conditions for thousands of neurosurgeons and clinicians across a broad spectrum of disciplines.

In recent years, clinical guidelines and quality measures have become increasingly important as the practice of truly evidence-based medicine has become the standard of care. Guidelines have also proven useful in convincing insurers to pay for a certain procedure based upon the strength of the evidence underpinning a guideline’s clinical practice recommendation, and they have also helped defend physicians against frivolous malpractice claims. Most importantly, we believe that these guidelines efforts across our specialty will promulgate best practices and improve patient outcomes over time, while also highlighting critical unanswered questions in need of further research.

Before the establishment of the CNS guidelines program, approximately one guideline per year was created throughout all of organized neurosurgery. Since the CNS program was launched, production has skyrocketed, with a total of 14 guidelines produced in just three years (Figure 1). These guidelines are then submitted to the Joint Guidelines Committee for ultimate review and endorsement on behalf of our profession.

> WITH 120 PHYSICIAN VOLUNTEERS ON OUR WRITING PANELS AND WITH REPRESENTATION FROM OUR JOINT SECTIONS AND OTHER RELATED DISCIPLINES, THIS RESOURCE-INTENSE EFFORT REQUIRES MORE THAN 40,000 HOURS OF WORK PER YEAR. <
With 120 physician volunteers on our writing panels and with representation from all our Joint Sections and several other related disciplines, this resource-intensive effort requires more than 40,000 hours of work per year. A diverse, representative panel of authors ensures ownership and the ultimate general acceptance of the recommendations. We believe that multidisciplinary collaboration is critically important since most conditions treated by neurosurgeons also involve other specialists at some point in the patient’s care; accordingly, we have invited authors from a myriad of associations to participate in these guidelines for the benefit of all our patients. These other societies include but are not limited to American Society for Radiation Oncology, Society for Neuro-oncology, American Academy of Neurology, Brain Tumor Foundation, North American Spine Society, American Heart Association, American Stroke Association, and others.

While most guideline projects take, on average, over three years to complete, we endeavor to produce our guidelines in approximately 12 months. We do this because guidelines typically have an average shelf life of five to seven years. Our expedited timeline leads to maximum impact.

The CNS Guidelines Committee takes great care to provide physicians autonomy and flexibility to make a particular treatment recommendation. CNS-produced guidelines strictly adhere to the evidence via a rigorous systematic review process. The CNS Guidelines Committee provides guidance throughout the review process, from the initial proposal through review by the Journal Guidelines Committee (JGC).

Over the next few years, a major focus of the CNS Guidelines team will be to qualitatively and quantitatively assess the impact of these guidelines in clinical practice. We will analyze the extent to which physicians are aware of published guidelines in the literature and how often they are used. Most importantly, we will begin to assess any possible extent of improvement in outcomes for those patients undergoing evidence-based treatments recommended by a particular guideline.
Treasurers Report: Financially Fit

By Ganesh Rao, MD, David Berg, and Jeffrey Boykin

Finance Committee Fiscal Stewardship

The Congress of Neurological Surgeons (CNS) continues to grow financially in a consistent, sound, and responsible manner. The current CNS assets are approximately $24 million with stable net assets. Growth of CNS assets has been primarily the result of continued membership expansion, the sustained strong financial success of the CNS Annual Meeting, live courses including the SANS MOC Board Review and the Oral Board Exam Early Review courses, outstanding CNS publications (Neurosurgery, Operative Neurosurgery, Clinical Neurosurgery, and Congress Quarterly), and other educational products including SANS. The CNS Finance Committee provides stewardship to the financial activities of the CNS and provides organizational financial reporting and recommendations to the CNS Executive Committee.

CNS Assets

CNS long-term assets are principally contained within a single endowment fund designed to preserve wealth, spur growth in interest income and dividends, and hedge against potential future financial adversity. CNS investments protect the CNS from potential hardships and finance critical initiatives related to the CNS educational mission, including new educational efforts such as the NINDS/GETCH Scholar K12 award and other mission specific innovative opportunities. This fund represents the largest defined asset to
drive the critical goals of the organization. The remaining CNS assets are defined in the fiscal operating budget that underwrites the day-to-day business of the CNS.

CNS 2015 Operating Budget

The annual CNS operating budget (revenue and expenses) exceeds $12 million dollars. Primary revenue generators (accounting for nearly 90% of total CNS revenues) include membership, the CNS Annual Meeting, and CNS publications. Principal expenses include the CNS Annual Meeting, headquarters operations, journal operations, and extensive investment in joint initiative support such as the Washington Committee, Joint Section expenses, and others.

Future Budgetary Opportunities

Based on responsible fiscal management and innovation in its primary revenue sources, the CNS is well-positioned for future financial growth. Specifically, the principal revenue sources (CNS Annual Meeting, publications, educational offerings, and membership) are continually being improved and streamlined to provide more cost-effective first-rate member offerings.

Investment Funds and Development

Improving returns in the current economic environment on investment funds continue to strengthen the CNS bottom line. The CNS will continue to develop strategic opportunities to position the organization for the future and ensure its financial success in a variety of areas, including product development, collaborative relationships, and other mechanisms.

Based on its volunteerism, innovative spirit, and cost-conscious efforts, the CNS remains one of the most cost-effective specialty medical organizations in North America. These inherent organizational qualities continue to underlie the mission and financial success of the CNS. The CNS is proud that its Annual Meeting registration fees, membership dues, and other associated fees remain the lowest in the field and across other medical specialties.

> THE CNS IS PROUD THAT ITS ANNUAL MEETING REGISTRATION FEES, MEMBERSHIP DUES, AND OTHER ASSOCIATED FEES REMAIN THE LOWEST IN THE FIELD AND ACROSS OTHER MEDICAL SPECIALTIES. <

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The CNS Industry Allies Council
CNS and Corporate Leaders Unite to Move our Specialty Forward
By Michele Lengerman, CAE, and Sydney Manola

The CNS Industry Allies Council (IAC) exists to advise the CNS Executive Committee on issues impacting companies that provide products and services to a neurosurgical audience, to address key trends shaping the future of neurosurgical technology, and to help the CNS develop mutually beneficial partnerships that leverage both CNS and our industry partner’s core competencies for the benefit of our specialty and our patients.

The CNS IAC is made up of twelve neurosurgical device and pharmaceutical companies who together represent the top CNS commercial supporters of both CME and non-CME educational programs and events. In FY15, the member companies of the IAC provided valuable financial and in-kind resources that enabled the CNS to expand the depth and breadth of our educational offerings.

“Through financial grants, sponsorships and in-kind donations, our IAC partners provide essential support for our world-class educational activities,” said CNS CEO, Regina Shupak. “The IAC also provides valuable insight on issues facing our specialty, new developments in the field and emerging trends that are changing neurosurgical practice. With their support, the CNS continues to be an innovative leader in neurosurgery.”

The CNS IAC met during the 2014 CNS Annual Meeting held in Boston and again in Washington, DC, in May, 2015, to address some of the challenges associated with the Open Payments Act reporting, as well as to help CNS develop new approaches for educating CNS members on the latest technological breakthroughs in neurosurgery.
The CNS Thanks
Our 2015 Industry Allies Council Partners

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A s I look back on 2015, I am proud of our many accomplishments, but most of all I am proud to be given the opportunity to work for and with you in what I consider to be the best neurosurgical association in the world. Through an ever-expanding number of collaborations both inside and outside of the specialty, the CNS’ influence and stature continue to grow.

I am pleased to report that we closed fiscal 2015 with record-breaking membership numbers, a strong affirmation on the value of CNS membership. This reflects the dedication of our volunteer members who work tirelessly on behalf of the membership, setting challenging goals and routinely surpassing expectations. I am privileged to acknowledge that the CNS has the hardest-working team of volunteers and staff in organized neurosurgery, advancing our objectives in education, scientific exchange, and in federal issues, both legislative and regulatory.

The Congress of Neurological Surgeons was founded by neurosurgical veterans of World War II, and has a long and distinctive heritage of supporting military neurosurgeons. I’m proud to say that in 2015 the CNS continued to honor those who serve our country by extending special member benefits for Active Duty Military member neurosurgeons. These benefits include complimentary member dues and registration rates for our Annual Meeting, among other complimentary educational benefits.

This has also been a pivotal year for our publications, as the CNS worked to establish Operative Neurosurgery as a separate publication from Neurosurgery. Meanwhile, Neurosurgery had a record number of submissions from over 50 countries and received its highest Impact Factor (3.620) since its launch in 1977. This past year we also welcomed both Dr. Krystal Tomei as the new editor-in-chief of Clinical Neurosurgery and Dr. Gerald Grant as the new editor of the Congress Quarterly.

The 65th Annual Meeting held in New Orleans was a tremendous success. Our abstract submissions set a five-year record and our exhibit hall was named one of the “50 Fastest Growing Meetings of 2014” by Trade Show Executive magazine. Our superb live courses—Spine Complications, SANS MOC Board Review, and the Oral Board Examination Early Review—have garnered overwhelmingly positive feedback from attendees. Online, we’re keeping pace with advances in digital technology by adapting more of our online educational products to be mobile friendly and accessible on the go.

The CNS continues to be the leader in promoting quality care through the development of evidence-based guidelines. Clinical guidelines and quality measures have become increasingly important as the practice of evidence-based medicine has become the standard of care. Although the CNS in-house guidelines department was established just a few years ago, it has become a powerhouse in the production of well-respected medical guidelines.

We enter 2016 operating with sound, conservative fiscal management. Surpluses from programs are continuously reinvested in developing new initiatives and improving current programs in order to meet neurosurgeons’ needs. The organization’s focus on a strong but small administrative footprint keeps expenses under control while making the most of CNS resources.

We have much to be thankful for in 2015. I am privileged to have been a part of the remarkable achievements we have made this past year. On behalf of our Executive Committee and our dedicated volunteers, thank you for your support and encouragement; it is an honor to serve you.
CNS
Congress of Neurological Surgeons

Our Mission
The CNS exists to enhance health and improve lives worldwide through the advancement of neurosurgical education and scientific exchange.

Our Vision
The CNS is the premier educational organization in neurological surgery.

Our Work
Our mission drives us to cultivate great neurosurgeons. We advance the practice of neurosurgery globally by inspiring and facilitating scientific discovery and its translation to clinical practice.

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Submit your original science for presentation at the neurosurgical event of the year!

Submission deadline
March 21, 2016