“If a cluttered desk is the sign of a cluttered mind, of what, then is an empty desk a sign?”
-A. Einstein

My desk is much less cluttered now than when I was serving as the 33rd President of NASS. Despite this obvious handicap, I was asked to write the introduction to this annual report.

This is not as easy as it seems. Every year NASS surpasses itself. This last year was no exception. Unfortunately, limitations of space and time preclude me from mentioning every individual effort and every program in the detail they deserve. I apologize in advance to all those whose contributions I cannot acknowledge. Suffice it to say, however, all the efforts of staff and volunteers are tremendously appreciated and gratefully accepted.

This year, the NASS Spine Registry pilot project was completed. The finished product, a bona fide comprehensive registry, will be offered to our members in 2018. The design and development of the registry represents a truly Herculean effort by many people. This registry is unique in that it will capture all aspects of spine care: rehabilitation, interventional, medical, and surgical. This comprehensive, versatile tool will prove invaluable to spine practitioners. Daniel Resnick, MD, MS, served as the Chair of the Registry Committee and deserves our profound gratitude.

Society membership has continued to grow, both domestically and internationally. Active membership is more than 8,000; a goal of 10,000 is quite plausible. Currently, international members comprise approximately 20 percent of our entire membership. This growing international exposure reinforces the role of NASS in the forefront of global spine care. A key component of this global initiative is the participation of NASS faculty in international societies. For example, NASS was invited, for the first time, to offer an informational recruiting booth and to participate in the scientific program at the recent BritSpine Meeting in the United Kingdom. NASS will participate in the scientific program of the upcoming British Scoliosis Society meeting. This marks a very positive and exciting shift that opens the door for collaboration and information sharing, which will benefit patients globally.

NASS has also achieved a reputation as an excellent resource for meeting management. This year, NASS was contracted by the McKenzie Institute international and the International Society of Minimally Invasive Spine Surgery to manage their annual meetings.

NASS’ expertise continues to be in demand from a policy and reimbursement standpoint, as well. Collaborating with eviCore, an insurance management firm that manages more than 100 million patients, the Payor Policy Review Committee is reviewing 21 draft policies for spine surgery and spine injections. eviCore also has expressed interest in reviewing NASS coverage recommendations as well. This is hardly surprising as our Coverage Recommendations program continues to grow. The coverage documents have proven to be a valuable resource for NASS members as well, with nearly 4,000 chapter downloads by NASS members to date.

The activities of the NASS Advocacy Council and the Spine PAC are robust as well. Not only have members from the Council met with many members of Congress, but the Council also specifically addressed issues on opioids, liability reform, and accountability. Participation in the PAC must be rewarded and encouraged, as this really is our voice on the Hill—a voice that was heard quite clearly last year.

After a decade of admirable service, during which The Spine Journal became the specialty journal with the highest impact factor, Eugene Carragee, MD stepped down as Editor in Chief. After considering a large number of outstanding candidates, the position was offered to Christopher Bono, MD. The efforts of the NASS and TSJ staff cannot be lauded highly enough, as a smooth transition is underway. Additionally, the Board of Directors approved the creation of an open access journal. A task force is currently at work on its development.

Finally, thanks must be given to our tireless Executive Director, Eric Muehlbauer, and the incredible team that he has assembled, developed, and mentored. As I noted during my presidential address at the 2017 Annual Meeting, this is the most extraordinary group with whom I have ever worked. I miss working with them very much. I honestly wish that my desk was still cluttered.

F. Todd Wetzel, MD
F. Todd Wetzel, MD  
President

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David Rothman, PhD  
NASS Ethicist

Norman B. Chutkan, MD, FACS  
At-Large Member

Matthew Smuck, MD  
At-Large Member

Eric J. Muehlbauer, MJ, CAE  
Executive Director
At the conclusion of the 2017 membership year, NASS maintained a roster of 8,710 members in good standing, including 1,130 new members recruited throughout the year. Work by the Membership Committee included implementation of the new Commercial Affiliate program, and development of strategies to keep members in-training engaged in the society.

The member engagement website, SpineConnect, continues to be an exciting asset for NASS members. A site to share cases and other spine care-related topics in a password-protected environment, SpineConnect had 657 posts on 69 topics by 166 unique contributors in 2017. There were also more than 16,000 logins and 4,651 unique logins to the site during the year. Case discussions continue to be the top feature, as members are taking advantage of the opportunity to get real-time advice and input from colleagues around the world. Many physicians post details of their cases along with X-ray images to give colleagues a well-rounded view of the patient.
NASS Meeting Services managed 23 meetings throughout the year, ranging from 10 to more than 6,500 participants in eight cities, including Chicago, San Diego, San Francisco, Orlando, and more. Meetings included the Annual Meeting, Evidence & Technology Spine Summit, Summer Spine Meeting, McKenzie Institute International, International Society of Minimally Invasive Spine Surgery (ISMISS2017), Board/SIG meetings, instructional courses/workshops, and various committee meetings.

Highlights:

**International Society for Minimally Invasive Spine Surgery (ISMISS) 2017**
- Chicago, IL; January 18-20, 2017.
- Meeting took place at the Swissôtel Chicago, with a hands-on course held on January 18 at the Specialty Education & Research Center (SERC) in Burr Ridge, IL.
- This meeting was held in Zurich, Switzerland since its inception and will rotate to an international destination every other year. This year’s meeting was held in Chicago to save on meeting expenses and to take advantage of holding the hands-on course at SERC.

**13th Annual Evidence & Technology Spine Summit**
- Park City, UT; February 22-25, 2017.
- Meeting attendance increased by four percent from 2016. It was the second highest Evidence & Technology attendance under NASS’ management.
- The technical exhibition sold out, with an additional four companies on the wait list.

**2017 Summer Spine Meeting**
- San Diego, CA; July 26-29, 2017.
- Meeting attendance increased by 26% from 2016.

**McKenzie Institute International 2017**
- NASS managed the McKenzie Institute International 2017 in order to streamline meeting efforts and increase overall meeting profitability.

**2017 Annual Meeting**
- Orlando, FL; October 25-29, 2017.
- 69 countries were represented, which is an increase of three countries, compared to NASS2016.
- It was the first time NASS utilized beacon technology, which allowed NASS to monitor room capacities and determine traffic patterns in order to enhance the attendee experience during future meetings.
- NASS offered a one-day complimentary meeting registration to those in Florida and Texas directly impacted by the fall 2017 hurricanes.
**REVIEW OF 2017 CME SCHEDULE**

**ISMISS/NASS Course and Meeting**
NASS partnered with the International Society for Minimal Intervention in Spinal Surgery (in collaboration with the World Federation of Neurosurgical Societies) to present the 35th Annual Meeting of the International Society for Minimal Intervention in Spinal Surgery on January 18-20, 2017, at the Swissôtel in Chicago, IL. This was the first time NASS acted as a conference-planning vendor for another society at this level of involvement. Working with the program chairs, Richard G. Fessler, MD, PhD and John E. O'Toole, MD, MS, a two-day program included four symposia, 35 podium presentations and 23 posters. There were eight exhibiting companies. The meeting was rated as “excellent” or “very good” by 83% of evaluation respondents.

**Lumbar Spinal Injections**
The 2017 Lumbar Spinal Injections course took place January 27-28 at the Science Care facility in Phoenix. Alison Stout, DO was the chair and Benoy Benny, MD served as co-chair.
- The course attracted 48 paid attendees, our highest injections attendance in several years.
- The evaluation was completed by 39 participants:
  - Attendee breakdown: orthopaedic surgery (23); neurosurgery (9); PM&R (2); anesthesiology (1); neurology (1); radiology (1); and other (2);
  - 22 states and five countries, including the United States, were represented (Brazil, Canada, Costa Rica, Panama);
  - 93% of course attendees indicated that the content was useful to their practice and participation in the course will help to improve their future professional effectiveness;
  - 100% would recommend the course to a colleague;
  - Faculty was highly-rated, with a 91-100% top box score.

**13th Annual Evidence & Technology Spine Summit**
In its sixth year under NASS’ direction, the Evidence & Technology Spine Summit was held February 22-25, 2017 at the Canyons Resort in Park City, UT. Featuring medical, surgical and joint didactic sessions as well as ePosters and a technical exhibition, the conference addressed the following topics:

**Medical Sessions**
- Radiology for the Spine Specialist
- The Aging Spine — Focus on Prevention: Lumbar
- Cervical Spondylosis/Stenosis
- Thoracic Pain

**Surgical Sessions**
- Cervical Myelopathy
- Lumbar Degenerative
- Minimally Invasive Surgery
- Adult Deformity
- Adjacent Segment and Proximal Junction Failure
- Complications: My Worst Complication (Case, Evidence, Treatment)

**Joint Sessions**
- Novel Technologies in Medical and Surgical Treatments
- Cervical Radiculopathy: Two-Level Disease
- Doctor Quality of Life: An Underappreciated Metric
- Paraplegic Pitfalls
- Update on Advocacy Efforts and Post 2016 Election

This event was attended by 171 attendees and 32 faculty, not including exhibitors and guests.
- The breakdown (96 people reporting) was: orthopedic surgery (43); PM&R (24); neurosurgery (18); pain management (6); radiology (3); anesthesiaology (1); primary care (1).
- Attendees came from 33 states and eight foreign countries: Australia (2), Brazil, Canada (3), India, Mexico, South Korea, Switzerland (3) and Taiwan.
- The meeting evaluations on topics and location were positive.

This year, “Fireside Chats” for industry were featured. Interested companies were given a few minutes to discuss their technology during non-CME time on the main stage. Participation was very good and the representatives we met with during our on-site meeting indicated they enjoyed the feature and would be interested in future participation.

The 14th Annual Evidence & Technology Spine Summit will be held February 21-24, 2018 in Park City, UT.
Spring Coding Update 2017: Conquering Your Coding Hurdles
The Coding Update was held March 31-April 1 at the Tropicana Hotel in Las Vegas and was chaired by Donna Lahey, RNFA.
• Attendance was 93 (including eight faculty); 33 physicians, 60 allied health. Thirty-one states and the District of Columbia were represented.
• The meeting evaluation on topics and faculty was positive. We received mixed reviews on the location, as the Tropicana is a bit dated compared to other Las Vegas properties.

Section on Motion Technology: Cervical Total Disc Replacement
This course was held May 5-6, 2017 at SERC with chair Scott Blumenthal, MD. There were 18 participants and four faculty members in attendance.
• Attendee breakdown: orthopedic surgery (9); neurosurgery (5); research (1); other (3);
• 12 states and five countries, including the U.S., were represented (Australia, Brazil, China, South Korea);
• 93% of course attendees indicated that the content was useful to their practice and participation in the course will help to improve their future professional effectiveness;
• 93% would recommend the course to a colleague.

Section on Interdisciplinary Spine: Nurse/Nurse Practitioner Specialty Spine Course
The Section on Interdisciplinary Spine (formerly the Section on Allied Health) presented their course, Nurse/Nurse Practitioner Specialty Spine Course, on Saturday, June 17, 2017. The course was well received by the in-person and virtual attendees. The course was live-streamed to 55 off-site attendees. Stryker provided equipment and materials for a sawbones demonstration and a hands-on workshop for the attendees. The course was recorded and posted as an online course for sale on www.spine.org.

Advanced Injection Procedures for Complex Pain and Functional Impairment
This course was held June 23-24, 2017 at SERC. Chad Ermis, DO and Srinivas Mallempati, MD were the chairs.
• Attendance was 28, with 7 faculty.
• International attendance from Argentina, Brazil, Chile, Columbia, Panama and the United Kingdom (2).

Spine Foundation Biologics Course
The second offering of the Biologics Course sponsored by the Spine Foundation took place on Wednesday, July 26, 2017 prior to the Summer Spine Meeting in San Diego, CA. The course was chaired by Wellington Hsu, MD, chair of the Section on Biologics and Research. Bioventus was the principal sponsor with a $20,000 grant and a speaker on the program. There were four major sponsors providing a grant of $6,000 each and faculty on the program: Cerapedics, Medtronic, Stryker and Vertera. Six exhibitors participated in the course with a $3,000 grant: Burst Biologics, Cellving Biosciences, DePuy Synthes, Isto Biologics, Orthofix and SeaSpine. Registered attendees totaled 80 and the course net revenue was approximately $30,107, after sharing the revenue from the exhibit participation with the Summer Spine Meeting. The Section on Biologics will take over the development of the course next year.

Summer Spine Meeting
The Summer Spine Meeting took place July 26-29, 2017 at the Sheraton San Diego Resort & Marina in San Diego, CA. The meeting featured symposia that incorporated surgical and medical perspectives as well as abstract presentations addressing current science. Symposium topics included:
• Workup of Mimicking Pathology
• Cervical Myelopathy
• Spine Deformity
• Cervical Radiculopathy
• Lumbar Stenosis/Spondylolisthesis
• Oncology

75 abstracts were submitted to the program: each day consisted of three podium abstract sessions (21 abstracts) in addition to ePosters.

The Korean Spinal Neurosurgery Society participated in the program with a symposium focusing on MISS Suggestion for Pure Lumbar Foraminal Stenosis Management. Eleven faculty delegates participated in several of the symposia with topics and an abstract presentation in each of the three sessions. Final attendance for the meeting was 131 attendees and net revenues were approximately $30,635.
Section on Interdisciplinary Spine: Assessment, Prognosis and Management of Traumatic Neck Pain
The live event was cancelled, but the chairs agreed to develop the content as an online course or webinar series.

Fundamentals of Spine Surgery and Interventional Pain Management
This course focusing on residents and fellows was held September 15-16 at SERC. Srinivas Prasad, MD, Ed Dorhing, MD and Donna Lahey, RNFA were the chairs. New this year, the course was available to attendees at no charge, due to competition from AO Courses within a week or two of ours.

- The course drew 38 attendees; breakdown: orthopedic surgery (19); neurosurgery (2); PM&R (16); 1 anesthesiology (1);
- 15 states and three countries were represented (U.S., Brazil and Canada);
- 100% of course attendees indicated that the content was useful to their practice and participation in the course will help to improve their future professional effectiveness;
- 100% would recommend the course to a colleague;
- Faculty was highly rated with 91-100% top box score.
- Corporate support exceeded our initial ask; Globus, Medtronic, NuVasive SeaSpine, Spine Wave and Stryker provided station support for the course.
- Representative evaluation comments: “This course was excellent and improved overall understanding of cervical and lumbar approaches and procedures; appropriate level of instruction for the intended audience; and practice management lecture very informative.”

McKenzie/NASS Meeting
The 14th International Conference in Mechanical Diagnosis and Therapy was presented by the McKenzie Institute International in cooperation with NASS on September 22-24, 2017. The 2½ day program presented ten symposia and one pre-conference workshop (Target Your Management: How to Detect and Address Psychological Issues in People with Pain). Total attendance (including faculty) was 426.

Minimally Invasive Spine Surgery with Radiation Reducing Techniques
This course was rescheduled for May 2018. The original dates were too close to the 2017 Annual Meeting.

32nd Annual Meeting
October 25-28, 2017, Orlando, FL
The Annual Meeting offered an outstanding educational experience and provided high-quality continuing medical education for spine specialists. Highlights included:

- 1,093 abstracts submitted
- 280 podium presentations, which was a record high number
- 216 ePosters
- 19 symposia
- 14 section specialty track sessions
- 8 interdisciplinary spine forum (allied health) sessions
- 1 instructional coding course
- 1 hands-on deformity course

The program also included best paper presentations, research grant and fellowship awards presentations, value abstract award presentations, section specialty abstract award presentations, innovative technology presentations, ePoster grand rounds with authors, special guest speakers including: Larry Kudlow, presidential guest speaker Rebecca Costa, international programming in our Global Spine Forum. The program chairs were Ted Dreisinger, PhD, FACSM; Jonathan N. Grauer, MD; and Conor O’Neill, MD.

The Technical Exhibition featured 360 companies and educated more than 2,800 professionals on the latest developments in equipment, supplies and services available in the spine care field. It earned more than $3.6 million and covered 81,050 net square feet. The Technical Exhibition featured the Surgical Innovation Labs, where exhibitors could demonstrate their products on cadaveric specimens and hold training workshops. It also was home to the Learning Place, which featured the ePosters and the exercise demonstration area for learning new exercise-based therapies. Attendees also had the chance to visit the Career Fair, where members could search for new opportunities amongst the companies recruiting.

32nd Annual Meeting Abstract Awards
- Best Papers (Wednesday)
- Best Papers (Thursday)
- Best Papers (Friday)
- Value Abstract Awards
- Resident/Fellow Research Awards
- Best of Sections: Interdisciplinary Spine, Biologics and Basic Research, Spine Motion Technology
ABSTRACT SUBMISSIONS/ACCEPTANCE 2017

13th Annual Evidence & Technology Spine Summit
34 abstracts submitted
31 ePosters accepted

Summer Spine Meeting
75 abstracts submitted
21 podium presentations accepted
23 ePosters accepted

32nd Annual Meeting
1,093 abstracts submitted
280 podium presentations accepted
216 ePosters accepted
CURRENT ONLINE COURSE AND WEBINAR OFFERINGS

A total of 28 online courses are available on the NASS website. At least five new courses are in development for a 2018 release. We are now live streaming all conferences, in addition to offering the recordings as OnDemand CME. Conference recordings are free to member conference attendees starting in 2017; non-members and non-attendees can purchase recordings through the NASS online store.

A new member benefit that debuted in 2016 is a series of videos called “Lifelong Learning Videos,” which include short educational (non-CME) videos such as Ask the Experts, Case Studies, Conference Reviews/Continued Discussions and other types.

The current course offerings are as follows:

- Section on Radiology Webinar Series
- Section on Allied Health Webinar Series: Collaborative Concepts in Spine Care
  - Triage (Expires 7/17/2019)
  - Medical Necessity (Expires 7/17/2019)
  - An Integrated Model (Expires 7/17/2019)
- Section on Biologics & Basic Research Webinar Series
  - Infection Control (Expires 7/6/2019)
  - Osteoporosis and the Elderly (Expires 7/6/2019)
  - BMP: Risk Management Strategies (Expires 7/6/2019)
- Understanding and Developing Online Strategies for Growing Your Practice or Business (Expires 6/1/2018)
- Cervical Spine Degenerative Disorders and Management (Expires 7/1/2018)
- 2014 Annual Meeting Symposia OnDemand (Expires 11/14/2017)
- 2015 Spine Across the Sea OnDemand (Expires 7/31/2018)
- 2015 Annual Meeting OnDemand (Expires 10/31/2018)
- Nothing to Hide: Disclosure and Professionalism for the Spine Care Provider (Expires 2/1/2019)
- How to Do a Quality Manuscript Review Webinar (Expires 5/1/2019)
- State-of-the-Art in Motor Control and Low Back Pain Online Course (Expires 5/15/2019)
- The Art & Science of the Physical Examination Online Course (Expires 5/31/2019)
- 2016 Evidence & Technology Spine Summit (Expires 3/1/2019)
- 2016 Spine Across the Sea OnDemand (Expires 7/26/2019)
- 2016 Annual Meeting OnDemand (Expires 11/1/2019)
- Optimizing Value and Outcomes in Spine Care: The Key Role of Psychologically-Informed Practice Online (Expires 11/16/2019)
- 2017 Evidence & Technology Spine Summit OnDemand (Expires 3/1/2020)
- Nurse/Nurse Practitioner Specialty Spine Online Course (Expires 6/23/2020)
- 2017 Summer Spine Meeting OnDemand (Released 8/1/2017)
- 2017 Annual Meeting OnDemand (Released 11/1/2017)
The NASS Video Department produces animation and motion graphic digital video content that informs viewers about courses/conferences, expert opinions, and outstanding science and education initiatives.

Courses/Conferences
The following videos, produced in-house, were used in email marketing efforts and on spine.org to promote interest and attendance: Evidence & Technology Spine Summit, Motion Technology: Cervical TDR course, Coding Update course and Summer Spine Meeting.

Ask the Experts
There are 23 video discussions now available at spine.org/education for members to access at no charge. These 7-10 minute discussions feature prominent opinion leaders in spine addressing surgical and medical topics. Ask the Experts videos also are available on YouTube at nassspine.

Annual Meeting
Four NASS 2017 motion graphics videos promoted various features and benefits to attendees as well as highlighted the location. This year's interstitial video featured clinical guidelines, spine registry update, coverage recommendations, award recipients, educational programs and more.

Outstanding Paper Awards
This video showcased The Spine Journal award winners for their highly-rated scientific abstracts.

Facebook
A motion graphics video was produced to gain added visibility and drive traffic to the NASS Facebook page, facebook.com/NASS.Spine, as well as encourage “likes.” Additionally, multiple science/medical quotes were designed and posted on a weekly basis to enhance site traffic.
As the primary voice for spine specialists on Capitol Hill, NASS advocacy continues to work with Congress to advocate for policies that improve access to spine care for patients, protect the practices of spine specialists and fund spine research and prevention. In 2017, NASS was successful on a number of advocacy fronts, and made significant progress in promoting the cause of spine specialists on Capitol Hill, as well as engaging the general membership with advocacy initiatives. Some of these activities included invitations to local town hall dinners with members of NASS’ Board of Directors, participation at local SpinePAC fundraisers, and assistance to NASS members who host legislators at their sites of practice. Below are some examples of the key accomplishments from 2017.

**NASS ADVOCACY EFFORTS/SUCCESS 2017**

**Increased Presence on Capitol Hill**

NASS’ annual Advocacy Conference was held on April 4, 2017 in Washington, DC. Thirty-five members of NASS’ Executive Committee, Advocacy, Health Policy and Research Councils heard from thought leaders about physician shortage issues, value-based payments, EHR interoperability, medical innovation, and private contracting in Medicare. Special guest Congressional speakers included, Sens. Bill Cassidy, MD (R-LA) and Chris Van Hollen (D-MD) and U.S. Reps. Michael C. Burgess, MD, (R-TX) and Raja Krishnamoorthi (D-IL).

**Medical Liability Reform Efforts**

- NASS-endorsed medical liability reform legislation and HR 1215 passed in the U.S. House of Representatives. The legislation is similar to reforms made in California and Texas.

- The “Accessible Care by Curbing Excessive Lawsuits (ACCESS) Act of 2017” aims to improve patient access to health care services by reducing excessive burdens created by the liability system. NASS worked closely on legislative language and will be continuing to work with key stakeholders to advance the bill.

- The “Good Samaritan Health Professionals Act” was introduced. This legislation expands medical liability protection for providers volunteering during a national emergency, major disaster, or a public health emergency. NASS has previously endorsed this legislation and will continue to advocate for the bill this Congress.

- The “Sports Medicine Licensure Clarity Act” was introduced in the Senate and establishes protections for certain sports medicine professionals who provide particular medical services in a secondary State. NASS endorsed the version that was passed by the U.S. House of Representatives earlier this year and supports the companion bill in the Senate.

**Medicare Transparency**

NASS continues to monitor issues surrounding Medicare Administrative Contractors (MACs) and is monitoring a recently introduced legislation, “The Local Coverage Determination Clarification Act,” which improves the process whereby Medicare administrative contractors issue local coverage determinations (LCD) under the Medicare program.

**Physician-Owned Hospitals**

NASS sponsored legislation to end the current Affordable Care Act’s moratorium on physician-owned hospital (POH) expansion and allow these facilities to participate in the Medicare program.

**Medicare Reimbursements**

NASS continued its aggressive campaign to repeal the ACA’s Independent Payment Advisory Board (IPAB). This effort resulted in the introduction of bipartisan legislation to repeal the IPAB in both chambers of Congress. The IPAB was repealed in 2018.
Access to Specialty Care
The House and Senate passed NASS-endorsed legislation, the Expanding Capacity for Health Outcomes Act (ECHO) Act. NASS endorsed the bill due to its applicability for rural spine care providers, who often do not receive adequate logistical support to treat patients in remote geographic areas.

The House Energy and Commerce Committee held a hearing on the U.S. Preventative Services Task Force (USPSTF). The hearing brought to light concerns over the task force’s lack of specialty representation and transparency regarding their recommendations on preventative services.

Scope of Practice
NASS helped defeat a Veterans Health Administration (VHA) rule to change to the Advanced Practice Registered Nurses (APRNs) Proposed Rule, which would have allowed VHA-employed APRNs to practice without the clinical supervision of physicians and without regard to state law. The revised rule preserves the current physician-led model of anesthesia care in the VA setting and prioritizes team-based care rather than independent nursing practices.

EXPANDING INFLUENCE
NASS continued to implement targeted advocacy campaigns, building the NASS brand in Washington, DC and informing key legislative offices of NASS’ positions on key issues impacting the spine care field. In 2017, NASS staff personally conducted 175 Congressional meetings, meet and greets, and fundraisers, and met regularly with key health care staff on Congressional health care committees.

Recognition
NASS Advocacy awarded David A. Wong, MD of Denver, CO the “Spine Advocacy Award” at the 2017 NASS annual meeting in Orlando, FL. The presentation of this award marked the third time a member of the North American Spine Society was recognized for making exceptional contributions to federal advocacy efforts on behalf of the society. Donna Lahey, RNFA of Phoenix, AZ and Samy Abdou, MD of San Diego, CA, respectively, were awarded the SpinePAC Member of the Year and the SpinePAC Lifetime Achievement Awards.

NASS Town Hall Events
In an effort to meet the challenges of the constantly evolving world of spine care, NASS coordinated seven regional meetings across the country to discuss the effects state and federal coverage, payment and practice policies are having on spine specialists. The purpose of NASS “Town Halls” is to learn more about how NASS as an organization can be more responsive to the needs of the spine care community and use this information to produce valuable resources for NASS members to be effective advocates on behalf of their patients and practices.
**SPINEPAC**

SpinePAC plays a critical role in the NASS government relations strategy. The sole purpose of SpinePAC is to collect voluntary contributions from eligible NASS members in order to elect champions of the spine specialist community to federal office. In 2017, SpinePAC set a single year fundraising record of $129,737. As a result of this success, NASS, through SpinePAC, was able to contribute to 31 candidates running for the U.S. Senate and House of Representatives, all of whom share our common desire to promote access to specialty medical care, fund spine research, and protect our practices and patients.

**SpinePAC Events**

At the 2017 NASS Evidence and Technology Spine Summit in Park City, UT, Advocacy Chairman, John Finkenberg, MD hosted an exclusive dinner and wine tasting for high-level SpinePAC donors. The event was attended by Chair of the House Rules Committee Pete Sessions (TX-32) and helped NASS raise $31,070 in the first quarter of the year, a new record!

At the 2017 NASS Summer Spine Meeting in San Diego, CA supporters of SpinePAC, gathered for an exclusive event at Ballast Point Brewery, followed by a San Diego Padres baseball game. While taking in the game, SpinePAC donors were able to bid on sports memorabilia and treated to a special guest appearance by NBA Hall of Famer Bill Walton. SpinePAC raised nearly $8,000 from the event, all of which went toward electing champions of the spine care community to federal office.

During the NASS 2016 Annual Meeting in Orlando, FL, former CNBC anchor and current White House Economic Advisor Larry Kudlow was on hand to sign copies of his latest book during an exclusive luncheon in honor of 2017 SpinePAC members. Later, SpinePAC donors in attendance gathered for the President’s Dinner with Rep. Gus Bilirakis (FL-12).
2017 SpinePAC Facts

- 2017 Net Contributions: $129,737 – the highest single fundraising year in NASS history
- 2017 Goal: $125,000
- Percent of 2017 Goal Reached: 103.7%
- Number of Individual donors: 275
- Percent of NASS Members Giving: 4.1%
- Average Individual Gift: $471
- Number of First Time Contributors: 111
- 2016 Donor Retention Rate: 60.6%
- Platinum Level ($2,500-$4,999) Donors: 5
- Diamond Level ($5,000): 2
- Percent of NASS Board of Directors Contributing: 81.2%
- If every eligible NASS member gave $100 annually – SpinePAC would be a $1.6 Million PAC
Committee on Ethics and Professionalism (CEP)
The CEP continually strives to “raise the bar” for ethics not only within NASS, but in the entire field of spine care. To that end, our policies are constantly being reviewed and strengthened.

In 2015, the Committee revised and strengthened the Expert Witness Guidelines as well as the Code of Ethics, and the revisions were ratified by the Board of Directors. The Board ruled in October 2011 to make financial disclosure information—in range format—available to the general public. The 2017 annual public index includes all member disclosure information provided to NASS after February 2012 and the disclosure information provided is current as of June 1, 2017.

Review 2017 Index

The CEP continues to monitor current conflict of interest trends to ensure that NASS stays up to date on our ethical responsibilities.

2017 CEP contributions to NASS publications:
- “Opioids: What to Do With the Patients Left Behind” Reiter, M. (SpineLine, January/February 2017)
- “Physicians Must Be Aware of Supplements Taken by Patients” Diulus, C. (SpineLine Jul/Aug 2017)

Conflict of Interest Review Panel
In addition to the annual review of the Board of Directors’ disclosures and the vetting of 25 new and reappointed committee chairs, four self-referred reviews were completed.

Professional Conduct & Ethics Committee (PCEC)
The PCEC reviewed two matters in 2016. In 2017, the PCEC finalized its decisions on the matters and had them approved by the Board of Directors. The PCEC had no new cases to review in 2017.

Professional Compliance Panel (PCP)
The PCP continued to monitor a sample of sessions during the Annual Meeting and found that the vast majority of our disclosure rules were followed. A few issues were identified and brought to the attention of the Board, to which additional checks and balances were put in place to mitigate the issues. The PCP also audited 10 randomly selected Level 1 members to verify that their disclosures were appropriately divested.
In 2017, the Research Council was directed by Drs. Zoher Ghogawala, Charles Cho and Scott Kreiner. The Council integrates evidence-based medicine into NASS projects and the spine field where possible. It analyzes evidence to provide scientific spine care information and recommendations to NASS members as well as regulatory and policy bodies. The Council conducts regular surveillance of the spine field, reviewing information from various government, quality and regulatory sources for issues of relevance, as well as from the American Medical Association (AMA) and other specialty medicine-related groups. The Council provides evidence-based medicine training, literature search services and article retrieval for the society at large. Council activities in 2017 included:

**Advocacy and Health Policy Collaboration.** The Research Council collaborated with NASS Advocacy and Health Policy efforts, providing scientific input to NASS and the Alliance for Specialty Medicine. Issues included research, performance measurement, patient safety, regulation, and health care reform issues related to quality.

**Government and Other Comments to Support Spine Care.** The NASS Research Council and its committees supported spine care through various projects and comments submitted to government and other bodies. These comments can be viewed on the NASS website. The Council performed the following reviews and submitted comments or signed on in 2017:

- NASS signed on to an AMA letter urging CMS and the Office of the National Coordinator for Health Information Technology to make 2015 Edition EHR adoption voluntary and require its use no sooner than January 2019.
- NASS signed on to an AMA letter to CMS calling for meaningful use, Physician Quality Reporting System, and value-based modifier penalty exemptions.
- NASS signed on to a letter in response to the US Preventative Services Task Force draft recommendation statement on “Adolescent Idiopathic Scoliosis: Screening,” which contradicted the AAOS position statement signed with the American Academy of Pediatrics, the Scoliosis Research Society (SRS) and the Pediatric Orthopaedic Society of North America (POSNA).
- NASS signed on to an Alliance for Specialty Medicine letter on the inpatient prospective payment system that urged CMS to finalize the use of technology certified to the 2014 Edition OR the 2015 Edition for an EHR reporting period in 2018. It also supported allowing providers to use a combination of EHR technologies certified to the 2014 Edition and 2015 Edition to be used for an EHR reporting period in 2018. CMS was asked to ensure these modifications are also applied to the Quality Payment Program and other delivery and payment models where CEHRT is required.
- NASS signed on to an American Academy of Ophthalmology letter to CMS asking for full Advancing Care Information credit in MIPS for physicians who use EHRs in clinical data registries.
- Comments were drafted and submitted to CMS on the Medicare Program; CY 2018 Updates to the Quality Payment Program. NASS also signed on to the Alliance for Specialty Medicine comments and those of the Physician Clinical Registry Coalition on this issue.
- Comments were drafted and submitted to CMS on the quality aspects of the CY 2018 Medicare Physician Fee Schedule Proposed Rule. NASS also signed on to the Alliance for Specialty Medicine comments on this proposed rule.
- The Research and Health Policy Councils reviewed and signed on to a revision of the Alliance for Specialty Medicine position statement on off-label use.
- NASS provided comments to the Agency for Healthcare Research and Quality on proposed research for the topic: Noninvasive, Nonpharmacological Treatment of Chronic Pain.

**AAOS Clinician Scholar Development Program.** Each year NASS sponsors a participant interested in pursuing a career as a clinician scholar. The workshop sessions focus on topics such as career timeline, collaboration with scientists, mentorship, academic promotion, grants and funding resources, working with specialty groups, and balancing it all with a fulfilling personal life. These participants write a *SpineLine* article to share their experience. In 2017, Pooria Salari, MD, was sponsored by NASS.

**Food and Drug Administration (FDA).** The Research Council, in conjunction with the Health Policy Council, was responsible for oversight and surveillance of FDA-related issues. NASS is an FDA Network of Experts organization to help provide expertise on solicited topics.

**Patient Centered Outcomes Research Institute (PCORI).** NASS continued to engage with PCORI on spine-related issues. The NASS Executive Committee and Research Council members met with PCORI leadership in Washington, DC in April 2017 to discuss possible collaboration and spine research at PCORI.
Evidence-Based Clinical Guidelines. NASS’ evidence-based clinical guidelines assist spine care providers in the diagnosis and treatment of spinal conditions. NASS uses a transparent, evidence-based methodology, incorporating levels of evidence and grades of recommendation in its guideline development. NASS’ volunteer guideline authors are trained in evidence analysis as a requirement of participation. Seven guidelines are available for free download on the NASS website:

- Diagnosis and Treatment of Adult Isthmic Spondylolisthesis
- Diagnosis and Treatment of Degenerative Lumbar Spondylolisthesis (Revised 2014)
- Diagnosis and Treatment of Lumbar Disc Herniation with Radiculopathy
- Diagnosis and Treatment of Cervical Radiculopathy from Degenerative Disorders
- Diagnosis and Treatment of Degenerative Lumbar Spinal Stenosis (Revised 2011)
- Antibiotic Prophylaxis in Spine Surgery (Revised 2013)
- Antithrombotic Therapies in Spine Surgery

Work continued on the guideline, Diagnosis and Treatment of Low Back Pain. The Guideline Work Group is composed of seven sections, including Diagnosis, Imaging, Medical and Psychological Treatment, Physical Medicine and Rehabilitation, Interventional Treatment, Surgical Treatment and Cost-Effectiveness, and will address 82 clinical questions in these areas. The guideline has 70+ volunteers and multisociety representation.

Appropriate Use Criteria (AUC). NASS develops appropriate use criteria using a modified version of the RAND method. Currently criteria on cervical fusion are available in hard copy and through the NASS mobile application. Development of an AUC on degenerative spondylolisthesis began in 2016.

Evidence-Based Medicine Training. NASS offers interactive web-based training on the fundamentals of evidence-based medicine (EBM). The course combines recorded didactic presentations that may be watched OnDemand, with homework assignments and a live webinar to allow for practice in critiquing studies and assigning levels of evidence. It is intended for those who wish to develop skills in critically analyzing study methodologies and assigning levels of evidence to studies based upon how the studies are being used to answer a specific clinical question. Courses were held in April and November of 2017.

Patient Safety. The Patient Safety Committee continues to administer the NASS Spine Safety Notice Program, monitoring government resources for patient safety-related notices that may be useful to NASS members, and distributing them via e-mail and member publications. In 2017, the committee issued 23 notices.

Nass Spine Registry. The NASS Spine Registry will collect data to enhance understanding of spine care treatments and their resulting patient outcomes, as well as examine the natural history of spine disorders. NASS will track patient care and outcomes, with the long-term potential goals of using the data to develop quality measures, for quality improvement purposes, best practices, to begin closing the gaps in medical evidence for spine care and for advocacy purposes. In 2017, the registry pilot was underway to test the platform and usage by sites. NASS is also an active member of the Physician Clinical Data Registry Coalition, which advocates for policies that enable the development of clinical data registries and enhance their ability to improve quality of care through the analysis and reporting of these outcomes. NASS also committed to participating in the AHRQ Registry of Patient Registries measure harmonization project with spondylolisthesis as a topic and Dr. Zoher Ghogawala as the NASS representative.

Performance Measurement. NASS is a member of the Physician Consortium for Performance Improvement (PCPI)—a multistakeholder community for the advancement of measurement science, quality improvement, and clinical registries. In this forum, NASS voices its position on issues related to performance measures and value-based purchasing that may affect spine care providers. NASS staff and physician representatives, Carlos Bagley, MD and John Easa, MD, represent NASS at PCPI.
RESEARCH GRANTS

Each year NASS awards research grants to applicants with the highest-quality spine-related research. The following types of research funding are available: research grants, young investigator grants and nontraditional, nonsurgical treatment grants. The 2017 research funding application marketing resulted in 173 letters of proposal with 36 invitations to submit full grant applications and four fellowship applications.

NASS awarded three grants and two fellowships for a total of $149,999.72:

Grant (Clinical): A Prospective, Double-Blind, Randomized Control Trial of Post-operative Acetaminophen Versus Ketorolac in Lumbar Spinal Fusion

Primary Investigator: Harvinder Sandhu, MD
Amount: $46,550

Grant (Young Investigator-Translational): Identifying Molecular Determinants of Local Control after Radiation Therapy to Spinal Metastases from Non-Small Cell Lung Cancer (NSCLS)

Primary Investigator: Erik S. Anderson, MD, PhD
Amount: $43,875 Funding Year One Only of a Two Year Grant (Partial Funding for Year One)

Grant (Young Investigator-Basic): Real-Time Non-Radiation Based Navigation Using 3D Ultrasound for Pedicle Screw Placement

Primary Investigator: Ilker Hacihaliloglu, BSC, MSc, PhD
Amount: $46,905 Funding Year One Only of a Two Year Grant (Partial Funding for Year One)

Clinical Traveling Fellowship:
Mohammed Hassan Ibrahim Mahboub, MD
(Oregon Health & Science University; University of Southern California; UT Southwestern Medical Center)
Amount: $7,169.72

Clinical Traveling Fellowship:
Abduljabar Alhamoud, MD
(Rothman Institute; Hospital of Special Surgery; Rush University)
Amount: $5,500
The Health Policy Council, under the direction of David R. O’Brien, Jr., MD, oversees NASS’ activities related to coding and reimbursement, regulatory affairs, coverage, and value.

In 2017, NASS provided expert comments on the proposed and final rules for the Medicare physician fee schedule as well as numerous other regulatory and legislative issues.

The Health Policy Division continues to produce a monthly email publication, “Health Policy Review,” that provides members with timely and useful information for succeeding in today’s health care market, including:

- legislation and regulation affecting spine care and medicine as a whole
- research and clinical care
- practice management issues
- coverage issues
- coding and reimbursement

**Coverage Committee**

As of April 2018, the Coverage Committee published 25 evidence-based coverage recommendations for various spine care treatments, procedures and diagnostics. The committee currently has additional 15 topics in the development process, as well. NASS coverage recommendations are developed to advocate for NASS’ positions on various clinical and practice issues to ensure continued provision of quality spine care. NASS will continue its efforts to advocate for fair and appropriate coverage decisions while promoting evidence-based medicine.

The coverage recommendations published in 2017 were:
- Allograft and Demineralized Bone Matrix for Spinal Fusion
- Intrathecal Drug Delivery Systems
- Spinal Cord Stimulation

Additionally, the Committee is revising some of the topics that were initially published in 2014-2015. The following list includes revision topics that the committee will release in the upcoming months:
- Cervical Epidural Injections and Diagnostic Spinal Nerve Blocks
- Endoscopic Decompression
- Interspinous Fixation with Fusion
- Interspinous/Interlaminar Device without Fusion
  (Two policies will be developed to address this topic: Lumbar Interspinous Device without Fusion and with Decompression; Lumbar Interspinous Device without Fusion and without Decompression)
- Lumbar Artificial Disc Replacement
- Lumbar Epidural Injections
- Percutaneous Sacroiliac Joint Fusion
- Percutaneous Thoracolumbar Stabilization

NASS coverage recommendations are available at no cost to NASS members and payors and for $395 per chapter to others. NASS leadership met with various payors in 2017 to discuss and collaborate on our combined coverage efforts and the committee continues to receive numerous requests from payors for NASS coverage recommendations as well. For more information on NASS’ coverage efforts and to view our published and upcoming list of topics, please click here.

**Payor Policy Review Committee (PPRC)**

NASS’s Payor Policy Review Committee (PPRC) was originally a reactive committee that only responded to concerns raised by our members regarding insurance coverage policies. Today, it is a committee that works with several large insurers to provide guidance and expert opinion on policies that they are working on prior to their implementation.

The PPRC was very active this past year addressing several potential threats to our patients’ access to spinal care. With the NASS Coverage Committee providing more coverage recommendations and the PPRC established as a credible resource, several of the largest U.S. insurers covering more than 100 million lives have invited NASS to work with them in developing their new coverage policies. This is a major undertaking by NASS, which will benefit its members and the millions of patients they serve.
A list of 2017 topics reviewed by the PPRC include:

• Central (Hip or Spine) Bone Density Measurement and Screening for Vertebral Fractures Using Dual Energy X-Ray Absorptiometry
• Epidural Steroid Injections
• Facet Joint Injections, Medial Branch Blocks, and Facet Joint Radiofrequency Neurotomy
• Interspinous Distraction Devices and Interspinous Fixation (Fusion) Devices
• Intraoperative Neurophysiologic Monitoring – Cervical Spine Surgery
• Laminotomy
• Lumbar Artificial Disc Replacement
• Lumbar Spinal Fusion
• Sacroiliac Joint Fusion
• Spinal Fusion; Laminectomy, Facetectomy and Foraminotomy, Single Vertebral Segment; Vertebral Corpectomies

NASS is working closely with the Blue Cross Blue Shield Association through their Evidence Street program and continues to provide feedback on various spine-related evidence reviews.

**Coding Committee**
Under the leadership of R. Dale Blasier, MD, William Mitchell, MD, and Scott Horn, DO, the Coding Committee continued to work closely with other specialties in the development, modification and valuation of CPT codes through the AMA’s CPT Editorial Panel and Resource-Based Relative Value Scale Update Committee (RUC). William Mitchell, MD, and David O’Brien, Jr., MD, represent NASS at the CPT Editorial Panel while Karin Swartz, MD, and Kano Mayer, MD, represent NASS at the RUC.

Additionally, the Coding Committee responded to approximately 50 coding questions from NASS members in 2017. The committee updated *Common Coding Scenarios* for 2017 to reflect code changes and value adjustments, and developed new scenarios to assist in understanding appropriate coding.

The Coding Committee conducted two in-person coding courses to provide up-to-date coding and reimbursement information specific to spine care in 2017.

**Value Committee**
Under the leadership of Emily Karlen, MPT, and Matthew Smith, MD, the Value Committee continues to address value and alternative payment models in spine care. The committee developed and published a series of value-focused articles in *SpineLine*.

The Value Committee granted three value abstract awards at the NASS Annual Meeting:

• Cost-Effectiveness of Operative vs. Nonoperative Treatment of Adult Lumbar Scoliosis; Leah Y. Carreon, MD, MSc; Keith H. Bridwell, MD; Michael P. Kelly, MD; Christine R. Baldus, RN; Kelly R. Bratcher, RN; Charles H. Crawford III, MD; Elizabeth Yanik; Steven D. Glassman, MD
• Determinants of Cost-to-Charge Ratio Variation Among U.S. Hospitals; Gregory W. Poorman; Samantha R. Horn, BA; Wesley H. Bronson, MD, MS; Saqib Hasan, MD; John Y. Moon, BS; Bassel G. Diebo, MD; Peter G. Passias, MD
• Is There Value in Retrospective 90-Day Bundle Payment Models for Cervical Spine Procedures? Susan Odum, PhD; Bryce Van Doren, MPH; Leo R. Spector, MD
The Governance Committee ensures that NASS has an effective governing board. The committee identifies future leaders of the society and strives to engage them in NASS activities. In addition, the Governance Committee educates new board and committee members about their duties, roles and responsibilities, and oversees new member orientation. The committee is responsible for recognizing NASS members for their efforts in the spine care field and ensures conditions are favorable for participation in NASS activities. Additionally, the committee is responsible for recognizing dedicated leaders through our Recognition Awards.

NASS hosted its 6th Leadership Development and Training Program at the 2017 Annual Meeting. Course faculty included Mary Crane, who presented on “Communication & Self Awareness” and David Dye, who discussed “Creativity & Development.”

NASS hosted its 6th Committee Orientation Program Meeting at the same meeting. All new committee members were invited and encouraged to attend this orientation meeting. Daniel K. Resnick, MD, MS, Mitchel Harris, MD, FACS, and Eric J. Muehlbauer, MJ, CAE, discussed an Introduction to NASS, NASS Organization Overview and our Committee Evaluation Improvement Project.

SERC accommodates groups of all sizes and specialties, for everything from educational events, to product demonstrations, to trainings. Every year health care providers return to SERC to enhance their skills and enjoy everything the state-of-the-art facility has to offer.

2017 Totals
- 56 courses
- 113 inquiries received
- 50% of inquiries became confirmed courses
- Average number of stations per course: 3
- Average attendance per course: 25
- Approximately 1,400 attended events at SERC in 2017

Industry continues to show the strongest interest in utilizing the facility. SERC always receives high remarks in regard to customer service and experience. However, due to industry budget cuts, mergers, smaller events, rotating course locations, and additional labs being built, SERC is experiencing a downward trend in number of courses and revenue.
**The Spine Journal**

The Spine Journal (TSJ) increased its positioning as the top-ranked scientific spine journal with an impact factor of 2.962, up from 2.660 the previous year. As expected, competition for acceptance remained high at just below 30% in 2017. Under the direction of Editor in Chief, Eugene Carragee, MD, and TSJ Deputy Editors, the Journal published an average of 20 original research articles in each issue, including clinical studies, basic science, review articles, along with technical reports, perspectives, and as always, engaging discussions in Letters to the Editor.

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**Reviewer Honor Roll**

At the annual editorial board meeting held during the NASS annual meeting in Orlando, the Executive Editorial Board recognized several reviewers for their consistently high-quality reviews throughout the year. The 2017 Reviewer Honor Roll included:

- Owoicho Adogwa
- Gordon R. Bell
- Richard Bransford
- Yen-Jen Chen
- Woojin Cho
- Rahul Gawri
- Peter C. Gerzsten
- Sandeep Gidvani
- Andrew J. Haig
- Daniel J. Hoh
- Daniel G. Kang
- Panagiotis Korovessis
- Laurence A. Marshman
- Isaac L. Moss
- Charles Reitman
- Hidecki Shigematsu
- Kern Singh
- Rand S. Swenson
- James B. Talmage
- Khoi Duc Than
- Eugene K. Wai
- David A. Wong

**2017 Outstanding Paper Awards**

The Spine Journal and NASS honored three winning papers and one runner-up in the 2017 Outstanding Paper Awards competition. TSJ presented the awards during the NASS Annual Meeting in Orlando and published the papers in the January 2018 issue of the Journal:

**Outstanding Paper: Medical/Interventional Science**

From the International Space Station to the clinic: how prolonged unloading may elevate risk for low back pain and lumbar instability

Jeannie F. Bailey, PhD; Stephanie L. Miller, MS; Kristine Khieu, Conor W. O’Neill, MD; Robert M. Healey, MBA; Dezba G. Couglin, PhD; Jojo V. Sayson, PT, DMT; Douglas G. Chang, MD, PhD; Alan R. Hargens, PhD; Jeffrey C. Lotz, PhD

**Outstanding Paper: Surgical Science**

Objective measurement of function following lumbar spinal stenosis decompression reveals improved functional capacity with stagnant real-life physical activity

Matthew Smuck, MD; Amir Muaremi, PhD; Patricia Zheng, MD; Justin Norden, MPhil; Aman Sinha, MPhil; Richard Hu, MD; Christy Tomkins-Lane, PhD

**Outstanding Paper: Value in Spine Care**

Establishing benchmarks for the volume-outcome relationship for common lumbar spine surgical procedures

Andrew J. Schoenfeld, MD; Daniel Sturgeon, MS; Camden B. Burns, MD; Tyler J Hunt, BS; Christopher Bono, MD
Runner-Up
A minimum of 5-year follow-up after lumbar transformaminal epidural steroid injections in patients with lumbar radicular pain due to intervertebral disc herniation
David J. Kennedy, MD; Patricia Zheng, MD; Matthew Smuck, MD; Zachary L. McCormick, MD; Lisa Huynh, MD; Byron J. Schneider, MD

SpineLine
SpineLine Editor William Sullivan, MD, and the editorial board produced an impressive 2017 editorial schedule of relevant clinical content, socioeconomic & political topics, NASS news and commentary from a wide-ranging roster of multidisciplinary authors. Highlights included:

Review Articles & Clinical Content
• Inferior Vena Cava Filters and Spine Surgery
• Radiology Rounds: Spine Trauma Imaging
• Diagnostic and Interventional Radiology Techniques for the Treatment of Spinal Tumors
• Perspective: Physicians Must Be Aware of Supplements Taken by Patients
• A Case Study of Lumbosacral Transitional Anatomy: Implications of Pain Patterns and Treatment Considerations
• Working toward New Quantitative Metrics of Injury Following a Motor Vehicle Collision

Spine in Sports
• How to Score a Perfect 10 in Caring for Gymnasts with Low Back Pain

Value in Spine Care
• Bundled Payments in Spinal Surgery: What Does the Practicing Clinician Need to Know?
• The Value of Epidural Injections for Axial Low Back Pain
• Care Models Drive Value of Care

Ethics
• Some Reasons Patients Feel Better: Recognizing the Complexities of Pain Relief
• Opioids: What to Do with the Patients Left Behind

Socioeconomic & Politics
• MACRA Final Rule: New Medicare Value-Based Payment Options
• RVU vs Dollar: Which is Best for Physician Compensation?
• Updates Regarding Anthem Coverage Policies and Coding
• From Affordable Care Act to American Health Care Act
• 2017 Legislative Gridlock and What Lies Ahead

All NASS members receive SpineLine as a benefit of membership. All categories of membership receive a digital subscription; Active, Associate and Affiliate members receive print and digital subscriptions. Total circulation at the end of 2017 reached 8,781. Online reader stats for 2017 show 99,554 page views: 30% via the desktop edition, 50% via the phone mobile app and 20% via the table app.
Public Affairs Committee
To promote understanding of advances in spine research and care and NASS’ leadership role in the spine community, NASS issued nine press releases to the news media in 2017. Throughout 2017, NASS provided consumer and trade media outlets with spokespeople to educate the public on spine-related topics. NASS spokespeople participated in interviews with many media outlets, including: Spinal News International, Spine Surgery Today, Becker’s Spine Review, Medical Device Daily, Orthopedic Design & Technology, The Advisory Board, Becker’s Pain Management Review, Orthoworld, The BackLetter, AAOS Now, Orthopedics Today, Orthopedics This Week, SpineUniverse, and the MedTech Strategist. In 2017, NASS was specifically mentioned in more than 12,189 stories, reaching an estimated audience of more than 608 million people.

Social Media
NASS is very active in social media, with accounts on Twitter (@NASSspine), Facebook (facebook.com/NASS.Spine) and Instagram (@nasspics). This is a good way for members to get the very latest NASS news.

Patient Education Committee
The NASS patient education website, www.knowyourback.org, underwent a major overhaul in 2017, boasting a new, user friendly design, and cross links so that conditions easily link to relevant treatments and preventive measures, and vice versa. The Patient Education Committee continued to review, revise and write content for the site. In addition to developing content on its own, the committee reached out to work with other pertinent NASS committees to develop new, engaging content.

During 2017, the Spine Foundation’s organizational structure was dismantled, and discussion began to propose a new committee and purpose for the Foundation within NASS.
During its 32nd Annual Meeting, NASS announced the winners of its prestigious 2017 Recognition Awards. To be considered for awards, honorees were nominated by their peers for outstanding contributions to NASS and the field of spine.

**LEON WILTSE AWARD**

**K. Daniel Riew, MD**

To recognize excellence in leadership and/or clinical research in spine care.

Dan is a well-known and well-liked member of NASS who has contributed immensely in the area of cervical spine surgery. Besides being one of the most skilled surgeons we would ever come across, Dr. Riew is an outstanding teacher. If not in the OR, many of us benefited from his teaching at cervical courses that he has been running for nearly 20 years in St. Louis. He brings a wealth of experience and fresh perspective during case discussions at national and international meetings. He has advanced the practice of cervical spine surgery, from recognizing the importance of asking patients about dysphagia to minimizing plate abutment to the adjacent levels during ACDF to prevent early disc degeneration. To date, Dr. Riew has close to 250 peer-reviewed publications, has been honored with numerous visiting professorships and has demonstrated national and international leadership as past president of CSRS and current chair of AOSpine International. On top of all of that, Dan is a humble person.

*Nominated by Samuel K. Cho, MD and Lukas P. Zebala, MD*

**HENRY FARFAN AWARD**

**S. Tim Yoon, MD, PhD**

To recognize outstanding contributions in spine-related basic science research.

Tim Yoon is one of the few real clinician scientists who practices surgery today. Dr. Yoon has had a deep interest in intervertebral disc biology since the start of his career. His lab pioneered research on the effect of bone morphogenetic proteins and LMP-1 on disc cells. His lab has investigated multiple different disc degeneration models, including direct and indirect injury models, and even a natural aging model in rabbit discs. More recently, his focus has been on less invasive methods of stimulating disc cells. Another line of research has been on the effect of a small molecule consisting of only 12 amino acids. Dr. Yoon also has an active clinical research and clinical-training research program. Dr. Yoon’s research has led to multiple awards, including the coveted ISSLS prize twice and multiple outstanding paper awards. As a member of NASS, he has served on the biologics committee and research fund committee. He also served as the Deputy Editor of Basic Science for *The Spine Journal*. He has served in many positions in the International Society for the Study of the Lumbar Spine. He is a leader in AOSpine, serving as a steering committee member of the Degenerative Knowledge Forum and as one of the organizers of the Global Spine Society. Dr. Yoon was one of the founders of the Korean American Spine Society.

*Nominated by Jeff Wang, MD*
DAVID SELBY AWARD
William Mitchell, MD
To recognize contributions to the art and science of spinal disorder management through service to NASS.

It is with respect and admiration for his loyalty, dedication, and service to NASS that we, as a group, would like to co-nominate William Mitchell, MD for the David Selby Award. Bill has been a member of NASS for approximately 15 years, during which time he has freely dedicated his time, energy, and expertise while serving in a variety of committee and board positions, including but not limited to Coding Committee Chair, Health Policy Council Director, and Chair of Section Development. Bill has been invaluable serving as our NASS CPT Advisor for approximately the past 14 years, representing all NASS members in the fight for appropriate coding and reimbursement. He does this with strength and purpose, and has been instrumental in making sure the voice of NASS is heard and understood. He continues to actively serve NASS membership as part of the Coding Committee by teaching courses, by responding to coding questions submitted by members, and by being one of the top resources in our society pertaining to coding and reimbursement issues. Bill is always there to help when requested, often contributing to SpineLine articles and conference calls at the requests of other committee chairs and staff liaisons even when he is not an active member of those committees. He is often asked to represent NASS at meetings with other societies and with various payers who respect his advice and opinions. He continues to devote countless voluntary hours to NASS and exemplifies the spirit and service behind the David Selby Award.

He always gives sound advice and counsel. He is truly a great representative of the NASS membership. 
Nominated by David O’Brien Jr, MD; William Sullivan, MD; Donna M. Lahey, RNFA; Edward Dohring, MD

SPINE ADVOCACY AWARD
David A. Wong, MD, MSc, FRCS
To recognize members of the North American Spine Society who have made exceptional contributions to the federal advocacy efforts on behalf of patients and members of the society.

The NASS Advocacy Council is honored to nominate David A. Wong, MD, MSc, FRCS as NASS’ 2017 Spine Advocate of the Year. Dr. Wong has diligently served on NASS’ Advocacy Council since 2008 and since that time has attended numerous legislative conferences in Washington, DC on behalf of NASS and the Alliance of Specialty Medicine. In addition to his advocacy work, Dr. Wong has developed a strong rapport with his local members of Congress, hosted a tour of his clinic, and coordinated local fundraisers with his U.S. Representative. Dr. Wong offers a tremendous amount of perspective to legislators and is an invaluable resource for NASS as he frequently provides expert testimony on legislative and regulatory matters to lawmakers and Congressional health committee staff. Dr. Wong has never shied away from answering the call to action and has made an everlasting mark on advocacy on behalf of spine care providers and their patients.
Nominated by the NASS Advocacy Council
2017 NASS COMMITTEES

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Paul A. Anderson, MD
Jaime Baisden, MD
Dale R. Blasier, MD
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Christopher G. Furey, MD
Edward J. Dohring, MD
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F. Todd Wetzel, MD
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D. Scott Kreiner, MD
Zoher Ghogawala, MD
Donna Ohnmeiss, PhD
Edward J. Dohring, MD

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Kris Okumu, MD
Santhosh Thomas, DO
Eeric Truumees, MD (ex-officio)
Charles Reitman, MD (ex-officio)

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Andrew Schoenfeld, MD
Dilip Sengupta, MD
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Robert Turner, PT, MS, OCS
Gregory Whitcomb, DC

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Guy A. Lee, MD
Adam Craig Lipson, MD
John C. Liu, MD
Julie Ann Long, MD
Genee Marriott-Emfinger, LSA, RT
Paul G. Matz, MD
Matthew Maxwell, MD
Patrick S. McNulty, MD
Gilbert R. Meadows, MD
Henrik Mike-Mayer, MD
John C. Milani, MD
Kamaldeep Singh Momi, MD
Eric J. Muehlbauer, MJ, CAE
Elizabeth P. Norheim, MD
David J. Oliveri, MD
Douglas W. Pahl, MD
Jeong-Yoon Park, MD, PhD
Ashish Patel, MD
Chad M. Patton, MD, MS
Davis C. Peterson, MD
Elmer G. Pinzon, MD, MPH
Stephen Pirris, MD
Gregory J. Przybysliski, MD
Gannon B. Randoloph, MD
Brandon J. Rebolho, MD
Abraham Rogozinski, MD
Chaim Rogozinski, MD
Aron D. Rosner, MD
Nelson Saldua, MD
Jason Wayne Savage, MD
Gary L. Schmidt, MD
Miguel A. Schmitz, MD
Joel Shobe, MD
Ahilan Sivaganesan, MD
Jeffrey T. Smith, MD
Gbolabo O. Sokunbi, MD
Lisa Thompson
Frank Tomecek, MD
Fabricio Hidetoshi Ueno, MD
Michael J. Vives, MD
Long D. Vu, DO
Jerald P. Waldman, MD, MBA
Stephen J. Warner, MD
Gregory L. Whitcomb, DC
David A. Wiles, MD
Michael Woods, MD

Bronze Level: $250–$499
Jean-Jacques Abitbol, MD
Jordan A. Abushawish
Edward P. Abraham, MD
Behrooz A. Akbarnia, MD
Ardavan M. Aslie, MD
James Scott Bainbridge, MD
William T. Barrick, MD
Michael J. Bertram, MD

Kasra Ahmadinia, MD
Paul R Alongi, MD
R. David Bauer, MD
Douglas P. Beall, MD
Nitin N. Bhatia, MD
James B. Billis, MD
Brian J. Blessinger, MD
Peter L. Bono, DO
William Bruck, MD
James D. Bruffey, MD
Zoricah Buser, PhD
Julie Ann Chandler, BSN
Kirk D. Clifford, MD
Jeffrey M. Cochran, DO
Aleksandar Curcin, MD, MBA
Edward M. DeSole, MD
John Mason DePasse, MD
Joel C. Dykstra, MPT
James E. Elbaor, MD
Enrique Escobar, MD
Brent A. Felix, MD
George A. Frey, MD
Michael F. Fry, MD
Frank J. Garcia, MD
Gerard J. Girasole, MD
Allain A. Girouard, MD
Stephen C. Green, CST
Javier Gutierrez, MD
Christopher L. Hamill, MD
John P. Hammerstein, MD
Shawn A. Hayden, MD, PhD, MBA
Matthew D. Hepler, MD
Clint P. Hill, MD
Steven W. Hwang, MD
Deeptee Jain, MD
Todd Stephen Jarosz, MD
Jeffrey K. Kachmann, MD
Evish Kamrava, MD
Ralph P. Katz, MD
D.J. Kennedy, MD
Syed A. Abdul Khader, MD
Craig A. Kuhns, MD
Anthony Leone, MD
J. Matthew Lessin, BS
Mohammad E. Majd, MD
O. James May, PA-C
David McConda, MD
John D. Miles, MD
Gregory R. Misenhimer, MD
George S. Miz, MD
Troy D. Morrison, DO
Fred Farid Naraghi, MD
Robert P. Norton, MD
Donna D. Ohnmeiss, PhD
Gbolahan O. Okubadejo, MD
R. Kirk Owens, MD
Michele M. Page
Mark A. Palumbo, MD
Sanjog Pangarkar, MD
David Perna, MD
Duane D.H. Pitt, MD
Graham A. Purcell, MD
Charles A. Reitman, MD
James B. Reynolds, MD
Dean S. Ricketts, MD
Tiffany Rogers, MD, MPT
Pratik Rohatgi, MD
Todd Rose, MD
Brett D. Rosenthal, MD
Glenn S. Russo, MD, MS
Kulpreet Sahota, MD

Scott M. Schlesinger, MD
Andrew J. Schoenfeld, MD
Randall E. Seago, MD
Michael Eric Seiff, MD
Hesham Soliman, MD, MSc
Erik C. Spayde, MD
Julie Spivey, MBA, RHIT, CPC
Craig D. Steiner, MD
Geoffrey Stewart, MD
Patrick J. Sweeney, MD
Gil Tepper, MD, FACS
Brett J. Teran, DO
Mark A. Thomas, MD
Mauricio Valdes, MD
Vincent J. Valdez, MD
Richard Vogel, PhD, DABNM
William C. Watters, MD, MS
Joseph K. Weistroffer, MD
Eric S. Wieser, MD
Ned A. Wilson, MD
Paul J. Zak, MD
Michael S. Zeide, MD
## CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

<table>
<thead>
<tr>
<th>Assets</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>$ 9,030,711</td>
<td>$ 9,042,877</td>
</tr>
<tr>
<td>Investments</td>
<td>5,804,848</td>
<td>4,849,297</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>347,422</td>
<td>337,927</td>
</tr>
<tr>
<td>Other receivables</td>
<td>94,250</td>
<td>181,735</td>
</tr>
<tr>
<td>Prepaid Expenses</td>
<td>404,709</td>
<td>297,705</td>
</tr>
<tr>
<td>Inventory</td>
<td>77,953</td>
<td>71,098</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>15,759,893</td>
<td>14,780,639</td>
</tr>
<tr>
<td>Long-term prepaid expenses</td>
<td>62,832</td>
<td>86,826</td>
</tr>
<tr>
<td>Net property and equipment</td>
<td>7,786,479</td>
<td>8,615,348</td>
</tr>
<tr>
<td>Investments—permanently restricted</td>
<td>1,780,552</td>
<td>1,780,552</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>$ 25,389,756</td>
<td>$ 25,263,365</td>
</tr>
</tbody>
</table>

**Liabilities and Net Assets**

<table>
<thead>
<tr>
<th>Current Liabilities</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payable</td>
<td>$ 188,812</td>
<td>$ 174,958</td>
</tr>
<tr>
<td>Accrued expenses</td>
<td>614,915</td>
<td>527,318</td>
</tr>
<tr>
<td>Deferred revenue</td>
<td>2,375,580</td>
<td>2,400,842</td>
</tr>
<tr>
<td>Current portion of bonds payable</td>
<td>560,000</td>
<td>560,000</td>
</tr>
<tr>
<td><strong>Total Current Liabilities</strong></td>
<td>3,739,307</td>
<td>3,663,118</td>
</tr>
</tbody>
</table>

**Long-Term Debt**

<table>
<thead>
<tr>
<th>Bonds payable, net of current portion and unamortized bond issue costs</th>
<th>5,956,967</th>
<th>6,505,728</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Liabilities</strong></td>
<td>9,696,274</td>
<td>10,168,846</td>
</tr>
</tbody>
</table>

**Net Assets**

<table>
<thead>
<tr>
<th>Unrestricted</th>
<th>12,668,919</th>
<th>12,308,127</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporarily restricted</td>
<td>1,244,011</td>
<td>1,005,840</td>
</tr>
<tr>
<td>Permanently restricted</td>
<td>1,780,552</td>
<td>1,780,552</td>
</tr>
<tr>
<td><strong>Total Net Assets</strong></td>
<td>15,693,482</td>
<td>15,094,519</td>
</tr>
</tbody>
</table>

**Total Liabilities and Net Assets**

<table>
<thead>
<tr>
<th></th>
<th>$ 25,389,756</th>
<th>$ 25,263,365</th>
</tr>
</thead>
</table>
## CONSOLIDATED STATEMENTS OF ACTIVITIES

<table>
<thead>
<tr>
<th></th>
<th>Unrestricted</th>
<th>Temporarily Restricted</th>
<th>Permanently Restricted</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dues and fees</td>
<td>$ 3,015,576</td>
<td>$</td>
<td>$</td>
<td>$ 3,015,576</td>
</tr>
<tr>
<td>Sales of publications and advertising</td>
<td>393,082</td>
<td></td>
<td></td>
<td>393,082</td>
</tr>
<tr>
<td>Contributions and sponsorships</td>
<td>1,418,423</td>
<td>151,217</td>
<td></td>
<td>1,569,640</td>
</tr>
<tr>
<td>Annual Meeting and educational programs</td>
<td>7,288,549</td>
<td>12,337</td>
<td></td>
<td>7,300,886</td>
</tr>
<tr>
<td>Investment income (loss)</td>
<td>547,861</td>
<td>315,896</td>
<td></td>
<td>863,757</td>
</tr>
<tr>
<td>Rental income</td>
<td>559,162</td>
<td></td>
<td></td>
<td>559,162</td>
</tr>
<tr>
<td>Royalties</td>
<td>354,394</td>
<td></td>
<td></td>
<td>354,394</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>178,268</td>
<td></td>
<td></td>
<td>178,268</td>
</tr>
<tr>
<td>Net assets released from restrictions—satisfaction of program restrictions</td>
<td>241,279</td>
<td>(241,279)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Income</strong></td>
<td>$13,996,594</td>
<td>238,171</td>
<td></td>
<td>$14,234,765</td>
</tr>
</tbody>
</table>

|                             |              |                        |                        |             |
| **Operating Expenses**      |              |                        |                        |             |
| Program services            |              |                        |                        |             |
| Member services             | 1,231,370    |                        |                        | 1,231,370   |
| Publications                | 1,490,162    |                        |                        | 1,490,162   |
| Grants and awards           | 189,500      |                        |                        | 189,500     |
| Research and scientific affairs | 604,844    |                        |                        | 604,844     |
| Annual meeting and education | 5,091,390   |                        |                        | 5,091,390   |
| Advocacy                    | 1,571,452    |                        |                        | 1,571,452   |
| Spine Education & Research Center | 1,043,991 |                        |                        | 1,043,991   |
| Total program services      | 11,222,709   |                        |                        | 11,222,709  |
| Management and general      | 2,086,778    |                        |                        | 2,086,778   |
| Loss on disposal of software | 200,000     |                        |                        | 200,000     |
| Fundraising and development | 55,737       |                        |                        | 55,737      |
| Foundation fundraising      | 70,578       |                        |                        | 70,578      |
| **Total Operating Expenses**| $13,635,802  |                        |                        | $13,635,802 |

|                             |              |                        |                        |             |
| **Change in Net Assets**    | 360,792      | 238,171                |                        | 598,963     |

|                             |              |                        |                        |             |
| **Net Assets, Beginning of Year** | $12,308,127 | $1,005,840           | $1,780,552           | $15,094,519 |
| **Net Assets, End of Year**  | $12,668,919  | $1,244,011           | $1,780,552           | $15,693,482 |
## CONSOLIDATED STATEMENTS OF CASH FLOWS

### Cash Flows from Operating Activities

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in net assets</td>
<td>$598,963</td>
<td>$(115,052)</td>
</tr>
<tr>
<td>Adjustments to reconcile change in net assets to net cash provided by operating activities:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation and amortization</td>
<td>740,927</td>
<td>789,014</td>
</tr>
<tr>
<td>Unrealized (gain) loss on investments</td>
<td>(675,279)</td>
<td>(212,383)</td>
</tr>
<tr>
<td>Loss on disposal of assets</td>
<td>200,000</td>
<td>-</td>
</tr>
<tr>
<td>Decrease (increase) in assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receivables</td>
<td>77,990</td>
<td>(131,014)</td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>(83,010)</td>
<td>68,883</td>
</tr>
<tr>
<td>Inventory</td>
<td>(6,855)</td>
<td>(412)</td>
</tr>
<tr>
<td>Notes receivable</td>
<td>-</td>
<td>200,000</td>
</tr>
<tr>
<td>Increase (decrease) in liabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable</td>
<td>13,854</td>
<td>70,525</td>
</tr>
<tr>
<td>Accrued expenses</td>
<td>87,597</td>
<td>18,282</td>
</tr>
<tr>
<td>Deferred revenue</td>
<td>(25,262)</td>
<td>(135,637)</td>
</tr>
<tr>
<td><strong>Net cash provided by operating activities</strong></td>
<td><strong>928,925</strong></td>
<td><strong>552,206</strong></td>
</tr>
</tbody>
</table>

### Cash Flows from Investing Activities

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proceeds from sale of investments</td>
<td>1,928,944</td>
<td>1,681,209</td>
</tr>
<tr>
<td>Purchase of investments</td>
<td>(2,209,216)</td>
<td>(1,937,089)</td>
</tr>
<tr>
<td>Purchase of property and equipment</td>
<td>(100,818)</td>
<td>(255,404)</td>
</tr>
<tr>
<td><strong>Net cash provided (used) by investing activities</strong></td>
<td><strong>(381,090)</strong></td>
<td><strong>(511,284)</strong></td>
</tr>
</tbody>
</table>

### Cash Flows from Financing Activities

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment on bonds</td>
<td>(560,001)</td>
<td>(560,000)</td>
</tr>
<tr>
<td><strong>Net cash used by financing activities</strong></td>
<td><strong>(560,001)</strong></td>
<td><strong>(560,000)</strong></td>
</tr>
</tbody>
</table>

### Net increase (decrease) in cash and cash equivalents

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and cash equivalents, beginning of year</td>
<td>9,042,877</td>
<td>9,561,955</td>
</tr>
<tr>
<td>Cash and cash equivalents, end of year</td>
<td>9,030,711</td>
<td>9,042,877</td>
</tr>
<tr>
<td><strong>Net increase (decrease) in cash and cash equivalents</strong></td>
<td><strong>(12,166)</strong></td>
<td><strong>(519,078)</strong></td>
</tr>
</tbody>
</table>

### Supplemental Information

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrelated business income taxes paid</td>
<td>9,510</td>
<td>20,843</td>
</tr>
<tr>
<td>Interest paid</td>
<td>104,142</td>
<td>79,378</td>
</tr>
</tbody>
</table>