

**AMERICAS HERNIA SOCIETY
QUALITY COLLABORATIVE FOUNDATION
ANNUAL REPORT
2017**



AHS|QC
AMERICAS HERNIA SOCIETY QUALITY COLLABORATIVE FOUNDATION

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PRESIDENT'S MESSAGE



This year was one of tremendous growth and development for the AHSQC as we focused on opportunities for expansion and engagement of our stakeholders. We are grateful for the patients, surgeons, FDA leaders and Foundation Partners whose continued commitment to improving hernia care made a significant impact in 2017. The passion of our community and willingness to communicate and share information is unsurpassed. From all of us at the AHSQC, Thank you!

Closing 2017 with data collected on over 27,200 hernia patients, the AHSQC encourages use of the wealth of information collected in our registry. Through rigorous analysis, participants and other stakeholders in hernia care are able to critically review the clinical decisions we as hernia surgeons make on a daily basis. The compendium of peer-reviewed publications utilizing AHSQC data has tripled in size this year and it has been incredibly gratifying to see our Resident Research Grant recipients use AHSQC data to improve patient care. Through AHSQC research support, one of our 2016 Resident Grant recipients worked with the AHSQC data coordinating center, culminating in ORACLE (Outcomes Reporting App for CLinician and patient Engagement), an online patient engagement tool which debuted this year. ORACLE can directly increase patient participation in the care of their hernias and enhance our surgeon-patient interactions. AHSQC is pleased to once again award two AHSQC Resident Research Grants in 2017, assisting in the growth and development of future leaders in hernia care.

Thanks to the exceptional work and dedication of the Inguinal Task Force, in 2017 the AHSQC launched the inguinal hernia module which enables the AHSQC to collect important information on inguinal hernias, one of the most common general surgical procedures. As of December 2017, over 4,000 inguinal patients have been entered into the AHSQC registry and the numbers are increasing.

The AHSQC is recognized as a premier data source for hernia surgical outcomes information. We are actively engaged in collaborative projects at the federal level and involvement in the AHSQC satisfies the American Board of Surgery Maintenance of Certification Part 4 requirement.

With the generous support of AHSQC Foundation Partners, participation in the Collaborative was free to all members of the Americas Hernia Society in 2017 and will remain so to AHS surgeons in 2018.

It's an exciting time at the AHSQC. Our comprehensive initiatives are continuing to escalate with enhanced focus on capturing our patients' experiences and innovative opportunities to collaborate with other data sources in the US and abroad. If you have any questions about our programs or would like to join the Collaborative, please don't hesitate to contact me directly.

Once again, on behalf of the AHSQC team, Thank you!

A handwritten signature in black ink, appearing to read 'mf', written in a cursive style.

Michael Rosen, MD
Medical Director
Americas Hernia Society Quality Collaborative
rosenm@ccf.org

2017 LEADERSHIP

GOVERNING BOARD



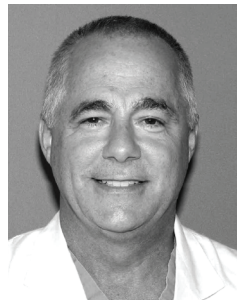
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Kristi Harold, MD
Guy Voeller, MD
William Hope, MD

MISSION

To maximize quality and value of hernia patient care through collaboration.

NOTABLE ACHIEVEMENTS

HIGHLIGHTS OF 2017 INCLUDE:

- Enrollment surpassed 27,200 hernia cases
- Launch of the Inguinal Hernia Module
- Introduction of ORACLE, interactive patient engagement tool
- Twelve new peer reviewed publications
- Initial development of an evidence-based "Ventral Hernia Bundle"
- Two AHSQC Resident/Fellow Research Grants Awarded
- Designation by CMS as a Qualified Clinical Data Registry
- Quality measures accepted for national Merit-Based Incentive Payment System (MIPS)
- Collaborative Engagement with FDA and MDEpiNet
- MOC Part 4 recognition by American Board of Surgery

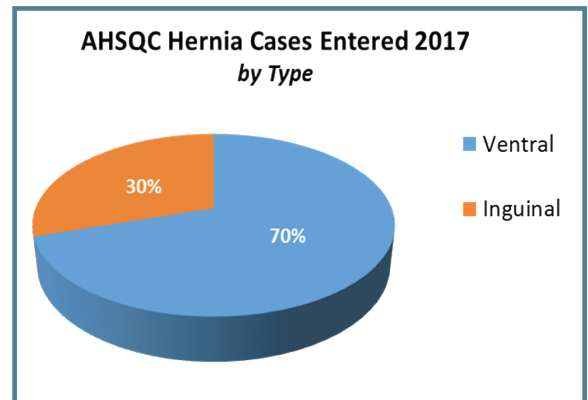
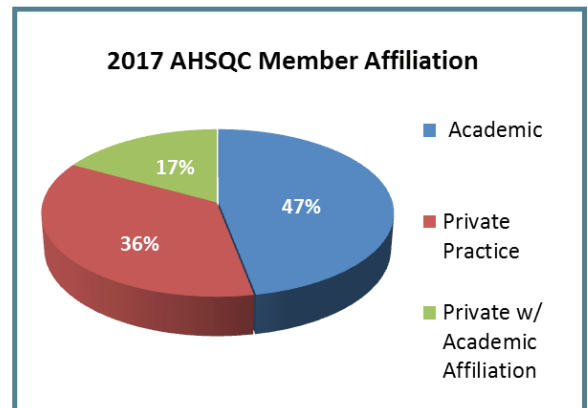
MEMBERSHIP

Since inception in 2013, the AHSQC has grown to include information for quality improvement collected on over 27,200 patients by over 250 surgeons at 311 sites across the United States. The AHSQC currently collects data on patients undergoing surgery for ventral hernia (including umbilical, epigastric, Spigelian, lumbar, incisional, and parastomal hernia) as well as inguinal hernia, femoral hernia, chronic groin pain, inguinal disruption/core muscle injury, athletic pubalgia, and sports hernia.

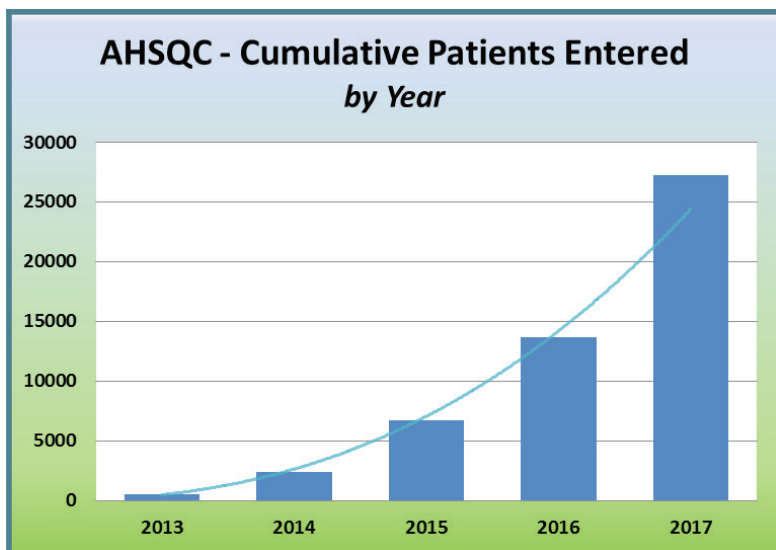
AHSQC participants include hernia surgeons in academic based and private practice settings across the country.



The cadre of actively engaged surgeons continues to enter cases into the AHSQC registry at a rapid pace.



Inguinal patients entered topped 4,000 in 2017, the inaugural year of inguinal data collection in the AHSQC registry. By year end, inguinal cases accounted for almost 30% of patients entered in 2017 and 16% of all AHSQC cases.



QUALITY IMPROVEMENT INITIATIVES

ASSESSMENT OF PATIENT OUTCOMES – “THE AHSQC BUNDLE”

The AHSQC is committed to vigorous data-driven analyses of the wealth of real-world information contributed to the registry. Examination of practices, both within the AHSQC and by external peer review, allows the Collaborative to critically assess variables related to surgical outcomes.

With the mounting archive of peer reviewed publications utilizing AHSQC data, Dr. Ajita Prabhu presented a holistic approach to best practices for ventral hernia patient care during the AHSQC Session at the American College of Surgeons Clinical Congress 2017. Proposing “The AHSQC Bundle”, Dr. Prabhu discussed evidence-based suggestions touching all stages of ventral hernia care including preoperative protocols, intraoperative approaches and postoperative patient management.

THE AHSQC VENTRAL HERNIA REPAIR BUNDLE – DATA-DRIVEN CONSIDERATIONS ACROSS THE CARE CONTINUUM:

Presented during the AHSQC Session at the American College of Surgeons Clinical Congress 2017

PREOPERATIVE:

- Staph decolonization – Avoid chlorhexidine scrub at home
- Bowel preparation – Preoperative bowel prep offers negligible advantage
- DVT/PE Prophylaxis – Opportunity for further quality improvement investigation, and standardized prophylaxis

INTRAOPERATIVE:

- Drains – Do not appear to contribute to wound morbidity, or mesh infections
- TAP Blocks – May confer an advantage for length of stay and pain reduction

POSTOPERATIVE:

- Epidural Analgesia – appears to offer no benefit related to hospital length of stay



The “AHSQC Ventral Hernia Repair Bundle” is beginning to take shape and will continue to develop over time. It is a concrete example of the benefits of collective learning and transformational quality improvement through sharing of experiences and outcomes.

ENHANCING THE PATIENT EXPERIENCE – “ORACLE”

In October 2017, the AHSQC debuted ORACLE “Outcomes Reporting App for CLinician and Patient Engagement,” a unique validated tool designed with the hope of increasing patient participation in the care of their hernias.

ORACLE is the culmination of innovative work by Ivy Haskins, MD, Cleveland, OH, one of the 2017 AHSQC Resident/Fellow Research Grant awardees. Using data collected on thousands of patients treated with hernia surgery across the country, AHSQC’s ORACLE offers a real-world prediction of identified risks associated with ventral hernia repair using mesh.

ORACLE is an interactive online questionnaire that can be completed by patients directly or in consultation with their health care providers. Common pre-operative risk factors are entered into ORACLE and the tool provides a real-time output summarizing the expected risks for post-operative surgical site complications and long-term hernia recurrence. By incorporating ORACLE into routine pre-operative consultations, surgeons can discuss individualized care path expectations with patients using personal clinical experience supplemented by real world outcomes of thousands of patients across the country.

ORACLE is available to all interested in ventral hernia repair using mesh and is publicly accessible via the AHSQC homepage.

“I wanted to take advantage of the wealth of data available within the AHSQC registry to develop a user-friendly way to assist patients and surgeons in the clinical decision-making process.”
Ivy Haskins, MD



NATIONALLY RECOGNIZED QUALITY MEASURES – CMS / MIPS

The Centers for Medicare and Medicaid Services (CMS) finalized major reform to the Medicare payment system in 2016, instituting a Quality Payment Program targeted to enhance the delivery of clinical care and citing 2017 as the year of transition to implementation to a Merit-Based Incentive Payment System (MIPS). Under this new program, clinicians who meet the CMS reporting criteria are required to submit performance data including quality measures to CMS or face a negative payment adjustment penalty.

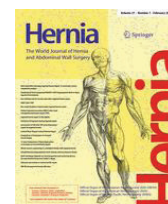
For the second consecutive year, CMS designated the AHSQC as a Qualified Clinical Data Registry (QCDR) in 2017. Working with CMS to become a QCDR was an important strategic initiative, supporting AHSQC’s mission of facilitating value in hernia care and assisting members in complying with the latest government mandates related to healthcare delivery. As an approved QCDR, AHSQC participants who choose to satisfy their MIPS obligations via a data registry can utilize the AHSQC as their vehicle for reporting clinically relevant quality metrics related to hernia outcomes. All MIPS data will be transparent and available for public reporting by CMS.

PUBLICATIONS

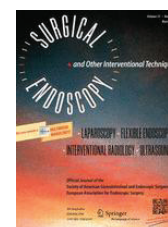
Utilizing the rich data set collected in the AHSQC registry, our senior biostatisticians perform robust analyses which withstand rigorous review. The collective number of peer reviewed manuscripts utilizing AHSQC data that have been accepted for publication in high impact journals tripled this year, growing from six in 2016 to 18 in 2017.

PEER REVIEWED PUBLICATIONS UTILIZING AHSQC DATA IN 2017 INCLUDE:

- Is It Time to Reconsider Postoperative Epidural Analgesia in Patients Undergoing Elective Ventral Hernia Repair?: An AHSQC Analysis. Prabhu AS, Krpata DM, Perez A, et al. *Ann Surg.* 2017 Mar 10. doi: 10.1097/SLA.0000000000002214.
- Only with Adhesive Use Compared with Sublay Mesh Placement in Ventral Hernia Repair: Was Chevrel Right? An Americas Hernia Society Quality Collaborative Analysis. Haskins IN, Voeller GR, Stoikes NF, et al. *J Am Coll Surg.* 2017 Feb 2. pii: S1072-7515(17)30130-8.
- Reducing Length of Stay Using a Robotic-assisted Approach for Retromuscular Ventral Hernia Repair: A Comparative Analysis From the Americas Hernia Society Quality Collaborative. Carbonell AM, Warren JA, Prabhu AS, et al. *Ann Surg.* 2017 Mar 27. doi:10.1097/SLA.0000000000002244.
- Primary fascial closure during laparoscopic ventral hernia repair does not reduce 30-day wound complications. Papageorge CM, Funk LM, Poulouse BK, et al. *Surg Endosc.* 2017 Apr 4. doi: 10.1007/s00464-017-5515-z. [Epub ahead of print]
- Do Iodine-Impregnated Adhesive Surgical Drapes Reduce Surgical Site Infections during Open Ventral Hernia Repair? A Comparative Analysis. Moores N, Rosenblatt S, Prabhu A, et al. *Am Surg.* 2017 Jun 1;83(6):617-622.
- Is there an association between surgeon hat type and 30-day wound events following ventral hernia repair? Haskins IN, Prabhu AS, Krpata DM, et al. *Hernia.* 2017 Aug;21(4):495-503.
- Laparoscopic vs Robotic Intraperitoneal Mesh Repair for Incisional Hernia: An Americas Hernia Society Quality Collaborative Analysis. Prabhu AS, Dickens EO, Copper CM, et al. *J Am Coll Surg.* 2017 Aug;225(2):285-293.
- Single center experience with the modified retromuscular Sugarbaker technique for parastomal hernia repair. Tastaldi L, Haskins IN, Perez AJ, et al. *Hernia.* 2017 Aug 24.
- Online Surgeon Ratings and Outcomes in Hernia Surgery: An Americas Hernia Society Quality Collaborative Analysis. Haskins IN, Krpata DM, Rosen MJ, et al. *J Am Coll Surg.* 2017 Aug 21
- Early Wound Morbidity after Open Ventral Hernia Repair with Biosynthetic or Polypropylene Mesh. Sahoo S, Haskins IN, Huang LC, et al. *MJ. J Am Coll Surg.* 2017 Aug 4.
- An Evaluation of Parastomal Hernia Repair Using the Americas Hernia Society Quality Collaborative. Fox SS, Janczyk R, Warren JA, Carbonell AM et al. *Am Surg.* 2017 Aug 1;83(8):881-886.
- Drain Placement Does Not Increase Infectious Complications After Retromuscular Ventral Hernia Repair with Synthetic Mesh: an AHSQC Analysis. Krpata DM, Prabhu AS, Carbonell AM, et al. *J Gastrointest Surg.* 2017 Dec;21(12):2083-2089. doi: 10.1007/s11605-017-3601-0. Epub 2017 Oct 5.



Hernia
The World Journal of Hernia
& Abdominal Wall Surgery



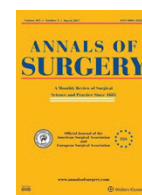
Surgical Endoscopy
Journal of SAGES & EAES



Journal of the American
College of Surgeons



Surgery
Journal of the University Surgeons, Central
Surgical Association & the American
Association of Endocrine Surgeons



Annals of Surgery
A Monthly Review of
Surgical Science Since 1885

AHSQC SPOTLIGHT

BEHIND THE SCENES – MEET THE AHSQC BIostatISTICIANS AND DATA ANALYSTS

Before the podium presentations, manuscript preparations, and quality improvement efforts, a dedicated group of professionals works behind the scenes to provide crucial information and answer the wide range of questions raised by our stakeholders.

The AHSQC Registry contains millions of data points reflective of several thousand patient experiences. Thanks to the tireless efforts of the AHSQC Biostatistics and Data Analytics team these vital data elements are extracted, analyzed and reported on a daily basis. Without this amazing group of high powered, dedicated individuals who so critically serve the AHSQC mission sight unseen, this could not be possible.



Sharon Phillips, MSPH

Sharon Phillips, MSPH brings her knowledge of categorical and longitudinal data analysis to the AHSQC. A former high school mathematics teacher, Sharon has spent the last ten years in Nashville working as a biostatistician engaged in efforts to improve health services. Sharon's focus with the AHSQC centers on both clinical and patient reported outcomes. When not crunching numbers, Sharon can be found reading, gardening, knitting and playing with her two dogs.



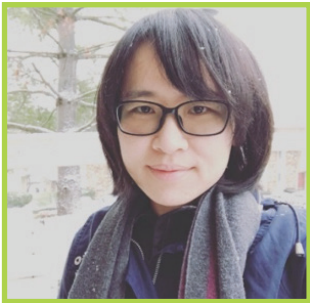
TerryLynn Delaney, BS-HIM

Cleveland-based **TerryLynn Delaney** spearheads the AHSQC Foundation's report generation and has been working with the AHSQC team for 3 years. She is the Foundation's resident expert in relational database development and data manipulation. TerryLynn takes great pride in working with the AHSQC and using data to improve patient outcomes. An avid Ohio sports fan, TerryLynn loves spending time at an arena, stadium or field. She also enjoys traveling state-wide with her nieces and nephews, taking every opportunity to instill her Cleveland/Ohio pride in them.



Thomas Stewart, PhD

The AHSQC is fortunate to include **Dr. Tom Stewart** on our team. Utilizing his wealth of knowledge and expertise in biostatistics, Tom provides our stakeholders thoughtful, data-driven assessments of complex clinical questions. Working with the AHSQC and the surgical community is particularly satisfying to Tom who is enthusiastic about enhancing the patient experience. When he's not considering mountains of data, Tom dedicates his time to teaching and engaging the minds of future health care researchers. Tom's breath of outside interests includes skeet shooting, sous vide cooking and enjoying great podcasts.



Li-Ching Huang, PhD

Dr. Li-Ching Huang is originally from Taiwan, and currently works as a research fellow in Nashville, TN. Li-Ching is honored to provide health care professionals insights that may enhance the quality of hernia patient care using data analyses derived from the AHSQC. In her free time, Li-Ching enjoys reading, cooking and hiking.



Molly Olson, MS

Minnesota native, **Molly Olson** received her Master of Science degree in biostatistics in Nashville, TN. Molly's expertise in using data analyses to address complex medical research questions aligns well with the AHSQC's mission. Molly was a key developer and analyst for the ORACLE online patient engagement tool, offering keen insights to improve surgeon/patient communication. Beyond statistics, Molly's interests include competitive softball, recreational volleyball, yoga, reading and travel.

PROFESSIONAL DEVELOPMENT

As the only hernia-specific clinical data registry in the US, the AHSQC is an authoritative resource for organizations to assess quality metrics and demonstrate a commitment to efficient, value-based patient centered hernia care. The AHSQC offers participants real-time access to track their hernia patient outcomes and allows them to measure individual performance compared to their colleagues collectively. Multiple meetings of the AHSQC occur annually including sessions at the Americas Hernia Society annual meeting and the American College of Surgeons Clinical Congress. Participation in the AHSQC is offered at no-charge to surgeons who are members of the Americas Hernia Society.

RESEARCH GRANTS

The AHSQC Foundation is honored to award Resident/Fellow Research Grants for research related to ventral hernias utilizing the AHSQC database. The AHSQC Resident/Fellow Research Grant is open to all resident and fellow members of the Americas Hernia Society with a mentor in good standing in the AHSQC.

The AHSQC Foundation awarded two Resident/Fellow Research Grants in 2017. Grant recipients will present their findings at the 2018 International Hernia Congress.

2017 RESIDENT/FELLOW RESEARCH GRANT RECIPIENTS:

- Dr. Luciano Guilherme Tastaldi (Cleveland, OH): "AHSQC-embedded randomized controlled trial - Telescopic dissection vs. balloon dissection for laparoscopic TEP inguinal hernia repair"
- Dr. Angela Kao (Charlotte, NC): "Comparison of outcomes after partial (PME) versus complete mesh excision (CME)"

BOARD CERTIFICATION

Participating in the AHSQC was once again recognized by the American Board of Surgery (ABS) as a quality improvement effort fulfilling the Maintenance of Certification (MOC) Part 4 requirement for 2017. The ABS, describes MOC Part 4 as a requirement for surgeon diplomats to regularly assess their performance in practice, by reviewing their outcomes, addressing identified areas for improvement, and evaluating the results.

STRATEGIC INITIATIVES

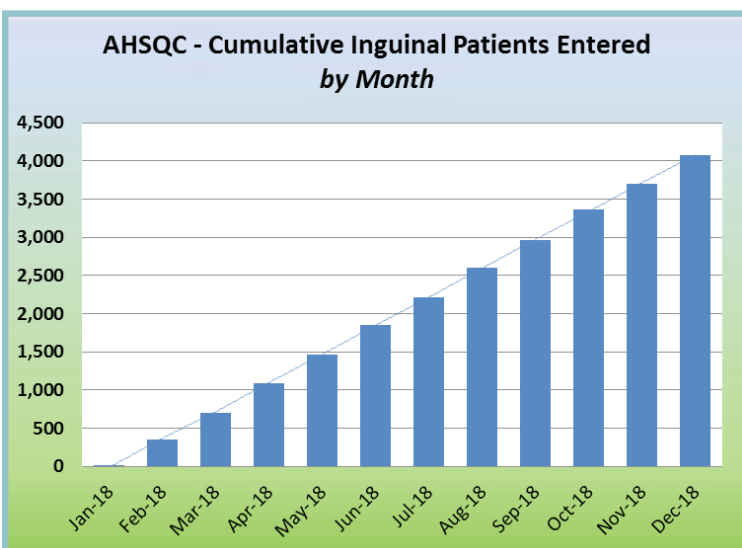
INGUINAL HERNIA

Inguinal hernia repairs are one of the most frequently performed general surgical operations with close to 800,000 procedures performed in the US each year. While typically a routine practice, the surgical repair of inguinal hernias has been reported to be associated with chronic post-operative pain in up to 20% of patients. In 2017, AHSQC launched an inguinal hernia module to identify areas for improvement which may dramatically impact this challenging outcome.

Over the course of the prior year, the AHSQC Inguinal Task Force, comprised of hernia surgeons from across the country, worked diligently to design the new module which focuses on the most critical measures – surgical outcomes, pain and function.

The upgraded cloud-based platform allowing for the capture of inguinal hernia patient data was released to participants in January 2017. AHSQC provided training on the new module prior to release and supplemented this with a set of videos demonstrating best practices on use of the AHSQC registry and data entry. These training materials are found on the AHSQC website.

“The inguinal module was designed with our patients and colleagues in mind. Adding inguinal cases to the AHSQC Registry contributes to our understanding of the range of outcomes following this common procedure. Analyzing these data can ultimately improve our delivery of care.”
David Chen, MD, AHSQC Inguinal Task Force



At the conclusion of 2017 the number of patients entered into the AHSQC inguinal module had already topped 4,000.

Looking ahead, the AHSQC is committed to the goal of collecting and utilizing longer-term patient follow-up to address some of the more complex issues faced in hernia repair. This wide-ranging approach is currently under development and will follow a patient’s hernia experience over time through integration of all available related hernia information.

COLLABORATIVE ENGAGEMENT

AHSQC AND THE MEDICAL DEVICE EPIDEMIOLOGY NETWORK / NEST

AHSQC is one of a handful of select organizations to be chosen as an endorsed project by the Medical Device Epidemiology Network Initiative (MDEpiNet) and supporting “NEST” (National Evaluation System for health Technology) development. NEST is “a patient-focused, strategically-driven, coordinated network of voluntary Real World Evidence partnerships”. An FDA led initiative, the organization strives “to address the needs of the medical device clinical ecosystem by strategic development of national/international and innovative methodological approaches for conducting robust studies and surveillance in order to improve medical device safety and effectiveness throughout the device life cycle”.



AHSQC’s Director for Quality & Outcomes, Ben Poulouse, MD, MPH, was invited by FDA leadership to speak at the podium in Washington at this year’s MDEpiNet Annual Meeting “Traveling through the NETs of the NEST: Toward Collective, Collaborative Intelligence via Continuum of Evidence Generation”. During his talk, Dr. Poulouse showcased the progress made by the AHSQC and shared insights learned within the Collaborative with esteemed colleagues from across the nation.

As a selected participant of NEST, AHSQC will be at the forefront of an endeavor which may ultimately coordinate hernia registries on an international level. AHSQC envisions many opportunities to enhance hernia patient care in collaboration with NEST, including the potential to link datasets, extend long term follow-up, and embedding clinical trials for regulatory use and best practice recommendations.

PATIENT REPORTED OUTCOMES (PROS)

Striving to improve long-term follow-up data, the AHSQC and FDA are partnering to enhance current patient reported outcomes tools. Funded with a grant from the Medical Product Safety Network (MedSun), the project takes a two-pronged approach to the assessment of current validated PRO questionnaires and includes statistical analyses utilizing item response theory as well as direct patient and clinician engagement in semi-structured interviews. Findings of this collaborative undertaking will be presented at an upcoming AHSQC meeting and the subject of collaborative publications.

2017 FOUNDATION PARTNERS

Inclusion of a wide range of stakeholders including individuals, corporations, foundations, and hospital organizations involved in the management of hernia disease enriches the AHSQC and assists in fulfilling our mission.

It is with great thanks that AHSQC recognizes our 2017 industry Foundation Partners who provide ongoing contributions, commitment and devotion to hernia patients and their care teams.

PLATINUM:



GOLD:



SILVER:



FINANCIALS

2017 FOUNDATION PARTNER FINANCIAL REPORT

FOUNDATION PARTNER SUPPORT: \$687,000

PARTICIPANTS	DECEMBER 31, 2015	DECEMBER 31, 2016	DECEMBER 31, 2017
HOSPITALS	154	227	311
SURGEONS	142	193	254
PATIENTS	6720	13,715	25,907

EXPENSES AND PROGRAMS

PROGRAMS AND SERVICES

Research & QI initiatives	\$ 468,088
Professional Development	\$ 114,586
Membership Engagement	\$ 116,414
Advocacy	\$ 21,895
Grants	\$ 25,000
Foundation Partner Reports	\$ 17,285

TOTAL: \$ 763,278

OPERATIONS

IT Development and Maintenance	\$ 91,451
General Administration	\$ 240,750
Legal	\$ 94,342
Fundraising / Development	\$ 24,190

TOTAL: \$ 450,733

OPERATING EXPENSE 2017 \$1,214,011