INTERVIEW WITH

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What accomplishments as a cancer research leader are you most proud of?

There are several accomplishments as a cancer research leader that I am proud of. When I began my career in cancer research, there was limited understanding of the role of physical activity in cancer control. I had previously worked on the role of smoking and dietary intake in cancer etiology and when I began my career in Calgary, I realized that there was an opportunity to work on physical activity. I was very fortunate to meet Kerry Courneya, who was also just starting his career at the University of Calgary and together we set out a theoretical framework to study the role of physical activity across the cancer experience from prevention to survival. We began by conducting retrospective studies and then moved to randomized controlled trials.

At the beginning it was challenging since we encountered open skepticism from our medical colleagues. We persevered and have now conducted over 45 studies together that have examined physical activity and its role in cancer etiology as well as exercise trials for cancer prevention, coping and rehabilitation during treatment and, most recently, on survival outcomes. We were able to conduct the first studies in Canada, and sometimes in the world to demonstrate that physical activity reduces the risk of several cancers, and that exercise can be used to improve coping, rehabilitation, quality of life and survival after cancer. After more than 30 years working in this field, we were also able to contribute our knowledge and research in helping to develop physical activity guidelines for cancer prevention and survival.

My research also focused on understanding the underlying biologic mechanisms that might explain how physical activity is related to developing cancer and how it is related to survival after cancer. By conducting molecular epidemiologic research studies that included collecting biologic samples and direct measurements of physical activity, health-related fitness and sedentary behaviour from our participants, we now have a much deeper understanding of how physical activity can influence cancer and how we can intervene to improve outcomes. Finally, what I'm particularly happy about with my research is that we now have much broader

awareness at a population level and within medicine of the benefits of physical activity across the cancer continuum. We have moved from skepticism to optimism. Physical activity is accessible to everyone and also empowering whether someone is aiming to reduce their risk of cancer or trying to improve their outcomes after a cancer diagnosis. It can be incorporated into our lives and allows individuals to take control over their own health and reap the benefit from being physically active, which we now know also includes cancer control.

To you, what are the key characteristics of a good leader?

There are several key characteristics of a good leader. In my career, I have been described as a "servant" leader, which is a philosophy where the primary focus is on serving others, particularly those who the leader is leading. It is characterized by prioritizing the needs and growth of the team members, fostering a sense of trust and empowering them to achieve shared goals.

I have emphasized working as a team, encouraging and supporting the role of each member of the team, listening to their suggestions, and implementing them. It is important to be humble as a leader, since no one can be an expert in every aspect of the research that we do. In addition, it's important to have a vision, to be positive, to follow through on commitments, and to acknowledge others' contributions and achievements.

How does a diverse researcher workforce enhance and advance cancer research, and how can this be accelerated in Canada?

During my time as a cancer researcher, the Canadian research workforce has become more diverse, which has accelerated the quality and quantity of research output in Canada. We have an opportunity now in Canada to continue becoming more diverse and to be seen as an exceptional place to conduct research. We need to continue accepting trainees and scientists from different educational and personal backgrounds and from around the world to train and work with us. In so doing, we will increase our capacity to make even greater progress in cancer control.

Throughout my career, I have recognized that the return on investment in research in Canada is greater than in many other countries. There is an ongoing need, however, to continue this investment in training the next generation of scientists, supporting early-career scientists and ensuring the ongoing success of researchers active in the field by maintaining the infrastructure and resources needed to be successful on an international level. We need to continue advocating for this investment at all levels of government and need to be engaged with the philanthropic sector to enhance our cancer research landscape to increase our cancer research capacity.

How can Canadian cancer research leaders contribute internationally to advancing cancer research?

Canadian cancer research leaders can contribute internationally to advancing cancer research by being involved in international research projects and organizations. One key feature of my career has been my decades-long involvement with the International Agency for Research on Cancer, IARC, which is based in Lyon, France. I was very fortunate to do my postdoctoral training there and then to return as a visiting scientist for a one-year sabbatical and finally, to be the Canadian representative and then the chair of the Scientific Council. Through my experience with IARC and my contributions to other international agencies, it's clear that Canadians are well respected on the international stage. The CIHR-Institute of Cancer Research and the Canadian Cancer Society and many other cancer research funders in Canada have also recognized that leveraging our cancer research dollars with other agencies worldwide will provide even greater opportunities to accelerate progress in cancer research and have greater impact globally on reducing the burden of cancer worldwide. We need to seek out those partnerships and work strategically with other organizations internationally so we can build on these and on each other's successes to achieve these common goals in cancer control. These types of partnerships have already begun and should be pursued even more.

What career advice would you give to the next generation of cancer researchers who may aspire to leadership roles?

I have three main recommendations for the next generation of cancer researchers who aspire to leadership roles. First, establish yourself in your own area of research by being focused on your research questions, conducting your own peer-reviewed research, developing strong teams, and ensuring you deliver on your own research program. To have credibility as a leader within your research field, it is important to first establish your own research program. There are now excellent opportunities to receive additional training on how to establish strong teams and seeking this training as well as strong mentorship is essential to becoming successful. Second, as soon as possible, spend time doing professional service activities, including serving on peer-review grant panels, contributing to community engagement activities to disseminate your research, working with the cancer charitable sector and so forth. With time, being open to serving on committees, advisory boards and other similar activities with cancer research funders to help them be strategic and as impactful as possible with their research funding and impact. Remember that any volunteer activity that you do will benefit you as much as others. My final piece of advice is to seek leadership training opportunities. As scientists, we are trained in our disciplines but not on how to create and manage diverse research teams, projects and staff. To become a successful leader takes time in learning about leadership including the attributes of being a great leader, how to develop and implement strategic plans for your own research and for your team, department or organization and how to work and adapt to continually changing research landscapes. Developing these management and leadership skills takes effort but it is worthwhile not just at a professional but also a personal level.