

Resident-initiated research bucks tradition

Four cardiology residents have overcome roadblocks and tradition to conduct their own clinical trial with plans to involve residents across Canada.

“Residents are a sleeping workforce everywhere,” says Dr. Guillaume Marquis-Gravel, one of the four residents at the Montreal Heart Institute. “There are residents who are very interested and who want to be involved in these kinds of projects, but there are limitations to joining a large-scale project.”

Those limitations include inexperience, lack of funding and a heavy clinical workload, he says. To overcome these challenges, the residents came up with the idea of conducting a randomized trial under the supervision of experienced researchers.

The pilot project, [The BRO-HF Initiative](#), will look at using bromocriptine as a possible treatment for peripartum cardiomyopathy. The study will run for about a year in Quebec, after which the residents plan to collaborate with every cardiology residency program in Canada on an expanded trial. Another four residents at Sherbrooke, McGill and Laval universities are already on the steering committee.

Dr. Marc Jolicoeur, a cardiology researcher and one of the resident’s two mentors, is making sure that the research doesn’t add stress to his residents who already put in 50 to 60 hours of work per week. “The idea here is that the research program is organized into their medical training. They will use their research rotation to do a project.”

Jolicoeur began teaching the four how to design a clinical trial when they were still students at the Université de Montréal, where he is the director of research in adult cardiology. “The idea was that they would decide on the topic, decide on the research question and design the protocol, and then run and operate the trial.”

The residents received a \$30 000 grant from the Canadian Cardiovascular Society in 2014 after presenting their project



BRO-HF Initiative

The resident-led research team includes (left to right) supervisor Dr. Marc Jolicoeur and residents Dr. Olivier Desplantie, Dr. Robert Avram and Dr. Guillaume Marquis-Gravel. Dr. Maxime Tremblay-Gravel was absent.

at a conference in Vancouver. The trial will last at least one to two years with a five- to ten-year patient follow-up.

They’re already looking ahead to that stage. “We will be able to see the patient outcome in the follow-up using health administrative databases. It will be cheaper than having to perform the clinical follow-up ourselves or by using research nurses,” Marquis-Gravel says.

The residents chose to research peripartum cardiomyopathy in order to maximize their networks with other teaching hospitals. The disease affects young women sometime during the last month of pregnancy or within five months of giving birth. According to research resident Dr. Robert Avram these patients tend to go to university hospitals.

“As residents we have a very good network with other residents at teaching hospitals,” he says, which means a “high recruitment rate for our study.”

The resident’s study is expected to be the largest randomized trial of bromocriptine. In a [2010 *Circulation* South African study](#) the drug appeared to improve clinical outcomes for women with peripartum cardiomyopathy, but the study sample was limited to only 20 participants. There

have also been a few [observational studies](#), which suggest a larger multicentre study is needed.

“We’re looking at a multiple year partnership with residents across Canada,” says Dr. Olivier Desplantie, another Université de Montréal resident.

He says that this resident-initiated research provides his team with an opportunity to try to find a way to treat this rare — potentially fatal — heart disease in women. It also gives them the opportunity to create a curriculum for residents on what needs to be done to pilot research and do a clinical trial.

Desplantie says “it’s important that regardless of what level you are at you are able to contribute, that it’s possible, and people will want to work with you.” He hopes their work will cultivate a curriculum to launch more resident-led research in Canada.

The residents are waiting to get clearance from the provincial research ethics board. They expect to begin approaching patients and working toward a nationwide trial by August. — Shannon Lough, *CMAJ*

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