

For Immediate Release

Network Aims to Get at the “Hearts and Minds” of Canadians

Toronto, ON (May 14, 2009) – New discoveries in stroke, cardiac and vascular disease are much closer to reaching the public, thanks to a new Canadian imaging network that is on the leading edge globally.

“There are gaps in the process of moving innovations in imaging toward broad clinical application of these diseases,” says Dr. Alan Moody, one of the principal investigators of the Canadian Atherosclerosis Imaging Network (CAIN) and chief of Medical Imaging at Sunnybrook Health Sciences Centre.

A group of expert researchers in imaging studies from five leading Canadian hospitals are joining forces to develop strategies to address these gaps. CAIN is a national imaging network conducting research projects that involve the application of advanced imaging technologies to carotid (neck) and coronary (heart) atherosclerotic (vessel wall) disease.

“The main objective of CAIN is to move innovations in imaging, such as new technologies and know-how, into our healthcare system and closer to our patients,” says Dr. Moody, also a Professor at the University of Toronto. “It allows for a rapid and effective translation of results to our partners and into clinical practice to our patients. It provides significant value over and above the existing individual research groups. Research activities span dimensions of clinical problems that are not possible for any one group to handle by itself.”

The network plans to begin coordinating disease-focused imaging efforts for multi-centre clinical studies and evaluations of novel diagnostic imaging technologies and their applications in clinical trials of therapeutics.

The establishment of CAIN includes common infrastructure, expertise and training capacity. Expertise can be made available by the networking of data to core sites that have the ability to provide unique processing and analysis. This improves quality and speed of data handling and analysis by ensuring appropriate division of labour, providing and disseminating novel techniques from the core facilities not otherwise available, and ensuring quality control is maintained.

“CAIN’s multicentre and multi-disciplinary approach allows each discipline to provide unique insight into different aspects of vessel wall disease, and also its effects on the end organ such as the brain and heart,” says Dr. Sandra Black, one of CAIN’s researchers and principal users, and the Brain Sciences Program Research Director at Sunnybrook.

Vascular diseases (cardiovascular and cerebrovascular) represent the largest single cause of mortality in Canada for both men and women. The underlying vessel wall disease process leading to heart attacks, angina, a large proportion of strokes and cerebral transient ischemic attacks is atherosclerosis. Despite this realization, there is limited knowledge of the disease, such as its natural history in different vascular areas and how, as a systemic process, disease at one site is related to that in another arterial tree. Answering fundamental questions such as these will have significant impact on the way this condition is diagnosed and treated, with the ultimate aim of reducing the devastating end-organ effects of heart attack and stroke.

One of the greatest impacts of CAIN will be not only the ability to detect already established disease, but through a better understanding of the underlying disease itself, provide strategies for disease prevention. While imaging is recognized as a useful tool to characterize vessel wall disease and its complications, there is a need to undertake large population studies to understand the natural history of the disease linked to patient outcomes, and therefore determine the best approaches to care that will influence clinical decisions to favourably impact the health of Canadians.

“Newer technologies are now ready for application to vessel wall imaging in a more routine clinical environment,” says Dr. Moody. “Applying these techniques in the clinical setting has the potential to

provide insights into disease pathophysiology, resulting in a quantum leap in the identification, prevention and treatment of cardiovascular and cerebrovascular disease. CAIN represents the first national network that can undertake such studies; there is no other imaging network that links an entire country anywhere around the world.”

CAIN is composed of five imaging analysis laboratories at the University of Calgary, Ottawa Heart Institute, Sunnybrook Health Sciences Centre, Robarts Research Institute, and Montreal Heart Institute

In April 2008, CAIN was selected as one of five networks to be funded by the Canadian Institutes for Health Research (CIHR) Clinical Research Initiative and is receiving a five-year (2008-2013) operating grant of \$10M to support its research projects. CAIN will also be collaborating with partners nationally and internationally.

CAIN has submitted an application to the Canadian Foundation for Innovation (CFI) for further infrastructure funding; the basis for the phase 2 of CAIN’s operations to bring the network to a much higher level, a real step ahead providing major strategic advantage and unique international positioning for Canada in state-of-the-art clinical research.