

# Research team struggles to find public funds for low-cost generic drug that could treat COVID-19

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A lack of public funding is preventing one team of doctors from moving forward with research on a low-cost pill that could “save some lives” during the COVID-19 pandemic.

“With all the economic and human burden with this disease, I would have thought we should have had less problems being able to raise money, but unfortunately that was not the case because of lack of public funding,” said Dr. **Houfar Sekhavat**, founder, president and CEO of **Pulmonem Inc.**

Pulmonem was founded specifically to work on proving the effectiveness and safety of dapson, a generic drug that is being studied to see if it can stop the development of inflammation in individuals infected with COVID-19, as per an explanation on the company’s website.

The study of dapson for this purpose was approved for a phase three clinical trial by Health Canada in August 2020, but Sekhavat and Dr. **Jean Bourbeau**, the lead investigator on the project, require \$5 million to start this part of the work.

Sekhavat said that if they had already received that funding, they would have been able to start recruiting patients for their study, and “by now, [would] have some good idea if this therapeutic could save some lives and help us return to a normal life.”

Both Sekhavat and Bourbeau spoke to Hill Times over Zoom on Jan. 15 and Jan 27.

## DOCTOR SAYS NOT ENOUGH FUNDING ATTENTION GIVEN TO THERAPEUTICS

The researchers say there are a lack of funding avenues for COVID-19 research. Sekhavat said their application for funds from the federal Strategic Innovation Fund or SIF (which is providing up to \$792 million for pandemic-related treatments and vaccines) was rejected because the department wanted the research team to conduct a phase-two animal study on the drug. As a pre-existing generic drug that is currently on the market, dapson had already undergone a phase two trial, and Sekhavat presented articles to the evaluators for the fund to back this up. However, their decision remained the same.

SIF has funded five projects related to COVID-19, according to a government website. Two focus on therapeutics, while the remaining three target vaccines. SIF contributions to these projects range from \$6.7 million to \$175.6 million. The proposal from Bourbeau’s team asked for \$1.2 million.

“There should be money to support businesses in Canada that are trying to either come with discoveries, or use repurposed drugs that might ... be a solution to the problem. I’ll end by saying also that there’s been a lot of attention given to [a] vaccine, but very little to the therapy. And now there is like a wake-up, we’re starting to hear that, ‘oh, the vaccine will not be the final solution,’” said Bourbeau, who is director of the McConnell Centre of Innovative Medicine, Research Institute of **McGill University Health Centre**.

The researchers have also applied to the **Canadian Institutes of Health Research** (CIHR) for funding. Although their proposal submitted to a COVID-19-specific research competition early last year

received high marks, they did not receive any funding. They re-submitted their proposal to CIHR's traditional fall competition last year, which has a broader focus of possible study subjects, and are awaiting the result expected in about a month.

Having a COVID-19 studies in the fall competition is "not the right answer because there is an emergency," said Bourbeau, who has been involved in decision-making related to CIHR grants except for projects where he is involved personally.

Both doctors argue that the CIHR's longstanding spring and fall competitions are not the proper avenue for COVID-19 projects. Bourbeau doesn't contest the CIHR's past decisions on projects that have received funding, saying the organization's evaluators are making the best decisions they can. "It's not that I want to have more grants for me. It's that we want more to be done for COVID," he said.

### **FUNDING FOCUSES ON 'ENTIRE PACKAGE' OF STUDY AREAS, SAYS CIHR PRESIDENT**

CIHR president Dr. **Michael Strong** argues that the organization has been funding a variety of projects on a wide range of focus areas, including therapeutics.

"I would actually say that we actually are [focusing] very nicely on that," Strong said in a phone interview with Hill Times Research on Jan. 25. "It is the entire package of what's being looked at so it wasn't just therapeutics, it was diagnostics as well, it was some of the interventions."

He also said that funding for COVID-19 projects is separate and in addition to CIHR's level of funding for its typical research programs.

Last February, the CIHR launched its first "rapid research funding opportunity" for COVID-19 projects. The CIHR has had between 15 and 20 funding opportunities related to COVID-19, according to **Adrian Mota**, associate vice-president of research programs at CIHR. He estimated that more than \$200 million in new money has been distributed for COVID-19 research. Mota also spoke to Hill Times Research by phone on Jan. 25.

Early research outreach from CIHR in winter 2020 focused on subjects defined by the World Health Organization's (WHO) research roadmap. The coverage was broad because the issue of COVID-19 was growing internationally, and a lot of work was required, Strong said.

Strong anticipates that researchers will see more COVID-19-specific funding competitions in 2021. "I think you just need to look at what's coming down the pike, [with] emerging variants and vaccine hesitancy. I'd be surprised [if] we're not asked, as part of the whole-of-government response to really get some information together and get some research in that area. And then our job is to deliver it," he said.

A spokesperson for the CIHR confirmed by email to Hill Times Research on Jan. 27 that specific details at this time cannot be released on future competitions but that CIHR "will be launching a number of additional COVID-19 funding competitions in the coming weeks and months."

### **DAPSONE PROVEN TO HELP WITH ACUTE RESPIRATORY DISTRESS SYNDROME**

For Sekhavat and Bourbeau, the urgency with this project lies in its potential as a treatment for COVID-19 and the level of accessibility due to its low price.

A clinical trial conducted on ferrets found that dapsonone was able to decrease or stop acute respiratory distress syndrome, which is what leads to some COVID-19-positive individuals requiring hospital care, according to Sekhavat.

That hospital care has a negative impact on capacity, and an impact on patients who then cannot go to the hospital for non-COVID-related care like organ transplants or cancer surgeries, he said.

The fears regarding capacity are playing out in Ontario, where hospitals [were told](#) in early January that they would have to reserve beds for possible transfers from other provincial hospitals whose patient count exceeds capacity. The federal government recently announced it is providing two mobile health units to the Greater Toronto Area that will supply 200 additional hospital beds.

While dapsonone still requires study, Sekhavat and Bourbeau have plans in motion to ramp up production if all of the required funding and approvals are provided.

The pill would have to be taken twice a day for three weeks, and Bourbeau said one entire treatment plan would average about \$50. The active ingredient in the drug is easily accessible in a production facility in New Jersey.

Sekhavat's company has a memorandum of understanding (MOU) with Novitium Pharma, which is based in the United States and already manufactures the drug, but that knowledge can be transferred to any Canadian manufacturer. That is "open for discussion," he said. The MOU includes an agreement to produce 1 billion pills per month.

The affordability of the treatment has led to interest from the Indonesian government, according to Sekhavat.

"These drugs can be produced and distributed ... in these developing countries for under \$5 to \$10 dollars, depending on different countries. We already have the government of Indonesia contacting us for licensing once the phase three [trial] is done. It puts [Canada] on the map as well," he said.