Living too far from advanced cardiac care decreases your odds of survival

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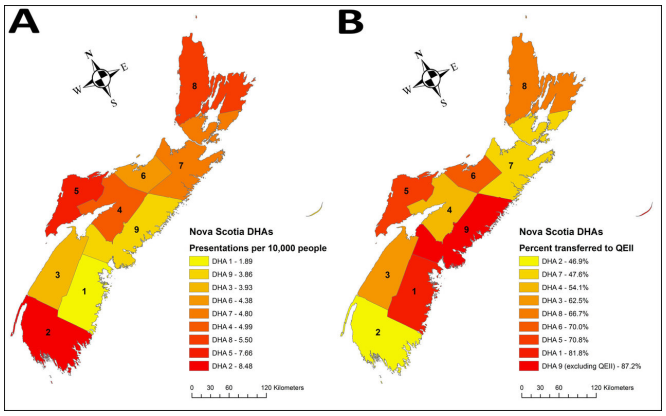

Incidence of A) patients admitted to hospital with ACS complicated by cardiogenic shock relative to the population of that district health authority (DHA) and B) patients transferred to the QEII-HSC relative to cases presenting in that DHA. Credit: *Canadian Journal of Cardiology*

A new study published in the *Canadian Journal of Cardiology* determined that patients with acute cardiac syndrome (ACS) and cardiogenic shock (CS), who live far from the only cardiac catheterization facility in Nova Scotia, Canada, have a survival rate about half that of patients with more direct access.

ACS includes various forms of acute myocardial infarction ("heart attacks") and is a major medical emergency. CS is one of the most serious complications and leading causes of mortality among patients hospitalized with ACS. Both conditions require immediate treatment and invasive cardiac care. The optimal management of patients with ACS usually requires access to invasive coronary diagnostic and intervention such as percutaneous coronary interventions (PCI) to open up blocked arteries. The only institution capable of providing invasive cardiac catheterization for PCI and coronary artery bypass surgery in Nova Scotia is the Queen Elizabeth II Health Sciences Centre (QEII-HSC) in Halifax. This study evaluated whether the distances involved in getting patients to QEII-HSC affect survival rates.

'While PCI is often considered the preferred mode of reperfusion if performed by an experienced team in a timely fashion, it may not always be possible," explained lead investigator Jean-François Légaré, MD, FRCSC, Head of Cardiac Surgery at the New Brunswick Heart Centre, Saint John, NB, Canada. "This is particularly true in Nova Scotia where a large proportion of the population lives in rural communities that are several hours from the single cardiac catheterization laboratory located centrally in Halifax. Furthermore, this is compounded by logistic challenges in arranging ambulance services (air versus ground), lack of onsite physician coverage, and limited resources."

Using data from the clinical database of Cardiovascular Health Nova Scotia, 418 consecutive patients diagnosed with ACS and CS and admitted to hospital in 2009-2013 were included. Of these, 309 (73.9 percent) were close to or directly admitted to QEII-HSC and were classified as having direct access to invasive care. Of the 109 patients in other parts of the province, 64.2 percent were transferred to QEII-HSC. The mortality rate among the 309 patients with direct access to invasive care was significantly lower than the 109 patients who did not have access (41.7 percent vs. 83.5 percent, p