

# 2017-2018 | Annual Report

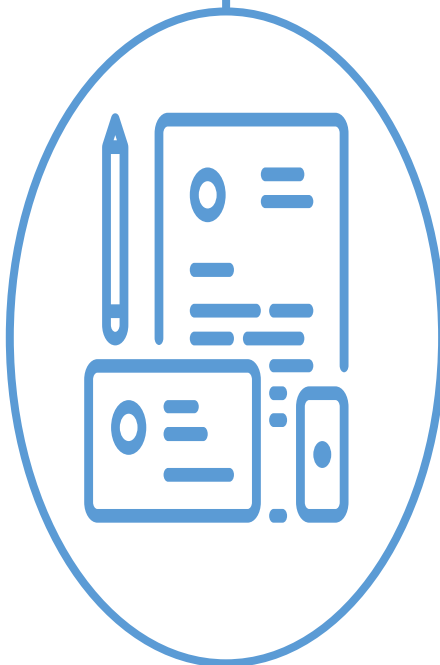
(April 2017 – March 2018)

# ATSSL

ADVANCED TECHNICAL SKILLS SIMULATION LABORATORY



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# ABOUT THE ATSSL



The *ATSSL*, from its opening in 2014, continues its commitment to provide innovative and interdisciplinary simulation-based medical education (SMBE). We continuously aim to produce effective, confident and safe medical and surgical professionals, while improving patient safety and quality of care.

The ATSSL offers a full complement of simulation modalities from human and animal cadaveric tissue procedural skills to theater-based simulation. SBME in the ATSSL focuses on skills and knowledge acquisition, interprofessional education (IPE) and teamwork, and a better understanding of latent patient safety threats in our environment. ATSSL purposefully works with our patient safety and quality improvement partners in the Cumming School of Medicine (CSM) and Alberta Health Services (AHS) to develop longitudinal curricula and address identified training priorities in a way that optimizes the transfer of learning for medical students, postgraduate residents and fellows, practicing physicians, as well as nurses and allied health professionals. A focus on safety competencies, including the review of new surgical procedures and the use of simulated cadaveric tissues has further allowed programs to improve team communication, manage equipment changes and surgical flow, and determine administrative challenges.

# VISION AND MISSION

## Our Vision

To be the forefront of simulation in medical education.



## Our 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.



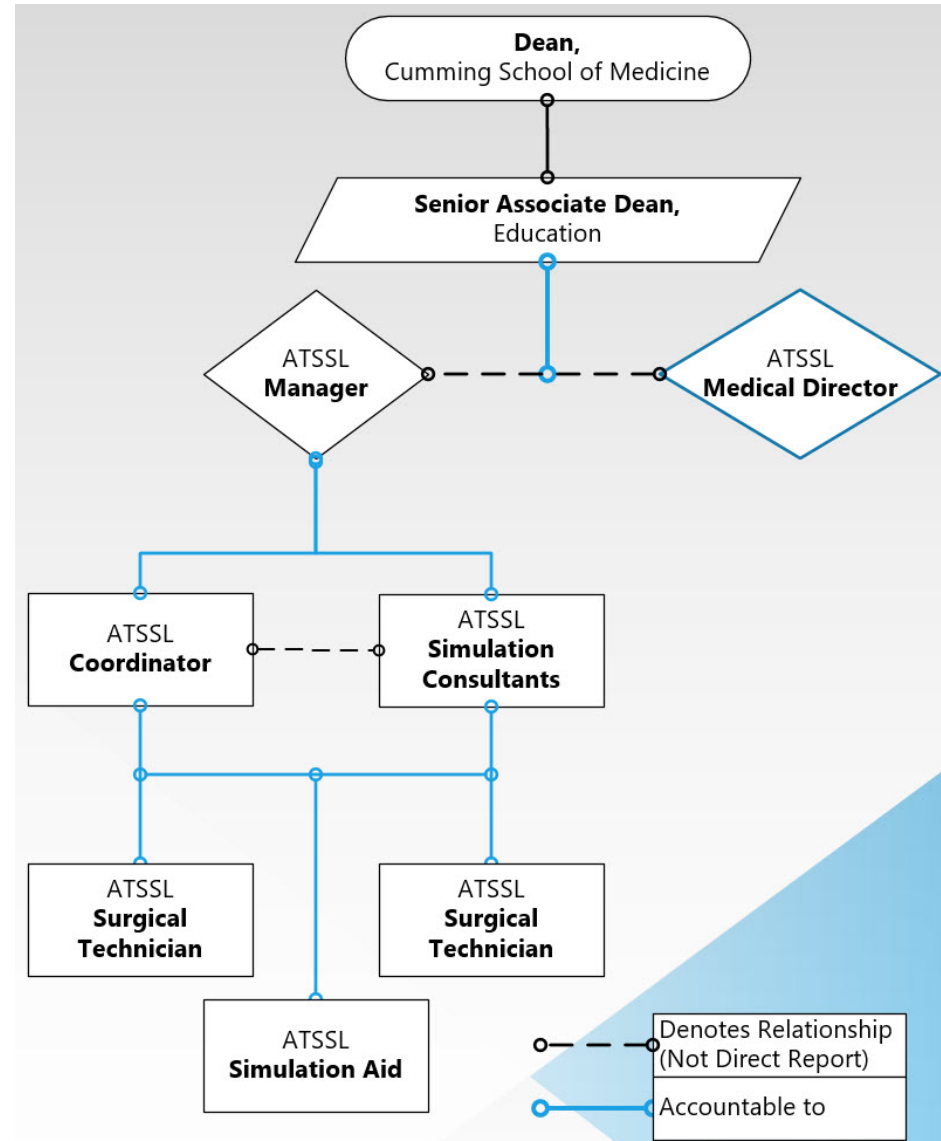
# Governance

The **ATSSL** is co-led by a Medical Director, Dr Marcia Clark and an Administrative Director, Provincial Director of eSIM Simulation, Dan Huffman. These positions report to the Dean's designate (CSM) and the VP Quality and Chief Medical Officer (AHS), respectively. The Operations Manager, George Mulvey, reports to the CSM Senior Associate Dean – Education, Dr Jocelyn Lockyer/Dr Maureen Topps (June, 2017), and is also accountable to the Provincial Director of eSIM Simulation, Dan Huffman/Mark Allen (January, 2018). The ATSSL Executive Steering Committee is jointly accountable to AHS eSIM and CSM. Responsibilities include all strategic, operational and financial plans. Visit this link for details of the [full terms](#).

## Executive Steering Committee

- Dr Maureen Topps, Senior Associate Dean Education, CSM
- Guy Levy, Executive Director, CSM
- Dr Marcia Clark, Medical Director, ATSSL, CSM
- Mark Allen, Provincial Director Provincial Simulation Program, AHS
- Laurel Taylor PhD, Senior Provincial Director, Performance Improvement, AHS
- Tanya Platt, Manager eSIM South, AHS
- Blair Nichols, Associate Director Development, CSM
- Jennifer Ocloo, Manager, Business Advisory Services, AHS
- George Mulvey, Manager, ATSSL, CSM

## Organizational Chart



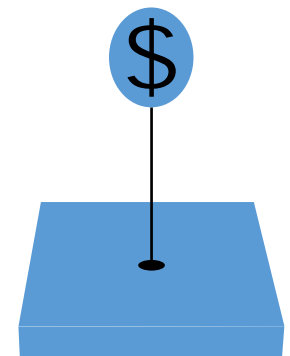


# Operating Statement

| 1 April 2017 – 31 March 2018            | Total            | UCalgary Funding | AHS Funding      | ATSSL            |
|---|------------------|------------------|------------------|------------------|
| <b>Operating Budget</b>                 | <b>\$835,424</b> | <b>\$300,000</b> | <b>\$300,000</b> | <b>\$235,424</b> |
| <b>Expenses</b>                         |                  |                  |                  |                  |
| Human Resources                         | \$742,196        |                  |                  |                  |
| Materials & Supplies                    | \$69,250         |                  |                  |                  |
| Warranties and Preventative Maintenance | \$2,600          |                  |                  |                  |
| Minor Equipment                         | \$5,247          |                  |                  |                  |
| Royal College Accreditation             | \$10,000         |                  |                  |                  |
| Travel and Education                    | \$2,381          |                  |                  |                  |
| Licensing Fees                          | \$3,750          |                  |                  |                  |
| <b>Total Expenses</b>                   | <b>\$835,424</b> |                  |                  |                  |

The **ATSSL** is jointly funded by Alberta Health Services (AHS) and the University of Calgary (UCalgary), each providing \$300,000 for a total of \$600,000 per annum. The 2017-18 Annual operating budget was \$835,424 with the remaining two-hundred and thirty-five thousand supported through revenue generated by the ATSSL. Funds are utilized for staffing, equipment, materials, supplies, warranties and preventative maintenance.

Learners from the core educational programs at the UCalgary including Undergraduate Medical Education (UME), Postgraduate Medical Education (PGME), Bachelor of Health Sciences (BHSc), Graduate Science Education (GSE) as well as members of AHS clinical departments and programs are classified as 'internal users' and not charged for access to the ATSSL. Internal users however are charged for supplies, disposable and limited use items like the lumbar puncture simulator. Learners identified as External and industry clients are charged on a cost recovery basis, under a fee structures determined by the ATSSL Executive Steering Committee. Revenue is 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.





# ATSSL TEAM

## **MEDICAL DIRECTOR (since 2015)**

**Dr Marcia Clark** holds a UCalgary clinical faculty appointment and is a member of the AHS medical staff. She is 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. Special interests: volunteers medical care to several competitive athletic teams, including the Canadian Alpine Ski Team.

## **COORDINATOR (since 2014)**

**Heather Hill** schedules, coordinates, oversees the preparation of, and manages the execution of activities in the laboratories. She collaboratively facilitates the design of simulation experiences to provide positive outcomes in patient safety, quality improvement, and cost containment. She has created unique training models that are consistently used to develop learner's procedural skill mastery. Special interests: business and entrepreneurship.

## **SIMULATION CONSULTANT (since 2016)**

**Michèle Cowan** collaborated on national and international educational projects to facilitate the development of quality medical referral education workshops and modified objective-based clinical examinations. She provides technology support to facilitate communication and optimize processes for data management. Special interests: virtual and artificial intelligence.

## **SIMULATION TECHNICIAN (since 2014)**

**Vladimir Vinluan** provides medical knowledge and clinical experience to the simulation laboratory. His experience in working with and preparing the high fidelity manikins and task trainers in the Clinical Skills Lab allows for a quality experience for a broad spectrum of users. Special interest: organ/tissue transplantation.

## **OPERATIONS MANAGER (since 2014)**

**George Mulvey** is responsible for overseeing all aspects of ATSSL including, but not limited to managing the human and physical resources, operational planning, financial management and reporting, compliance with Occupational Health and Safety, Biosafety, and Medicolegal Standards, coordinating all resources and stakeholders as well as monitoring, summarizing and communicating operations of the ATSSL. Special interests: Organizational Behaviour and anything outdoors.

## **SIMULATION CONSULTANT (since 2015)**

**Irina Charania** practiced as Registered Respiratory Therapist at the Foothills Medical Centre. She provides clinical and academic leadership to the simulation program; coordinates, develops, prepares and executes simulation activities. She offers an expertise in the field of interprofessional and interdisciplinary medical education. Special interests: neuropsychology and teamwork training.

## **SIMULATION TECHNICIAN (since 2014)**

**Stephanie Jaunin** oversees the operational design, policies, planning and support for the Surgical Skills Laboratory. She upholds the day-to-day setup, maintenance and repair of the facility. She has developed and created new simulation models, often hybridizing cadaveric animal tissues with dry models to improve fidelity. Special interests: personal fitness, animal health and well-being.

## **TECHNICAL CONSULTANT (since 2013)**

**Dan Dupperon** provides direct technical support and expert counsel on all aspects of maintenance, technology and programming of components or interfaces used to support simulation-based education and equipment. Special interests: travel and adventure.





# FACILITIES ATSSL LABORATORIES

The *ATSSL* facilities, within the Cumming School of Medicine are geographically located in two linked buildings on the UCalgary Foothills Campus: Surgical Skills Simulation Laboratory (SSL) is in the Health Research Innovation Centre and Clinical Skills Simulation Laboratory (CSL) is in the Health Sciences Centre. The ATSSL also has two dedicated classrooms, in the SSL area, capable of accommodating up to 30 learners each. Each classroom features: wireless internet access, lecture podium with laptop connections, LCD projector & in-ceiling speakers, videoconference capability, remote viewing of SSL area.

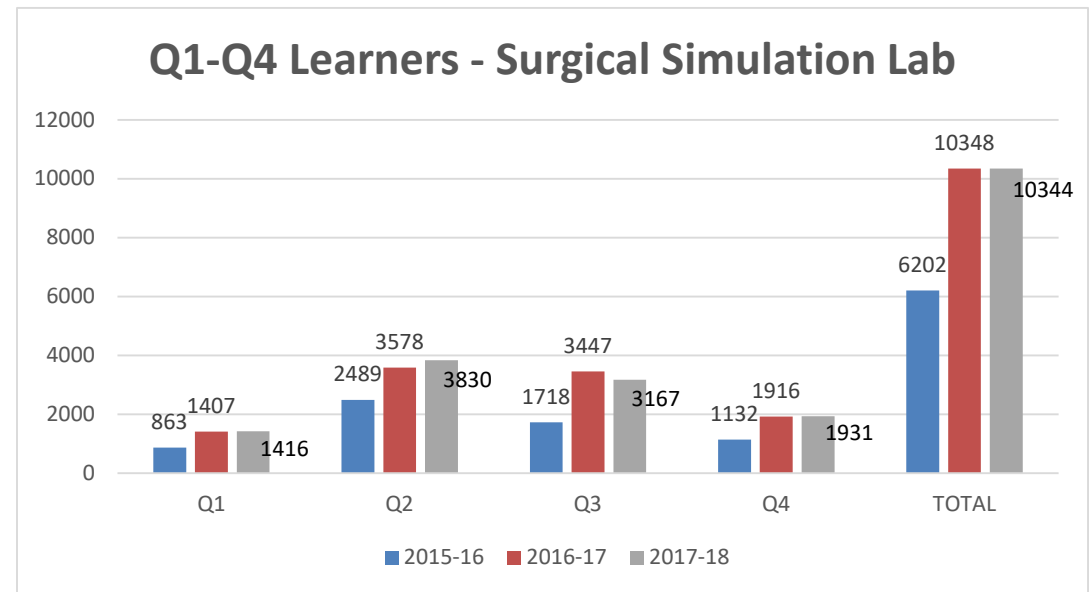
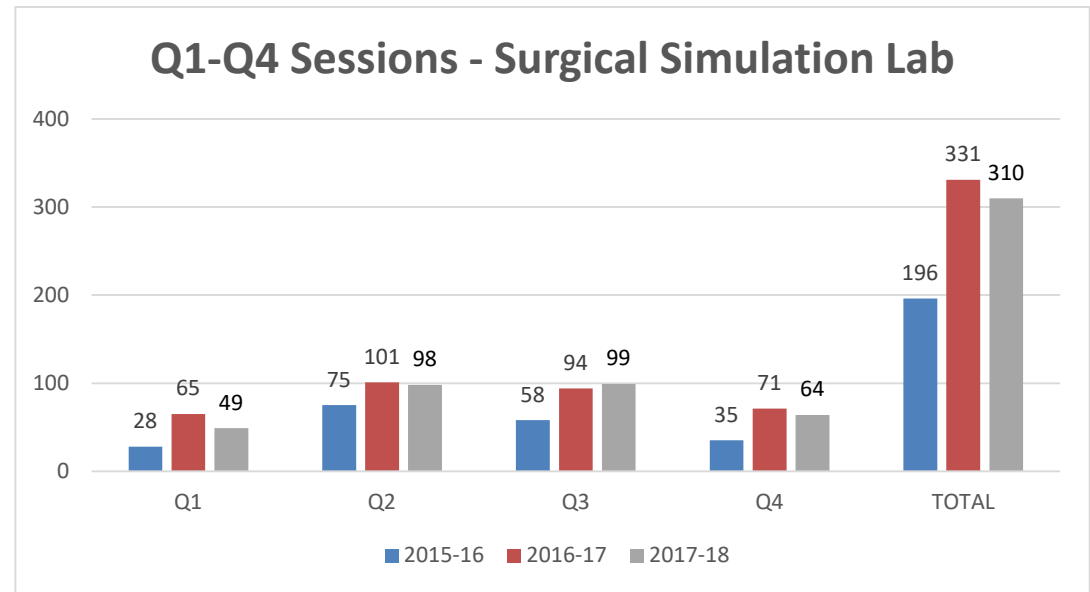


# FACILITIES

## SURGICAL SKILLS SIMULATION LABORATORY (SSL)

### About SSL

The SSL is a state-of-the-art facility where a variety of surgical skills are practiced by a diverse group of medical health professionals. The space includes simulated operating room stations fully equipped with scrub sinks, surgical beds and tables, overhead OR lighting, dual LED monitors and ceiling supply units. There are stations specially outfitted with in-light cameras that allow real-time imaging to be remotely displayed. The SSL is multifunctional and offers multi-configurations to accommodate different groups. Additionally, the SSL is equipped with a fully functional reprocessing area to clean and sterilize instruments on-site.



Throughout the four quarters (Q1-Q4) of the 2017-18 fiscal year, SSL hosted 310 educational sessions involving 10344 users.

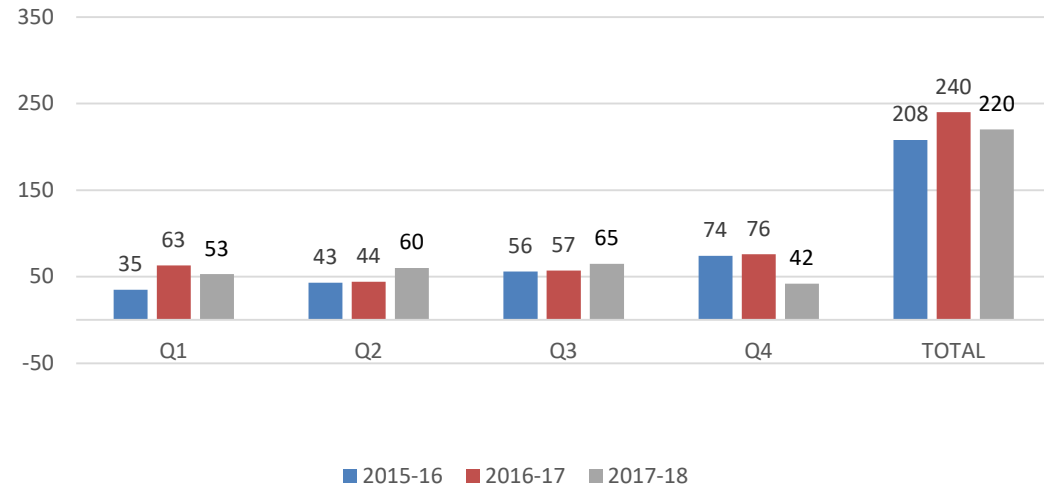
# FACILITIES CLINICAL SKILLS SIMULATION LABORATORY (CSL)

## About CSL

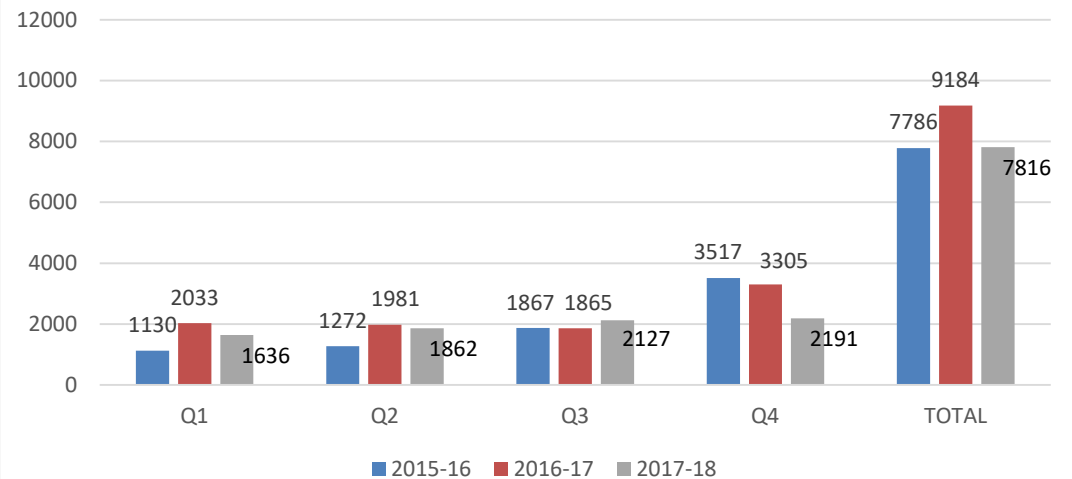
The CSL is a multidisciplinary, modular, medical simulation facility where learners use simulators to enhance technical skills, patient safety and learner safety. Simulators are tools that include a variety of task trainers, computerized manikins, and standardized patients. The CSL has the capacity to accommodate 160 learners at any one time, allowing for numerous groups to work independently within functional spaces permitting private debriefing or conference-like presentations.



### Q1-Q4 Sessions - Clinical Simulation Lab



### Learners - Clinical Simulation Lab

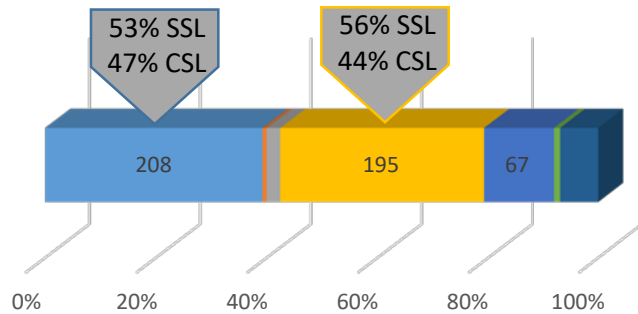


Throughout the four quarters (Q1-Q4) of the 2017-18 fiscal year, CSL hosted 220 educational sessions involving 7816 users.

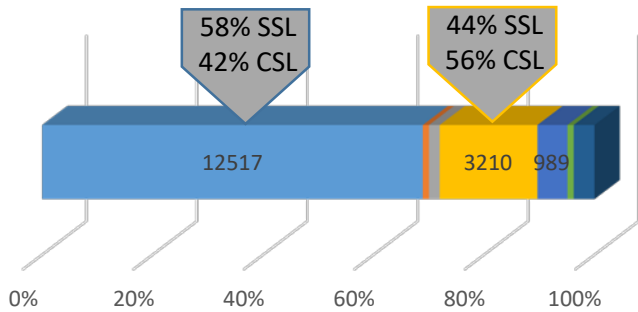
# FACILITIES

## USAGE BY PROGRAM

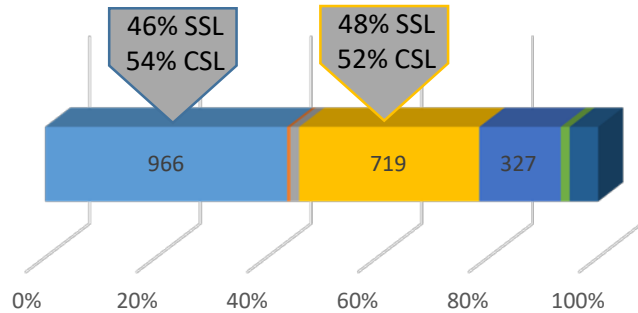
### Sessions by Program



### Learners by Program



### Hours by Program



■ UME ■ Highschool ■ BHSc ■ PGME ■ CME/CPD ■ Industry ■ Other

Throughout the four quarters (Q1-Q4) of the 2017-18 fiscal year, **ATSSL** hosted a total of 530 educational sessions (58% in the SSL, 42% in the CSL), involving 18160 learner encounters (57% in the SSL, 43% in the CSL).

The majority of those sessions and learner encounters were from the Undergraduate Medical Education (UME) and Postgraduate Medical Education (PGME) programs. The number of sessions for each program are evenly distributed between the two laboratories, but the number of UME learner encounters, for a similar number of sessions nearly triples that of PGME, owing in part to the large class size (up to 165) for each UME session.

Throughout 67 sessions, ATSSL provided 989 learners the opportunity for Continued Medical Education (CME) in procedural and clinical skill training and/or interprofessional simulation education. These learners included practicing physicians, nurses and allied health professionals. ATSSL also hosts several industry sponsored events that included learners from the Alberta region and across Canada.

Notably, for every 1 hour of active lab session time, 2 hours of ATSSL operating staff hours are required to ensure quality of design, preparation, implementation and facilitation of sessions are continuously upheld to assure alignment with the ATSSL's Vision and Mission. The resource requirements for the research, planning, development and evaluation of activities/sessions in the ATSSL are currently not aggregated into the activity report hours.

# Research and Scholarship



*ATSSL* strives to adhere to best practices through engagement in research and development in the field of simulation. Many of the *ATSSL* research initiatives are from within the lab, generated from the simulation consultants or the medical director. Moving towards competency-based medical education (CBME), *ATSSL* supports generating more objectively based measures and relies on the UCalgary Office of Medical Education and Scholarship and the Office of Postgraduate Medical Education for their continued support in research design, methodology and funding.

By allowing the study, analysis and review/debrief of active learning of skills, teamwork or cognitive load training, we work with educators to develop needs assessments, goals and objectives, design scenarios, and discuss/build evaluation and assessment practices, both formative and summative. We currently have processes in place to facilitate simulation instructor training and to perform regular peer assessments and feedback on the performance. Over the past couple of years, there has been notable increase in research and scholarly activities. Particularly evident in the areas of team-based learning, with some interesting approaches to activity metrics, which afford the assessment of team member contributions. The process of revealing and discussing research needs involves open conversation with multiple stakeholders to identify sources of information, development of faculty, simulation scenarios and structured debrief, and curriculum alignment, assessment and program evaluation. The close relationship with UCalgary research faculty has provided *ATSSL* with an opportunity for regular mentoring, support and collaborations from our University community in a number of these aspects.

# NEW INITIATIVE

## **Interprofessional and Interdisciplinary Simulation-Based Medical Education *Faculty Development and Co-Developed Simulation Scenarios***

**ATSSL** partners with UCalgary postgraduate medical education (PGME) residency training programs, as they transition to competency based medical education. In the past year, along with ongoing co-development of large scale Interprofessional and Interdisciplinary simulations with groups from the Obstetrics and Gynecology and Anaesthesia programs, the ATSSL team also began collaborating with the Physical and Rehabilitation Medicine (PM&R) Residency Program, through the Foothills Medical Centre NeuroRehabilitation Patient Safety Committee. ATSSL provided faculty development interactive sessions to an interprofessional team, and subsequently co-developed 5 patient simulation experiences which brought together PM&R Residents, Registered Nurses, Licensed Practical Nurses, Nurse Practitioners, PM&R Physicians, Hospitalists, Physical Therapists, Occupational Therapists, Speech Language Pathologists and Recreation Therapists to care for patients and further discuss their interprofessional collaboration in a replicated clinical environment. The success of this experience led to subsequent collaboration with the Psychiatry residency training program. We are looking forward to conducting faculty development sessions and co-developing simulation scenarios intended to enhance their current residency training program.

