

NSHRF PROJECT FACT SHEET

Proximity may make the heart grow fonder

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Distance from the hospital can have an impact on individuals with ischemic heart disease, a Nova Scotia researcher has found. In the study, conducted by Dr. Ansar Hassan, individuals living closer to the Queen Elizabeth II Health Sciences Centre were more likely to receive a particular heart procedure and to wait less time to have the procedure performed.

Ischemic heart disease (also called coronary artery disease and coronary heart disease) is caused by narrowed heart arteries. When the arteries are narrowed, the heart muscle is starved for blood and oxygen. This can ultimately lead to heart attacks or acute myocardial infarctions (AMI). Ischemia also often causes angina pectoris – chest pain or discomfort.

Cardiac catheterization is a procedure commonly performed on the hearts of people who have had AMI. A doctor inserts a thin plastic tube (catheter) into an artery or vein in the arm or leg. From there it can be advanced into the chambers of the heart or into the coronary arteries. This test measures blood pressure within the heart and how much oxygen is in the blood. It's also used to get information about the pumping ability of the heart muscle. The primary purpose of this procedure is to assess the extent of disease or narrowing in the coronary arteries and determines whether or not the patient is a suitable candidate for revascularization either by angioplasty or bypass surgery.

In his study, Dr. Hassan, a resident in cardiac surgery at the QEII, found that the chances of getting this procedure increase significantly the closer someone lives to the Queen Elizabeth II Health Sciences Centre, and the waiting time for catheterization is also less.

“Despite a single-tier health care system,” he noted, “Nova Scotians are subject to significant geographic barriers to cardiac catheterization with evidence of associated poorer outcomes.”

In the study of 5,578 patients, rates of cardiac catheterization varied from 38.9% for those living within 70 km of the QEII to 38% for those between 71 and 163 km from the hospital, and 33% for patients living more than 163 km away. In addition, waiting times for the procedure also increased as distance from the

hospital increased. Those living between 71 and 163 km from the centre waited 13.5 days longer and those more than 163 km away from the QEII waited 17.1 days longer than individuals closer to the health care facility.

These geographic factors seem to also result in higher rates of readmission to hospital for any cardiac cause. Within the first year, those individuals living between 71 and 163 km from the hospital had a 17% greater chance of being readmitted and those beyond the 163 km mark had a 29% higher chance of returning to hospital. The long-term rates of mortality, however, were the same across all three geographic areas.

Further exacerbating this situation, the study found, is the greater prevalence of people who have had a heart attack among those living furthest from the QEII. Within the study group, those living beyond the 163 km limit suffered 644.8 attacks per 100,000, while those closest to the hospital had 610.5/100,000 and those in the middle group had 622.1/100,000. The group with the poorest rate of service, therefore, also had the largest proportion of individuals affected.

“Unlike other regions of Canada,” said Dr. Hassan, “in Nova Scotia socioeconomic status was not a factor in the rate of cardiac catheterization or the length of time people waited for the procedure”

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