

# SORCE

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SURGICAL OUTCOMES  
RESEARCH CENTER

**UW Medicine**  

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**DEPARTMENT OF SURGERY**

**David Flum, MD, MPH**

*Professor, Department of Surgery, University of Washington, and  
Medical Director of Surgical Outcomes Research Center (SORCE)*



As Medical Director of the Surgical Outcomes Research Center (SORCE), I am proud to update you on our progress over the last year. SORCE focuses on creating high-impact research, training the next generation of researchers, and facilitating policy and system-level interventions aimed at improving the effectiveness and efficiency of healthcare delivery. Established in 2005, SORCE has grown into a multidisciplinary collaboration of researchers, including over 35 University of Washington faculty from more than 15 departments and four schools, and clinicians at 53 clinical practice sites across Washington State. Our staff of 73 includes research scientists, analysts, coordinators, and support personnel as well as three post-doctoral fellows and 21 undergraduate student interns.

In pursuit of the research aspect of our mission, SORCE has been awarded over \$29 million in grant support and is driving the science of patient-centered outcomes and comparative effectiveness research. SORCE maintains an active portfolio of research aimed at discovering new mechanisms for diabetes resolution, assessing the health economic impact of surgical and other invasive interventions, exploring the role of behavioral economics in decision making, addressing inappropriate care, and driving quality improvement science. Over the last three years, SORCE investigators built the Comparative Effectiveness Research Translation Network (CERTAIN), a network of Washington State healthcare providers and organizations participating in healthcare delivery research aimed at improving patient care. Through CERTAIN, SORCE investigators provide evidence on the effectiveness, benefits, and harms of different treatment options for patients in real-world settings. CERTAIN has surveyed over 20,000 patients to understand the real impact of healthcare and to help researchers focus on the issues that matter to patients. CERTAIN emphasizes the engagement of a broad range of stakeholders in its work, including clinicians, patients, payers, and policymakers and hosts numerous forums and advisory groups that allow all healthcare stakeholders to take part in directing and participating research.

As part of our training mission, SORCE aims to be the premier resource to faculty, post-doctoral fellows, residents, and other trainees growing skills in health services, outcomes, and comparative effectiveness research. SORCE is currently in its fifth year

of a NIH-funded T32 post-doctoral training program. SORCE-affiliated faculty and trainees participate in twice weekly work-in-progress sessions to gain exposure to different methodologies and receive mentorship from leaders in healthcare system evaluation, health economics, and patient-centered outcomes research. SORCE takes pride in cultivating staff to be first-class partners to investigators and facilitating continual professional development. Staff participate in bi-monthly SORCE-sponsored Food for Thought Lunches and several other on-going Department of Surgery and University training opportunities. SORCE is also a founding member of the University of Washington Centers for Comparative and Health Systems Effectiveness (UW CHASE Alliance) and collaborates with CHASE's faculty on multiple K awards and educational activities.

SORCE's third mission is to change the way healthcare is delivered so that the right people get the right interventions, at the right places, and at the right time. As academic partners to the Foundation for Health Care Quality (FHCQ) and the Surgical Care and Outcomes Assessment Program (SCOAP), SORCE investigators have been instrumental in changing the way healthcare providers across Washington State assess the quality of care. We have developed partnerships with insurers and payers around performance monitoring, expanded performance surveillance to include over 20 procedures across multiple specialties, and introduced patient-reported outcomes into statewide continuous quality improvement efforts.

The Strong for Surgery (S4S) initiative, now in its second year, aims to translate evidence into practice. S4S grew from five colorectal clinics into a network of 16 sites and 92 surgeons. Over two-thirds of elective colon resections in Washington State are now performed at S4S hospitals, which is remarkably fast growth for any quality improvement initiative. This year S4S also began working with spine surgery clinics and piloted an electronic patient-facing version of its checklist.

I am excited about the phenomenal growth of SORCE in the past year, and the progress we have made towards our three-fold mission. Thank you for your support of SORCE as we look forward to another productive year.

**Rafael Alfonso-Cristancho, MD, PhD, MSc**

*Research Assistant Professor, Department of Surgery, University of Washington, and Scientific Director of SORCE*

During 2013, we developed many research proposals that include innovative approaches to different areas. We proposed and implemented the development of a mapping activity for spine surgeons in Washington State to support the expansion of Spine SCOAP. We adapted new methods for research prioritization in Spine and Vascular Surgery through CERTAIN and started to use Bayesian modeling in large datasets to improve model prediction.

Furthermore, we completed the Bariatric Outcomes and Obesity Modelling (BOOM) effort. BOOM now includes a calculation for the impact of specific comorbidities (focusing on diabetes) and explores the change in diabetes status through surgery. This calculation was performed on a real-life cohort of patients with and without bariatric surgery in Washington State.

In 2014, a major focus will be on the assessment of multiple chronic conditions and the development of novel models to measure and predict the risk of events, including surgical complications in Washington State. We will also continue to expand and consolidate the projects focused on behavioral economic and decision sciences through CERTAIN Collaborative for Healthcare research in behaviOral economIcs and deCision sciEncES (CHOICES).

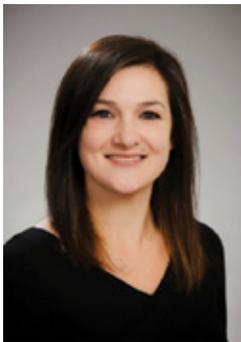


**Allison Devlin, MS**

*Program Director of SORCE*

Patient-centered outcomes research and comparative effectiveness research have the potential to better inform people about their healthcare options and to empower them to make better healthcare decisions. To deliver more appropriate, safer, and effective healthcare, SORCE has endeavored to build a learning healthcare system – CERTAIN – across Washington State. In 2013, CERTAIN grew the number of stakeholders engaged in our community by 205%. We ended the year with over 150 clinicians, 20 clinicians’ offices, and 30 hospitals as partners in 20 projects. These 20 projects represent just a small portion of the innovative work underway at SORCE as highlighted by our faculty and featured accomplishments.

Throughout 2013, SORCE continued to prioritize staff training to support our faculty investigators. SORCE staff built up their skills through over 750 professional development course hours and over 700 peer-to-peer training hours. Additionally, SORCE staff led over 20 staff-centered works-in-progress sessions and mentored nearly 50 students through independent research presentations.



In 2014, SORCE will continue to diversify in clinical topic areas and enrich our methodological “toolbox” by strengthening new partnerships with faculty in reconstructive surgery, obstetrics and gynecology, behavioral sciences, and post-hospitalization care. We are working toward the release of the CERTAIN Hub, a new and efficient mechanism for our partners to engage in continuous healthcare learning. CERTAIN Hub will provide an interface for patients in nonclinical and outpatient settings to assess patient-reported outcomes and other patient perspectives of care as well as expand the CERTAIN network through engagement of the stakeholder community, application of advanced prioritization techniques, and development of end-user oriented tools and products.

**Danielle Lavalley, PhD, PharmD**

*Research Assistant Professor, Department of Surgery, University of Washington*

Since 2010, our Patient Voices Survey Center has surveyed over 20,000 patients to obtain their input on their health status following surgery procedures. In 2013, we worked to expand our focus on ensuring that the patient voice is central to healthcare delivery by exploring how best to incorporate this information into clinical practice. Our Patient-Reported Outcomes in Practice (PROs in Practice) initiative is centered on determining how to capture and report patient-reported outcomes to support both quality improvement and clinical decision-making. We are working closely with clinicians and hospital administrators to understand both the facilitators and barriers in using such data in practice. To date, we have developed new, more efficient mechanisms for capturing data and are in process of developing dashboards for real-time reporting back to clinicians. Another key element to our research program is our CERTAIN Patient Advisory Network. This network grew in 2013 from seven advisors to now over 50 individuals interested in partnering with us to advance our ability to ensure that our research is informed by and developed with patients.

In 2014, we will continue to focus on understanding how patient-reported outcomes can effectively inform clinical practice with an added focus on patients and their interest in using the information. This year we will continue to build our community of patients, researchers, and clinicians interested in working together through the CERTAIN Patient Advisory Network to advance patient-centered outcomes research.



## Farhood Farjah, MD, MPH

Assistant Professor, Department of Surgery, University of Washington,  
and Associate Medical Director of *SORCE*

Starting in 2012, the Department of Surgery, *SORCE*, and the Division of Cardiothoracic Surgery invested in building a health services and outcomes research program for cardiothoracic surgery. In addition to the preeminent goals of improving public health and advancing the field of cardiothoracic surgery, this group aims to support faculty career development, train the next generation of clinical scientists, and expand collaborative relationships with other specialties, scientists, and stakeholders in healthcare.



Within this group, five faculty members have 16 active projects. These projects tackle diverse areas, including the utilization, outcomes, and costs of diagnostics in screening, staging, and/or surveillance of lung and esophageal cancer; thoracic surgical quality improvement; health economic evaluation of minimally invasive thoracic surgery; the relationship between social support and lung transplant outcomes; and the nascent field of cardiothoracic surgical critical care. This work has been conducted in collaboration with faculty from General Surgery, Medical Oncology, and Pulmonology, and scientists from *SORCE*, the University of Washington Department of Health Services, Veterans Affairs Health Services Research & Development, Group Health Research Institute, and Kaiser-Permanente Southern California. Research fellows, residents, and students have participated in some of these projects, and in some cases have spearheaded investigations from start to finish. Several studies have been selected for presentation at the Society of Thoracic Surgeons, American Association of Thoracic Surgery, International Society of Heart and Lung Transplantation meetings, American Society of Clinical Oncology, and International Association for the Study of Lung Cancer. In 2013, the cardiothoracic health services and outcomes research group applied for over half a million dollars in grant funding with a 21% yield. Dr. Leah Backhus is KL2 Scholar in the Institute of Translational Health Science Multidisciplinary Clinical Research Training Program. I am a Cancer Research Network Scholar—a National Cancer Institute-funded career development program of the Health Maintenance Organization Research Network.

Next year, our group will move in three new directions. First, we intend to expand and solidify a clinical research network in thoracic oncology using the infrastructure provided by *CERTAIN*. So far, we have partnered with four other institutions in Puget Sound to share clinical registry data and collaborate on lung cancer projects. Collectively, our five institutions account for over half the lung cancer resection volume in Washington State. We plan to engage the remaining 19 hospitals in Washington State that perform lung cancer surgery. Another new direction will be to partner with clinicians and scientists at the Fred Hutchinson Cancer Research Center/Seattle Cancer Care Alliance and utilize their lung cancer biorepository to investigate a potential biomarker to augment diagnostic strategies for lung cancer staging. Finally, we are actively engaging patients to participate in the *CERTAIN* Patient Advisory Network so that we can build a specialty/disease-specific group of patient advisors for guidance on patient-centered comparative effectiveness and outcomes research.

## HIGHLIGHTS OF 2013

### IN 2013, *SORCE* WORKED ON OVER 50 PROJECTS AND PUBLISHED OR PRESENTED RESULTS IN OVER 60 VENUES

**The Longitudinal Assessment of Bariatric Surgery (LABS)** study reached 98% retention for participants at 48-month follow-up.

**The CROSSROADS** study completed one-year follow-up for 30 participants in a randomized controlled trial comparing a surgical intervention to a lifestyle intervention for weight-loss.

**The Patient Voices Project** enrolled 5,417 participants in 2013 and collected patient-reported outcomes data across 18 projects with an overall response rate of 67%.

**The CERTAIN Patient Advisory Network** reached over 50 patients interested in informing our research through quarterly meetings and the first annual Research Symposium.

**The Comparative Effectiveness Research Study of Peripheral Arterial Disease (PAD)** completed enrollment for its two-year study with 326 participants across 15 participating partner sites at 11 hospitals.

**The mobile Post-Operative Wound Evaluator (mPOWER)** received three pilot grants to develop a mHealth app to enable patients to monitor their surgical wounds for signs of infection after hospital discharge and to securely communicate this information — including wound photos — to their surgeon.

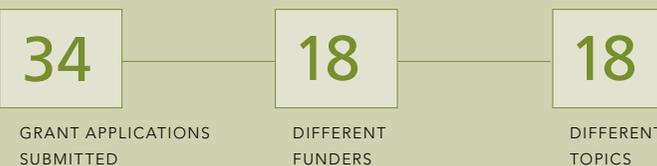
**The Strong for Surgery (S4S)** initiative had over 2,220 attendees at their community outreach events.

**CERTAIN** reached 10,000+ unique website visitors, and there are now 900+ members in the *CERTAIN* stakeholder community.

**The Collaborative to Improve Native Cancer Outcomes (CINCO) Surgical Disparities Project** completed data collection on over 175 American Indians and Alaskan Natives undergoing surgical treatment of cancer and completed key informant interviews with 34 patients and five surgeons.

**Data Collection and Analysis:** *SORCE* supported data collection and analysis for 20+ projects and a variety of investigators across the University of Washington. *SORCE* staff reviewed 8,000+ medical records of patients undergoing treatment across Washington State for quality improvement programs in general surgery, vascular and interventions, oncologic surgery, and orthopedic surgery.

## GRANTS IN 2013



Dissemination & Implementation

mHEALTH  
DECISION SCIENCE

# RESEARCH & EVIDENCE DEVELOPMENT

Building Learning  
Healthcare Networks

HEALTHCARE INFORMATICS

PATIENT VOICES



## CONTACT INFORMATION/SOCIAL MEDIA

SORCE website: [uwsurgery.org/sorce](http://uwsurgery.org/sorce)

CERTAIN program website: [becertain.org](http://becertain.org)

S4S website: [strongforsurgery.org](http://strongforsurgery.org)

 : [facebook.com/certainWA](https://facebook.com/certainWA); [facebook.com/strongforsurgery](https://facebook.com/strongforsurgery)

 : [@certainWA](https://twitter.com/certainWA); [@strong4surgery](https://twitter.com/strong4surgery)

 : search Groups for CERTAIN Learning Healthcare System