

# News

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## Dr Glenn Regehr awarded the Karolinska Institutet Prize for Research in Medical Education



Glenn Regehr, PhD, has been awarded the 2020 Karolinska Institutet Prize for Research in Medical Education. Dr Regehr is a senior scientist, founding associate director of research at the Centre for Health

Education Scholarship, and professor (Department of Surgery) in the UBC Faculty of Medicine. His work has improved the educational and scholarly practices in health professions education. His research looks broadly at the experiences of learners and teachers in the health professions. Dr Regehr will receive the award and a prize amount of €75 000.

The purpose of the prize is to recognize and stimulate high-quality research in the field and to promote long-term improvements of educational practices in medical training.

Dr Regehr's main research impact has been in conceptualizing methodology and its

relationship to theory, a groundwork for significant research activity. He has also introduced a variety of methodological innovations, drawing heavily on work done outside the health professions.

The Karolinska Institutet Prize for Research in Medical Education is financed by the Gunnar Höglund and Anna-Stina Malmberg Foundation.

## COVID-19: Evidence for predicting how severe a patient's illness will become and why patients develop blood clots

A team from Lawson Health Research Institute and Western University has made significant steps in understanding COVID-19 through two back-to-back studies published in *Critical Care Explorations*. In one study, the team identified six molecules that can be used as biomarkers to predict how severely ill a patient will become. In the other study, they revealed for the first time a new mechanism causing blood clots in COVID-19 patients and potential ways to treat them.

The studies were conducted by analyzing blood samples from critically ill patients at London Health Sciences Centre (LHSC). They build on a growing body of work from the team that was first to profile the body's immune response to the virus by revealing six molecules that could act as potential targets to treat hyperinflammation in critically ill patients.

Dr Douglas Fraser, lead researcher from Lawson and Western's Schulich School of Medicine & Dentistry, and a critical care physician at LHSC, clarifies that the findings need to be validated with larger groups of patients, but they could have important implications for treating and studying this disease.

### Predicting which COVID-19 patients will get worse

When patients are admitted to ICU, care providers wait to see if they are going to get worse before considering risky interventions. Dr Fraser explains that to improve outcomes they need new therapies but also a way to predict which patients are going to get worse.

The researchers identified six molecules of importance (CLM-1, IL12RB1, CD83, FAM3B, IGFR1R, and OPTC). They found that these molecules were elevated in COVID-19 patients who would become even more severely ill, and when measured on a COVID-19 patient's first day of ICU admission, the molecules could be used to predict which patients will survive following standard ICU treatment.

The team measured 1161 plasma proteins from the blood of 30 participants: 10 COVID-19 patients, 10 patients with other infections admitted to LHSC's ICU, and 10 healthy control participants. Blood was drawn on set days of ICU admission, processed in a lab, and then analyzed using statistical methods and artificial intelligence.



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The team notes that predicting a patient's disease severity can help by allowing medical teams to have important conversations with family members, and setting goals of care based on the patient's health and personal wishes. Medical teams could use the knowledge to mobilize resources more quickly. If they know a patient is at higher risk of death, they may consider intervening sooner despite associated risks. The team also hopes the findings can be used to better design COVID-19 clinical trials by grouping patients based on their risk. This could allow for stronger results when examining potential treatments for the disease.

### Understanding why blood clots occur and how to treat them

A major complication occurring in most critically ill COVID-19 patients is clotting in the small blood vessels of the lungs, which leads to low oxygen levels in the body. The reason for this clotting has been unclear. The team further analyzed the blood samples from their 30 participants and found evidence to suggest that the inner linings of small blood vessels become damaged and inflamed, making them a welcoming environment for platelets to stick.

They discovered that COVID-19 patients had elevated levels of three molecules (hyaluronic acid, syndecan-1, and P-selectin.) The first two molecules are products broken down from the glycocalyx that lines the inside of the blood vessels. Their presence suggests the glycocalyx is being damaged with its breakdown products sent into the bloodstream. The presence of P-selectin is also significant as this molecule helps to make platelets and the inner lining of blood vessels adhere to one another. The team suggests that two therapies may hold promise for treating blood clots in COVID-19 patients: platelet inhibitors to stop platelets from sticking and molecules to protect and restore the inner lining of blood vessels.

The two articles are "Novel outcome biomarkers identified with targeted proteomic analyses of plasma from critically ill coronavirus disease 2019 patients" (doi: 10.1097/CCE.000000000000189) and "Endothelial injury and glycocalyx degradation in critically ill coronavirus disease



### COVID-19 office safety plan support grant for BC's community physicians

Doctors with community offices in BC have invested time and expense to re-open their practices in a way that ensures safe in-person care. To help offset some of the associated costs, the Joint Collaborative Committees are reallocating funds to provide a \$1000 grant to each eligible physician who has implemented a COVID-19 safety plan in their community practice. Eligible physicians are those who:

- Have an active practice in a community office that provides publicly funded health services.
- Are paid under Fee For Service, Alternate Payment Plan, or Population-Based Funding arrangements (GP funding). APP physicians who are compensated on an hourly-based contract and have been able to claim their time developing a safety plan as part of their contract are not eligible.
- Have directly incurred eligible costs related to the development and implementation of a COVID-19 safety plan in a community office.

For information about eligibility criteria and to apply, go to [www.doctorsofbc.ca/news/covid-19-office-safety-plan-support-grant](http://www.doctorsofbc.ca/news/covid-19-office-safety-plan-support-grant).

2019 patients: Implications for microvascular platelet aggregation" (doi: 10.1097/CCE.000000000000194).

### One in three people avoiding health care workers during pandemic

UBC research reveals fears that have arisen among the general public about coming into contact with health care workers during the COVID-19 pandemic. One in four people surveyed went so far as to agree that the freedoms

of health care workers should be restricted. The study is believed to be the first on stigmatization of health care workers during the COVID-19 pandemic. Steven Taylor, PhD, a professor of psychiatry in UBC's Faculty of Medicine, is lead author of the study, published by the *Journal of Anxiety Disorders*.

The research team surveyed a random sample of 3551 people in Canada and the US between 6 and 19 May to see if they would discriminate against health care workers based on fears they could carry the virus that causes COVID-19. One in three respondents agreed

or strongly agreed with the statement “I do not want to be around someone who works in a health care setting.”

The researchers also asked respondents how often they participated in nightly shows of support for health care workers. Clapping, cheering, and banging pots didn't make a person any less likely to stigmatize health care workers.

Previous research has shown that COVID-19 is only slightly more prevalent among health care workers than it is among the general population: 0.14% compared to 0.10%. Experts believe much of this difference can

be attributed to more testing among health care workers.

Data from this study showed that stigmatization was closely related to COVID-19 Stress Syndrome, which had been identified by Taylor in earlier research and is characterized by:

- Fears that COVID-19 is highly dangerous.
- A tendency to view foreigners as sources of infection.
- Avoidance of public places like supermarkets where encounters with other people are likely.

While the COVID-19 pandemic does carry risks for health care workers, the risk of contracting the virus is not high among them. Workplace stress is a much bigger problem, and stigmatization compounds that mental health risk. The researchers call for clear, sensible public education campaigns to help people understand that health care workers pose little risk to the public. The article, “Fear and avoidance of healthcare workers: An important, under-recognized form of stigmatization during the COVID-19 pandemic,” is available at <https://doi.org/10.1016/j.janxdis.2020.102289>.

## Comprehensive supports for children with medical complexity



Children across BC with extraordinary health needs, requiring complex care, will soon have access to a children's complex care transition centre in Vancouver. Operated by the BC Children's Hospital, the facility will fill gaps in services and supports for children and young people with complex care needs and will complement what is currently provided in acute care and community settings. This will be the first centre in the country to provide such a comprehensive range of supports for children with medical complexity at a single site. The centre will serve as a stepping stone between acute hospital care, community care, and home, providing services under a new, unique model of care designed to support patients and families in the transition.

The centre will support children in improving their quality of life through education and building local care capacity for those who are moving back home from an acute care setting but who may not be ready for a full return, as well as helping to avoid crisis situations requiring admission to an acute care facility.

Patients up to 19 years of age and their families will be able to access health care services ranging from assessment, examination, and treatment to education, training, and research. Care will be provided by an interdisciplinary team of doctors, nurse practitioners, nurses, and allied health professionals. The centre will also provide training for parents and caregivers to help with care delivery at home, as well as supports for siblings. The virtual campus and province-wide community-based care network will extend the centre's reach to every area of BC and will also include training and support for caregivers and clinicians.

The new facility will be located at the current site of the Sunny Hill Health Centre for Children, scheduled to be relocated to the main campus of the BC Children's and Women's Hospitals. There will be close links between the services provided at the site and those provided on the main BC Children's Hospital campus on Oak Street.





## Virtual supports for health care providers in rural, remote, and Indigenous communities

Real-Time Virtual Support (RTVS) pathways is a new virtual support initiative enabling rural health care providers to deliver timely patient-centred care closer to home. Physicians, nurse practitioners, and nurses in rural, remote, and Indigenous communities will have access to 24-hour, just-in-time advice through Zoom and can be connected to one of five teams providing culturally safe and compassionate support:

- RUDi—Emergency
- ROSe—Critical care
- CHARLiE—Pediatrics
- MaBAL—Maternity and newborn
- UBC Dermatology rural and remote service

These teams have an understanding of the rural and cultural contexts and are available to support rural health care providers for

any issue, including:

- Providing a patient consult, second opinion, or ongoing patient support.
- Reviewing a patient case.
- Running through patient simulation scenarios.
- Navigating the health care system.
- Providing collaborative support in critical times.

To learn more about the pathways and how to access them, download the RTVS Toolkit for Healthcare Providers at <http://bit.ly/RTVSToolkit>. The toolkit includes access information, Zoom instructions, FAQs, bios and photos of RTVS teams, and posters.

Real-Time Virtual Support is an initiative of the Virtual Health and Wellness Collaborative for Rural and First Nations BC. For more information visit <https://rccbc.ca/rtnvs>.

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