



BC COVID-19 Research and Collaboration Symposium: Public Health, Populations, Health Services, and Impacts

September 1st-2nd, 2020



SUMMARY REPORT

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Symposium Recordings:

<https://bcahsn.ca/event/bc-covid-19-research-and-collaboration-symposium/>

OR

https://www.youtube.com/playlist?list=PLJ8i2T1UQ5OPUjcCVgzKTYnQRMSAhMsf_

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Symposium Goals, Overview and Synthesis (Tania Bubela)

In early 2020, the global COVID-19 pandemic caught the world by surprise. While British Columbia's (BC) public health response has resulted in better public health outcomes than in many jurisdictions, the long-term psychological, socio-economic, and health impacts remain unknown. The current pandemic response is far from over; further waves of COVID-19 infection are expected. In response, governments around the world, including Canada and British Columbia, have invested in research on all aspects of the pandemic and the public health response.

In September 2020, a group of BC researchers, administrators, funders, and patient representatives came together to organise a virtual COVID-19 Symposium to raise awareness of the rich set of research projects and their methodologies underway across BC on the public and population health response and its impacts as well as health services and social sciences/humanities research. The main goals were to encourage collaboration as well as identify and address challenges to the research. Much of this research had been recently funded, is being undertaken as a "pivot" from other research projects, or is underway even though unfunded. The Symposium was therefore not "results" focused but focused on identifying synergies across planned/early-stage research.

The main sessions focused on highlighting research supports, strategy and platforms in BC as well as research funded by the Canadian Institutes of Health Research (CIHR), the Michael Smith Foundation for Health Research (MSFHR Genome Canada/BC, and international funders, such as the Bill and Melinda Gates Foundation. The main sessions were followed by breakout sessions to encourage discussion amongst all individuals undertaking research in the Province, regardless of funding or sector (see Appendix for Agenda).

The two-day Symposium brought together over 800 registrants and 110 speakers from all regions of the Province and all sectors (Figure 1). See agenda in Appendix 1.

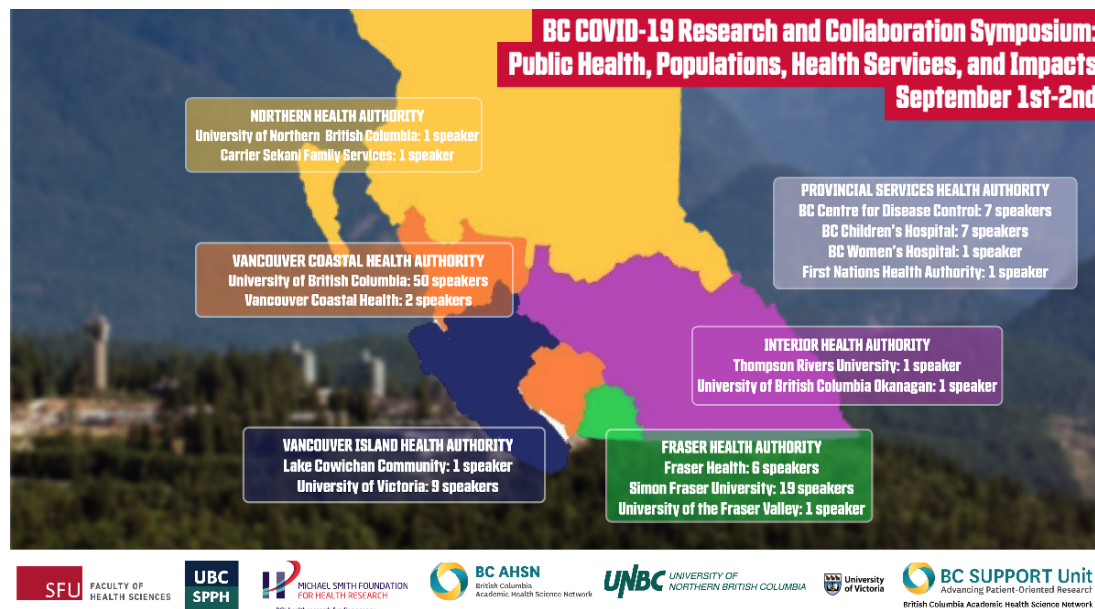


Figure 1. Participants

Participants were engaged in interdisciplinary research from a range of disciplinary perspectives brought to bear on developing and implementing public health measures and evaluating or understanding the impact of those public health measures, including unintended consequences (Table 1).

Table 1. Disciplines represented

Social Sciences	Humanities	Clinical	Health and Data Sciences
Economics, Political Science, International Relations, Anthropology, Geography, Law, Criminology, Education, Business, Sociology, Communications	Philosophy, Ethics, Music, History	Psychology, Family Medicine, Dentistry, Nursing, Social Work, Clinical Specialties – trauma surgery to respiratory medicine	Population and Public Health, Epidemiology, Mathematics, Statistics

Research is taking place in diverse settings and with diverse populations. Settings include urban and rural centres; schools; globally; health authorities; primary care; acute care; long-term care facilities; concert halls; Indigenous and other communities and workplaces. Populations include infants, children, mothers, healthcare workers; students; patients, families and caregivers; (im)migrants; seniors; Indigenous people; people living with substance use or mental health challenges; gendered and racialized populations.

Research methods are equally diverse. Some studies are clinical or interventional and others use quantitative (epidemiological, health/health services data analytics, surveys), qualitative (interviews, focus groups, policy Delphi), or mixed methods (literature, scoping, and systematic reviews; GIS/mapping; policy and critical analyses). Many studies are participatory- or community-based or patient-oriented, and some engage the arts and music. Most incorporate deliberate mechanisms for knowledge mobilization, including training initiatives. Evaluative activities are incorporated into many projects, and due to dual roles, many researchers are in a position within the BC health system to implement evidence-based interventions.

Indigenous COVID-related research is led by Indigenous health researchers in partnership with Indigenous communities and exemplified the philosophy of “nothing about us without us”. It is strength and resilience-based, and BC researchers are taking a national lead on COVID-19 serology studies and the long-term impacts of COVID-19.

Challenges identified by researchers include the rapidity with which research was funded and implemented; the lack of funding for all projects, requiring researchers to pivot from current projects or “work off the side of their desks”; participant recruitment; duplication of effort and need for coordination; and although improving, there remain delays with data access, operational approvals and ethics review.

Session Summaries

Welcome

The symposium started with a territorial welcome and prayer by Elder Margaret George of the Skawahlook First Nation and part of the SFU Elders Protram, welcoming us to the unceded territories of the Sk̓wx̓wú7mesh Úxwumixw (Squamish), səliłw̓ ətaɣ̓t (Tsleil-Waututh), x̓m̓əθk̓əy̓əm (Musqueam) and k̓w̓ik̓w̓əł̓ əm (Kwikwetlem) nations. We recognize that participants were situated on unceded BC First Nations territories across the Province.

Dr. Bonnie Henry, the BC Provincial Health Officer, welcomed participants and congratulated the Michael Smith Foundation for Health Research and research leaders in the Province for their coordinated efforts to inform decision-making. She reminded us that evidence, while important, it never tells us what to do. That is why collaboration that places the evidence in context of our values, preferences, and judgement is essential. The work of this community will inform the essential tradeoffs between risks and benefits as we learn to manage and live with the virus. **Dr. Peter Berman** then formally started the meeting, explaining what brought us together – the recognition that in addition to a coordinated approach to biomedical and clinical research, there is a real need to bring together researchers that are addressing the population and public health and health services issues as well as the societal issues and impacts of the pandemic and the public health response. The great response to the call is focused on breadth, not depth, and to create the connections for follow-up and new ideas or collaboration.

Session One: Setting the Scene – Strategic Priorities and Frameworks (Chair, Dr. Bev Holmes, MSFHR)

The Public Health Response

Dr. David Patrick, Professor, UBC School of Population and Public Health; Director of Research, BC Centre for Disease Control, Co-Chair BC COVID-19 Strategic Research Advisory Committee (SRAC), gave an introduction to the BC public health response to the COVID-19 pandemic. He reminded us that the defining feature of a pandemic is exponential growth, based on the number of secondary cases derived from the primary case. In BC we have blunted the growth curve through testing to enable infected individuals to isolate at home or in hospital, contact tracing and quarantine of exposed contacts and travelers from endemic areas, and hopefully immunization. We rely on the public to keep a small bubble, stay home when sick, wear a mask (especially indoors), and physically distance. Increasing the bubble increases the number of potentially infectious *links* in the social network. In BC, we had early development of testing, early and stringent lock down and distancing measures by international standards, which resulted in an attenuation of infection rate by May 2020 (Figure 2). BC also instituted parallel efforts to accelerate and coordinate all forms of research, including via the SRAC, the Clinical Research Coordination Initiative, and the Academic Health Science Network (Figure 3). In addition, we need to pay attention to priority populations, mitigation of impacts and the fact that the impacts of the response has been inequitably distributed. The population has experienced school closures, overdose deaths (which continue to outpace COVID-19 deaths), delays in medical procedures, as well as health, economic and unemployment stress. We need to move towards a sustainable response until a vaccine is widely available, recognizing that large lockdowns are unsustainable. We need to resource the public health system; we need to

learn from our experiences and respond to new evidence to deploy all the tools in our toolbox; we need to continue to engage the public; and we need to continue to organize research to provide guidance – which is what this Symposium is about.

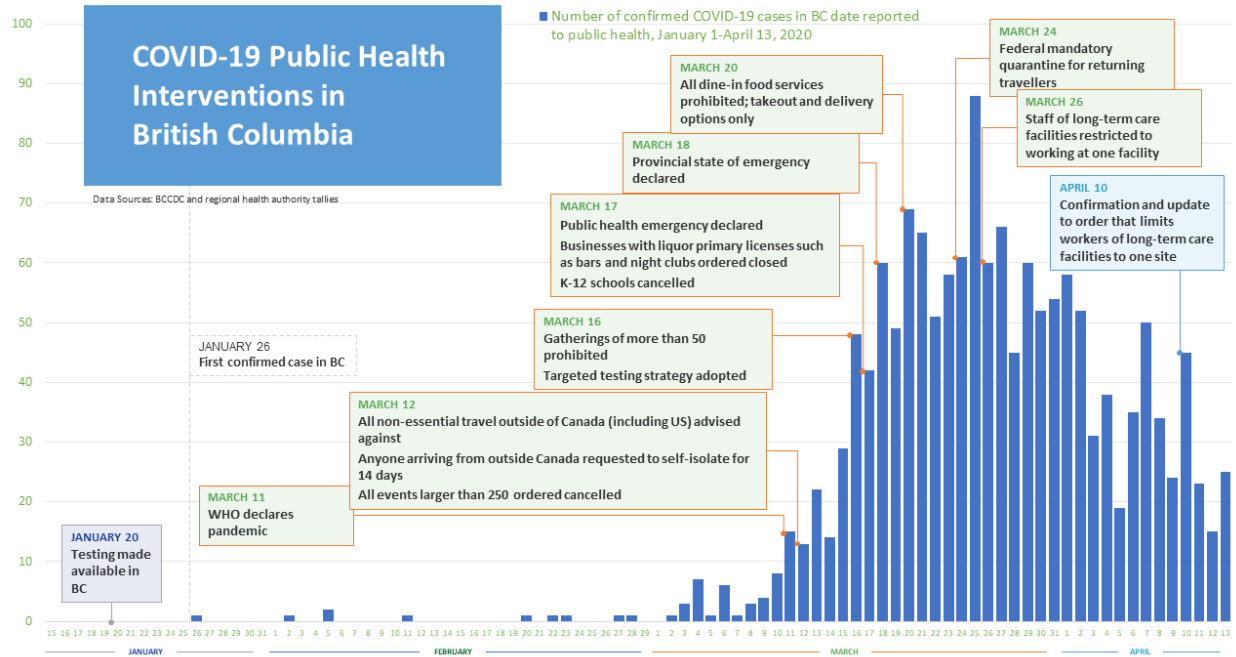


Figure 2. COVID-19 Public Health Interventions and Timeline in BC

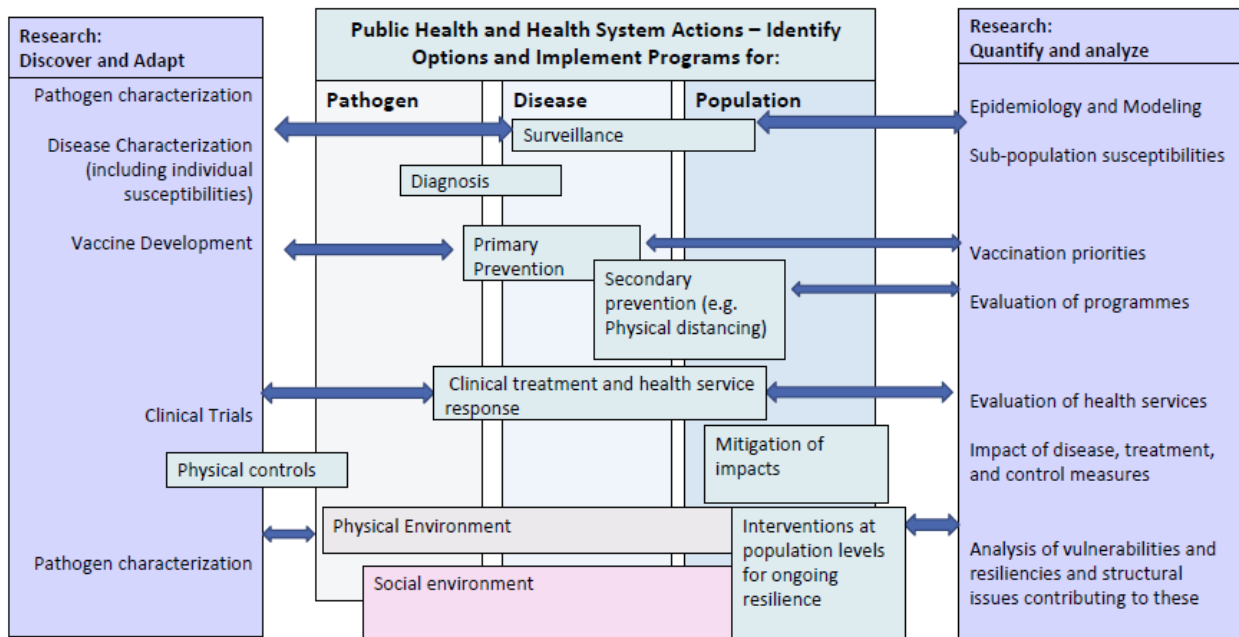


Figure 3. Mapping the Health Research in Support of the COVID-19 Response

Priorities of the Ministry of Health

Victoria Schuckel, Executive Director, Research & Technology of the BC Ministry of Health outlined the Ministry's interests in the research response and the work within the Ministry to identify research priorities. The Ministry prioritizes actionable research (research that gets into the hands of decision makers) and ensuring that public trust in the values of evidence and research remains high or even increases. The unprecedented volume of research needs to be coordinated and unhelpful duplication needs to be minimized. This gives rise to the need for research funders to collaborate. Further, provincial research infrastructure needs to be accessible to researchers throughout the province and gaps need to be filled. COVID-19 gives us the opportunity to mobilize research and to demonstrate the power of an adaptive, learning health system. The Ministry is canvassing, analyzing, consulting, validating and mapping the research efforts on a continual basis (see AHSN research inventory – bcahsn.ca/covid-19-response/inventory/) through the iterative prioritization activities of the Ministry Research Advisory Committee, the Research & Technology Branch, approval and discussion with the Senior Executive Team and working with funders, the Strategic Research Advisory Committee, Health Authorities and post-secondary institutions. Forty ranked priorities have been identified, as have synergies within the Ministry – research from the inventory combined with analytic work within the Ministry has been mapped to the priorities and analyzed as to whether it directly or indirectly answers the priority question, whether connections have been made with researchers, and whether it addresses the identified list of unintended consequences of interest. Questions and priorities do not remain static. Partnerships will continue with the MSFHR to promote impactful research.

The Michael Smith Foundation for Health Research (MSFHR)

Dr. Chonnetia Jones, Vice President, Research, MSFHR, described the role of MSFHR (1) to help develop, retain and recruit the talented people whose research improves the health of British Columbians, addresses health system priorities, creates jobs, and adds to BC's knowledge economy; (2) build capacity for, and further the use of, research evidence in policy, planning, and practice; (3) support provincial health system priorities, transformation, and innovation; and (4) optimized the provincial health research investment through partnerships. The MSFHR was therefore well positioned to initiate a rapid COVID-19 research response that addressed priorities of the BC Provincial Health Officer: (1) prevalence of the COVID-19 virus; (2) spread of the COVID-19 infection; (3) public knowledge, attitudes and behaviours in response to COVID-19 information; and (4) COVID-19 vaccine candidates. With funds from the Ministry of Health supplemented by MSFHR Mandate Funds, MSFHR funded 10 research projects relevant to research priorities identified in collaboration with the SRAC (Figure 4). MSFHR has also leveraged its funds to partner with CIRH to bring COVID-19 research into the province via CIHR's COVID-19 Rapid Research and the COVID-19 Mental Health and Substance Use Service Needs and Delivery. Further, COVID-19 has led to short and long-term disruptions to research. In response, MSFHR will focus on retaining and supporting BC research talent, 80% of whom reported a negative impact on their ability to do research in a survey. The survey of a broad spectrum across the research community and consultation with research leaders indicated the following impacts: disruptions in research due to curtailment; disruptions in training, career progression and income; concerns about ability to attract, recruit and retain talent; and challenges for students and faculty with caregiving responsibilities. Attention will also be paid to

strengthening the research base in all regions and in health authorities, including urgent funding for strained research capacity and ensuring patients have access to new research and treatments. Longer-term planning and co-development with strengthen regional research capacity. Finally, the MSFHR, working with the Ministry of Health, provides strategic and secretariat support to BC’s COVID-19 Strategic Research Advisory Committee (SRAC), whose purpose is to (1) advise on priorities, funding, coordination of research and dissemination of results to support BC’s public health response and to connect the BC research community, BC government and national bodies and initiatives, making them reciprocally aware of research priorities, activities and gaps.

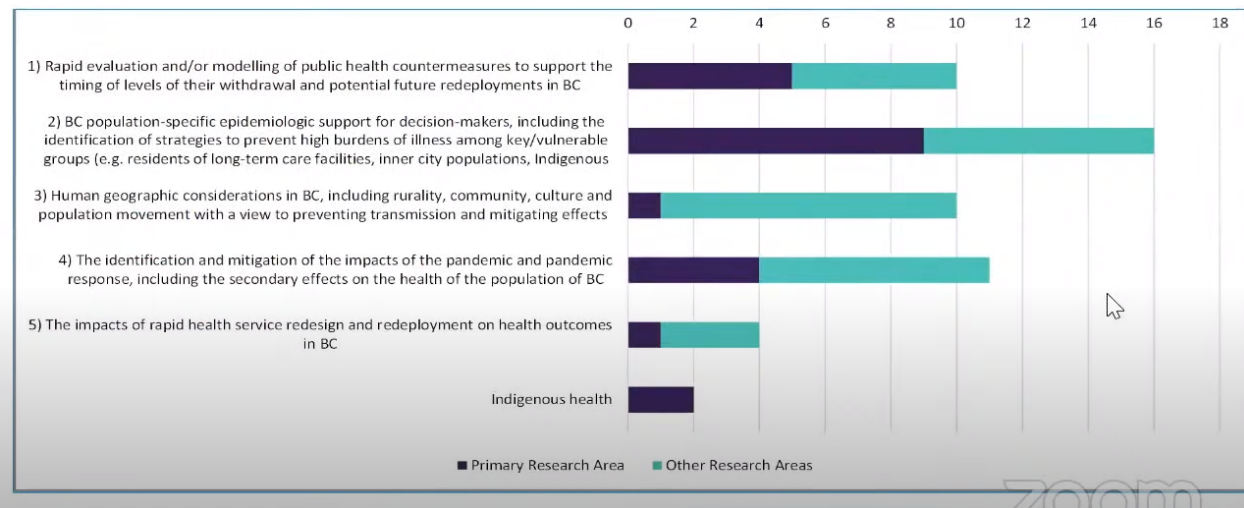


Figure 4. Twenty MSFHR Funded COVID-19 Research Projects & Research Priorities to Aug 2020. MSFHR partnered with CIHR on an additional 4 projects and commissioned 4 further projects at the request of Dr. Bonnie Henry.

The BC COVID-19 Strategic Research Advisory Committee (SRAC@MSFHR.ORG)

Dr. Kelly Barnard, Project Consultant, Secretariat, BC Strategic Research Advisory Committee (SRAC) described the situation facing BC in the early days of the Pandemic, in which there was an unprecedented mobilization of diverse research worldwide, requiring an understanding of the BC-context (needs, strengths, and opportunities). There was a need to identify and address the structural and systematic impediments to an appropriate research response that could support the provision of evidence in real-time for decision-makers. The SRAC was struck to advise the Province on the priorities, funding, coordination, enablement and dissemination of research projects and their results to support the health system response; focus on BC-specific needs and strengths in the context of national and global initiatives; ensure that researchers, funders, universities and governments are reciprocally aware of priorities; provide specific advice to government and funders on request; and report to the Ministry of Health. The work needs to adapt across the timeframe of the pandemic, addressing, short-, medium-, and long-term needs and interests, including lessons and planning for the future and future pandemics. Membership is diverse, including researchers, clinicians, ethicists, patients/community partners, and representatives from the Ministry of Health and health authorities from across the Province. The SRAC works in concert with other coordinating bodies: The COVID-19 Clinical Research Coordination Initiative (CRCI), a province-wide program focused on translational

research; Genome BC, which funded 13 short-term projects through the COVID-19 Rapid Response Program, the SAFER BC study and the national CanCOGeN Program; and the BCAHSN. One example is coordinated, longitudinal and immediate research with the convalescent cohort of COVID-19 survivors, who have lived experience with the disease, with care within the health system. The SRAC developed the “evolving” BC Strategic Research Framework (April 2020), with the second iteration (November 2020) under development, with greater emphasis on knowledge synthesis and translation, the impact on non-COVID care and research, unintended consequences of public health measures, and ongoing need to characterize the disease and its sequelae. Next steps are to evaluate the SRAC role and structure and increase perspectives, encourage dissemination and collaboration through sponsored symposia and work with CIHR and the Canadian Task Force on Immunity toward vaccine preparedness and immunological research.

Knowledge Mobilization

Dr. Lupin Battersby, Knowledge Mobilization Officer, SFU Knowledge Mobilization Hub, Simon Fraser University, discussed the importance of knowledge translation for COVID-19 research. Knowledge Mobilization encompasses implementation, dissemination, engagement, exchange, co-creation and commercialization. Knowledge translation is important (1) for public awareness in an environment where there is rapidly developing and changing evidence, public demand and suspicion of science and a need to challenge misinformation; and (2) for research impact by integration of evidence and experience into action. In response, in BC we have activities that build or strengthen connections for understanding research priorities (e.g., SRAC) and mechanisms to facilitate research and/or dissemination of evidence (BC AHSN Inventory, KT Pathways’ Provincial COVID-19 Resource Hub, BC COVID-19 Clinical Trial Network, and symposia). To have an impact with your COVID-19 research, set realistic short- and medium-term impact goals, be strategic and identify your impact pathway, e.g., collaboration and co-creation to influence practice/policy/public; engagement and implementation to change behavior or practice; and interdisciplinary and academic contributions to evidence, data and publications. Depending on goal, first identify partners, determine how to work together and leverage KT resources, models, theories and frameworks. Resources are available at the knowledge mobilization hubs or exchange units at universities, health authorities or the BC Support Unit Regional Centre (Figure 5).

PLANNING	COLLABORATING	DISSEMINATING
SFU Knowledge Mobilization Hub	BC SUPPORT Unit Regional Centres	BCCDC Language Guide
UBC Knowledge Exchange Unit	Univ. Community Engagement Offices	AHSN Inventory of Research
Health Authority Research Departments	Ministry of Health and MSFHR	MSFHR KT Pathways Provincial COVID-19 Resource Hub
University Research Services	Funders	BC COVID-19 Clinical Trial Network CanCOVID COVID-END
BC SUPPORT Unit Regional Centres		University Communications offices

Figure 5. Knowledge Translation Resources

Session Two: Development and Implementation of Public Health Measures (Chair, Dr. David Patrick)

Dr. Caroline Colijn, Canada 150 Chair and Professor of Mathematics, SFU, provided a quick portrait of *COVID-19 Modelling and Forecasting*. Dr. Colijn described her pandemic modeling, its iterative, methods and evidence-based assumptions, highlighting the utility of modeling to inform decisions on social distancing, social bubbles and school re-opening.

Dr. Alice Virani, Director, Ethics Service, PHSA discussed the ethical considerations for implementing public health measures, such as vaccine prioritization. She highlighted the importance of an ethics lens at every stage of the research endeavor from conceptualization to conduct, dissemination and evaluation. She recommended a clear framework approach based on a transparent understanding of the issues, the stakeholders, the potential impacts, whether those impacts may disproportionately impact some populations, the available options, and responsiveness to ongoing evaluation mechanisms.

Dr Cindy Jardine Tier 1 Canada Research Chair in Health and Community, Faculty of Health Sciences at the University of the Fraser Valley discussed the development of readiness strategy guidance, developed in partnership with key stakeholder, for travelers who wish to return to their country of origin to visit friends and relatives. Evaluation of information needs and addressing concerns about stigma and other negative impacts is essential so that people can understand the requirements of the country to which they are traveling and the restrictions that might be imposed upon return.

Dr. Max Cameron, Professor in the Department of Political Science, University of British Columbia spoke on the organization, politics and governance of the response. Dr Cameron concluded that that a sustainable public health response is premised on equitable access to healthcare and investment in health systems; sustainable and resilient societies are those that minimize precarious work environments and possibly implement a minimum income; and strong democracies are based on evidence-informed consensus to promote the public good and need to promote trust in institutions and organisations.

Session Two: Breakout Sessions for Rapid Fire Presentations.

Session 2.1: Epidemiology and Modeling

(Chair: Shannon Freeman, UNBC; Rapporteur: Sarah Watt, BCCDC)

- Modelling the economic and equity impacts of COVID-19 - *Sonya Cressman, SFU*
- Importance of COVID-19 vaccine efficacy among people aged 65+ - *Daniel Coombs, UBC*
- Population level contact patterns to inform COVID-19 response - *Prince Adu, BCCDC*
- Development of city-scale synthetic population to simulate COVID-19 transmission and response - *Chaitanya "CK" Kaligotla, SFU*
- SURveilling Prospective Population cOHORTs for COVID19 pRevalence and ouTcomes in Canada (SUPPORT-Canada) - *Trevor Dummer, UBC*
- Syndromic Surveillance data collected in the Canada COVID-19 App - *Jennifer Baker, Thrive Health*

Summary: The session speakers presented on:

1. the use of new and existing data to capture geographic trends related to COVID-19;

2. use of modelling and projections to inform prevention measures and leverage collaborations to implement interventions and public health measures informed by current research findings;
3. use of retrospective and prospective cohort data to track and predict trends and focus interventions;
4. aims focused on practical application of research findings to prevention efforts; and
5. Aim to quantify contact patterns and activities and their association with COVID-19 transmission in BC.

Enablers to research were: collaboration across and within sectors to improve data and integration; expedited access to data linkages; and opportunities to utilize linkages for longitudinal data collection. However, challenges arose from: regional differences, which pose challenges as well as opportunities for regionally-specific public health information; biased data sources with respect to participants, users, etc.; opportunities for integrated data collection and implementation; gaps in modelling, e.g. related to the uncertainty of future of pandemic; timely access to population health data (medical records, etc.), which can be labour intensive; maintaining interest and engagement over time; 'pandemic fatigue' and sustained public interest, which may pose challenges both to research and to implementation of prevention measures; and implementation challenges, which require effective collaboration and public communication of findings. The panelists identified gaps, which included: a focus on quality of life and morbidity in addition to mortality; a need for expedited data and data access complicated by availability of data (e.g. access to medical records, missing data); improved understanding of regional differences; and biases within populations, which may be reflected in data.

Session 2.2: Implementing Public Health Measures, Including Vaccination & Communicating about Public Health Measures

(Chair: David Patrick, BCCDC; Rapporteur: Terri Fleming, Research Ethics BC)

- Parents intentions to vaccinate their children against influenza based on COVID-19 Concerns - *Ran Goldman, BC Children's Hospital*
- Washing our hands of risk- hand hygiene challenges during COVID-19 - *Anne-Marie Nicol, SFU*
- Prognostication of ACE II Receptor Expression in COVID-19 Patients of British Columbia: a Test-Negative Case-Control Study - *Aidan Nikiforuk, UBC*
- Evaluating COVID-19 Spread Visualization Methods - *Wolfgang Stuerzlinger, SFU*

Summary: The session speakers discussed the intentions to vaccinate children for influenza in the midst of the pandemic, hand sanitizers, viral receptors, and COVID-19 spread visualization methods. The identified challenges were reaching study participants and motivating them to think about data, timely ethics approvals, prospective sampling methods and finding collaborators, and reaching primary care givers to promote vaccines. Gaps and needs were identified around knowledge mobilization of public health messaging, for example to caregivers on flu vaccination and on the harms and benefits of hand sanitizers.

Session 2.3: Organization, Politics and Governance

(Chair: *Craig Mitton, UBC; Rapporteur: Terri Cecilia Kalaw, SFU*)

- Applying technological innovations to respond to Covid-19 Challenges: Orienting Perspectives on public health and privacy for enabling policy decisions - *Victoria Lemieux, UBC*
- Development of an Implementation Framework to Advance Provincial and National Health System Supply Chain Management of the COVID-19 Pandemic - *Jie Zhang, UVic*
- How a Pandemic Pushed Advance Care Planning to the Forefront: Who saw this coming? - *Cari Borenko Hoffmann, Fraser Health*
- How national healthcare systems compare in response to COVID-19 pandemic? A macro operational analysis from the OECD countries - *Adel Guitouni, UVic*
- Prioritization in times of pandemic - *Craig Mitton, UBC*

Summary: The speakers identified key data sets that might have broad interest, including those related to supply chain operational data and OECD data from 27 countries on how they are using resources to improve the efficiency of national health systems in light of COVID-19. However, challenges included appropriate sources for these data. Research gaps identified were on (the process for assessing the benefit of different priority policy options and from whose perspective these are considered “priorities”; clear and transparent criteria to define “benefit” and how decisions are being made; and cross-national comparisons of system responses still beneficial

Session Three: Population Health Impact of Public Health Measures (Chair, *Dr. Danielle Lavallee, BC AHSN*).

Overall Population

Dr. Kate Smolina, Director of the BC Observatory for Population and Public Health, BC CDC described the overall population health impact of COVID-19, which can be measured in many ways, e.g., cases, deaths, unintended consequences, location, time, and population. There are many COVID-19 related efforts at BCCDC. With respect to reported cases in BC compared to other jurisdictions. Canada has had a series of local epidemics. BC neighbours have higher incidence rates, and there is evidence for the start of the second wave following strategic reopening. At the start it was difficult to understand the impact of any one public health measure, as many were employed simultaneously and testing criteria differ. Gradual reopenings, changes in mobility and differences in public health measures can provide comparative opportunities and results from “natural experiments” are forthcoming. See the BCCDC dashboard for BC-specific data.

Indigenous Health Research

Dr. Jeff Reading, First Nations Health Authority Chair in Heart Health and Wellness at St. Paul’s Hospital Supported by BMO, FHS, SFU discussed Indigenous journeys through COVID-19. There is hope that the pandemic will provide an opportunity to improve public health readiness and advance Indigenous knowledge. No discussion with respect to Indigenous people would be complete without recognizing the impact of colonization on Indigenous societies, which brought with it “plague and pestilence”. The treaties recognized the need for Indigenous peoples to be able to respond to pandemics. The COVID-19 pandemic is “exacerbating deep-seated health and socioeconomic inequities throughout the world. Analysts say that makes indigenous peoples

particularly vulnerable” (Washington Post, March 31, 2020). Services, including health care, are already inequitably distributed. Hospitalizations and death are higher for those with reported underlying conditions, and Indigenous populations are disproportionately impacted (US data). TCPS-2 Chapter Nine makes it explicit that Indigenous people be engaged in knowledge creation that affects them. This leads to a model for scientific co-advancement based on two-eyed seeing (Elder Albert Marshall). COVID-19 actors, like the COVID-19 Immunity Task Force are engaged in this governance approach, with an Indigenous Advisory Circle and Indigenous Science Council – to inform nodes on genomics and genetics research, vaccination and immunization, data integration, and intervention. Now focused on creating a cohort for an Indigenous sero-prevalence study across 13 regional networks at baseline and follow-up studies. This is a complex undertaking, underpinned by seamless information exchange, respecting Indigenous control.

Seniors and Long-term Care

Dr. Kelli Stajduhar, School of Nursing and Institute on Aging and Lifelong Health, University of Victoria reminded us about the disproportionate impact of COVID-19 on older adults, including those in long-term or palliative care and those rendered more vulnerable due to other life circumstances such as homelessness, poverty, or substance use. Canada ranks worst in COVID-19 deaths in care homes among other developed countries. In June 2020, the Royal Society of Canada released a report on COVID-19 and the Future of Long-Term Care, which compiles research studies in the LTC sector because the pandemic has exposed long-standing, wide-spread and pervasive deficiencies in the sector and in our care of older adults in Canada. Provinces have launched studies and commissions, but we have 50 years of data and reform recommendations. We need to follow the roadmap for a robust home care system – which remains piecemeal and patchwork and under-funded, despite being a priority for governments around the world. We have solid evidence to tell us what to do, and the BC response has been better than elsewhere, including prohibiting healthcare workers from working in more than one care home. What happens beyond the pandemic is up to us backed up by good evidence.

Families, Children and Youth Physical Activity

Dr. Ryan Rhodes, Behavioural Medicine Lab, University of Victoria, discussed the impact of COVID-19 on the physical activity in Canadian children. Physical activity has health benefits, including better outcomes for COVID-19, but only 30-40% of people meet physical activity guidelines for a range of reasons. Physical activity was challenging before the pandemic, but opportunities collapsed with social distancing. In Canada, surveys conclude that outdoor activities have declined greatly for families, children and youth. Girls have been more affected. We need messaging to balance social distancing with benefits of outdoor activity, special consideration for families with limited outdoor space, and parental support for physical activity of children and youth is critical.

Rural Populations

Dr. Kathy Rush, School of Nursing, Faculty of Health and Social Development, UBC – Okanagan, discussed the impact of COVID-19 on rural populations. BC rural populations are older and one third of BC’s Indigenous population lives in rural areas. Compared to urban populations, rural populations (exacerbated for rural Indigenous populations) have a greater prevalence of more than one chronic disease and obesity, poorer mental health, lower life expectancy, higher but

preventable mortality and are more affected by social determinants of health (e.g., poverty). There are also have health care system deficiencies and infrastructure deficiencies (e.g., transportation and highspeed internet). There is a paucity of data for rural populations, but US data suggests rural populations have fewer cases, but higher fatality rates. The Rural Health Equity Research Cluster has a vision to reset the health inequity landscape by leveraging technology and social enterprises. The work has pivoted to use of technology during COVID-19. A survey showed that greatest challenges were social isolation and support, access to healthcare services and childcare, income opportunities, and, food insecurity but also 32% stated a limited access to stable internet or mobile connection (even though 98.2% had Internet access). The majority had access to telemedicine (88.3%), 44.1% had used it, and over 30% had used it somewhat or far more often since COVID-19 (but about third found it was not satisfactory/acceptable). Providers also find it challenging. There is a need to compare rural communities with each other and compared to urban communities. The challenges and implementation of public health measures and telemedicine will change over time and need to be tailored for rural communities.

Specific Patient Populations

Dr. Juan Antonio Aviña-Zubieta, Arthritis Research Canada and UBC, spoke about a project will evaluate the risk of infection and complications in immunosuppressed patients (e.g., biologics, hydroxychloroquine, cytotoxic drugs), including those with autoimmune disease, transplants and cancer. Some drugs may reduce complications (e.g., cytokine storm). The project will use administrative data for all people tested positive in BC and Alberta, facilitated by PopData BC expedited processes. These data will be augmented with survey data on a range of measures not available in the administrative data (e.g., vaccination, occupational history, smoking, vaccinations, etc.). There is an interdisciplinary, cross-institutional collaboration for the project with patient partners. Implications will inform response to the pandemic, preventive measures (e.g., specific isolation measures, priority testing, priority vaccination, and early treatment), the use of drugs and potentially novel protective factors.

Session Three: Breakout Sessions for Rapid Fire Presentations.

Session 3.1: Overall Population Impacts

(Chair: Shannon Freeman, UNBC; Rapporteur: Sarah Watt, BCCDC)

- An early glimpse at the inequitable mental health impacts of the COVID-19 pandemic across Canada - *Corey McAuliffe, UBC*
- Double Unbelonging: The Vulnerability of Chinese Immigrants during the COVID-19 Pandemic - *Zed Zhipeng Gao, SFU*
- Mémoire de la traversée ; Francophones de CB dans la COVID-19 - *Hélène Cazes, UVic*
- Seroprevalence of SARS-CoV-2 and endemic human coronaviruses in an adult population mainly composed of health care workers, in the Vancouver metropolitan area, British Columbia, Canada - *Pascal Lavoie, UBC and BC Children's Hospital Research Institute*
- Understanding the effects of public health outbreak control policies and implementation on individuals and communities: a path to improving COVID-19 policy effectiveness - *Julie Bettinger, Vaccine Evaluation Center, UBC*
- Workers at risk for COVID-19 and determinants of risk - *Mieke Koehoorn, UBC*

Summary: The presenters identified a **funding gap** for research on the impacts of COVID-19 on services to families of children with medically complex conditions. This is a high needs population. There is **potential for collaboration** supported by a new data set of neonates born to mothers exposed to SARS-CoV-2. The study will follow the health outcomes and health care utilization of neonates born from February 1, 2020 and covering their first year of life. The **challenges** identified by the speakers are in navigating multiple Research Ethics Boards in a variety of jurisdictions, especially for international studies. Recruitment to surveys is challenged by survey fatigue. The intervention landscape is quickly evolving, with limited documentation on the changing context for research. There are concerns about funding for ongoing COVID-19 related research.

Session 3.2: Indigenous Health & Priority Populations

(Chair: David Patrick, BCCDC; Rapporteur: Terri Fleming, Research Ethics BC)

- From Colonisation to COVID-19: What does immunity mean for Indigenous Peoples? - *Angela M McIntyre, UBC*
- Pandemic experiences and impacts of COVID-19 on the mental health of Indigenous communities - *Alanaise Goodwill and Jeannie Morgan, SFU*
- Assessing the Impacts of COVID-19 on the Health and Wellbeing of Canadian Sexual and Gender Minoritized Men - *Nathan Lachowsky, UVic*
- Developing Readiness Strategy Guidance for Travelers Visiting Friends and Relatives (VFR) - *Cindy Jardine, University of the Fraser Valley*
- Preventing and Mitigating The Impacts Of COVID-19 Among Im/Migrants In British Columbia: Community-Based Mixed-Methods Research to Inform Policy and Programmes - *Shira Goldenberg, SFU / Centre for Gender & Sexual Health Equity*
- The COVID-19 ASSESS-DBS Study: Mitigating the impact of COVID-19 on marginalized people through through use of dried blood spots for SARS-CoV-2 antibody testing - *Sofia Bartlett, BCCDC*
- Worry about having enough food to meet basic household needs in the context of the COVID-19 pandemic in Canada and its linkage to adverse mental health outcomes - *Zachary Daly, UBC*

Summary: **Dr. McIntyre's** study has synergies with other researchers at the symposium that aim to address non-covid impacts and in particular the learning that has been done over years, within first nations communities as they relate to the social determinants of health. Their syndemic framework, described as bio+bio AND bio+social, shares perspective with researchers who intend to depart from the "individual-risk model" for developing policy, in this approach, environment is linked to co-morbidities and/or increased susceptibility to adverse net effects from COVID-19. The methods are complimentary to other research approaches and add the important and relevant aspect of racism and discrimination, often not discussed in research contexts. The sustainable use of community-based wisdom and indigenous models for health and wellness are key enablers for collaboration with other studies on prioritization. The **need** for two-eyed seeing, invisible and unpaid research work and research that is done so that it compliments or encourages the pre-existing community priorities are some of the challenges this research team faces.

Drs Goodwill and Morgan's study shares synergistic research aims with the non-covid researchers concerned about mental health and equitable distribution of healthcare resources. Their knowledge on how first nations communities have experienced past pandemics and direct-to-policy lifeline for calls to action on mental health with the Nisga'a valley HA aligns with the knowledge translation efforts that co-panelists working with hardly reached or unsuccessfully engaged populations would benefit from. Some enablers for this study are embedded in the trust and history the investigators build on and its use for rapid information sharing.

Dr. Bingham's study presentation shares synergies with symposium presentations on the aim to develop a dashboard to share health information and to imbue wisdom from community learning. This application will accelerate the sharing of information that is meaningful and relevant to response policy from urban indigenous populations. Emphasis is on community guidance for an ongoing urban Indigenous COVID-19 response. Their use of resource utilization data has potential overlap with studies looking at healthcare capacity and/or economic + equity impact modelling. The use of a dedicated database platform (VCAT), with a large sample size (n=6000) that specifically outlines the data ownership terms is a strong enabler of their work. Challenges that this research group faces includes managing missing data, complexity in perspectives from the community and diversity in stakeholder and working with their partners in the unfavorable, virtual environments and within short time frames while longer ones are typically required to build relationships for meaningful engagement.

Dr. Lachowsky's study aligns with co-panelists and other symposium researchers whose focus is to meaningfully engage priority populations. Their aim to understand sex and gender based impacts also aligns with other researchers who are using SGBA+ and intersectionality theory to guide their methods. The focus on a widespread survey data collection platform is a key enabler to developing prevalence estimates and targeted policy. Their challenges are missing and invisible data.

Dr. Goldenberg's mixed methods study on im/migrant populations has alignment with other researchers on the panel who aim to characterize net effects on priority populations. The enablers for the study are the strong data qualifications and knowledge assets within the research team, on a foundational study that is highly relevant. These researchers cite also, like other panelists, the short term of study required to make and nurture meaningful community relationships.

Dr. Bartlett's study is developed to developing a diagnostic antibody testing strategy to understand prevalence rates of recent COVID-19 infections in specific populations that have high volume resource demands, such as prisons and other high-density living environments as well as priority indigenous populations. Their dried blood-spot platform hopes to be more specific and sensitive than other commercial platforms, while reaching a large number of people rapidly and rapidly returning results. There are synergies with researchers focused on health policy and economic and equity impact modelling. Their enablers are the rapid translational testing capacity with the CDC. Their greatest barriers are obtaining the metrics for the positive predictive value of the test.

Dr. Daly's study on linkage of worry about food security with mental health outcomes shares synergies with co-panelist and other symposium attendees who are looking at non-covid outcomes and specifically at gaining a better understanding of mental health. They have rich

survey data with questions that drill down into the source of the food insecurity which may be used to develop targeted policy. They highlight challenges related to longitudinal comparison over time. Their work is enabled by the offer of visibility to over-looked contextual aspects of mental health.

Session 3.3: Seniors

(Chair: Craig Mitton, UBC; Rapporteur: Terri Cecilia Kalaw, SFU)

- COVID-19: Experiences Now and Future Plans - *Gloria Gutman, SFU*
- Leveraging assistive technologies to address the mental health needs of community-dwelling older adults and members of their care networks during and post-COVID-19 - *Karen Kobayashi, UVic*
- Promoting virtual assessment of frailty in the time of the COVID-19 pandemic: web-based frailty assessment - *Riley Chang, Andrew McDonald, Hilary Low, Lorraine Graves, Grace Park, Xiaowei Song, Health Sciences and Innovation - Fraser Health, Queen's University, UBC, SFU*
- Regular screening of high-risk individuals for early diagnosis of coronal virus infections; significance and a potential option - *Babak Shadgan, UBC*

Summary: The general **aim** of each study is to explore how the COVID-19 pandemic has impacted older adults. Specifically, researchers are interested in examining: experiences of loneliness, social isolation, depression, disruption of caregiver networks, health care access, diagnosis, and treatment among older adults. Most presentations identified that older adults have been disproportionately affected by the pandemic. Technology will play a large role in working with older adults in the research setting. **Populations, data and methods:** All studies aim to work with older adult participants. Some studies are interested in working with subgroups, such as minority groups and vulnerable populations. Methods involve creatively recruiting and engaging older adults to participate in online surveys, or to evaluate new technologies that will enable remote access to health care services or support systems for older adults. **Challenges, enablers and gaps:** All researchers anticipate challenges will occur with older adults interacting with technology or web-based/computer software. Researchers also identified challenges with recruiting older adults to participate in their studies, as reaching older adult communities through online advertising methods can be difficult. Researchers identified that collaborating with the BC Ministry of Health and having support from multiple stakeholders could help to overcome the challenges stated above. Designing creative recruitment methods for recruiting and engaging older adults was also identified as a method for overcoming the above challenges.

Session 3.4: Children and Youth

(Chair: Craig Mitton, UBC; Rapporteur: Terri Cecilia Kalaw, SFU)

- Assessing the impact of the COVID-19 pandemic on social and health outcomes among young people: A mixed-method comparative analysis in Canada and France - *Rod Knight, UBC*
- An integrative bio-ecological approach to understand the “hidden costs” of COVID-19 on children - *Michael Kobor, BC Children's Hospital Research Institute*
- Communicating in times of COVID-19: Q&A info session for families with children with medical complexity - *Esther Lee, BC Children's Hospital, Canuck Place Children's Hospice*

- Immediate Response for Reducing Vulnerability of Wait Listed Pediatric Patients with Mental Health Problems. Revised Intake, Triage & Screening - *Osman Ipsiroglu, BC Children's Hospital*
- Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth - *Guy Faulkner, UBC*
- The Impact of COVID-19 on Medically-Complex Children and their Families - *Jennifer Baumbusch, UBC*

Summary: The

Session 3.5: Specific Patient Populations

(Chair: Craig Mitton, UBC; Rapporteur: Terri Cecilia Kalaw, SFU)

- Impact of the COVID-19 pandemic on self-care: Perspectives of people with rheumatoid arthritis - *Jenny Leese, UBC*
- What can we learn from people with chronic obstructive pulmonary disease (COPD) use of digital technologies to keep socially connected - *Marcy Antonio, UVic*
- Medication use among rheumatology patients during the COVID-19 pandemic - *Mary De Vera, UBC*
- Occupational balance and well-being before and during COVID-19 in adults with and without inflammatory arthritis: A repeated measures survey - *Flora To-Miles, UBC*
- Mental health outcomes of cancer patients undergoing active treatment during the COVID-19 pandemic: A cross-sectional survey - *Mary De Vera, UBC*

Summary: The session addressed the impacts of the pandemic on a variety of specific patient populations, including those living with rheumatoid, inflammatory and non-inflammatory arthritis, COPD, rheumatic diseases, and cancer. The studies employed a diverse array of mixed methods, including surveys and interviews. Impacts on those with rheumatoid arthritis stemmed from swimming pool closures, access to essential medications such as hydroxychloroquine. The latter was also apparent in international surveys for those living with other rheumatic diseases. COPD patients were already using technology and therefore assumptions about barriers to technology were not apparent. Those living with chronic diseases are resilient, possibly a result of a history of adapting lifestyles due to health factors. Mental health was a concern for those living with cancer and undergoing active treatment during the pandemic. There is potential for B on the mental and emotional health, physical activity and access to healthcare for people living with chronic illnesses. Great potential to come together to request data from Provincial sources such as PopDataBC, come together to analyse and synthesize the data and coordinated knowledge dissemination. **Challenges** to survey-based studies included the normalization of pandemic life over time and potentially reaching only those resilient individuals in surveys who were doing relatively well. Local recruitment is a challenge, and much data may be derived from national and international sources.

Session Four: Pandemic Impact on Health Services and Workforce (Chair, Dr. Lindsay Hedden, BC AHSN & SFU).

COVID-19 Health Services

Drs Alison Hoens and Chris Carlsten, UBC, presented on behalf of colleagues (over 60) at the Interdisciplinary Clinical Care Network, which has grown out of the developing Post-COVID Recovery Clinics. There was an imperative need to integrate clinical care and research in the

context of a learning health system (LHS). Clinicians, patients and researchers are working together on this new issue. The emerging clinical care model has increased opportunities for virtual interactions, capacity for efficiencies and participation by patients. The network began with multiple data (databases, registries, biobanks) from provincial and other sources (clinical, research, clinical care guidelines, public health). The array of sources made integration paramount to meet patient needs (multi-organ system clinical care combined with minimizing research burden), research and clinical community needs (efficient and effective research while providing care) and the need to learn *about, with and from patients* post-COVID in real time. As a result, existing respiratory clinics for discharged hospitalized COVID patients recognized the need for coordinated interdisciplinary assessment and care, embedded research (>200 research proposals) and an LHS approach. Created a one-stop site for clinical care with embedded research also to connect British Columbians with specialists, family practitioners, and public health services. Approximately 60 clinicians, researchers and patients have been meeting virtually since March to develop (and implement): standardized intake assessment (lab tests, diagnostic, imaging and function testes, questionnaires), integration of medical, psychological and social supports, rapid access to specialist expertise, access to virtual care, and centralized data collection to enable rapid change for best care and access to rigorous research (**Figure 6**).

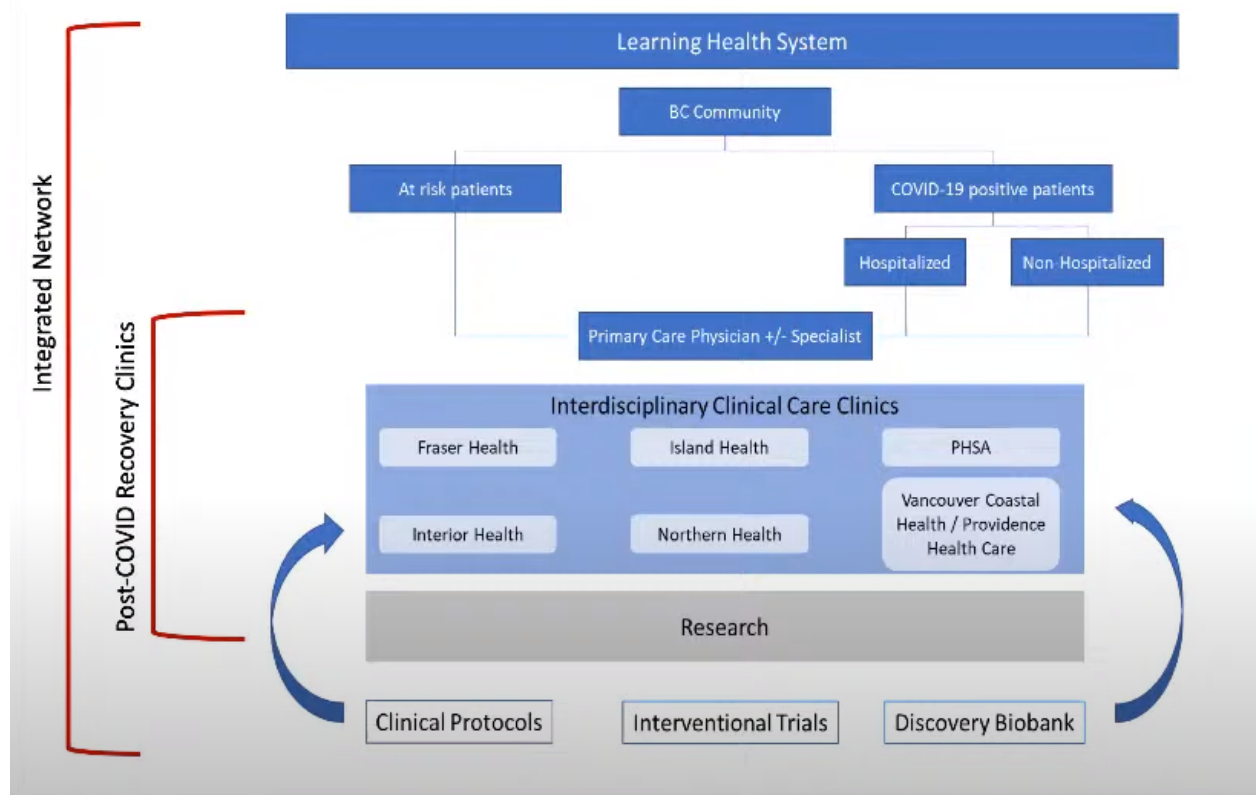


Figure 6. COVID-19 Learning Health System

What has been learned so far? Sixty patients post hospitalization have been seen so far at currently launched clinics in Vancouver Coastal Health and Providence Health Care. Median age is 67, 68% are male, 26% have diabetes, 8% pulmonary disease, 8% MI and 59% have no comorbidities. The lessons learned are that the pandemic can inspire rapid action and progress, however, action needs to be taken alongside the pandemic. There is a need for broad-thinking

leadership, proactivity at all levels of the health system, stamina and pace to avoid process fatigue and a positive attitude of openness, patience and inquiry. The key findings so far are that a high proportion of patients have persistent pulmonary function and chest abnormalities at 12 weeks (although only 20% reported dyspnea), the more severe the acute phase, the more extensive the abnormalities at 12 weeks, and fibrosis on chest CR suggests a high likelihood that some changes will be permanent. Broad quality of life indicators are also negatively impacted. What remains to be known is the multi-organ burden of illness in those who were not hospitalized, the best way to offer follow up care to those people, the health system and community resources required to do so, and how knowledge is disseminated in a timely manner. The vision therefore is for a province-wide network of clinics that provide coordinated care (in-person or virtually), coordinated research, and the sharing of data and learning in real-time. This is an exemplar for COVID and beyond.

Non-COVID-19 Health Services

Dr. Emilie Joos, Trauma and Acute Care Surgeon, Vancouver Coastal Health, spoke about the direct and indirect impacts of COVID-19 on surgery, the response of the surgical system to the pandemic and the importance of multidisciplinary collaboration and surgical leadership to craft and effective response. Surgical staff are at high risk of transmission, but many patients still need emergent and urgent surgical care even as resources are re-directed to pandemic services. Responses included engineering controls (space and equipment), redistribution of staff, and deferral of surgeries. Examined and contributed to emerging best practices internationally on how to maintain essential surgical services, which led to a multidisciplinary collaboration and development and delivery of a 5 modular, interactive course – more than 1800 people registered, with global impact. Used a surge response model and case studies. In conclusion, surgical care is an essential healthcare services, pandemics will affect patient access, delivery and safety of surgery and healthcare systems can preserve access to essential surgical care if well prepared.

Overdose Prevention

Drs Amanda Slaunwhite (BCCDC) presented on behalf of herself and **Louise Meilleur**, FNHA on overdose prevention and the pandemic. In 2019 there was a modest decline in overdose deaths in BC, however, there has been a large increase since the start of the pandemic (170 people per month, many male and under 50 years of age, concentrated in urban centres, but seen across the Province). These rates (fatal and non-fatal) have not been seen since the declaration of the public health emergency on overdose declared in April 2016 (data available on BCCDC website). Health inequities and impact on First Nations people have increased. Three main reasons for increase during the pandemic are (a) a toxic and contaminated illicit drug supply; (b) people are using drugs alone; and (c) reduced utilization of overdose prevention and healthcare services. Engagement of persons with lived/living experience of substance use/overdose in research and policy is critical to reducing overdose in BC, especially in light of the pandemic.

Rural Medicine and Virtual Services

Dr. John Pawlovich, UBC Department of Family Practice, whose practice is based out of North-Central BC, spoke about virtual care. Nearly half of all Canadians have accessed a physician using virtual care, of whom 91% expressed satisfaction during the pandemic. Implementation has been catapulted by the pandemic. A history of relationships and trust among health authorities

and professional organizations has played a crucial role in real time virtual support for the health system based on people's needs, building on the WHO partnership pentagram. This enabled multiple virtual pathways and rapid deployment to support patients and providers in rural BC, including First Nations (First Nations Virtual Doctor of the Day program). Created a virtual physicians group to work in concert with other healthcare providers, including nurses. One goal is to mitigate impact on rural emergency departments and resources. Support pathways on ZOOM platforms for groups of rural critical care and rural generalist/ emergency medicine physicians. Pediatricians and maternal/newborn care have also come online to support care in rural remote communities across the Province. Built-in evaluation of the virtual support networks have found that it improves healthcare access and equity for patients and enables rural providers to access real-time support from colleagues who understand the rural context.

Long-Term Care

Dr. Michael Schwandt, Medical Health Officer, Vancouver Coastal Health (VCH) discussed COVID-19 in VCH long-term care (LTS) – outbreaks declared at 15 of 75 LTC facilities. Outbreaks occur among staff and patients and can be controlled if caught early. Initially mirrored incidence in general population, but success in non-introduction at the end of summer 2020, where most cases were among young adults. Risk factors for outbreaks are staff-resident contact, high frequency of unrecognized illness and potential for complex contact networks (e.g., staff working at multiple units/centres/facilities). Challenges in control include varied presentation of COVID-19, pre-symptomatic and asymptomatic transmission, isolation of resident cases and contacts and barriers to isolation of staff cases. As a sector-wide, overarching policy and governance response, the following were put in place: single-site staffing order (VCH March 21, BC-wide March 26), visitor and transfer restrictions (March 21) and emergency operations centre support (daily forum to discuss and address operational needs, including PPE, staffing). In addition proactive testing, including asymptomatic screening of residents and staff at key times to prevent an outbreak has been critical. Need to provide staff at adequate levels and support sick time. Nevertheless implementation is more complicated than a guideline – needs a multidisciplinary team working with MHO, site staff and leadership to provide training, support, monitoring and adjustment of PPE use. Sophisticated operations and outbreak management teams have been put in place.

Health Workforce

Dr. Bala Nikku, Faculty of Education and Social Work, Thompson Rivers University, presented on impacts on health workforce as some jobs are more dangerous than others and can cause significant psychological distress amongst healthcare workers (HCW). Many HCW are racialized, women, and not well paid for their services. The lack of inclusivity and politics of pandemic management can negatively impact the lives of healthcare workers – what is happening in BC? The aims of this MSFHR-funded study are to determine the level of job satisfaction, burnout, and preparedness in frontline HCW, including in LTC facilities; to build descriptive and predictive models of agent based and social interactions of HCW, and to recommend policy strategies to achieve enhanced health equities for key populations in BC. Looking to build collaborative, multi-sectoral partnerships.

Session Four: Breakout Sessions for Rapid Fire Presentations.

Session 4.1 COVID-19 Health Services & Rural and Virtual Services & Long-Term Care

(Chair: Kafui Monu, University of Northern BC; Rapporteur: Cecilia Kalaw, SFU)

- Telephone survey on the understanding, adherence, and barriers to self-isolation among recently discharged emergency department patients with suspected COVID-19 - *Lulu Yang, Devon Mitchell, and Andrew Kestler, UBC*
- The Canadian COVID-19 Emergency Department Rapid Response Network: Methods for a Nationally Harmonized Dataset - *Corinne Hohl, UBC*
- Evaluation of telephone and virtual visits for routine pediatric diabetes care during the COVID-19 pandemic - *Brenden Hursh, UBC and BC Children's Hospital*
- Rapid Implementation and Sustainability of Virtual Health in A Pediatric Neurology Clinic - *James Lee, BC Children's Hospital*
- Clinical course and risk factors associated with mortality in patients diagnosed with COVID-19 residing in Long Term Care facilities in Fraser Health - *Janice Sorensen, Fraser Health*
- Leading a long-term care facility through the COVID-19 crisis: Successes, barriers and lessons learned - *Farinaz Havaei, UBC*
- Challenges experienced by long term care facilities in implementing outbreak management procedures: A mixed methods utilization-focused evaluation - *Carmen Ng, Fraser Health*
- Robust Man power planning models for critically ill admitted patients during a pandemic - *Mahesh Nagarajan, UBC*

Summary: The Canadian COVID-19 Emergency Dept Rapid Response Network is creating a nationally harmonized dataset that is additionally harmonized with other international studies. The Network has adopted an Open Science framework, and over 46 sites in 6 provinces have signed onto agreement. Over 7K patients are already in registry, funded by CIHR, Genome BC; Saskatchewan, Ontario, and BC funding sources. The large data set of ED patients with suspected and confirmed COVID-19 to support:

- Observational studies requiring large sample sizes
- Quasi-experimental designs
- Clinical decision rules studies to standardize COVID-19 patient management
- Rapid knowledge-to-action cycle

Possible **collaborations** include studies focused on long term care facilities responses to managing the COVID-19 pandemic and patient risk factors for mortality within LTC facilities. The variability of features of long term care facilities and programs (long term beds, facilities, assisted living, etc) would merit cooperation and coordination across jurisdictions. Fraser Health's Evaluation has 23 facilities included. The **Challenge** is that LTC's are still in the process of dealing with managing the outbreaks in their sites, meaning that recruitment of stakeholders/LTC leadership into studies may be difficult. **Needs** include a better understanding of the switch to virtual health care services/telehealth across different clinical areas. This is prompting and evaluation of adequacy/satisfaction with services. Quality improvement specialists are needed to help with exploring clinician and patient experiences with new forms of care provision.

Session 4.2: Non-COVID-19 Health Services and Delivery & Mental Health and Addictions Services
(Chair: Travis Salway, SFU; Rapporteur:)

- Impact of COVID-19 on HCV testing and first-time HCV-positive diagnoses in British Columbia - *Mawuena Binka, BCCDC*
- 811 Virtual Physicians to support Patients Call volumes during COVID - *Kendall Ho, UBC*
- Pediatric Patients Seen in 18 Emergency Departments in BC during the Covid-19 Pandemic - *Ran Goldman, BC Children's Hospital and UBC*
- The rapid shift to digital mental health care and the needs of at-risk groups in the context of COVID-19: challenges and opportunities from the Asia Pacific region - *Jill Murphy, UBC*
- Equitably tailoring mental health resources during the COVID-19 pandemic - *Travis Salway, SFU*
- Substance use and mental health among sexual and gender minorities during the COVID-19 pandemic in Canada: Preliminary results from the Heads Together Online Survey - *Pierre-Julien Coulaud, BC Centre on Substance Use*
- Experience of people who use opioids during the COVID-19 pandemic - *Lexis Galarneau, UBC*

Summary:

Dr. Murphy:

1. **Research aims:** Identify the mental health needs and barriers to care for at-risk groups in the context of the COVID-19 pandemic in the Asia Pacific region; identify best practices; develop and disseminate recommendations
2. **Methods/data:** Scope review; virtual consultations, surveys
3. **Population:** At-risk populations to be identified through study; policy makers; healthcare providers; people with lived experience
4. **Challenges:** short timeframe for funding; nine countries with diverse populations; primary data collection and ethics approval delays; language barriers hindering consultation
5. **Partnerships/collaborations as mitigation strategies:** use researchers' strong networks strong networks and existing relationships helped with quick timeline in different countries and for knowledge translation.

Dr. Coulaud:

1. **Research aim:** Describe substance use and mental health related health outcomes among sexual and gender minorities living in Canada within the context of the COVID-19 pandemic
2. **Method/data:** Online survey
3. **Population:** N410 (June-August), average 26 years-old, self-reported sexual orientation
4. **Challenges:** Slow recruitment process (June-August); costly (paid social media platforms); jurisdictions with different public health measures
5. **Partnerships/collaborations as mitigation strategies:** Develop active collaboration with networks of LGBTQ2S+ community organizations to facilitate recruitment; disciplinary collaboration with epidemiologist, social sciences, statisticians

Dr. Binka

1. **Research aim:** Determine the impact of Covid's restriction on HCV testing
2. **Population:** Individuals with Hepatitis C virus infection in Canada
3. **Challenges:** Suspension of non-urgent HCV testing
4. **Collaborations/partnerships as mitigation strategies:** Include statisticians

Dr. Ho

1. **Research aim:** Examine whether virtual care using physicians in 811 call centers to foster cost-efficiency, patient outcome and satisfaction
2. **Method/data:** Physician group (i.e., emergency doctors and family doctors) took 811 calls and Zoom to assess callers, monitor patient care, follow-up
3. **Population:** N5377 patients in 90 days
4. **Challenges:** Virtual physicians felt that they could not only address callers' clinical questions but also reduce their anxiety. The virtual platform initially presented challenges in documentation, and also some patients were not comfortable using video.
5. **Collaborations/partnerships as mitigation strategies:** promote collaboration and integration of services; MOH digital health office set up an EMR which solved the documentation issues.

Dr. Irvine

1. **Research aim:** Determine the impact of Covid on pediatric emergency department services
2. **Methods/data:** Pre/pos/peak triage acute levels, statistical analysis
3. **Population:** Family visiting pediatric emergency department (period of time)
4. **Challenges:** completeness and timelessness of data

Dr. Salway

1. **Research aim:** Determine how people are differently impacted during the pandemic (i.e., anxiety and loss of services)
2. **Method/data:** survey
5. **Partnerships/collaborations as mitigation strategies:** Develop active collaborations

Session 4.3: Health Workforce

(Chair: Travis Salway, SFU; Rapporteur:)

- Impact of COVID-19 on HCV testing and first-time HCV-positive diagnoses in British Columbia - *Mawuena Binka, BCCDC*
- 811 Virtual Physicians to support Patients Call volumes during COVID - *Kendall Ho, UBC*
- Pediatric Patients Seen in 18 Emergency Departments in BC during the Covid-19 Pandemic - *Ran Goldman, BC Children's Hospital and UBC*
- The rapid shift to digital mental health care and the needs of at-risk groups in the context of COVID-19: challenges and opportunities from the Asia Pacific region - *Jill Murphy, UBC*
- Equitably tailoring mental health resources during the COVID-19 pandemic - *Travis Salway, SFU*

- Substance use and mental health among sexual and gender minorities during the COVID-19 pandemic in Canada: Preliminary results from the Heads Together Online Survey - *Pierre-Julien Coulaud, BC Centre on Substance Use*
- Experience of people who use opioids during the COVID-19 pandemic - *Lexis Galarneau, UBC*

Summary: COVID-19 is impacting the mental health of a variety of populations. Potential for partnerships around access to administrative data to enable cross-disciplinary comparisons.

Collaboration is invited around developing occupational health measures, including from knowledge users. **Challenges** include validating the accuracy of data (e.g., nurse reports), the situation is evolving rapidly, requiring responsive survey instruments and repeat surveys. In addition, sampling may be an issue. In some settings, the digital divide is apparent and there are connectivity issues with potential participants. There is a risk of over-burdening research participants. There is a **need** to translate the research into strategies to address the impact of moral distress in healthcare workers. Knowledge translation is key, including making research findings timely and relevant to policy makers. This may be mitigated through knowledge user participation throughout the research, anchoring the research in services. There is also opportunity to include students as staff on research. There is a need for thoughtful integration of implementation science.

Session Five: Support Platform and Methods (Chair, Dr. Stirling Bryan, BC AHSN & UBC).

BC Academic Health Science Network (BC AHSN) and BC SUPPORT Unit

BC AHSN has three operating units: Research Ethics BC, Clinical Trials BC and the BC Support Unit, all supporting COVID-19 research response. The latter ensure effective collaboration with those with lived-experience and the public.

Expedited, harmonized research ethics

Terri Fleming, Director, Research Ethics BC provided information on the rapid ethics review process created for clinical COVID-19 research (<https://researchethicsbc.ca/>). There are 19 research ethics boards (REBs) across the Province – at BC universities, health authorities and agencies. The harmonized process is for multi-institutional studies. Patient/public partners are involved in all REBs. The rapid review process required commitment by REBs to five business day review (complete ethical review and issue provisos) for all clinical studies, including clinical trials conducted at regional health authorities. It is intended to include all health authorities in one review, ensure swift but thorough ethical review, access to investigational treatments for BC patients and eliminate multiple institutional privacy reviews at the ethical review stage (one REB of record with a 24hr response time for other authorities). The process also includes and single privacy review. To September, 74 harmonized COVID-19 research studies had applied for rapid ethical review process, which represents a portion of the 254 COVID-19 related research studies that had received either harmonized or single review since the start of the Pandemic in March. The lessons learned are that time is required for other operational approvals at health authority (e.g., privacy and legal), overlap in processes and redundancies have been illuminated, and a more harmonized approach is required for the whole continuum of review and approval of research. Hopefully there will be a legacy for non-COVID-19 research.

Patient oriented research and REACH BC (<https://www.reachbc.ca/>)

Stefanie Cheah, Project Manager of the REACH-platform, BC SUPPORT Unit, is a new online platform that connects British Columbians to health research opportunities related to their health conditions and/or interests. It was developed by a provincial working group with patient partners and community consultations. Its key features include a province-wide directory, automatic matching, studies and patient partner research opportunities, volunteer choices and protects user's privacy and has a coordinated process with partner organizations. For COVID-19, a letter was sent to about 801 people who tested positive by BCCDC (n>1800), followed up with a phone call. If interest was expressed (n=609 – 79%), then REACH BC will send an email with an activation link to create a Volunteer account. As a REACH BC Volunteer, the potential participant reviews matched research projects and if interested, REACH BC connects them to the research team. Researchers can recruit through REACH BC by creating a research account, submitting a study (patient partner opportunity to review) and connect with volunteers that match and are interested.

BC COVID-19 research database

Dr. Lindsay Hedden, Assistant Scientific Director, BC AHSN and SFU discussed the BC COVID-19 research inventory (<https://bcahsn.ca/covid-19-response/inventory/>). The rapid proliferation of research efforts on COVID-19 in BC raised the specter of duplicative work. The objectives of the inventory were to create and maintain a living, public database of research projects related to COVID-19 and to facilitate and support linkage between individuals and groups undertaking similar/related work. There is a substantial amount of information on each project, including funding, team, topic, institution. The inventory is searchable and downloadable. In the inventory up to September 2020, based on CIHR 4- pillars to categorize: there were 68 biomedical, 89 clinical, 83 health services and policy (32 health care service effects for specific population, 31 health workforce, 18 health system capacity, 23 responding to non COVID-19 health needs and 11 unknown studies), and 185 population and public health (36 development of public health measures, 59 effects of stay-at-home and physical distancing measures, 123 effects on specific populations, 22 general population health outcomes, and 10 unknown) related studies. With respect to geographic distribution of where the studies are situated, 133 studies are multi-provincial or multi-national while 247 studies are BC specific (78 from Fraser Health, 37 Interior Health, 54 Island Health, 24 Norther Health and 308 Vancouver Coastal Health). The next steps are to report on inventory content, focusing on gaps, mapping projects to align with the next iteration of the SRAC priorities and linkage to research results. Please contribute your studies to the inventory.

Population Data BC – Creating Science Data Infrastructure

Dr. Kim McGrail, UBC, and Scientific Director of Population Data BC (PopDataBC – www.popdata.bc.ca) spoke about PopDataBC as a provincial data and education resource facilitating interdisciplinary research on the determinants of health, well-being and development. It is a partnership with multiple data stewards, which for COVID-19 include the Ministry of Health and health authorities. PopDataBC is the “front door” for research. PopDataBC has multiple provincial and national partners, including health authorities, agencies and funder. Core functions are data access for research, data linkage, secure data storage and archiving, and education and training, underpinned by public data deliberation initiatives to

ensure transparency and accountability. Available data include that on health care and health services, population and vital statistics, childhood/ education, occupational, environmental and demographic and life course. For COVID-19, PopDataBC has facilitated “core product” for faster turn-around and access to “open year” data. PopDataBC is working with programs of research in final pilot stage and an upgraded private cloud for secure analysis (SRE) and trial addition of GPUs. New opportunities include broader data access and multi-jurisdictional research through the BC Data Innovation Program (Income and Work, health, justice, education, children and families, and social development data) and the Health Data Research Network Canada.

COVID-19 Inclusive Language Guide

Harlan Pruden, BCCDC spoke on the importance and power of language and introduced the BCCDC Inclusive Language Guide (<http://www.bccdc.ca/Health-Info-Site/Documents/Language-guide.pdf>). Because language matters, including with respect to COVID-19 and stigma, any communications/knowledge translation activities should avail themselves of the inclusive language guide to mitigate social, cultural, and individual harms.

Session Six: Other Impacts of Public Health Measures/Unintended Consequences (Chair, Dr. Craig Mitton, UBS).

BC Schools and Post-Secondary Institutions – Special Education

Drs Vicki Floyd Knight and Kim Zebehazy, UBC, discussed the impacts of COVID-19 on special education for students with a range of mental and physical disabilities, based on a parental survey (n=265; mostly mothers of children with autism or visual impairment) as education in BC moved online. The survey asked about coping, current supports and main challenges. Preliminary results suggest that families are not coping well; there has been a drop in supports from schools; most are worried about long-term impacts on child development; and challenges varied depending on families’ ability to meet basic needs (including food security), and included lack of social interaction, lack of routine, becoming the primary teacher and no breaks or respite. The study is looking at how collaboration and partnerships may overcome these challenges. There is a need for better inclusion with the change of instruction and access to more support services.

Work from Home

Dr. Kafui Monu, University of Northern British Columbia, reported on a survey on working from home during the pandemic. Telework is not new and is usually productive, with caveats around emotional stability, worklife balance disruptions, team size and technology. However, the change to telework due to COVID-19 was dramatic and abrupt. The survey research will question how people are coping with being forced into remote work, how they are working in this new environment, what the connections with productivity and wellbeing are, what are the fears and preparedness and does the home office environment have an effect. Preliminary data from 110 respondents was presented.

Back to Work

Drs Simon Pimstone, UBC, CEO of Xenon Pharmaceuticals, Inc., presented on the SARS-CoV-2 Study for Eased Restrictions in British Columbia (SAFER BC study), funded by Genome BC/Canada. The goal is to generate relevant data to drive public health guidance for employers and employees in the workplace to mitigate economic and unemployment consequences of the pandemic. This is a study of a large cohort of employees and students in the workplace in BC.

The controlled clinical trial like setting will allow data to be collected to inform public health decisions. The study will track and collect data over time on infection, immunity, contacts and clinical symptoms of 1500 employees and students at BC-based biotechnology companies and post-secondary academic institutions. It will survey on psycho-social elements of the work place during the pandemic over 12 months. The goals will be to determine the incidence of SARS-CoV-2 and then monitor the serological status in the participants. Secondary objectives are how to implement changes to back to workplace guidelines as risk levels change, establish and implement workplace management guidelines and monitor them, and determine psychosocial impacts. This is a large and unique study for Canada and data will be made available as it progresses.

BC Geographies

Dr. Valorie Crooks, SFU, discussed a study funded by MSFHR and SPOR Support Unit to integrate patient partners on human geographic considerations with a view to preventing transmission and mitigating effects of SARS-CoV-2. Dr. Crooks is collaborating to build Corona virus vulnerability models or maps in BC as decision support tools. The goal is to use spatial data to produce a series of sophisticated maps to help the identification of BC locations that are at risk of having local residents experience high rates of COVID-19, spacio-temporal deficiencies in COVID-19 care, or those at risk of the secondary risks of the pandemic, including financial and other social effects.

Session 6 Breakout: Other impacts of public health measures & unintended consequences (Chair: Craig Mitton, UBC; Rapporteur: Tania Bubela, SFU)

- Impact of COVID-19 pandemic upon undergraduate dental education - *Mario Brondani, UBC*
- Student perceptions of the emergency transition to remote instruction - *Lisa Chang, UBC*
- Wellbeing Convene during COVID-19: assessing webinars for the UBC Faculty of Medicine - *Farah Shroff, UBC*
- Negative impacts on women's wellness as a result of the unequal burden of lock-down on mothers in co-parent households - *Jessica Ball, UVic*
- Identifying Work and Health Evidence Gaps and Research Needs in the Context of COVID-19 - *Chris McLeod, UBC*
- Medicolegal Death Investigations Amidst COVID-19 - *Vienna Lam, SFU*
- Impacts on trainees engaged in women's health research - *Angela Kaida, SFU*
- Live music as mediator - aspects of absent live music performances during COVID-19 - *Ajtony Csaba, UVic*

Summary: The session speakers presented on COVID-19 impacts on a range of educational issues that impacted a variety of students from high school, to post-secondary education to professional students, such as undergraduate dental students, and research trainees engaged in women's health research due to the rapid shift to virtual/remote instruction. Other community impacts were also discussed, such as the unequal impact on women and mothers in co-parenting households due to the lock-down and at-home education of children and teens. COVID-19 has had a considerable impact on mental health and wellbeing for students (e.g., 96% of trainees in one survey were concerned about the overall impact on their physical, mental, and professional well-being) and educators (e.g., in UBC's Faculty of Medicine) across the

Province and Canada. In another survey, of 1213 students at UBC, students who had shifted to remote learning identified challenges as lack of self-motivation, distractions, social isolation, difficulty, mental health challenges, and stress from self-teaching material, but also some benefits – flexibility, pacing, more rest and sleep, and lowered exposure to the virus. Students and families are struggling financially and social and gender-based inequities are being exacerbated. Stress aids and support systems may ameliorate some impacts. Students and researchers are concerned about research that have been postponed, cancelled, or fundamentally changed in focus. There has been a loss of presentation, experiential, practicum and networking opportunities. Childcare responsibilities have compromised research productivity.

Other impacts, however, have more rarely been discussed, such as the negative impacts on medicolegal death investigations and the health and well-being of forensics and funeral-home professionals as well as the absence of live music performances during COVID-19, with music as a mediator for social interaction and mental health and well-being.

We need to conduct equity-oriented analyses to understand impacts among racialized trainees, those living with disabilities, international students, by training program/stage and by sex and gender-based analysis PLUS. We need to consider how to mitigate impacts as university administrators and supervisors and educators.

Session Seven: Global Health (Chair, Dr. Peter Berman, UBC).

Crossborder Travel

Dr. Kelley Lee, SFU, discussed her CIHR funded research, with a range of international collaborators and knowledge users, on travel restrictions and other crossborder measures during pandemics, focusing on the role of global governance. Governance refers to the rules and processes by which an organization or society collectively steers itself towards agreed goals. The project operates within the International Health Regulations (IHR), which represent an agreement between 195 countries, including all WHO Member States to work together for global health security (including reporting requirements). The project aims to identify which countries adopted crossborder measures, when and how, to review evidence of public health and wider impacts of measures, to conduct national case studies of decision making and to develop decision tools to support IHR compliance and global coordination. Crossborder measures are measures applied to achieve a public health goal by controlling movements across international borders. Preliminary data suggest that denial of entry, compulsory quarantine and cancellation of flights are the most commonly implemented measures. There is a need to extend the focus to include pre-border and within-border measures to understand the optimum balance. The border needs to be managed like a tap rather than a door, and the vaccine will be a game-changer, but not completely. There needs to be a coordinated approach to lifting crossborder measures.

Democratic Health Communications

Dr. Heidi Tworek, UBC, discussed democratic health communications during COVID-19. Pandemic communications are a crucial non-pharmaceutical intervention (NPI), which intersect with existing crises – populism, erosion of local journalism, anti-vaxxer activism, etc. We need to think about democratic communications – not “good” communications. The research team has done an international comparative analysis of countries with different political and health

systems to discern best practices. Five broad principles emerged on democratic public health communications – rely on autonomy, not orders; attend to values, emotions and stories; pull in citizens and civil society; institutionalize communications; and describe it democratically. While it is essential to deal with the negative – disinformation or the infodemic – there is also a role for communicating in ways that diverse populations can understand. It is essential to learn from other democracies and disciplines and to develop clear, consistent, compassionate, commensurate, constructive, and contextual communications.

Pandemic Economies

Dr. Susan Erikson, SFU, discussed her SHHRC and other funded work on pandemic economies: hedge funds, bonds and making money with a pandemic. There is a tension between the nation-state and its provisioning and management of health care (emerging in the early 20th Century) to more modern concepts of universal health coverage combined with/versus financialization of global health, particularly innovative financing options. For example, hedge funds are engaged in financing vaccine development (e.g., Vaxart – Armistice Capital) and can make profits on shares without a vaccine in fact delivered. Another example is pandemic bonds, which is a \$450 million pool - . If there is no pandemic during the three years of the bond, the investors get back their money back plus interest. It was not triggered by the Ebola outbreak, but was triggered by COVID-19 after 2500 people died. The possibility for profit on investment is large.

Utilizing Health Systems Data

Dr. Michael Law, UBC, discussed CIHR funded research by a collaborative interdisciplinary and international team on the utilization of health systems data to respond to COVID-19 in seven resource poor countries. Increasing collection of health data globally presents an opportunity for research – it can come from DHIS2-based systems, EHRs, and other datasets, analyses of which are longitudinal, rapid and low cost. These methods have been used previously to analyse health services during the Ebola outbreak in Congo in 2018, where use of health facilities increased with provision of free care. The research aims, in 7 countries, are to determine what local and regional areas have a significantly higher than expected increase in the number of patients with COVID-10 associated symptoms (syndromic surveillance) and how do the number of individuals receiving care compare to expected (health system utilization). Data sources are mainly based on DHIS2 data, collected monthly from local systems via a data processing pipeline and ongoing discussions. Example from Lesotho suggests that outpatient visits dropped in response to the pandemic. The deliverables are monthly reports, website with code, training course and publications.

Government Response to COVID-19

Dr. Peter Berman, UBC, discussed a comparative, international, research study on governmental responses to COVID-19, evaluating institutional, organizational, governance and political (IGOP) factors. These factors affect discrepancies in national pandemic preparedness (public health response, clinical preparedness and treatment, and non-health actions relative to the economy, education, society, culture, etc.). In 2019 a Global Health Security Index scored 195 countries on pandemic preparedness – ranking US and UK first. The index performed poorly in predicting the response to COVID-19, hence the importance of the IOGP factors. IOGP is a key determinant of (a) how knowledge is produced and used to guide government action and (b) how well directions for action are implemented by organizations and responded to by citizens. It affects

both the “supply side” – what is accepted as known and by whom and what is done with the knowledge and the “demand” side – the trust and confidence of citizens in government direction and their compliance. Some things that mattered in BC were the strong legislative powers for the Provincial Health Officer, the highly capable individual in that role, political leadership that deferred to science and expert knowledge (not disrupted by political opposition), a single payer health system, a high degree of solidarity in the population, and early action and some time to mobilize in the early stages of the epidemic. The international work will be instrumental in developing strategies for future responses.

African Healthcare Workers

Drs Annalee Yassi and Jerry Spiegel, UBC, discussed their IDRC/CIHR-funded and international partnered (WHO collaborative centres) comparative contextualized global occupational health analysis on protecting South African healthcare workers from COVID-19. Gauteng province is the key partner. Healthcare workers (HCWs) worldwide are at increased risk of occupational infectious diseases and approaches vary across jurisdictions. Policy makers want to know what protects HCWs, in what contexts, using what mechanisms, to achieve what outcomes? The research aims to provide insight into individual, organizational and health system factors that influence the infection of HCWs by COVID-19, especially in low and middle income countries (LMICs). The research is based on considerable previous work on work safety and environment of HCWs and strong existing partnerships and understanding of complexities. The study involves in-depth case studies, in Guateng Department of Health, including mental health of HCWs, an international cross-country comparative analysis (161 countries) and a nested case-control study of risk factors for SARS-CoV-2 infection among health workers in VCH, BC and Guateng, South Africa. There is a training component to the project as well as the development of web-based tools.

Gender Disparities

Dr. Julia Smith, SFUI discussed CIHR and the Gates foundation Funded work on gender disparities and the response to COVID-19 in 9 countries. The goals are to identify gendered effects of the response to COVID-19, highlight policy gaps and opportunities, and provide guidance and tools to decision-makers. A gender-based analysis is essential because health crises may have differential biological effects on male and female bodies AND differential socio-economic effects on men, women, and non-binary people. Crisis responses can exacerbate inequities and the secondary health and socio-economic impacts of the response to COVID-19 are particularly gendered. The team is international, multi-sectoral and interdisciplinary, and using a COVID-19 gender matrix. It will employ a rapid mixes methods approach and national case studies to discern global themes. One key partnership is a gender working group from around the world to host for a and develop resources on gender and COVID-19.

Mental Health Impacts

Dr. Lara Aknin, SFU, discussed mental health during COVID-19 stemming from a survey of approximately 46,000 Canadians which reported a decline in mental health and well-being during the pandemic, especially depression and anxiety. The study is on novel interventions to protect mental well-being, based on the premise that humans are generous and a strategy of helping other people. Empirical research suggests that even in challenging times, strategies that enable people to help others may improve mental health and wellbeing.

APPENDIX: AGENDA

<https://bcahsn.ca/wp-content/uploads/2020/08/BC-COVID-19-Symposium-Program-at-a-Glance-27Aug2020.pdf>



BC COVID-19 Research and Collaboration Symposium: Public Health, Populations, Health Services, and Impacts

September 1st-2nd, 2020



ZOOM MEETING LINKS

Main Sessions:

<https://sfu.zoom.us/j/98144031862?pwd=QTMxNEITVHNXV0Q4cGtMV29rQktrQT09>

Meeting ID: 981 4403 1862

Password: 959491

Breakout Rooms:

Please see Breakout Room Zoom Info below for individual Breakout Room Zoom meeting links.

When tweeting about the symposium, please use the hashtag:

#BCCOVIDResearch

**The main sessions will be recorded and live-streamed on
the SFU Faculty of Health Sciences YouTube channel:**

Tuesday, Sept 1: <https://www.youtube.com/watch?v=Ctx04llhCaM>

Wednesday, Sept 2: <https://www.youtube.com/watch?v=Dwov8uaKPGo>

Following the symposium, the recordings of the main sessions will be available on the BC Academic Health Science Network's YouTube channel.

PROGRAM AT A GLANCE

Day 1: Tuesday, September 1

Time	Section, Chairs and Rapporteurs	Speakers and Discussion Questions
08:45	Territorial Welcome	Elder Margaret George
08:50	Welcome	Dr. Bonnie Henry, Provincial Health Officer Peter Berman, UBC SPPH: Goals and outline of the Symposium
09:00	SESSION 1: Setting the Scene: Strategic Priorities and Frameworks Chair: Bev Holmes, MSFHR	Setting the Stage: Public health response to COVID-19 in British Columbia [David Patrick, BCCDC] Views on <i>Strategic Research Priorities</i> : <ul style="list-style-type: none"> • BC Ministry of Health – Research Priorities and Alignment [Victoria Schuckel, BC Ministry of Health] • Michael Smith Foundation for Health Research – Overall Response related to COVID-19 and Research Priorities [Chonnetia Jones, MSFHR] • BC COVID-19 Strategic Research Advisory Committee (SRAC) - Input into the BC Strategic COVID-19 Research Framework [Kelly Barnard, SRAC] • Knowledge Translation [Lupin Battersby, SFU] Q&A
10:20	SESSION 2: Development and implementation of public health measures Chair: David Patrick, BCCDC	Welcome by the Chair Presentations <ul style="list-style-type: none"> • Epidemiology and Modeling [Caroline Colijn, SFU] • Implementing Public Health Measures [Alice Virani, PHSA] • Developing Readiness Strategy Guidance for Travelers Visiting Friends and Relatives [Cindy Jardine, Univ Fraser Valley] • Organization, Politics and Governance of Response [Max Cameron, UBC]
11:10	Session 2 Breakout rooms Room 2.1: Epidemiology and Modeling Room 2.2: Implementing Public Health Measures, Including Vaccination & Communicating about Public Health Measures Room 2.3: Organization, Politics and Governance	Brief chair welcome Rapid-fire presentations Discussion Rapporteur closure Speakers will present their research and reflect on 5 discussion points: <ul style="list-style-type: none"> - What are the aims of your current/proposed research? - What populations/data will you access/work with? - What methods will you employ? - What challenges do you anticipate to your research over the next 12 months? - How might collaboration/partnerships overcome the challenges?
12:00	Lunch Break	

Day 1: Tuesday, September 1 (con't)

Time	Section, Chairs and Rapporteurs	Speakers and Discussion Questions
13:00	<p>SESSION 3: Population health impact of public health measures</p> <p>Chair: Danielle Lavallee, BC ASHN and BC SUPPORT Unit</p>	<p>Welcome by the Chair</p> <p>Presentations</p> <ul style="list-style-type: none"> • Overall population impacts [Kate Smolina, BCCDC] • Indigenous Peoples/Communities [Jeff Reading, SFU] • Seniors [Kelli Stajduhar, UVic] • Children and Youth [Ryan Rhodes, UVic] • Rural populations [Kathy Rush, UBC-O] • Specific Patient Populations [Juan Antonio Avina-Zubieta, Arthritis Research]
14:10	<p>Session 3 Breakout Rooms</p> <p>Room 3.1: Overall Population impacts</p> <p>Room 3.2: Indigenous Health & Priority Populations</p> <p>Room 3.3: Seniors</p> <p>Room 3.4: Children and Youth</p> <p>Room 3.5: Specific Patient Populations</p>	<p>Brief chair welcome</p> <p>Rapid-fire presentations</p> <p>Discussion</p> <p>Rapporteur closure</p> <p>Speakers will present their research and reflect on 5 discussion points:</p> <ul style="list-style-type: none"> - What are the aims of your current/proposed research? - What populations/data will you access/work with? - What methods will you employ? - What challenges do you anticipate to your research over the next 12 months? - How might collaboration/partnerships overcome the challenges?
15:00	<p>SESSION 4: Pandemic Impact on Health Services and Workforce</p> <p>Chair: Lindsay Hedden, SFU and BC ASHN</p>	<p>Welcome by the Chair</p> <p>Presentations</p> <ul style="list-style-type: none"> • COVID-19 Health Services [Alison Hoens and Chris Carlsten, UBC] • Non-COVID-19 Health Services and Delivery [Emilie Joos, Vancouver Coastal Health] • Overdose Prevention [Amanda Slaunwhite, BCCDC and Louise Meilleur, FNHA] • Rural Medicine and Virtual Services [John Pawlovich] • Long-Term Care [Michael Schwandt, Vancouver Coastal Health] • Health Workforce [Bala Nikku, Thompson Rivers Univ]
16:10	<p>Session 4 Breakout Rooms</p> <p>Room 4.1: COVID-19 Health Services & Rural and Virtual Services & Long-Term Care</p> <p>Room 4.2: Non-COVID-19 Health Services and Delivery & Mental Health and Addictions Services</p> <p>Room 4.3: Health Workforce</p>	<p>Brief chair welcome</p> <p>Rapid-fire presentations</p> <p>Discussion</p> <p>Rapporteur closure</p> <p>Speakers will present their research and reflect on 5 discussion points:</p> <ul style="list-style-type: none"> - What are the aims of your current/proposed research? - What populations/data will you access/work with? - What methods will you employ? - What challenges do you anticipate to your research over the next 12 months? - How might collaboration/partnerships overcome the challenges?
17:00	Close of Day 1	Tania Bubela (FHS SFU) and Peter Berman (UBC SPPH)

Day 2: Wednesday, September 2

Time	Section, Chairs and Rapporteurs	Speakers and Discussion Questions
09:00	Welcome	Dr. Joy Johnson, President and Vice-Chancellor, SFU Tania Bubela (FHS SFU) and Peter Berman (UBC SPPH): Goals and outline of the Symposium
09:10	SESSION 5: Support Platforms and Methods Chair: Stirling Bryan, BC AHSN, SPPH UBC & C2E2 VCHRI	Welcome by the Chair <i>Views on Support Platforms and Methods:</i> <ul style="list-style-type: none"> • BC Academic Health Sciences Network & BC SUPPORT Unit <ul style="list-style-type: none"> ○ Expedited, harmonized research ethics [Terri Fleming, Research Ethics BC] ○ Patient oriented research and REACH BC [Stefanie Cheah, BC SUPPORT Unit] ○ BC COVID-19 research database [Lindsay Hedden, BC AHSN & SFU] • Population Data BC [Kim McGrail, UBC SPPH and UBC Health] • COVID-19 Inclusive Language Guide [Harlan Pruden, BCCDC] Q&A
10:30	SESSION 6: Other impacts of public health measures/ unintended consequences Chair: Craig Mitton, UBC SPPH	Welcome by the Chair Presentations <ul style="list-style-type: none"> • BC schools/post-secondary institutions – Special Education [Vicki Floyd Knight and Kim Zebehazy, UBC] • Work from home [Kafui Monu, UNBC] • Back to work [Simon Pimstone, UBC] • BC Geographies [Valorie Crooks, SFU]
11:30	Session 6 Breakout Room Room 6.1: <ul style="list-style-type: none"> • BC Schools and Post-Secondary Institutions • BC Economy/Businesses - Work from Home & Back to Work 	Brief chair welcome Rapid-fire presentations Discussion Rapporteur closure Speakers will present their research and reflect on 5 discussion points: <ul style="list-style-type: none"> - What are the aims of your current/proposed research? - What populations/data will you access/work with? - What methods will you employ? - What challenges do you anticipate to your research over the next 12 months? - How might collaboration/partnerships overcome the challenges?
12:30	Lunch Break	

Day 2: Wednesday, September 2

13:30	<p>SESSION 7: Global Health</p> <p>Chair: Peter Berman, UBC SPPH</p>	<p>Welcome by the Chair</p> <p>Presentations</p> <ul style="list-style-type: none"> • Travel restrictions and other crossborder measures during pandemics: The role of global governance [Kelley Lee, SFU] • Democratic Health Communications during COVID-19 [Heidi Tworek, UBC] • Pandemic Economies: Bonds, Hedge Funds and Making Money with a Pandemic [Susan Erikson, SFU] • Utilizing Health Systems Data to Respond to COVID-19 in Seven Resource Poor Countries [Michael Law, UBC] • Containing COVID-19: How has governance, the public health system and politics shaped country responses [Peter Berman, UBC] • Protecting South African healthcare workers from COVID-19: A comparative contextualized global occupational health analysis [Annalee Yassi & Jerry Spiegel, UBC] • Gender disparities within the response to COVID-19 [Julia Smith, SFU] • Impact of COVID-19 on mental health [Lara Akinin, SFU] <p>Q&A and Discussion</p>
15:00	<p>SESSION 8: Synthesis</p> <p>Chair: Tania Bubela, FHS, SFU</p>	<p>Summary of rapporteur session reports</p> <p>Discussion of next steps and synergies</p> <ul style="list-style-type: none"> • Study Questions, Populations, Data, Methods, Enablers, Challenges & Gaps
16:00	<p>Thank You and Close</p>	<p>Tania Bubela and Peter Berman</p>

BREAKOUT SESSIONS – ZOOM INFO

SESSION 2: Development and implementation of public health measures (Tuesday, Sept 1, 11:10-12:00)

- **Room 2.1:** Epidemiology and Modeling
Zoom: <https://sfu.zoom.us/j/95192619415?pwd=UTZNVUNDT1ZsdVd1WE40S2VuTWNndz09>
Meeting ID: 951 9261 9415 Password: 513552
- **Room 2.2:** Implementing Public Health Measures, Including Vaccination & Communicating about Public Health Measures
Zoom: <https://sfu.zoom.us/j/92396189134?pwd=TnJVU1RRRzNpYkRkSk5WMWJPSUIYQT09>
Meeting ID: 923 9618 9134 Password: 297245
- **Room 2.3:** Organization, Politics and Governance
Zoom: <https://sfu.zoom.us/j/97352432033?pwd=dz djMWtxcDIKTEZxWFBqZ0xRV2liUT09>
Meeting ID: 973 5243 2033 Password: 022389

SESSION 3: Population health impact of public health measures (Tuesday, Sept 1, 14:10-15:00)

- **Room 3.1:** Overall Population impacts
Zoom: <https://sfu.zoom.us/j/94558132659?pwd=SHFIZmM0QTJsakF4RFIXS0tvYjE2dz09>
Meeting ID: 945 5813 2659 Password: 771827
- **Room 3.2:** Indigenous Health & Priority Populations
Zoom: <https://sfu.zoom.us/j/93268226414?pwd=VVVudlZWNEZiOWdmKzY1enJtM2ZUUT09>
Meeting ID: 932 6822 6414 Password: 994290
- **Room 3.3:** Seniors
Zoom: <https://sfu.zoom.us/j/98452885090?pwd=QXFyL0tYNUFuRER1R2FrVGcxZIM3QT09>
Meeting ID: 984 5288 5090 Password: 195165
- **Room 3.4:** Children and Youth
Zoom: <https://sfu.zoom.us/j/96886484548?pwd=eEdlSVBaVVNkZzJkVHl6dHROVnhjQT09>
Meeting ID: 968 8648 4548 Password: 550795
- **Room 3.5:** Specific Patient Populations
Zoom: <https://bcahsn.zoom.us/j/61947137014?pwd=akx5bVFBSThaK0RLY2NGZS9Fc0dKUT09>
Meeting ID: 619 4713 7014 Password: Network10 (case sensitive)

SESSION 4: Pandemic impact on health services and workforce (Tuesday, Sept 1, 16:10-17:00)

- **Room 4.1:** COVID-19 Health Services & Rural and Virtual Services & Long-Term Care
Zoom: <https://sfu.zoom.us/j/97696271130?pwd=alRHWIMvQzRXUXhTUkRiZWVrWmFZUT09>
Meeting ID: 976 9627 1130 Password: 234053
- **Room 4.2:** Non-COVID-19 Health Services and Delivery & Mental Health and Addictions Services
Zoom: <https://sfu.zoom.us/j/92409789010?pwd=UE05UitPQ2xUWTNpTkxKT0V4bkR6Zz09>
Meeting ID: 924 0978 9010 Password: 849939
- **Room 4.3:** Health Workforce
Zoom: <https://sfu.zoom.us/j/92760077044?pwd=cVllcy82NHcxbDBiOHF2dFFDN0IZUT09>
Meeting ID: 927 6007 7044 Password: 114804

SESSION 6: Other impacts of public health measures & unintended consequences (Wednesday, Sept 2, 11:30-12:30)

- **Room 6.1:** BC Schools and Post-Secondary Institutions
BC Economy/Businesses - Work from Home & Back to Work
Zoom: <https://sfu.zoom.us/j/98144031862?pwd=QTMxNElTVHNXV0Q4cGtMV29rQktrQT09>
Meeting ID: 981 4403 1862 Password: 959491 (same as main session)

BREAKOUT SESSIONS – RAPID-FIRE PRESENTATION INFORMATION

SESSION 2: Development and implementation of public health measures (Tuesday, Sept 1, 11:10-12:00)

- **Room 2.1: Epidemiology and Modeling**

Zoom: <https://sfu.zoom.us/j/95192619415?pwd=UTZNVUNDT1ZsdVd1WE40S2VuTWNndz09>

Meeting ID: 951 9261 9415 Password: 513552

Chair: Shannon Freeman, University of Northern BC

Rapporteur: Sarah Watt, BCCDC

Rapid-Fire Presentations:

- *Modelling the economic and equity impacts of COVID-19*
Sonya Cressman, SFU
- *Importance of COVID-19 vaccine efficacy among people aged 65+*
Daniel Coombs, UBC
- *Population level contact patterns to inform COVID-19 response*
Prince Adu, BC Centre for Disease Control
- *Development of city-scale synthetic population to simulate COVID-19 transmission and response*
Chaitanya "CK" Kaligotla, SFU
- *SURveilling Prospective Population cOHORTs for COVID19 pRevalence and ouTcomes in Canada (SUPPORT-Canada)*
Trevor Dummer, UBC
- *Syndromic Surveillance data collected in the Canada COVID-19 App*
Jennifer Baker, Thrive Health

- **Room 2.2: Implementing Public Health Measures, Including Vaccination & Communicating about Public Health Measures**

Zoom: <https://sfu.zoom.us/j/92396189134?pwd=TnJVU1RrRzNpYkRkSk5WMWJPSUIYQT09>

Meeting ID: 923 9618 9134 Password: 297245

Chair: David Patrick, BCCDC

Rapporteur: Terri Fleming, Research Ethics BC

Rapid-Fire Presentations:

- *Parents intentions to vaccinate their children against influenza based on COVID-19 concerns*
Sophie McGregor and Ran Goldman, BC Children's Hospital
- *Washing our hands of risk- hand hygiene challenges during COVID-19*
Anne-Marie Nicol, SFU
- *Prognostication of ACE II Receptor Expression in COVID-19 Patients of British Columbia: a Test-Negative Case-Control Study*
Aidan Nikiforuk, UBC
- *Evaluating COVID-19 Spread Visualization Methods*
Wolfgang Stuerzlinger, SFU

- **Room 2.3: Organization, Politics and Governance**

Zoom: <https://sfu.zoom.us/j/97352432033?pwd=dzdjMWtxcDIKTEZxWFBqZ0xRV2liUT09>

Meeting ID: 973 5243 2033 Password: 022389

Chair: Craig Mitton, UBC SPPH

Rapporteur: Cecilia Kalaw, FHS SFU

Rapid-Fire Presentations:

- *Applying technological innovations to respond to Covid-19 Challenges: Orienting Perspectives on public health and privacy for enabling policy decisions*
Anisha Dhillon and Victoria Lemieux, UBC
- *Development of an Implementation Framework to Advance Provincial and National Health System Supply Chain Management of the COVID-19 Pandemic*
Jie Zhang, UVic
- *The Need for Even Distribution Testing/Tracing*
Alan Blanes, Lake Cowichan Community
- *How a Pandemic Pushed Advance Care Planning to the Forefront: Who saw this coming?*
Cari Borenko Hoffmann, Fraser Health
- *How national healthcare systems compare in response to COVID-19 pandemic? A macro operational analysis from the OECD countries*
Adel Guitouni, UVic
- *Prioritization in times of pandemic*
Craig Mitton, UBC

SESSION 3: Population health impact of public health measures (Tuesday, Sept 1, 14:10-15:00)

• **Room 3.1: Overall Population impacts**

Zoom: <https://sfu.zoom.us/j/94558132659?pwd=SHFIZmM0QTJsakF4RFIXS0tvYjE2dz09>

Meeting ID: 945 5813 2659

Password: 771827

Chair: Mieke Koehoorn, UBC SPPH

Rapporteur: Seraphine Zeitouny, UBC SPPH

Rapid-Fire Presentations:

- *An early glimpse at the inequitable mental health impacts of the COVID-19 pandemic across Canada*
Corey McAuliffe, UBC
- *Double Unbelonging: The Vulnerability of Chinese Immigrants during the COVID-19 Pandemic*
Zed Zhipeng Gao, SFU
- *Mémoire de la traversée ; Francophones de CB dans la COVID-19*
Hélène Cazes, UVic
- *Seroprevalence of SARS-CoV-2 and endemic human coronaviruses in an adult population mainly composed of health care workers, in the Vancouver metropolitan area, British Columbia, Canada*
Pascal Lavoie, UBC and BC Children's Hospital Research Institute
- *Understanding the effects of public health outbreak control policies and implementation on individuals and communities: a path to improving COVID-19 policy effectiveness*
Julie Bettinger, Vaccine Evaluation Center, UBC

- *Workers at risk for COVID-19 and determinants of risk*
Mieke Koehoorn, UBC

- **Room 3.2: Indigenous Health & Priority Populations**

Zoom: <https://sfu.zoom.us/j/93268226414?pwd=VVVudlZWNEZiOWdmKzY1enJtM2ZUUT09>

Meeting ID: 932 6822 6414

Password: 994290

Chair: Shira Goldenberg, FHS SFU

Rapporteur: Sonya Cressman, FHS SFU

Rapid-Fire Presentations:

- *From Colonisation to COVID-19: What does immunity mean for Indigenous Peoples?*
Angela M McIntyre, UBC
- *Pandemic experiences and impacts of COVID-19 on the mental health of Indigenous communities*
Alanaise Goodwill and Jeannie Morgan, SFU
- *Informing The COVID-19 Response For Vancouver's Urban Indigenous Population Using Community-Driven Methods And Big Data Analytics*
Brittany Bingham, Vancouver Coastal Health
- *Assessing the Impacts of COVID-19 on the Health and Wellbeing of Canadian Sexual and Gender Minoritized Men*
Nathan Lachowsky, UVic
- *Preventing and Mitigating The Impacts Of COVID-19 Among Im/Migrants In British Columbia: Community-Based Mixed-Methods Research to Inform Policy and Programmes*
Shira Goldenberg and Mei-Ling Wiedmeyer, SFU and Centre for Gender & Sexual Health Equity
- *The COVID-19 ASSESS-DBS Study: Mitigating the impact of COVID-19 on marginalized people through use of dried blood spots for SARS-CoV-2 antibody testing*
Sofia Bartlett, BCCDC
- *Worry about having enough food to meet basic household needs in the context of the COVID-19 pandemic in Canada and its linkage to adverse mental health outcomes*
Zachary Daly, UBC

- **Room 3.3: Seniors**

Zoom: <https://sfu.zoom.us/j/98452885090?pwd=QXFyL0tYNUFuRER1R2FrVGcxZiM3QT09>

Meeting ID: 984 5288 5090

Password: 195165

Chair: Shannon Freeman, University of Northern BC

Rapporteur: Amanda Rowlands, FHS SFU

Rapid-Fire Presentations:

- *COVID-19: Experiences Now and Future Plans*
Gloria Gutman, SFU
- *Leveraging assistive technologies to address the mental health needs of community-dwelling older adults and members of their care networks during and post-COVID-19*
Karen Kobayashi, UVic

- *Promoting virtual assessment of frailty in the time of the COVID-19 pandemic: web-based frailty assessment*

Riley Chang, Andrew McDonald, Hilary Low, **Lorraine Graves**, Grace Park, Xiaowei Song, Health Sciences and Innovation - Fraser Health, Queen's University, UBC, SFU

- *Regular screening of high-risk individuals for early diagnosis of coronal virus infections; significance and a potential option*

Babak Shadgan, UBC

- **Room 3.4: Children and Youth**

Zoom: <https://sfu.zoom.us/j/96886484548?pwd=eEdlSVBaVVNkZzJkVHl6dHROVnhjQT09>

Meeting ID: 968 8648 4548

Password: 550795

Chair: Rod Knight, Department of Medicine, UBC

Rapporteur: Cecilia Kalaw, FHS SFU

Rapid-Fire Presentations:

- *Assessing the impact of the COVID-19 pandemic on social and health outcomes among young people: A mixed-method comparative analysis in Canada and France*

Rod Knight, UBC

- *Communicating in times of COVID-19: Q&A info session for families with children with medical complexity*

Esther Lee, Zoe Schwartz, and Tessa Diaczun, BC Children's Hospital, Canuck Place Children's Hospice

- *Immediate Response for Reducing Vulnerability of Wait Listed Pediatric Patients with Mental Health Problems. Revised Intake, Triage & Screening*

Osman Ipsiroglu, BC Children's Hospital

- *Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth*

Guy Faulkner, UBC

- *The Impact of COVID-19 on Medically-Complex Children and their Families*

Jennifer Baumbusch and Shawna Bennett, UBC

- *Study of early Health Outcomes in Neonates Exposed to COVID-19 in British Columbia (SHiNE-BC)*

Joseph Ting, BC Children's Hospital, UBC

- **Room 3.5: Specific Patient Populations**

Zoom: <https://bcahsn.zoom.us/j/61947137014?pwd=akx5bVFBSThaK0RLY2NGZS9Fc0dKUT09>

Meeting ID: 619 4713 7014

Password: Network10 (case sensitive)

Chair: Danielle Lavalley, BC AHSN and BC SUPPORT Unit

Rapporteur: Terri Fleming, Research Ethics BC

Rapid-Fire Presentations:

- *Impact of the COVID-19 pandemic on self-care: Perspectives of people with rheumatoid arthritis*

Jenny Leese, UBC

- *What can we learn from people with chronic obstructive pulmonary disease (COPD) use of digital technologies to keep socially connected*

Marcy Antonio, UVic

- *Medication use among rheumatology patients during the COVID-19 pandemic*

Nevena Rebic and Mary De Vera, UBC

- *Occupational balance and well-being before and during COVID-19 in adults with and without inflammatory arthritis: A repeated measures survey*
Flora To-Miles, UBC
- *Outcomes for Critically Ill Patients with COVID-19 in Metro Vancouver*
Anish Mitra, Fraser Health
- *Mental health outcomes of cancer patients undergoing active treatment during the COVID-19 pandemic: A cross-sectional survey*
Hallie Dau and Mary De Vera, UBC

SESSION 4: Pandemic impact on health services and workforce (Tuesday, Sept 1, 16:10-17:00)

- **Room 4.1: COVID-19 Health Services & Rural and Virtual Services & Long-Term Care**

Zoom: <https://sfu.zoom.us/j/97696271130?pwd=alRHWIMvQzRXUXhTUkRiZWVrWmFZUT09>

Meeting ID: 976 9627 1130

Password: 234053

Chair: Kafui Monu, University of Northern BC

Rapporteur: Cecilia Kalaw, FHS SFU

Rapid-Fire Presentations:

- *Telephone survey on the understanding, adherence, and barriers to self-isolation among recently discharged emergency department patients with suspected COVID-19*
Lulu Yang, Devon Mitchell, and Andrew Kestler, UBC
- *The Canadian COVID-19 Emergency Department Rapid Response Network: Methods for a Nationally Harmonized Dataset*
Corinne Hohl, UBC
- *Evaluation of telephone and virtual visits for routine pediatric diabetes care during the COVID-19 pandemic*
Brenden Hursh, UBC and BC Children's Hospital
- *Rapid Implementation and Sustainability of Virtual Health in A Pediatric Neurology Clinic*
James Lee, BC Children's Hospital
- *Clinical course and risk factors associated with mortality in patients diagnosed with COVID-19 residing in Long Term Care facilities in Fraser Health*
Amber Jarvie and Janice Sorensen, Fraser Health
- *Leading a long-term care facility through the COVID-19 crisis: Successes, barriers and lessons learned*
Farinaz Havaei, UBC
- *Challenges experienced by long term care facilities in implementing outbreak management procedures: A mixed methods utilization-focused evaluation*
Carmen Ng, Fraser Health
- *Robust Man power planning models for critically ill admitted patients during a pandemic*
Mahesh Nagarajan, UBC

- **Room 4.2: Non-COVID-19 Health Services and Delivery & Mental Health and Addictions Services**

Zoom: <https://sfu.zoom.us/j/92409789010?pwd=UE05UitPQ2xUWTNpTkxKT0V4bkR6Zz09>

Meeting ID: 924 0978 9010

Password: 849939

Chair: Travis Salway, FHS SFU

Rapporteur: Regiane Garcia, UBC SPPH

Rapid-Fire Presentations:

- *Impact of COVID-19 on HCV testing and first-time HCV-positive diagnoses in British Columbia*
Mawuena Binka, BCCDC
- *811 Virtual Physicians to support Patients Call volumes during COVID*
Kendall Ho, UBC
- *Pediatric Patients Seen in 18 Emergency Departments in BC during the Covid-19 Pandemic*
Mike Irvine and Ran Goldman, BC Children's Hospital and UBC
- *The rapid shift to digital mental health care and the needs of at-risk groups in the context of COVID-19: challenges and opportunities from the Asia Pacific region*
Jill Murphy, UBC
- *Equitably tailoring mental health resources during the COVID-19 pandemic*
Travis Salway, SFU
- *Substance use and mental health among sexual and gender minorities during the COVID-19 pandemic in Canada: Preliminary results from the Heads Together Online Survey*
Pierre-julien Coulaud, BC Centre on Substance Use
- *Experience of people who use opioids during the COVID-19 pandemic*
Lexis Galarneau, UBC

- **Room 4.3: Health Workforce**

Zoom: <https://sfu.zoom.us/j/92760077044?pwd=cVllcy82NHcxhDBiOHF2dFFDN0lZUT09>

Meeting ID: 927 6007 7044

Password: 114804

Chair: Lindsay Hedden, FHS SFU and BC AHSN

Rapporteur: Terri Fleming, Research Ethics BC

Rapid-Fire Presentations:

- *The impact of the COVID-19 on the psychological health and safety of the provincial nursing workforce across healthcare sector and geographical regions*
Farinaz Havaei, UBC
- *“COVID-19 Orientation for Frontline Healthcare Providers in the Acute Care Setting”: Capacity-building the global health workforce to manage pandemic response*
Erica Frank, UBC, NextGenU.org
- *COVID-19 Outbreak: Understanding challenges faced by health care worker*
Esther Alonso, BC Women's Hospital and Health Centre
- *Health and safety of healthcare workers during the COVID-19 pandemic: A survey in 161 countries*
Sean Harrigan, UBC
- *Protecting healthcare workers from COVID-19: A comparative contextualized analysis*
Arnold Ikedichi Okpani, UBC

- *Protecting physicians in the time of COVID-19: A mixed methods study*
Annalee Yassi, UBC
- *Pandemic Planning for Primary Care: Lessons from Four Provinces*
Lindsay Hedden, SFU

SESSION 6: Other impacts of public health measures & unintended consequences
(Wednesday, Sept 2, 11:30-12:30)

- **Room 6.1: BC Schools and Post-Secondary Institutions**
BC Economy/Businesses - Work from Home & Back to Work

Zoom: (same as main session)

<https://sfu.zoom.us/j/98144031862?pwd=QTMxNEITVHNXV0Q4cGtMV29rQktrQT09>

Meeting ID: 981 4403 1862

Password: 959491

Chair: Craig Mitton, UBC SPPH

Rapporteur: Tania Bubela, FHS SFU

Rapid-Fire Presentations:

- *Impact of COVID-19 pandemic upon undergraduate dental education*
Mario Brondani, UBC
- *Student perceptions of the emergency transition to remote instruction*
Lisa Chang, UBC
- *Wellbeing Convene during COVID-19: assessing webinars for the UBC Faculty of Medicine*
Farah Shroff, UBC
- *Negative impacts on women's wellness as a result of the unequal burden of lock-down on mothers in co-parent households*
Jessica Ball, UVic
- *Identifying Work and Health Evidence Gaps and Research Needs in the Context of COVID-19*
Chris McLeod, UBC
- *Medicolegal Death Investigations Amidst COVID-19,*
Vienna Lam, SFU
- *Impacts on trainees engaged in women's health research*
Angela Kaida, SFU
- *Live music as mediator – aspects of absent live music performances during COVID-19*
Ajtony Csaba, UVic