A blueprint for medical research stardom

So you want to be a superstar researcher, published in prestigious medical journals, showered with international awards, lauded by peers in public, envied by peers in private. Hate to break it to you, but if fame is what you seek, you may already be headed in the wrong direction.

"You need a real passion for research, a passion based on curiosity rather than on becoming famous," says Dr. Jack Hirsh, professor emeritus of hematology and thromboembolism at McMaster University in Hamilton, Ontario. "A lot of people go into research because they hope to become famous, a much smaller percentage because they are really curious."

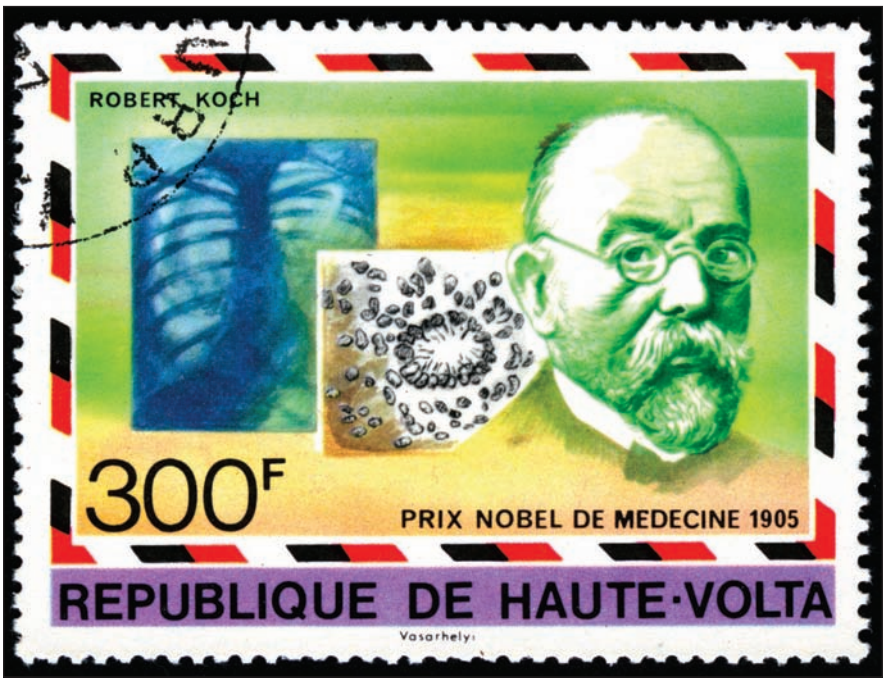
Young, ambitious researchers seeking career advice could do worse than heed the words of scientists who have already accomplished great things in their fields. *CMAJ* recently spoke with Hirsh and two other recipients of Canada Gairdner awards for excellence in biomedical research, asking each what it takes to stand out in the competitive world of medical research.

First, let's dispense with the obvious. To succeed in research, you must be bright and hard working. The list of Nobel laureates isn't littered with lazy investigators. But there is another trait, one more often associated with artists than lab-dwellers, that is crucial to doing research that makes a difference in the world. To come up with important questions and find innovative ways of answering them, creativity is a must, says Hirsh (Canada Gairdner International Award, 2000).

"Some people could work 20 hours a day, seven days a week, and not achieve much if they lack that creative spark," he says.

Of course, before you even get an opportunity to pursue important research, you need to get in the game, earn some clout. The best way to do that, says Hirsh, is to apprentice for a star researcher. "You learn a tremendous amount just by osmosis," says Hirsh. "The best surround themselves with good people."

If you are fortunate enough to work with a great mentor for several years, and your collaborations make some noise in the research community, you will have the beginnings of a reputation that commands respect and, perhaps just as important, attracts funding. It might be time to strike out on your own.



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Success in medical research can bring praise, prizes and you might even see your face on a stamp, but star researchers say fame is a byproduct, not the goal.

But what topic will you tackle? Top researchers are more concerned with changing the world than building their résumés. "Often, trivial research is easier to do, and the objective is not to move health care forward," says Hirsh. "The objective is to get another publication."

Let's say you eschew the trivial. You go big — we're talking international clinical trial, multiple research institutes, tens of thousands of patients. Yeah, you're going to need some help with that. This is when other skills, outside of those learned in labs and classrooms, come into play, says Dr. Salim Yusuf, director of the Population Health Research Institute and professor of medicine at McMaster University (Canada Gairdner Wightman Award, 2014).

You have to be entrepreneurial, organized and well-connected. You have to convince respected researchers, clinicians and administrators to join your projects. You have to travel, shake hands and smile. You have to collaborate, negotiate and inspire. "That is how you get other people to work with you," says Yusuf. "No single scientist or institute has all the skills needed to answer big questions." Another trait you'll need to survive and thrive is tenacity, says Yusuf. Funding bodies will reject your grant applications. Medical journals will reject your papers. You will expect a study to go one way but it will go another way. "The key is to persist," says Yusuf. "Many studies don't give us the results we expected, but that is still useful information."

Suppose you achieve success early. Then what? What motivates the mid-career research star to keep pursuing difficult projects? Often, it's an overwhelming desire to address serious problems, says Dr. David Sackett, professor emeritus of clinical epidemiology and biostatistics at McMaster University (Canada Gairdner Wightman Award, 2009). "In clinical epidemiology, the stuff you work on arises from your clinical concerns, from your clinical frustrations about human suffering that you cannot do anything effective about." — Roger Collier, *CMAJ*

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