



Department of Medicine 2019 Annual Report Division of Critical Care

Division Head: Dr. Najib Ayas
Prepared by: Dr. Cheryl Holmes in October, 2020

List of Critical Care Division members:

Russell, James	Professor (tenure)
Walley, Keith Robert	Professor (tenure)
Boyd, John	Assoc Professor (grant tenure)
Dorscheid, Delbert Richard	Assoc Professor (grant tenure)
Ayas, Najib	Assoc Professor (tenure)
Dodek, Peter M	Professor Emeritus
Dhingra, Vinay K	Clinical Professor
Henderson, William	Clinical Professor
Holmes, Cheryl Lynn	Clinical Professor
McDermid, Robert C	Clinical Professor
Ronco, Juan Jose	Clinical Professor
Webb, Andrew Roy	Clinical Professor
Haljan, Gregory Joseph	Clinical Associate Professor
Keenan, Sean Patrick	Clinical Associate Professor
Peets, Adam David	Clinical Associate Professor
Reynolds, Steven C	Clinical Associate Professor
Chittock, Dean Robert	Clinical Associate Professor
Bradley, Nori Lynn	Clinical Assistant Professor
Chaubey, Vikas	Clinical Assistant Professor
Din, Fareen	Clinical Assistant Professor
Fava, Craig Steven	Clinical Assistant Professor
Grant, Gregory	Clinical Assistant Professor
Hughes, Ariana	Clinical Assistant Professor
Kanji, Hussein	Clinical Assistant Professor
Kwan, Susan	Clinical Assistant Professor
Mann, Bikaramjit Singh	Clinical Assistant Professor
Mountain, Scot	Clinical Assistant Professor
Nazir Maitland, Alasdair	Clinical Assistant Professor
Ovakim, Daniel Henry	Clinical Assistant Professor
Paul, Terrance William	Clinical Assistant Professor
Sekhon, Mypinder	Clinical Assistant Professor
Wong, Justin Kai Fai	Clinical Assistant Professor

Yerman, Todd Jeremy	Clinical Assistant Professor
Forrest, David	Clinical Assistant Professor
MacRedmond, Ruth	Clinical Assistant Professor
Martinka, Grzegorz Piotr	Clinical Assistant Professor
McCormack, Grant	Clinical Assistant Professor
Babuk, Angela	Clinical Instructor
Brar, Harinderpal Singh	Clinical Instructor
Craig, Katherine G	Clinical Instructor
Khara, Lovedeep Kaur	Clinical Instructor
Lau, Edgar	Clinical Instructor
Liu, David C.Y.	Clinical Instructor
Mackenzie-Feder, Julian Samuel	Clinical Instructor
Mitra, Anish	Clinical Instructor
Murphy, Kyle Ryan	Clinical Instructor
Polson, Alasdair Leslie	Clinical Instructor
Sarao, Amar Anant Deep	Clinical Instructor
Wierstra, Benjamin Thomas	Clinical Instructor
Wormsbecker, Andrew	Clinical Instructor
Yelle, Carole-Anne	Clinical Instructor
Jaswal, Dharmvir Singh Danny	Clinical Instructor

Joint Appointment:

Kaila, Kendeep Singh	Clinical Assistant Professor	Cardiology
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List of Critical Care Associate members:

Foster, Ryan	Clinical Assistant Professor	Community Internal Medicine (Medicine)
Lawson, Edward	Clinical Assistant Professor	Respiratory Medicine (Medicine)
Webster, Sheila	Clinical Assistant Professor	Respiratory Medicine (Medicine)
Cunningham, K en	Clinical Instructor	General Internal Medicine (Medicine)
Griesdale, Donald	Assoc Professor (grant tenure)	Anesthesiology, Pharmacology & Therapeutics
Hameed, Morad	Assoc Professor (grant tenure)	Surgery
Sirounis, Demetrios	Clinical Professor	Anesthesiology, Pharmacology & Therapeutics
Isac, George	Clinical Associate Professor	Anesthesiology, Pharmacology & Therapeutics
Finlayson, Gordon	Clinical Associate Professor	Anesthesiology, Pharmacology & Therapeutics
Sweet, David	Clinical Associate Professor	Emergency Medicine
Neitzel, Andrew	Clinical Assistant Professor	Anesthesiology, Pharmacology & Therapeutics
Turner, Christian	Clinical Assistant Professor	Emergency Medicine
Vu, Erik	Clinical Assistant Professor	Emergency Medicine
Barnbrook, Julian	Clinical Instructor	Anesthesiology, Pharmacology & Therapeutics
Sharpe, Robert	Clinical Instructor	Anesthesiology, Pharmacology & Therapeutics

Highlights of the Year:

Vancouver General Hospital is the first Canadian hospital to achieve “gold level status” from the Extracorporeal Life Support Organization for its ECMO program. VGH recently received the prestigious award at the ESLO’s annual meeting in Austin, Texas. “This recognition is a testament to the excellent health-care-professionals at Vancouver General Hospital who bring teamwork and technology together to care for the most critically ill people in our province,” says Adrian Dix, Minister of Health.



Top row: L to R Tammy Wu, Hussein Kanji, David Nash, Madeleine Plesko, Gordon Finlayson, Dara Davies, George Isac, Eleanor Sese, Allana LeBlanc, Amandeep Sidhu, Victor Uppal

Bottom row: L to R Andrea Davidson, Kim Doucet, Kelly Yuill, Jonathan Triana

“ECMO is game-changing,” says Dr. Hussein Kanji, intensivist and co-director of the ECMO program at VGH. “But it’s the expertise of our entire team that enables us to provide this gold standard of care. 10-years ago, we couldn’t keep people alive long enough to receive a transplant; now patients like Nick are on ECMO for extended periods, increasing their chances of survival.”

See Video here: <http://www.vch.ca/about-us/news/vgh-recognized-for-excellence-in-ecmo>

Divisional Overview:

The UBC Division of Critical Care Medicine is multi-disciplinary in nature with 52 faculty members and 17 Associate and Joint appointment members. Our members are qualified critical care specialists with Medicine, Surgery, Anesthesiology and Emergency Medicine backgrounds. They participate in patient care throughout the province of British Columbia

The Critical Care Medicine Members continue to make contributions in education, knowledge, research, and clinical care. Our goal is to improve our clinical care, increase research output, and improve our educational efforts (including undergraduate, post-graduate, and CME). Clinical, research, educational, and administrative collaborations among the hospital sites have increased over the past few years and are expected to continue. We will continue to examine and adopt innovative clinical approaches and technologies to improve the care of critically ill patients (e.g., ECMO, echocardiography, ultrasound, computer support/monitoring, checklists, novel methods of cardiac/pulmonary support). We will explore ways to obtain and support excellent clinical and basic science researchers to expand our research capacity and collaborations.

Leadership: Our Division members hold key leadership positions across our province.

National and International Leadership:

- Dr. Vinay Dhingra, Organizing Committee for the Canadian Critical Care Conference; Organizing Committee for World Critical Care Congress for Vancouver 2021.
- Dr. Rob McDermid, Public Health Agency Canada Collaborative Treatment Centre Task Group for Novel and Emerging Pathogens, BC Biocontainment Representative
- Dr. Adam Peets, Chair, Critical Care Competence Committee, Royal College of Physicians and Surgeons of Canada

Provincial Leadership:

- Dr. Vinay Dhingra, Chair of the Provincial Critical Care Working Group and Clinical Lead for Critical Care at BC Patient Safety and Quality Council.
- Dr. Cheryl Holmes, Associate Dean, Undergraduate Medical Education, Faculty of Medicine at UBC.
- Dr. Hussein Kanji, President of the BC Society of Critical Care Medicine, Provincial Clinical Lead, Critical Care Medicine, BC Patient Safety and Quality Council
- Dr. Sean Keenan, Provincial Medical Director, BC Transplant and member, Health Canada ODTG (Organ Donation and Transplant Collaborative) and CBS DDAC (Deceased Donor Advisory Committee).
- Dr. David Sweet, Chair of BC Sepsis Network and Sepsis Clinical Lead - BC Patient Safety and Quality Council

Fraser Health

- Dr. Greg Haljan, Regional Medical Director for Research Fraser
- Dr. Rob McDermid, Fraser Health Rep on Joint Academic Advisory Committee UBC/FHA
- Dr. Steve Reynolds, Chair of the Fraser Health Authority Medical Advisory Committee (HAMAC).

Surrey Memorial Hospital

- Dr. Greg Haljan, Head of Critical Care Surrey Memorial Hospital
- Dr. Rob McDermid, Site Medical Director for Surrey Memorial Hospital and Jim Pattison Outpatient Care and Surgery Centre Operational Committee

Richmond Hospital:

- Dr. Greg Martinka, Medical Director Critical Care Richmond Hospital

Royal Columbian Hospital:

- Dr. Steve Reynolds, Site Medical Director and Head, Research
- Dr. Rob Sharp, ICU Medical Director
- Dr. Derek Gunning, ICU Education Lead
- Dr. Rob Sharpe, CSIC Co-Medical Director

- Dr. Derek Gunning, CSIC Co-Medical Director

Interior Health:

- Dr. Ryan Foster, Medical Director Critical Care Interior

Kelowna General Hospital

- Dr. Vik Chaubey, Medical Director Critical Care Kelowna General Hospital

Kootenay Boundary Hospital

- Dr. Scot Mountain, Medical Director Critical Care Kootenay Boundary Hospital

Providence Health and St. Paul's Hospital

- Dr. Vinay Dhingra, Physician Lead for Clinical and Systems Transformation (CST) at VCH- Vancouver (including VGH, UBC, GF Strong and 150 ambulatory clinics); Associate Chief Medical Information Officer (ACMIO) at CST, Physician Lead Quality at VCH; chair of the Provincial Critical Care Working Group and Clinical Lead for Critical Care at BCPSQC.
- Dr. Demetrios Sirounis, Critical Care Medicine Head, Providence Health Care, ICU Physician Program Director, Providence Health Care
- Dr. Keith Walley, Associate Director St. Paul's Hospital ICU and Assistant Head Research, PHC Department of Medicine
- Dr. Ruth MacRedmond, Physician Lead, HAU and CCOT
- Dr. Ken Kaila, Physician Lead, Mount St. Joseph's Hospital
- Dr. Adam Peets, Adult CCM Training Program, SPH Site Director

Vancouver Coastal and Vancouver General Hospital

- Dr. Dean Chittock, Vice President, Medicine, Quality and Safety and Senior Medical Director Vancouver Acute Services
- Dr. Demetrios Sirounis, Regional Program Medical Director, Critical Care Medicine, Vancouver Coastal Health
- Dr. George Isac, ICU Medical Director:
- Dr. Myp Sekhon, Adult CCM Training Program Director and VGH Site Director
- Dr. Hussein Kanji, Medical Director, QA/QI Critical Care Services, Vancouver Acute
- Dr. Don Griesdale, Associate Vice President, Medicine, Quality & Safety at VCH
- Dr. Bill Henderson, Chief Medical Officer, Vancouver Acute EOC

Vancouver Island Health Authority

- Dr. Daniel Ovakim, Co-Chair, Island Health Authority, Code Blue/Cardiac Arrest Committee

Research:

Dr. Najib Ayas holds 3 grants new grants in 2019 and 5 ongoing grants as PI or Co-PI in the areas of Hypoxia in Cardiovascular disease; Sleep deprivation and Resident scheduling; Impact of maternal sleep-disordered breathing on fetal/infant outcomes; and epigenetic and inflammatory markers in obstructive sleep apnea. He published 38 peer-reviewed journal articles in 2019; 1 book chapter (Respiratory system mechanics and energetics); and 4 national and international invited presentations. He chaired 1 national and 1 international committee and is an Associate Editor of the blue journal (AJRCCM).

Dr. Nori Bradley published 1 peer-reviewed paper, a book chapter on “Cardiovascular Failure in Trauma” and delivered a peer-reviewed presentation, “Second look deserves a second thought” to the Trauma Association of Canada. She delivered 4 invited academic publications in 2019.

Dr. John Boyd was the recipient of 3 grants in 2019; Organ Donation after Cardiac Death - Optimizing the Donor; Sepsis Outcomes Network to Improve Survival and CETP Inhibition as a novel treatment to remove pathogen lipids and improve survival in sepsis. His publication in 2019: Oligonucleotide-based Preconditioning of DCD Cardiac Donors and Its Impact on Cardiac Viability.

Dr. Vikas Chaubey serves as Board Member at Large for the Journal of the Association of Medical Microbiology.

Dr. Vinay Dhingra is the recipient of the Received the Doctors of BC Physician Champions of Change Award, Clinical Teaching Award for Critical Care Medicine 2019. He published 3 peer-reviewed papers, including “End of Life Care - 3 wishes” in the Annals of Internal Medicine.

Dr. Peter Dodek is PI or Co-Investigator on 9 grants (8 CIHR) in 2019. He gave 6 presentations and was the reviewer for 2 journals. He published 6 peer-reviewed papers: Burnout in Women Intensivists: A Hidden Epidemic?; Selection and Receipt of Kidney Replacement in Critically Ill Older Patients with AKI; Moral Distress in Intensive Care Unit Personnel; Variation in the Practice of Discontinuing Mechanical Ventilation in Critically Ill Adults; Process mapping to examine how goals of care discussions and decisions about life-sustaining treatments occur on medical wards; and Mortality Risk Profiles for Sepsis.

Dr. Del Dorscheid leads an active research group investigating the role of the airway epithelium in the genesis of inflammatory airways disease that results from inappropriate injury-inflammation-repair cycles. Specific projects include the study of IL-13 in airway repair, novel glycoproteins and the glycomics of repair, and the function of the epithelium as an immune barrier. At present his main research focus is to better phenotype severe asthma and to develop a biomarker panel to identify which asthmatics will respond to present and future treatments including the new biologics. Dr. Dorscheid published 5 peer-reviewed papers in 2019 and holds 2 grants: “IgE-mediated inflammation generated by the airway epithelium is antigen independent - a cause of a novel asthma phenotype” and Expression of HIV receptors on the airway epithelium – risk for disease severity:.

Dr. Don Griesdale holds several grants as PI and Co-PI in Neurocritical Care: Spinal Cord Perfusion Pressure Management in Acute Cervical SCI; Cerebral Oximetry to assess Cerebral Autoregulation in Hypoxemic Ischemic Brain Injury; and Cerebral Blood Flow Regulation by Nitric Oxide in Health and Aging. He has mentored 2 undergraduate medical students, 3 Post-doctoral Fellows and was a Graduate Supervisor for a PhD candidate (Dr. Myp Sekhon). In 2019, he published 16 papers.

Dr. Cheryl Holmes is PI on the Royal College Grant, “Exploring the Patient Role in the Learning Environment” and Co-PI on 2 UBC SIF grants, “Breaking the Glass Ceiling: An appreciative Inquiry and Action Plan for Gender Equity and Inclusivity in UBC Faculty of Medicine” and “Understanding the Learning Environment with Faculty of Medicine Graduate Students”. She supervised 3 MD undergraduate student FLEX projects and was co-supervisor for one MSc candidate. She had 8 invited presentations and one peer-reviewed publication, “Understanding Professional Identity Formation in Early Clerkship”.

Dr. Ken Kaila published “Focused Cardiac Ultrasonography: Current Applications and Future Directions”.

Dr. Hussein Kanji scholarly activity has been in the area of ECMO for ARDS, Echocardiography assisted resuscitation and fluid management and clinical epidemiology. He has 2 peer-reviewed publications in 2019. Dr. Kanji is a strong promoter of critical care research for others. He supervised research of 3 medical students, residents and ICU fellows in 2019.

Dr. Rob McDermid is on the ImageTech steering Committee, a joint SFU/Fraser Health research and innovation hub for neuroimaging and neuromonitoring for facilitating research. He has 2 peer-reviewed publications in 2019.

Dr. Anish Mitra was awarded a CIHR Grant as Co-PI, “Unplanned Hospital Readmission Following Critical Illness Survival: An Investigation of the Survivor-Family Dyad” and published a Systematic review with meta-analysis: Efficacy and safety of oral Janus kinase inhibitors for inflammatory bowel disease.

Dr. Steve Reynolds holds the TB Vets Chair in Critical Care Research in the Biophysiology and Kinesiology Department at Simon Fraser University. He recently joined the Peter Wall Institute of Advanced studies as a Wall Scholar where he is exploring mechanisms for positive disruption in medicine. He is a co-inventor of a medical device now in phase 3 trials and the lead medical advisor for four medical companies. Dr. Reynolds' lab has had 17 posters/presentations at international conferences over the past year and they have 1 manuscript accepted and 3 under consideration in peer reviewed journals. Dr. Reynolds is a co-inventor of a medical device now in phase 3 trials and the lead medical advisor for four medical companies. He supervises 4 PhD students and 1 master's student. Over the past year he has been interviewed in the media on 3 occasions, featured in a podcast and contributed to 2 articles in the Globe and Mail. He has attracted over 2 million dollars in research funding as the principal investigator to date.

Dr. Juan Ronco published 2 papers in 2019: Dynamic prognostication in critically ill cirrhotic patients with multiorgan failure; and Lactate and number of organ failures predict intensive care unit mortality in patients with acute-on-chronic liver failure.

Dr. Jim Russell is ranked by Expertscape as # 1 in world in Septic shock, norepinephrine and vasopressin; # 2 in shock and # 4 in sepsis. 2017, 2018, and 2019. He has 19 peer-reviewed publications in 2019; 12 as first or senior author. He gave 3 invited lectures at International meetings: “Adjunctive therapy in sepsis – old friends vs. new trials”; “New vasoactive agents”; and “We have so many negative trials – a revisited design”. He is a member of 5 Peer-review Journal Editorial Boards and a reviewer of manuscripts for 6 journals including the New England Journal of Medicine, JAMA, Anesthesiology, AJRCCM, Chest, J of Critical Care, Intensive Care medicine, Critical Care Medicine and Annals of Intensive Care. He serves as Scientific Advisor and Consultant for 3 Pharmaceutical and Therapeutics companies.

Dr. David Sweet had 1 peer-reviewed publications in 2019 and gave 6 International invited lectures in the area of sepsis. He was the recipient of the Best Abstract Award in Diagnostics; Infectious Diseases Society of America 2019. FABLED: A Diagnostic study. (USD \$2000)

Dr. Daniel Ovakim had 3 invited presentations in 2019 critical care toxicology including “Bupropion and Escitalopram-Related Cardiogenic Shock Treated with Early ECMO”. He was Site Sub-Investigator for the BALANCE (Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness) and HEMOTION (HEMOglobin transfusion threshold in Traumatic brain Injury Optimization) trials.

Dr. Keith Walley holds 5 CIHR and 1 Canadian Foundation grants totaling over \$1.1M per year as PI and Co-PI in translational and bench research in sepsis and collaborative lung research. He serves as reviewer on several scientific committees and journals. He published 20 papers in 2019 in the areas of sepsis, genetics of sepsis, and treatment of septic shock. He has supervised 2 undergraduate coop students, 4 PhD Post-Doc Fellowship students and served as a PhD student examiner.

Dr. Justin Wong, with the Richmond group, published a clinical problem-solving article in the New England Journal of Medicine, “Led Astray”.

Dr. Andrew Wormsbecker was the recipient of the Fraser Centre Planning Award for Patient-Oriented Research and Knowledge Translation to study "Impact of Ketamine on Neurological Outcomes Following Cardiac Arrest - Pilot Trial"

Education:

Critical Care Medicine (Adult) is a two-year subspecialty residency program, with entry from several different specialties. There are currently five core Critical Care Medicine (adult) residents training at three major sites. The program launched Competence by Design (CBD) in 2019.

Fellows Cohort 2017-2019

- Dr. Atif Jastaniah
- Dr. Shananjit (Sonny) Thiara
- Dr. Wesley Jang

Fellows Cohort 2018-2020

- Dr. Adam Thomas
- Dr. Andrei Karpov
- Dr. Kali Romano

Fellows Cohort 2019-2021

- Dr. Constantine Shuster
- Dr. Gavin Tansley
- Dr. Lyndsay Sprigg (on Maternity leave until Feb. 2021)

International Fellows 2018-2020

- Dr. Gary Misselbrook (from U.K)
- Dr. Behnoosh Samadi (from Australia, completed fellowship on June 30, 2019)
- Dr. Brecht Calle (from Belgium, completed fellowship on July 31, 2019)
- Dr. Emma Watson (International Fellow from U.K, completed fellowship on July 26, 2020)

Fellows' Accomplishments

- Dr. Atif Jastaniah was accepted to the Ottawa Trauma fellowship starting July 1st, 2019
- Dr. Shananjit (Sonny) Thiara published Effect of Cerebral Perfusion Pressure on Acute Respiratory Distress Syndrome (The Canadian Journal of Neurological Sciences 2018; 00:1-7; S. Thiara, D. Griesdale, W. Henderson, M. Sekhon)
- Dr. Kali Romano completed the Advanced Perioperative Transesophageal Echocardiography (Advanced PTEeXAM) in September 2019
- Dr. Kali Romano was accepted to a cardiothoracic anesthesia fellowship at Royal Papworth Hospital at the University of Cambridge starting October 2020

Continuing Professional Development

The Division of Critical Care is very active in support of critical Care providers across the province.

- The Fundamentals of Critical Care Support (FCCS) Course is directed by Dr. Vinay Dhingra, with 7 sessions per year and over 200 participants trained.
- The Advanced Trauma Life Support (ATLS) Course is organized by Dr. Nori Bradley (see below)
- The Canadian Critical Care Conference is an international conference organized by Division members

Division Members Accomplishments: Our members contribute to high-value critical care education across the continuum: medical students; Family Practice and Royal College Residents, Critical Care Fellows, Post-doc Fellows and international trainees.

Dr. Nori Bradley: As British Columbia's only active Advanced Trauma Life Support (ATLS) she contributed significantly to the process for upskilling BC ATLS Instructors to the 10th edition. She led 7 courses in 2019: 3 Instructor ATLS courses, the Definitive Surgery for Trauma course, the American College of Surgeons Ultrasound for the General Surgeon Course, and the Advanced Surgical Skills and Exposures for Trauma course.

Dr. Vikas Chaubey has developed 2 major education initiatives in Kelowna: an ICU Ultrasound Elective Rotation for Senior Trainees and an Ultrasound Curriculum for Intensive Care Physicians in Practice. He is serves in the RCPSC Infectious Disease Exam Committee.

Dr. Vinay Dhingra has been involved in leading and instructing the Fundamentals of Critical Care Support (FCCS) Course since 2002.

Dr. Don Griesdale has been a leader in Neurocritical Care, presenting at national and international conferences, pushing the envelope in ECMO after neurologic injury. He served on the Organizing Committee, Canadian Critical Care Conference, February 4 – 7th, 2019. Whistler, BC, Canada.

Dr. Cheryl Holmes collaborates locally to improve student mistreatment and the learning environment, lead the MD Undergraduate Program through a successful accreditation and collaborates nationally to improve undergraduate medical education.

Dr. Hussein Kanji was admitted to the Teaching Honour Roll awarded by the UBC Department of Medicine.

Dr. Sean Keenan has contributed to Canadian Blood Services developing teaching modules/electronic book on a few topics including donation in Medical Assistance in Dying and guidelines for management of brain-dead donors.

Dr. Alasdair Nazerali-Maitland since completing his Master of Health Education Scholarship, has continued his collaboration with the Department of Family Medicine on sharing key findings, positive/negative attributes about IMG trainees who match to Family Medicine. He created a teaching elective for residents from Internal Medicine, Pediatrics, Psychiatry, OB/GYN, Physical Medicine and Rehab and Public Health. He contributes extensively to clinical skills education for the MD Undergraduate program. He developed an Ultrasound Faculty workshop to train the trainers in undergraduate ultrasound.

Dr. Daniel Ovakim created a toxicology curriculum for the Emergency Medicine Training Program and served as the RCPSC: Examination Quality Reviewer for the 2019 Clinical Pharmacology and Toxicology Royal College

Dr. Adam Peets, Site Lead for CCM was the 2019 recipient of the Award for Academic Half-day Teaching Excellence. Dr. Peets chairs the RCPSC Critical Care Competence Committee, part of the Competence by Design initiative that evaluates residents' milestones during their training in a specialty or subspecialty program.

Dr. Juan Ronco leads the International CC Fellowship program at Vancouver General Hospital, hosting up to 2 trainees for 18 months at a time.

Dr. Christian Turner created the UHNBC Trauma, Resuscitation and Critical Care (UTRACC) elective at the University Hospital of Northern BC. Some of the innovations used to set this elective apart from other learning experiences include:

- 1) Targeted teaching for senior self-directed learners, with encouragement for to set a number of their own learning objectives; developing goals and deliverables by both staff and learners in advance
- 2) Rural clinical education training including managing critically ill patients with limited resources, navigating video and phone tele-consultations in BC, patient packaging and transport, etc.
- 3) Multi-disciplinary preceptor supervision to maximize exposure while in hospital, allowing learners to be on call for Trauma Team Leader (ED and Gen Surg), Acute anaesthesia consultations (anesthesiologist), ICU and HAU consultations (intensivist), Critical care outreach team (ICU nurse led), and Code Blue (ED). As senior learners, they will be encouraged to choose highest yield experiences when multiple options exist, in consultation with the staff Intensivist.

The first round of learners are from the Enhanced Skills program at UBC, but will accept senior residents from any background expecting to manage critically ill patients, with a focus on those heading toward rural jobs.

Patient Care:

Dr. Andrew Wormsbecker is Lead Clinician for the Royal Columbian Hospital Traumatic Brain Injury QI project. He developed a new Traumatic Brain Injury Protocol incorporating Licox brain tissue oxygen monitoring.

The Team at Vancouver General Hospital was awarded gold level status” from the [Extracorporeal Life Support Organization](#) for its ECMO program. “This recognition is a testament to the excellent health-care-professionals at Vancouver General Hospital who bring teamwork and technology together to care for the most critically ill people in our province,” says Adrian Dix, Minister of Health.

The Hemodynamic Assessment Service at St. Paul’s Hospital was developed by Dr. John Boyd and Dr. Demetrios Sirounis in 2012. This service provides point of care hemodynamic assessments to complex patients in the critical care unit (combination of waveform analysis, point of care echocardiogram, physical examination) to help the attending guide fluid and vasopressor management. Partly as a consequence of work on this service, a highly cited paper in JAMA was written (Will This Hemodynamically Unstable Patient Respond to a Bolus of Intravenous Fluids? [JAMA. 2016 Sep 27;316\(12\):1298-309](#)). This elective has been very popular among residents, as they gain valuable assessment and echocardiography skills.

Dr. Hussein Kanji chairs the Critical Care Services Executive Committee (CCSEC); a provincial forum to discuss and make recommendations on policy and strategies to improve the acceptability, appropriateness, accessibility, safety, and effectiveness of care for critically ill patients across the province. The scope of this committee includes:

- Quality care - promoting excellence in critical care through provincial collaboration.
- Quality planning - leveraging a provincial lens for service and capacity planning.
- Data-driven improvements - leveraging data and quality metrics for the purposes of advancing quality, policy development, and enabling data driven decision making.
- Research - accelerating innovation in critical care by supporting common research proposals.
- Patient experience - increasing patient and family engagement in the planning and delivery of care.
- Health human resources - ensuring provincial capacity and training.

[Regional leaders who participate in the Critical Care Services Executive Committee \(CCSEC\):](#)

Vancouver Coastal and Providence Health - Dr. Demetrios Sirounis and Dr. Don Griesdale
Interior Health - Dr. Ryan Foster
Northern Health - MJ Slabbert (non-member of Division CCM)
Fraser Health - Neil McLean (non-member of Division CCM)
Island Health - Dr. Gordon Wood (non-member of Division CCM)
PHSA - Dr. Peter Skippen (non-member of Division CCM)

[The BC Critical Care Clinical Reference Guidelines Subcommittee membership consists of:](#)

- Dr. Anish Mitra
- Dr. Ruth McRedmond
- Dr. MJ Slabbert (non-member of Division CCM)
- Dr. Ryan Foster

Future Directions:

Goals (Established at Division Meeting held October 28, 2020):

1. Establish the vision, mission and values for the Division;
2. Expand our membership to be inclusive of the critical care leadership and physicians across the Province of British Columbia;
3. Strengthen and expand our education mandate;
4. Create an inclusive and collaborative research hub with global reach;
5. Work toward a fully provincial ICU database and improvement network that are governed by representatives from each health authority and that fully integrate research, education and clinical care;
6. Complete a major overhaul of our Division of Critical Care website to improve information exchange both internally and externally;
7. Partner with other critical care organizations in leadership and delivery of quality clinical care that is inclusive of all communities;
8. Promote Critical Care as a career that embraces a diverse group including women, Indigenous people and racialized minorities;
9. Strengthen divisional expertise beyond critical care.