

ADVANCED TECHNICAL SKILLS SIMULATION LABORATORY

2015-2016 | Annual Report







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INTRODUCTION

The *Advanced Technical Skills Simulation Laboratory (ATSSL)* is a state-of-the-art facility that allows medical trainees and practicing professionals the opportunity to acquire, practice and develop their skills in a safe learning environment.

The ATSSL is a partnership between Alberta Health Services (AHS) eSIM Provincial Simulation Program and the University of Calgary (UCalgary), Cumming School of Medicine (CSM). Both organizations are committed to providing an innovative interdisciplinary learning environment, with improvement in patient safety and quality of care as the ultimate goal. The Surgical Skills Simulation Lab, an approximately 20,000 square foot facility, was completed in 2014 and contains over \$2m of equipment.

Dr. Jacques Bouchard, past ATSSL Co-Director, says simulation labs like the ATSSL are critically important in the initial stages of learning. "By integrating simulation into the learning we can move through the initial stages of the learning curve, when mistakes are more likely to happen, in a safe environment for the learner. When the learner gets to do it on a real patient they have done the procedure multiple times in a simulated environment."

"Physicians are understandably excited about the new simulation lab," says Dr. Vincent Grant, Associate Professor of Pediatric Emergency Medicine, Medical Director of KidSIM Pediatric Simulation Program, and past ATSSL Co-Director. "Having the Advanced Technical Skills Simulation Lab at the Foothills campus will help the faculty attract, recruit and retain the brightest students and the best staff... [and] Calgary will be one of the most innovative places in the country to teach and practice medicine," says Jocelyn Lockyer, PhD, Senior Associate Dean of Education, Cumming School of Medicine. "Simulation is the future of health care professional education and training... [and] this is truly a collaborative project where the partners are coming together to provide interprofessional education, with the ultimate goal of enhancing patient care," says Marlene Donahue, Director of eSIM South Provincial Simulation Program for AHS.

Learners served include medical students, postgraduate residents and fellows, physician specialists, surgical specialists and family doctors, as well as nurses and allied health professionals. ATSSL spans the continuum of learning from early undergraduate training all the way through to lifelong continuing professional development of health professionals. The overall focus of simulation training will be on skills/knowledge acquisition, interprofessional training and team work, and a better understanding of latent patient safety threats in our environment and how to mitigate them before they occur in real life. Practice in this environment will produce more effective, confident and safe medical and surgical professionals. This will have an immediate impact in the short and long-term care of patients within the community.

ACKNOWLEDGMENTS

In 2012, a project charter was created by AHS and UCalgary for the establishment of the ATSSL. The ATSSL would not have been possible without the contributions of the following individuals.

Former Co-Directors and Content Experts

A special mention to Dr.'s **Jacques Bouchard** and **Vince Grant** (Co-Directors from 2012 - 2016), as well **Marlene Donahue** (eSIM Consultant) whose content expertise in Simulation Education, and strong leadership skills were integral to the ATSSL becoming a reality.

Project Sponsors and Co-Leads

- Marilyn Willison-Leach, Executive Director, Quality Skills Development and eSIM, AHS
- Jocelyn Lockyer, Senior Associate Dean Education, CSM, UCalgary

Executive Sponsors

- Susan Mumme, Senior Vice President, Quality Healthcare Improvement, AHS
- Jon Meddings, Dean, CSM, UCalgary
- Project Steering Committee
- Jacques Bouchard, Co-Director
- Vince Grant, Co-Director
- Deborah Curley, Program/Project Manager
- Guy Levy, Executive Director
- Barb Giba, Associate Vice-President, Development
- Barb Magill, Director-Major Gifts
- Marlene Donahue, Director-eSIM
- Gary Duke, Project Director
- Michael Rijivec, Senior Project Manager
- Doug Cooper, Senior Project Manager
- Pam Fawcett, Senior Project Manager Fundraising

EXECUTIVE SUMMARY

The ATSSL is a unique space and partnership between AHS eSIM Provincial Simulation Program and the CSM, UCalgary. Both organizations are committed to providing an innovative interdisciplinary learning environment, with improvement in patient safety and quality of care as the ultimate goal. Special acknowledgments have been made previously to specific individuals in these organizations that contributed significantly in the establishment of the ATSSL.

The ATSSL is in the Health Research Innovation Centre and the Health Sciences Centre on the UCalgary, Foothills Campus. It consists of the Surgical Skills Simulation Lab, completed in 2014, and Clinical Skills Simulation Lab, completed in 2015.

The ATSSL activities are managed and organized by a Medical Director, Operations Manager, Coordinator, Simulation Consultants and Technicians. In 2015-16, the ATSSL welcomed 13,988 users during 404 educational sessions. In the Surgical Skills Simulation Lab (6,202 users, 196 sessions) and the Clinical Skills Simulation Lab (7,786 users, 208 sessions). The users for both labs were predominantly medical students and residents, but other learner groups included physicians, health care providers, and high school students. In evaluation, the ATSSL has achieved very high ratings in all aspects of the service provided, demonstrating consistency in the high quality of service in the first two years of operations. Over 60 per cent of additional comments specifically commended the staff as a source of quality. Many educational leads also noted the high quality of the facility and planned to book future sessions at the ATSSL. Several notable events and achievements are highlighted which represent ATSSL's commitment to be the forefront of simulation in medical education through innovation, excellence, collaboration, learning and integrity.

VISION, MISSION, AND VALUES

Vision

To be the forefront of simulation in medical education.

Values

Innovation, Excellence, Collaboration, Learning, Integrity.

Mission

The ATSSL aspires to a healthier future by providing an innovative and safe environment for healthcare professionals to learn and master skills. The ATSSL, through simulation, strives to capture knowledge, attitudes, skills and behaviour required to enhance and support patient safety.

ORGANIZATIONAL STRUCTURE AND GOVERNANCE



GOVERNANCE AND OPERATIONS

The ATSSL is co-led by a Medical Director, Dr. Marcia Clark, who holds a UCalgary clinical faculty appointment and is a member of the AHS medical staff, and an Administrative Director, Sandra Young, RN, PhD, Executive Director, Quality & Patient Safety Skills Development. These positions report to the Dean's designate (CSM) and the VP Quality and Chief Medical Officer (AHS), respectively.

The ATSSL Operations Manager, Mr. George Mulvey, is responsible for the daily operations of the facility. This position reports to the CSM Senior Associate Dean — Education, Dr. Jocelyn Lockyer, and is also accountable to the Provincial Director of eSIM Simulation, Dan Huffman.

The ATSSL Executive Steering Committee is jointly accountable to AHS eSIM and CSM, UCalgary, and is responsible for oversight of the ATSSL. These responsibilities include all strategic, operational and financial plans. The full terms of reference including roles and responsibilities of the committee are provided in detail at: ucalgary.ca/atssl/about/governance

ATSSL TEAM

George Mulvey

George has been the Operations Manager of the ATSSL since it opened in 2014. George completed his Professional Business Management Certificate in 2016 at UCalgary and has attended the Northern Alberta Institute of Technology Biological Sciences Program, Laboratory and Research Option Diploma and the University of Alberta, Bachelor of Science program. Prior to joining the ATSSL, George worked at the University of Alberta and then UCalgary as a bacteriologist researcher managing all aspects of the laboratory's operations including research trust accounts from the federal and provincial government and industry as well as directing graduate students and technicians on numerous projects while collaborating with researchers and research groups from across Canada and the United States.

Dr. Marcia Clark

Marcia joined the ATSSL as Medical Director in November 2015. She is an orthopaedic surgeon and Clinical Associate Professor working at the Bone and Joint Clinic at the South Health Campus. She is also the Vice-Chair of Surgical Foundations at the Royal College of Physicians and Surgeons of Canada (RCPSC), helping to frame and implement Competency Based Medical Education (CBME) in surgery across Canada. Marcia travels with the RCPSC extensively to deliver medical education to international faculty. Marcia also has a sport medicine interest providing medical care to several athletic teams including Calgary Wolfpack Rugby, UCalgary Dinos, Formula One Car Racing (Montreal) and the Canadian Alpine Ski Team.

ATSSL TEAM

Irina Charania

Irina graduated from a Collaborative Program in Life Sciences and Respiratory Therapy in 2006, and began her career as a Registered Respiratory Therapist at the Foothills Medical Centre. She completed her BScH Degree (Maj Life Sciences) at Queen's University in 2009 while practicing respiratory therapy at Kingston General Hospital. During her RT career, Irina was involved in the development and implementation of QI initiatives, clinical research activities, assumed a staff educator role, and began training in simulation based education. Irina joined the AHS eSIM South Simulation Team in 2013 where she applied her prior training to the development of a simulation based program for developing the Collaborative Care Competencies of AHS Interprofessional Preceptors and Mentors. She brought this expertise to the ATSSL when she joined the team as a Simulation Consultant in March 2015.

Heather Hill

Heather joined the ATSSL prior to hosting its first event in early 2014. Heather completed an Honors, Bachelors of Science in Applied Biomolecular Science from Lakehead University in 2007. Previously, Heather managed the Tissue Processing program at RegenMed, a Bone and Tissue Bank that produces surgical grafts for implantation from donated human tissue. Heather's passion for the medical sciences and simulation is apparent to any one that meets her. Heather has visited numerous other simulation centres in Canada returning with a breadth of knowledge that she incorporates in all labs she coordinates. In addition to coordinating and organizing all lab events in the Clinical Skills and Surgical Skills, Heather is always keen to look at other ways to collaborate with users on best models, space utilization or act as facilitator for large events that extend out of the ATSSL.

Stephanie Jaunin

Stephanie joined the ATSSL team as a Surgical Technician in April 2014. Stephanie received a certificate in Sterile Process and Distribution from SAIT and had previously worked as a Sterile Technician with AHS in the Operating Room Department at South Health Campus. Her extensive experience in the Department of Medical Device Reprocessing and operating room has proven to be an invaluable asset to the ATSSL team. Stephanie is dedicated to providing clients with outstanding service and support and welcomes the opportunity to collaborate and assist new users in developing and creating new simulation models, often hybridizing cadaveric animal tissues with dry models and developing or improving current models.

ATSSL TEAM

Vladimir Vinluan

Vladimir has been with the University of Calgary for almost six years, starting as a Research Assistant then joining the ATSSL in June 2014. He is a graduate of Medicine (1990 Philippines), practiced Medicine in the Philippines for more than 15 years, and completed the Health, Safety and Environment Certificate at the UCalgary in 2016. Vlad brings medical knowledge and clinical experience to the simulation laboratory, and is experienced working with and preparing the high fidelity manikins and task trainers in the Clinical Simulation Lab for a broad spectrum of users.

Asela Peiris

Asela is a Systems Engineer with AHS Provincial Simulation Program. Asela uses his years of experience in telecommunications, IT and AV technology to design and implement innovative technologies that enhance the learning and simulation experience.

Darren Steidl

Darren has been with AHS for 14 years. Originally employed as a Biomedical Equipment Technologist for the Department of Clinical Engineering from 2003 – 2014, during this time he supported a variety of medical devices such as Ultrasound Systems, Neurophysiology equipment, Clinical IT Systems, etc. He transitioned to the role of Simulation Technical Consultant with the ATSSL and eSIM in 2014. He provides direct support and expert counsel on all aspects of technology and programming components or interfaces used in support of simulation education service delivery.

Jenny Krbyla

Jenny is an ATSSL Sim Aid having joined the team in January 2015. Jenny received a Medical Device Reprocessing certificate from SAIT in 2013. Prior to joining the ATSSL, Jenny worked as a medical device reprocessing tech at the Kelowna General Hospital. In Jenny's current role, she assists senior staff with preparing both the Clinical Skills and Surgical Skills lab for a variety of users.

FINANCIAL STATEMENT

The ATSSL is jointly and equally funded by AHS and UCalgary. Annual operating funds of \$1m are provided for staffing, equipment, supplies and warranties/preventative maintenance. Any residual funds remaining at fiscal year-end are transferred back to AHS and UCalgary as required.

ATSSL Operating Statement

1 April 2015 – 31 March 2016	Тс	otal	UCalgary Funding (50%)	AHS Funding (50%)
Operating Budget	\$1	,000,000	\$500,000	\$500,000
Expenses				
Human Resources	\$	757,436		
Materials & Supplies	\$	77,595		
Minor Equipment	\$	101,826		
Travel & Education	\$	2,055		
Total Expenses	\$	938,912	\$ 469,456	\$ 469,456
Residual Funds Returned	\$	61,088	\$ 30,544	\$ 30,544

Learners from the core educational programs at the UCalgary including Undergraduate Medical Education (UME), Postgraduate Medical Education (PGME), Bachelor of Health Sciences (BHSc), and Graduate Science Education (GSE) as well as members of AHS clinical departments and programs are not charged for access to ATSSL. Internal users are charged for supplies and disposable and limited use items like the lumbar puncture simulator. External learners and industry users are charged on a cost recovery basis, under a fee structure determined by the ATSSL Executive Steering Committee. These funds are not reflected in the Annual Operating Statement, but are retained in separate UCalgary project accounts and used to support additional equipment maintenance/refurbishment/replacement and educational opportunities (including conference travel) for staff.

FACILITIES

The ATSSL is located in two locations; the Surgical Skills Simulation Lab in the Health Research Innovation Centre and the Clinical Skills Simulation Lab in the Health Sciences Centre within the CSM, UCalgary:

Surgical Skills Simulation Lab

The Surgical Skills Simulation Lab is a state-of-the-art facility where a variety of medical skills and procedures such as laparoscopy, arthroscopy, endoscopy and microsurgery are practiced by surgical residents in the 18 accredited surgical residency programs. In addition to surgical residents a diverse group of users that includes Family Medicine, Emergency Medicine (staff and residents) Critical Care, Alberta International Medical Graduates Association and Physical Medicine and Rehabilitation residents take advantage of the facility to hone skills required for their respective disciplines. The space includes a 20 simulated operating room stations fully equipped with scrub sinks, surgical beds and tables, overhead OR lighting, dual LED monitors and ceiling supply units. Four of the stations are specially outfitted with in-light cameras that allowreal-time imaging to be displayed throughout the lab and classrooms.

An integrated system of pan-tilt-zoom cameras offers the ability to video record laboratory sessions. Video recording provides instructors and students the opportunity to review and discuss procedures as well as monitor the progress of trainees from a distance. The ability to record these sessions also allows faculty to develop research programs designed to evaluate new techniques, new equipment and new teaching methods. Trainees are also able to develop their own portfolio of work in the form of performance videos of simulated surgical procedures.

The lab is designed to be multifunctional and offers a variety of configurations to accommodate different group sizes. The area can be used as one large space or divided into two or four smaller spaces allowing for multiple education sessions to occur at once. Additionally, the ATSSL is focused on user safety and is equipped with a reprocessing area to clean and sterilize instruments on-site.





FACILITIES

Clinical Skills Simulation Lab

The Clinical Skills Simulation Lab is an innovative multidisciplinary medical simulation facility where learners use simulators to enhance technical skills, patient safety and learner safety. Simulators are tools that include low and high-fidelity simulators, standardized patients, and computer-based virtual realities. High-fidelity simulators are highly sophisticated life-like manikins that present as a patient through complex computer programs, responding to the actions taken by the learners. Lower levels of fidelity include a wide selection of specific task trainers such as endoscopic simulators, laparoscopic simulators and intravenous arms. The Clinical Skills Simulation Lab is well equipped and supported with clinical suites, eight modular classroom pods and many task trainers to facilitate learning of procedural skills and interprofessional training skills. The space has the capacity to accommodate 160 learners at any one time allowing for numerous groups to work independently within spaces providing for private debriefing, or opened to a conference-like area. Future development of these facilities will enable us to continue to provide more simulated clinical settings, using novel equipment and ground-breaking programs. The overall goal is to provide a high standard of simulation education, with secondary objectives of expanding research and development in the field of simulation by allowing the study, analysis and review/debrief of active learning of skills teamwork or cognitive load training.

Classrooms

The ATSSL has two dedicated classrooms in the Surgical Skills Simulation Lab area of the ATSSL. Capable of accommodating 20 and 29 learners respectively, the classrooms can be used for didactic teaching, debriefings, presentations, symposiums, conferences, and executive meetings.

Each room features:

- Wireless internet access.
- Lecture podium with VGA and HDMI laptop outputs.
- LCD projector and in-ceiling speakers.
- Videoconference capability.
- Remote viewing of surgical skills areas.





EDUCATION

In 2015-16, the ATSSL welcomed 13,988 users during 404 educational sessions in the Surgical Skills Simulation Lab (6,202 users, 196 sessions) and the Clinical Skills Simulation Lab (7,786 users, 208 sessions). The users for both labs are predominantly medical students and residents, but additional learner groups include physicians, other health care providers, and high school students. The numbers of current healthcare practitioners accessing the lab for continuing professional development grew steadily as more programs became aware of the ATSSL facilities and that the ATSSL has two delivery streams for education: as a learning space and as active educators.

The ATSSL functions as a learning space when users bring prepared simulation education plans to be executed, and the ATSSL staff acts as a facilitator of operationalizing simulation activities. The ATSSL staff assumes the role of educator when they assist groups of learners in creating their simulation education plan, ensuring a robust educational experience with outcomes and facilitated debriefing. The time required to assist user groups varies depending on the educational objectives and the number of users for each session. Industry sponsored sessions are crucial in the continuing education of physicians and/or learning of new techniques and to help sustain the ATSSL.

EDUCATION

Surgical Skills Simulation Lab

There were 196 educational sessions in 2015-16 involving 6,202 users including physicians, residents, medical students, Bachelor of Health Sciences students, registered nurses and registered respiratory therapists. Lab usage peaks in the fall following the start of the academic years in July for UME and PGME.

The Surgical Skills Simulation Lab hosted several industry sponsored events that included learners from the Calgary region and across Canada. These include Zimmer Total Knee and Ankle Course, Medtronic Spine Course, Smith & Nephew Shoulder Arthroscopy Course, Ostek Shoulder Arthroplasty Course and MedQuest Clover Staple Surgical Technique Course.

Clinical Skills Simulation Lab

There were 210 educational sessions involving 7,786 users in 2015-16. Usage of the Clinical Skills Simulation Lab increased steadily over the four quarters. Peaks in usage for UME and PGME trainees coincide with the academic calendars of curricular needs of the different training programs.

UME students attended 130 skill training or simulation sessions in the Clinical Skills Simulation Lab, and PGME trainees (medical residents/AHS employees) attended 42 separate sessions. High school students attended two Indigenous Health Mini-Med school sessions. Healthcare providers such as nurses, attending physicians and allied health professionals participated in 36 continuing professional development (CPD) sessions. Fifteen of these CPD sessions were arranged by external users, including the Trauma Association of Canada and the Advanced Trauma Life Support (ATLS) programs.

SESSIONS – Surgical Simulation Lab



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USERS — Surgical Simulation Lab



SESSIONS - Clinical Simulation Lab



USERS — Clinical Simulation Lab



EDUCATION

Evaluation of ATSSL Services

The ATSSL distributes a form to the educational lead following each learning session which evaluates ATSSL Surgical Simulation Lab services. Educational leads are requested to rate aspects of the service on a five point scale(1-Poor to 5-Excellent), and results for 2015-16 (and a comparison with 2014-15) are as follows:

	2015-16	2014-15
ATSSL Wet Lab Facilities	4.89	4.93
Simulation/Surgical Equipment Provided	4.88	4.92
Specimens Provided	4.89	4.59
Audio/Visual Equipment	4.75	4.71
Assistance Provided in Coordinating/Planning the Event	5.00	5.00
ATSSL Involvement/Support During the Event	5.00	4.93
Overall Experience at the ATSSL Wet Lab	4.89	5.00

The ATSSL achieved very high ratings in all aspects of the service provided, with no rating below 4 (Good) in any category in 2015-16. Ratings have remained relatively unchanged since 2014-15, showing consistency in the high quality of service provided in the first two years of operations. Two-thirds of additional comments specifically commended the staff as a source of quality. Many educational leads also noted the high quality of the facility, as well as planned to book future sessions at the ATSSL.

In addition to the evaluations of ATSSL services/facilities, each learning session group conducted their own evaluation which provided feedback on the content of the session. As the ATSSL plans to offer its own learning sessions in the future, content evaluation of ATSSL initiated sessions will be conducted and reported on in future reports.

NOTABLE EVENTS

Interprofessional Education (IPE) Trauma Day

The Introduction to Clinical Practice Course (MDCN 490) was redesigned to include Trauma and Interprofessional Education content. Curricular alignment was achieved among the CSM, UCalgary Faculties of Nursing and Social Work, the Southern Alberta Institute of Technology (SAIT) Respiratory Therapy and Paramedic Programs. Three hundred and forty-six undergraduate students participated in a mandatory four-hour session in June 2015.

During the session students worked together in Interprofessional teams of four to six to provide care to a standardized patient (SP) portraying a trauma victim and an in-room facilitator portraying a family member. After the team completed a 15-minute simulation, an observer facilitator and the in-room facilitator (each from a different health profession), co-facilitated a 30 minute debriefing session. The debrief was guided by the Mayo High Performance Teamwork Scale (MHPTS), the Canadian Interprofessional Health Collaborative (CIHC) National Competency Framework and the care approach of the Advanced Trauma Life Support (ATLS) program. Students and facilitators formally rated the team performance using the MHPTS. Effective trauma team behaviour was modeled and debriefed by expert practitioners in a live simulation prior to participants completing a second scenario with a different Interprofessional student team. At the conclusion of the half-day, students completed a pre/post self-efficacy questionnaire based upon the MHPTS and provided feedback. Statistically significant improvements were found in both self-efficacy and team performance ratings comparing the first and second scenarios. Positive results and student feedback led to the session remaining in the curriculum.



Med Zero

In July 2015, the ATSSL assisted in hosting the fifth rendition of Med Zero. The event was well-supported by incoming medical students with greater than 90 per cent in attendance. Med Zero was held the day before medical school at the CSM and officially began for the Class of 2018. The ambitious schedule included suturing workshops for all attendees and a selection of casting, labor and delivery and vital signs workshops. In total 24 faculty worked with eight department staff to introduce our world of family medicine to the students.

PGME Simulation Symposium

ATSSL hosted the inaugural PGME Simulation Education and Research Symposium in October 2015. The intent of this event was to showcase work in simulation education and research, and to encourage collaboration among researchers with common interests. We welcomed local medical simulation experts as keynote speakers. As we move towards competency-based education, the objective was to increase our use of and awareness of various simulation modalities for learning, assessment and research. We concentrated our resources to support and recognize clinical teaching, increase research capabilities, integrate competency-based curricula, and foster leadership development.

NOTABLE EVENTS

Spine and Peripheral Nerve Anatomy and Surgery Workshop

In January 2016, the ATSSL Surgical Simulation Lab hosted the 9th Annual Spine and Peripheral Nerve Anatomy and Surgery Workshop for Neurosurgery and Orthopedic Residents. During this three day course, residents participated in guided hands-on practice of peripheral nerve approaches in the upper and lower extremities, anterior and posterior cervical spine approaches, and posterior and anterolateral thoracolumbar spine approaches on cadaver specimens. The course was led by 13 local faculty surgeons as well as Dr. Bassam Addas visiting from King Abdulaziz University Hospital in the Kingdom of Saudi Arabia.



General Surgery Resident Labs

In 2015, the ATSSL Surgical Skills Lab began hosting monthly sessions for the General Surgery Residency program. These sessions give all levels of residents the opportunity to learn, practice and master skills in a safe environment. The ATSSL utilizes animal tissue staged in laparoscopic boxes with full laparoscopy towers as well as a variety of other sim modalities; Laparoscopic Surgery trainers provide a consistent and scientifically accepted format (Society of American Gastrointestinal and Endoscopic Surgeons) for practicing cognitive surgical decision making and technical skills. The ATSSL offers access to one of the most advanced GI endoscopy simulators available, the GI-Bronch mentor by Symbionex. The GI-Bronc creates true-to-life sensations for colonoscopy and duodenoscopy as well as physical mastery of endoscopy tools. Surgical procedures practiced in the General Surgery residency training lab include laparoscopic cholecystectomy, bowel anastomosis, laparoscopic omental patch peptic ulcer repair and laparotomy.

Bethune Round Table-Teamwork Seminar

The ATSSL hosted a one and half hour team work seminar that included a mass casualty simulation scenario co-facilitated by Irina Charania for the Bethune Round Table (BRT). The BRT is an annual interdisciplinary scientific meeting hosted at Canadian academic centres to discuss the challenges and solutions to improving surgical care to underserviced and marginalized populations in low- and middle-income countries. Hosted previously by UCalgary and returning in 2016 the BRT brings together health professionals from a variety of disciplines, including surgeons, anesthesiologists, obstetricians, pathologists and nurses, as well as public health and government health workers, to share their research and experiences in the delivery of surgery in low-resource settings.

NOTABLE EVENTS

Student Run Simulation Team

The inaugural Student Run Simulation Team (SRST) program, facilitated by the ATSSL, is an extracurricular medical student group that provided peers with opportunities to learn and teach principles of acute care medicine in a simulated environment. Early exposure to simulation has been identified as a way for medical students to engage in self-directed education. SRST operated through a peer-led model. Senior medical students designed and delivered didactic sessions, simulation scenarios, and debriefed the scenarios to emphasize targeted objectives.

Active Research and Scholarship

Several grants and scholarly projects have been started in the lab. This includes a multisite study with Memorial University validating a point of care ultrasound tool for training health care professionals. Dr. Claire Temple-Oberle was awarded the RCPSC Robert Maudsley grant to enhance the microsugery skills curriculum for surgical residents.

The collaboration with computer science students to develop an ATSSL app in their advanced iOS App Development Course (CPSC 599) in the 2016-17 winter term was initiated. The development of an app could allow medical students to easily connect the laboratory material/equipment used in ATSSL to the specific goals and objectives aligned with that material/equipment. The use of unique identifiers on anatomical prosections (prepared anatomy specimens) used in the lab will link that material to the related anatomy content. The identifiers on equipment will link them to related content. This endeavour supports improvement by ensuring students understands and can follow the intended goals and objectives for use of specific material/equipment used in the ATSSL. Potential link to AR type technology may also be a future development.

Competency Based Education

The Royal College of Physicians and Surgeons of Canada (RCPSC) Competency by Design (CBD) is a multi-year, transformational change initiative that will transition specialist medical education from a traditional timebased model to a hybrid form of CBME. The programs implemented in 2016-17 include Medical Oncology, Otolaryngology - Head and Neck Surgery, Urology, Anesthesiology, Internal Medicine, Gastroenterology, Forensic Pathology and Surgical Foundations (**royalcollege.ca/rcsite/competence-design-e**). Simulation will play a significant role in creating competency-based assessment technology and

competency-based assessment technology and accessible systems. ATSSL can provide support and resources to facilitate the transition.

