



Department of Medicine 2020 Annual Report Division of Critical Care

Division Head: Dr. Cheryl Holmes

List of Critical Care Division members:

Dodek, Peter M	Professor Emeritus
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)
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
Chittock, Dean Robert	Clinical Associate Professor
Haljan, Gregory Joseph	Clinical Associate Professor
Keenan, Sean Patrick	Clinical Associate Professor
Ovakim, Daniel Henry	Clinical Associate Professor
Peets, Adam David	Clinical Associate Professor
Reynolds, Steven C	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
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
Jaswal, Dharmvir Singh Danny	Clinical Instructor
Khara, Lovedeep Kaur	Clinical Instructor
Lau, Edgar	Clinical Instructor
Liu, David C.Y.	Clinical Instructor
Mackenzie-Feder, Julian Samuel	Clinical Instructor
Miller, Gary	Clinical Instructor
Mitra, Anish	Clinical Instructor
Murphy, Kyle Ryan	Clinical Instructor
Polson, Alasdair Leslie	Clinical Instructor
Sarao, Amar Anant Deep	Clinical Instructor
Taylor, Stephanie	Clinical Instructor
Thiara, Sonny	Clinical Instructor
Wierstra, Benjamin Thomas	Clinical Instructor
Wormsbecker, Andrew	Clinical Instructor
Yelle, Carole-Anne	Clinical Instructor

Joint and Critical Care Associate members:

Kaila, Kendeep Singh	Clinical Assistant Professor	Cardiology
Douglas, Josh	Clinical Assistant Professor	Infectious Disease (Medicine)
Little, Chris	Clinical Assistant Professor	Community Internal Medicine (Medicine)
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, Ken	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
Slabbert, Marietjie	Clinical Assistant 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
Thomas, Adam	Clinical Instructor	Emergency Medicine
Barnbrook, Julian	Clinical Instructor	Anesthesiology, Pharmacology & Therapeutics
Sharpe, Robert	Clinical Instructor	Anesthesiology, Pharmacology & Therapeutics

Retirements and Promotions in 2020:

Dr. Peter Dodek was born and raised in Vancouver, British Columbia, and is a critical care physician, a researcher, and a teacher with a passion for compassionate evidence-based care. Dr. Dodek's research interests have included determinants of family satisfaction, patient safety, organizational culture, and moral distress in critical care. Dr. Dodek retired on June 30, 2020 from the Department of Medicine in the Division of Critical Care Medicine and is now poised to continue his research and enjoy his other varied passions – from tap dancing to travelling the world. Please read his retirement interview [here](#). We are grateful for Peter's ongoing wise guidance in our division. Thank you, Peter.

Dr. Daniel Ovakim was promoted to Clinical Associate Professor. Daniel is an internist/intensivist on active staff in the critical care units in Victoria. He has a special interest in toxicology and has been a Medica Toxicologist at the BC Center for Disease Control since 2014. He regularly delivers rounds and invited presentations locally, nationally and internationally. He has won multiple teaching awards at the Island Medical Program.

New Members in 2020:

Dr. Angela Babuk is a general internist/intensivist who has completed an Echocardiography Fellowship and teaches extensively in the clinical teaching and critical care units at Royal Columbian Hospital. Notably, she developed the platform for a global health curriculum for the UBC MDUP.

Dr. Gary Miller is fully trained critical care physician (Pulmonary and Critical Care at UBC). He was the ICU Director previously in Kootenay Lake District Hospital (Nelson) and Lion's Gate Hospital. He then practiced for 30 years overseas (India, Arab Emirates, Saudi Arabia and Australia). He has been back in Canada and working as a Clinical Associate at St. Paul's Hospital and Vancouver General Hospital (Vancouver Coastal and Providence Health) since 2015.

Dr. Stephanie Taylor an accomplished artist and a Clinical Associate at Vancouver General Hospital (Vancouver Coastal Health) since 2016. She has worked extensively overseas practicing anesthesia and critical care in low resource settings. She has supervised large expatriate and national staff teams in many countries including South Sudan, Palestine (Gaza), Iraq, Yemen, Libya, Nepal, etc. She has experience in Ebola context (Liberia- opened a pediatric hospital during outbreak), Chemical Weapons (Syria), Mass Casualty Incidents (Nepal, Libya, Syria, Yemen).

Dr. Sonny Thiara is an internist/intensivist. He is completing additional clinical and research training in Extracorporeal Membrane Oxygen (ECMO) support of critically ill patients at the Monash University and Alfred Hospital in Melbourne, Australia. He is a locum physician at the Vancouver General Hospital Intensive Care Units and Active Staff at the University Hospital of Northern British Columbia ICU. He is completing a 2-year Master of Public Health in clinical epidemiology at Harvard University.

Dr. Adam Thomas is a Staff Emergency Medicine Physician at the Royal Jubilee and Victoria General Hospitals in Victoria, B.C. He is locuming in the Critical Care units at Surrey

Memorial, Royal Columbian, Victoria General and Royal Victoria hospitals as well. He completed his Emergency Medicine training in 2018 and Adult Critical Care training in June 2020; both at University of British Columbia. In 2017 he completed a 1-year fellowship in Digital Scholarship and Novel Strategies in Emergency Medicine Education (Partnership between UBC, Toronto, Saskatchewan and McMaster universities). the co-Producer and Podcast Editor of the Internet Book of Critical Care Podcast with over 1.2 million downloads and 101 post publishing peer reviewed chapters. Dr. Thomas also teaches at the UBC CME COVID-19 Webinars. He has given 5 emergency medicine and critical care webinars with over 3000 attendees.

Dr. Christian Turner is an Emergency physician (Montreal) and critical care physician (Toronto) who splits his time between the emergency rooms and critical care units a UHNBC and Victoria. At UHNBC he created a critical care elective tailored to non-critical care physicians and residents. He completed a critical care transport fellowship in Sydney, Australia. His interests are in quality improvement, education and playing with his 2-year-old son, Julian.

Dr. MJ (Marietjie) Slabbert is an Intensive Care physician whose primary appointment is Clinical Assistant Professor in the Department of Anesthesiology Pharmacology and Therapeutics in the Faculty of Medicine at UBC. She held the positions of Medical Director ICU for UHNBC and Regional Medical Lead Critical Care for Northern Health.

Dr. Josh Douglas is a Clinical Assistant Professor in the division of Infectious Disease in the Department of Medicine at UBC. Dr. Douglas is fully trained in critical care, having completed his Fellowship in Critical Care at Stanford University in 2011, and a fellowship in Critical Care Hemodynamics at the Heart Lung Institute at St. Paul's Hospital. In September, he assumed the Medical Director Role Critical Care at Lion's Gate Hospital and will oversee the opening of the new 12-bed High Acuity Unit there. Dr. Douglas has contributed extensively to the Provincial COVID Treatment group and the Provincial COVID Guidelines group.

Dr. Kyle Murphy is a general internist/intensivist working in the Comox Valley. He completed his critical care training in Ottawa where he was recognized for teaching excellence. He also holds the University of King's College Athlete of the Year for 2 years running. His academic projects include a rapid response prediction score study and development of a simulation training program for Internal Medicine residents at Memorial University.

Dr Chris Little is completed his General Internal Medicine residency at UBC and a one-year Echocardiography Fellowship at McGill. He practices general internal medicine, cardiology and critical care at Penticton Regional Hospital since 2016. His inpatient weeks on service include internal medicine and critical care (12-14 weeks per year). He developed and implemented Penticton Regional Hospital Perioperative Internal Medicine Clinic (2017). He is physician lead for multidisciplinary diabetes clinic at Penticton Regional Hospital. He was Lead physician for quality improvement and diagnostic accreditation at Penticton Regional Hospital Echocardiography Lab. He was interim Critical Care director for Penticton Regional Hospital in 2019.

Highlights of the Year:

The writing of this annual report marks the solemn one-year anniversary of the declaration of a state of emergency in our province due to the COVID-19 pandemic. As we reflect on this year, we acknowledge the vast contribution of our division members on the front lines, battling this pandemic in the face of uncertainty, varying degrees of institutional pandemic preparedness and immense personal sacrifice. It is truly remarkable and not surprising that our members rose to this challenge and became the leaders in the fight against COVID-19 on the clinical and research fronts. Under Hussein Kanji's leadership, the BC Critical Care Network led the way in providing the platform for best evidence in COVID-19 management with publication and regular updating to the Clinical Practice Guidelines. BC is leading the way in COVID-19 clinical research thanks to many of our membership. As the human toll continues despite our members soldier on, providing state of the art care compassionate care, one human at a time, as we await the elusive end to this global tragedy.

As reported in the CMAJ, our metro Vancouver ICU group led by Dr. Anish Mitra recorded the lowest mortality from for critically ill COVID-19 patients during the beginning of the pandemic world-wide.



Lead by Dr. Kali Romano, (Fellow cohort 2018-2020), the team at Vancouver General Hospital published their 3-year experience with the first Canadian Pulmonary Embolism Response Team (PERT) to provide urgent assessment and multidisciplinary care for patients presenting to our institution with high-risk PE.

Dr. Del Dorscheid was the 2020 recipient of the Michelle Harkness Mentorship Award for mentoring excellence. This award recognizes outstanding mentoring by investigators in allergic disease research and education.

Dr. Naisan Garraway was the recipient of the "Clinical/Administrative Service During COVID-19 Pandemic" award from Vancouver Coastal Health in 2020.

Dr. Gregory Haljan, Head of the Department of Critical Care at Surrey Memorial Hospital and Regional Medical Director for Research for Fraser Health participated in a call with the Duke and Duchess of Cambridge. He said, "Our conversation with The Duke and Duchess about our response to the COVID-19 pandemic was wonderful. Their thoughtful questions about our experiences gave us a tremendous sense of pride in what our colleagues, patients and families have worked so hard to achieve under such pressure."

Dr. Hussein Kanji was the recipient of the 2020 BC Health Care Awards Gold Apple award by HEABC.



Drs. Myp Sekhon and Don Griesdale were recognized by the VGH Foundation for the life-saving monitoring device, Brain Bolt.

Dr. Myp Sekhon was [recognized by CNN](#) for his research on susceptibility to severe COVID-19



Dr. Steve Reynolds, Medical Director and critical care and infectious diseases specialist, was recognized for launching a first-ever study to collect data from COVID-19 patients on ventilators at Royal Columbian Hospital. He is a 2020 Wall Scholars at the Peter Wall Institute of Advanced Learning.



Dr. Keith Walley: was the recipient of the 2020 Bill and Marilyn Webber Lifetime Achievement Award.

Dr. Walley was also featured in: “What it’s like to work in a Vancouver Hospital during a Pandemic”; documenting what it is like to work on the front lines; living separately from family and witnessing the personal human toll at work.

Finally, our esteemed Professor, Dr. James Russell led the way in COVID-19 research with \$4M in competitive funding, involving sites around the world.

Divisional Overview:

The UBC Division of Critical Care Medicine is multi-disciplinary in nature with 53 faculty members and 20 Associate and Joint appointment members. Our members are qualified critical care specialists with Medicine, Surgery, Anesthesiology and Emergency Medicine backgrounds. They are leaders 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 and nationally.

National and International Leadership:

- Dr. Najib Ayas, Head of the Guidance Committee for Sleep and Disordered Breathing at the Canadian Thoracic Society
- Dr. Vinay Dhingra, Organizing Committee for the Canadian Critical Care Conference; Organizing Committee for World Critical Care Congress for Vancouver 2021.
- Dr. Cheryl Holmes, Undergraduate Deans Committee, Association of Faculties of Medicine Canada (AFMC) and Board Member of the Canadian Residency Matching Service (CaRMS) and Committee for Accreditation of Canadian Medical Schools (CACMS).
- Dr. Sean Keenan serves on the national committees: Deceased Donation Advisory Committee with Canada Blood Services, and the Organ Donation and Transplant Committee (ODTC) for Deceased Donation for Health Canada
- 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, Chair, TLEF Review Advisory Council, Faculty of Medicine, UBC and Member, UBC PGME Review Committee, Office of Postgraduate Medical Education, UBC
- Dr. David Sweet, World Sepsis Day Steering Committee.

Provincial Leadership:

- Dr. Vinay Dhingra, and Clinical Lead for Critical Care at BC Patient Safety and Quality Council.
- Dr. Morad Hameed, Head of the VGH and UBC Divisions of General Surgery
- 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

- Dr. Anish Mitra, Chair, Provincial COVID-19 High-Flow Oxygen Guideline Committee
- Dr. David Sweet, British Columbia COVID-19 Therapeutics Committee (CTC)- Chair, Provincial Clinical Lead Sepsis with the 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).
- Dr. Anish Mitra, Fraser Health Authority COVID-19 Pre-Printed Order Committee

Abbotsford Regional Hospital:

- Dr. David Liu, Department Head for Critical Care

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
- Dr. Nori Bradley, Site Medical Director for Organ Donation
- Dr. Sean Keenan, RCH Medical Quality Lead

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
- Dr. Anish Mitra, Surrey Memorial Hospital ICU Director of Research

Interior Health:

- Dr. Ryan Foster, Medical Director Critical Care Interior

Kelowna General Hospital

- Dr. Vik Chaubey, Medical Director Critical Care Kelowna General Hospital and Nighttime Code Blue and Airway Response Service

Kootenay Boundary Hospital

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

Providence Health and St. Paul's Hospital

- Dr. John Boyd, CRRT and ECHO Lead, Providence Health.
- 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, High Acuity Unit and Critical Care Outreach Team
- Dr. Ken Kaila, Physician Lead, Mount St. Joseph's Hospital
- Dr. Adam Peets, Adult CCM Training Program, St. Paul's Hospital 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:

The Critical Care Research Program is comprehensive, spanning from genetic and molecular biology studies, to education, clinical trials, and quality improvement. The basic science research program is based primarily in the UBC Centre for Heart Lung Innovation at St. Paul's Hospital. The Critical Care Medicine clinical research program is focused primarily in the intensive care units of St. Paul's Hospital, Royal Columbian Hospital, Surrey Memorial Hospital and Vancouver General Hospital. Active research is ongoing in the fields of sepsis genetics, biomarkers of infection, inflammatory markers and cytokines, ARDS, alternative ventilation technologies, immune signaling and sepsis induced cardiac dysfunction, and diaphragm weakness/pacing. The areas of ongoing active clinical research include epidemiology and outcomes in traumatic illness (including TBI), sepsis, patient safety, COVID-19 and quality improvement.

Division Member Scholarly Accomplishments:

Dr. Najib Ayas holds 3 grants new grants in 2020 and 12 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 16 peer-reviewed journal articles in 2020; 1 book chapter (Respiratory system mechanics and energetics); and 2 national and international invited presentations. He chaired 1 national and 1 international committee and is an Associate Editor of the blue journal (AJRCCM). He is recognized as the number one sleep apnea expert in Canada. He published 3 COVID Guidance Statements in 2020.

Dr. Nori Bradley had 3 peer-reviewed publications in 2020 and published a book chapter on “Cardiovascular Failure in Trauma”. She delivered 3 national and international invited presentations in 2020. She is a reviewer for Health Systems, the Canadian Journal of Surgery and is on the Scientific Program committee for the Trauma Association of Canada Annual Conference. She is PI or Co-PI on 2 new and 5 ongoing studies in the areas of trauma and critical care.

Dr. John Boyd was the recipient of 2 new CIHR grants in 2020; “CETP Inhibition as a novel treatment to remove pathogen lipids and improve survival in sepsis”; and “Diagnosing the onset of severe COVID-19 disease” for a total of 4 current grants. He had 7 peer-reviewed publications and 2 abstracts in 2020. He holds 3 patents.

Dr. Vikas Chaubey is Co-PI on the Canadian Arm of the SOLIDARITY trial (CATCO) and serves as Board Member at Large for the Journal of the Association of Medical Microbiology.

Dr. Dean Chittock contributed to 4 publications in 2020.

Dr. Vinay Dhingra published 5 peer-reviewed papers in 2020, including “Variation in the Management of Pain, Agitation, and Delirium in Intensive Care Units in British Columbia” in the American Journal of Critical Care.

Dr. Peter Dodek is PI or Co-Investigator on 7 CIHR grants in 2020 and published 4 peer-reviewed papers. He is a volunteer advisor and mentor with Critical Care Asia (funded by Wellcome Trust)

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. Dr. Dorscheid published 6 peer-reviewed papers in 2020 and holds 2 grants.

Dr. Gord Finlayson had 2 invited presentations at national conferences and was senior author on the VGH Pulmonary Embolism Response Team (VGH PERT) publication.

Naissan Garraway had 3 publications including published “Evaluation and Management of the Surgical Abdomen” and “Atypical Somatic Symptoms in Adults 5th Prolonged Recovery from Mild Traumatic Brain Injury”. He gave 5 invited presentations in 2020.

Dr. Don Griesdale holds 5 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 2020, he published 17 papers.

Dr. Morad Hameed, Head had 5 peer-reviewed publications in 2020 including, “The use of computed tomography during the COVID-19 pandemic: Its place in the diagnostic algorithm for acute surgical patients” and “UBC reticulum: A novel website connecting general surgeons in BC during the COVID-19 crisis.”

Dr. Cheryl Holmes is PI on the Royal College Grant, “Exploring the Patient Role in the Learning Environment” and Co-PI on 7 grants including, “Strategies for Facilitating Inclusive Health and Human Service programs in Higher Education: National Perspectives” and “Recognizing the responsibility of understanding what we mean by “Decolonizing health professional education”: A UBC learner and faculty project in response to the Truth and Reconciliation Calls to Action”. She had 5 invited presentations (one international) and 2 publications in 2020 including, “Navigating Uncertainty in Respiratory Assessment: The Interaction of Culture and Technology During Phase I Postanesthetic Recovery”.

Dr. George Isac is co-PI on a grant, “CANADA Donate - National Observational Study of the ICU Management of Deceased Organ Donors”. He gave 3 invited presentations in 2020 and published, “Donation after circulatory determination of death in western Canada: a multicentre study of donor characteristics and critical care practices”.

Dr. Ken Kaila published “Accuracy of Physicians in Differentiating Type 1 and Type 2 Myocardial Infarction Based on Clinical Information”.

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 5 peer-reviewed publications in 2020.

Dr. Sean Keenan had 6 publications in 2020 in the area of Donation after cardiac death and after Medical Assistance in Dying.

Dr. David Liu is Co-PI on the CONCOR 1 study (Convalescent Plasma for Hospitalized Adults with COVID-19 Respiratory Illness) and had an abstract in the AJRCCM in 2020.

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 published 2 peer-reviewed papers this year. He was awarded a CIHR grant, “Unplanned Hospital Readmission following critical illness survival: an investigation of the survivor-family dyad”. He is a reviewer for 9 Journals and gave 3 invited presentations in 2020.

Dr. Anish Mitra published 4 peer-reviewed papers in 2020 (2 as first author) including, “Baseline characteristics and outcomes of patients with COVID-19 admitted to intensive care units in Vancouver, Canada: a case series”. He holds 2 grants: “Incidence of arterial and venous thrombosis in COVID-19” with VCHRI and “Unplanned hospital readmission following critical illness survival” with CIHR.

Dr. Adam Peets published “Phenytoin-induced Cardiac Conduction Abnormalities” in the Journal of Cardiac Critical Care

Dr. Juan Ronco published 4 peer-reviewed papers in 2020: Variation in the Management of Pain, Agitation, and Delirium in Intensive Care Units in British Columbia; Vancouver General Hospital Pulmonary Embolism Response Team (VGH PERT): initial three-year experience; The Association of Inflammatory Cytokines in the Pulmonary Pathophysiology of Respiratory Failure in Critically Ill Patients with Coronavirus Disease19; and High-flow nasal cannula and infection control precautions in COVID-19.

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. He had 4 publications in 2020 and several conference papers. He has attracted over 2 million dollars in research funding as the principal investigator to date. He was a recipient of the Wall Scholars Program in 2020 at the Peter Wall Institute of Advanced Learning.

Dr. Jim Russell is ranked by Expertscape as # 1 in world in Septic shock, norepinephrine and vasopressin; # 3 in septic shock and # 4 in sepsis, for the sixth year in a row. He has 10 peer-reviewed publications in 2020 and the authored the Septic Shock chapter for Goldman-Cecil Medicine. 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. This year, he launched an international COVID-19 research program called ARBs CORONA, winning \$3,795,443 from CIHR for COVID-19 research program in 2020. The largest CIHR grant (\$3,345,541) was 3rd largest in Canada and the largest in BC/UBC in the last CIHR COVID-19 competition.

Dr. Myp Sekhon developed a research program that uses neuromonitoring in patients following a cardiac arrest at risk for hypoxemic-ischemic brain injury (HIBI), using techniques learned while on a neurocritical care sabbatical in Cambridge UK. He published a series of first-in-human studies delineating the cerebrovascular pathophysiology of hypoxic ischemic brain injury after cardiac arrest in humans. This program of research is funded by 2020 CIHR Project Scheme competition. He currently holds 4 grants and had a whopping 21 peer-reviewed publications in 2020.

Dr. David Sweet had 5 peer-reviewed publications in 2020 and was the successful recipient of 3 grants in 2020. He gave 6 invited presentations in 2020 including, “Building a Province Wide Approach to COVID-19 Therapeutics” and the University of Washington 8th Pacific Northwest Sepsis Conference.

Dr. Sonny Thiara had 5 peer-reviewed publications in 2020, including “British Columbia’s COVID-19 Experience”.

Dr. Adam Thomas had 8 peer-reviewed publications; 2 as first author. His first-author publications were “Lung ultrasound findings in a 64-year-old woman with COVID-19” in CMAJ and “Intravenous Lipid Emulsion Therapy and VA-ECMO Rescue Therapy for Massive Venlafaxine and Clonazepam Overdose” in the Journal of Clinical Toxicology. He is a sought-after speaker with 5 invited presentations locally and nationally.

Dr. Keith Walley is ranked by expertscape.com as #12 in the world for expertise in sepsis and #11 in the world for expertise in septic shock. He leads a group of investigators at the Centre for Heart Lung Innovation (HLI) in discovering the fundamental role that lipoprotein biology plays in sequestration and clearance of pathogen lipids in sepsis. He is a leader in using genetics and other ‘omics approaches and large data sets to understand the pathophysiology of sepsis. He also contributes to analysis of large patient datasets to understand important clinical outcomes and processes in critically ill patients. He is a member of the steering committee for a novel investigator-initiated trial of stem cell therapy for septic shock (publication #6) and is chair of the Data Safety and Monitoring Board for a Phase II trial of stem cells for COVID-19 ARDS (CIRCA-19 trial). He has 14 peer-reviewed publications in 2020. He holds a 7-year CIHR Foundation grant from 2017-2025. In this COVID-19 year he collaborated with Dr. Jim Russell, to competitively obtain \$3,456,000 in funding for a large clinical trial of ARBs in COVID-19 patients. In 2020 he contributed as a reviewer for more than 50 manuscripts submitted to a wide

variety of general medical and critical care journals. I am a member of the editorial boards of Critical Care Medicine, Intensive Care Medicine, and Critical Care.

Dr. Ben Wierstra had 2 publications in 2020; “Arterial Placement of Central Venous Catheters: Beyond Prevention to Management” and “Adverse Events After Transition from ICU to Hospital Ward: A Multicenter Cohort Study.”

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. Three new residents per year are accepted into program (over 30 applicants/year in recent years). Highlights this year include:

- Received “Fully accredited with regular follow-up survey in 8 years” during last accreditation visit (2020).
- All graduates from the program have passed the RCPSC exam.

Fellows Cohort 2020-2022

- Dr. Jennifer Chao
- Dr. Kristen Kidson
- Dr. Gabrielle Levin

Fellows Cohort 2019-2021

- Dr. Coste Shuster
- Dr. Lyndsay Sprigg
- Dr. Gavin Tansley

Fellows Cohort 2018-2020

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

Fellows Cohort 2017-2019

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

International Fellows 2020-2022

- Dr. Christine Namata (Uganda)
- Dr. Felix Lubega (Uganda)

International Fellows 2018-2020

- Dr. Gary Misselbrook (U.K.)
- Dr. Emma Watson (U.K.)

Fellows’ Accomplishments

- 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

Division Members actively contribute to the education of other physicians through presentations at hospital, provincial, national and international events, including

- Organizing and hosting international critical care conferences:
 - Annual Canadian Critical Care Conference
 - World Congress of Intensive and Critical Care 2021
- Online resources: Internet Book of Critical Care and podcasts.

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. Julian Barnbrook is a facilitator and instructor in the Vital Anesthesia Simulation Training (VAST) course, teaching in PG, Whitehorse and Addis Ababa.

Dr. John Boyd is on the Faculty of Medicine 2020 Honour Roll for Clinical Teaching.

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 was recognized for Clinical Teaching Excellence in the UBC Division of Critical Care Medicine

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

Dr. Adam Peets, Site Lead for CCM 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. Dave Sweet is a member of the Organizing Committee for the Pacific North West/North Americas Sepsis Conference, the largest stand-alone sepsis conference in the United States.

Dr. Adam Thomas is co-Producer and Podcast Editor of the Internet Book of Critical Care Podcast with over 1.2 million downloads and 101 post publishing peer reviewed chapters. Dr. Thomas also teaches at the UBC CME COVID-19 Webinars. He has given 5 emergency medicine and critical care webinars with over 3000 attendees.

Patient Care:

The Critical Care Services Exec Committee (CCSEC), formerly the CC Working group (CCWG), continues to work to regularly bring the provincial CC leadership together with a lens of quality, research and service planning with Ministry of Health representation.

The BC Critical Care Network (CCN) is comprised of members of the BC critical care community who are connected to share information and advance the voice of critical care across the province. At virtual meetings discussion topics include clinical sharing, literature updates, therapeutics advancements,

pandemic response, and data for critical care. Use the sign up form to join the Critical Care Network and access further engagement with other members through monthly meetings, resources and email updates. You will also find literature summaries from past meetings on the [website](#).

[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. This group has provided a critical role in the delivery of critical care during the COVID-19 pandemic.

[Dr. MJ Slabbert](#) participates in an innovative virtual ICU patient care patient initiative; ROSe, a Telehealth service providing Rural Outreach support in British Columbia.

<https://rosetelehealth.com/about-rose/>

[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.

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](#)

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.