It takes an R&D village to fight a pandemic

Gervais Tougas shares his experience working on a Novartis task force dedicated to fighting the COVID-19 pandemic.

May 06, 2020

Gervais Tougas never thought he'd have to face this again. In 2003, while serving as a division head in one of McMaster University's teaching hospitals, a SARS outbreak in nearby Toronto, Canada tossed his organization into uncharted waters. Like its coronavirus cousin, COVID-19, SARS posed an imminent, deadly threat to public health. To ensure the safety of the hospital and the surrounding community, the entire organization had to pivot from its usual medical practice and prepare itself to weather the outbreak.

Gervais Tougas, Global Head of the Chief Medical Office and Patient Safety in Novartis Global Drug Development (GDD)

Over a decade and a half later, Tougas has found himself amidst a second, more enduring coronavirus outbreak – the COVID-19 pandemic. This time, he's putting lessons he learned from his previous experience to use as part of the Novartis COVID-19 R&D Task Force, the group charged with leading the company's response to the emerging health threat.

Tougas is one of the leaders of the task force, which includes representatives from across the research and development arms of Novartis. As Global Head of the Chief Medical Office and Patient Safety in Novartis Global Drug Development (GDD), Tougas brings a patient-centered focus to bear on the problem – an essential perspective as new drugs are brought forward to potentially treat a novel disease. He also brings cross-divisional experience to the team, having spent time at the Novartis Institutes for BioMedical Research (NIBR) as Head of Translational Medicine.

Tougas spoke to us about the lessons coronavirus has taught him, and the progress the task force has made against it so far.

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Gervais Tougas

How did your previous experience prepare you for the current crisis?

Back when I had my first experience with coronavirus – with SARS in 2003 – I knew very little about how to run a large organization in the midst of a contagious epidemic. I'm not an epidemiologist by training. I'm a physician-scientist. But the experience taught me a few things that have become relevant as I started working with the task force on this pandemic response at Novartis: Always assume that things can go badly. Always assume that you need to be prepared. And always assume that whatever solution you have to come up with will involve everybody across the organization.

What was the COVID-19 R&D Task Force asked to do?

Our general mandate was to find any way that Novartis can make a difference during this pandemic. And we were given a fantastic carte blanche: We were allowed to look at the company's entire portfolio and examine every molecule to see what could be brought to bear against COVID-19. That meant that we could look at molecules that Novartis already had on the market, including those from our generics and biosimilars division, plus all of the libraries of molecules that Novartis has through NIBR either molecules that we are currently considering for various applications or ones that we have looked at in the past that we could repurpose.

We were also given the full availability of everybody in the company and I have to say that everybody has been willing to help and contribute, and they've gone about it in all sorts of creative ways, using their collective knowledge.

Where did the task force ultimately decide to focus its efforts?

In a relatively short time, the task force settled on four main areas. One workstream is dedicated to drug discovery – finding new molecules that might work against COVID-19. The second one I mentioned; it involves looking at existing drugs and potentially testing them for the treatment of either COVID or its complications. The third is collaboration, across the industry and across different players within the healthcare system, through various consortia. And the fourth is philanthropic action through charitable donations.

What progress has been made so far?

What we did very quickly – in fact we never thought we could do it that fast – was conduct a full review of our portfolio and prioritize drugs that we thought could potentially be effective either against the COVID-19 virus itself or its complications. Within a week, we identified three drugs that we have on the market for unrelated indications that could potentially be repurposed for the complications of COVID-19 disease.

Within a week, we began to make those three drugs available to patients through managed access programs, and to investigators if they requested support for investigator-initiated trials. We also designed clinical trials to test the efficacy of the three molecules and submitted these plans to the US Food and Drug Administration.

In addition, we established new platforms to target potential vulnerabilities of the COVID-19 virus, to try to develop and deliver new therapies. We're supporting several consortia, including the COVID-19 Therapeutics Accelerator organized by the Bill & Melinda Gates Foundation. And finally, we have committed to numerous philanthropic donations.

Are there lessons that your team is learning from this experience

that you think you might be able to apply in the future?

One is a lesson that we've heard before but it's certainly been proven this time, and that's that we're better together than individually. There is a huge amount of knowledge within a company, but you need to collaborate across functions and divisions to harness that collective expertise to tackle a big problem.

A second thing that struck me is how much more people can do than you think they can, if you just let them. If someone had told me that I could get a group of 50 people to design three full-fledged, Phase III studies end to end in a week, I would have said it was impossible. But now it's been done. All we had to do was give people a task – a challenge where they feel they can actually make a difference – and then stay out of the way. And people just made it happen. It is really something I will remember all my life.

Main image from Adobe Stock: 3d render of Sars-CoV-2, the virus that causes COVID-19.

A leader of the Novartis #COVID19 R&D Task Force discusses progress made to date.

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