

Influenza vaccine may reduce risk of heart disease and death

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Getting a flu shot may not only protect you from getting sick, it might also prevent heart disease. Two Toronto-based researchers presented studies at the 2012 Canadian Cardiovascular Congress which found that the influenza vaccine could be an important treatment for maintaining heart health and warding off cardiovascular events like strokes and heart attacks.

Dr. Jacob Udell, a cardiologist at Women's College Hospital and the University of Toronto, and his team from the TIMI Study Group and Network for Innovation in Clinical Research looked at published clinical trials on this subject, dating back to the 1960s.

"For those who had the flu shot, there was a pretty strong risk reduction," says Dr. Udell.

The flu vaccine provided an approximate 50 per cent reduction in the risk of a major cardiac event (heart attack, stroke, or cardiac death) compared with placebo after one year of follow-up. A similar trend was seen for the flu vaccine reducing death from any cause (approximately 40 per cent).

The influenza vaccine reduced cardiovascular events and [cardiovascular death](#) in people with or without [heart disease](#).

The combined studies examined a total of 3,227 patients, with an almost equal split between patients with and without established heart disease.

Half of the participants were randomly assigned to receive flu vaccine and those that did not typically received a placebo vaccine.

Dr. Udell says these results provide support for current guideline recommendations for influenza vaccination of individuals with a prior [heart attack](#), but for a different reason than simply reducing flu risk. And although it was encouraging to see a reduction in non-fatal cardiac events, he believes a large, lengthier multi-national study would comprehensively demonstrate the vaccine's effectiveness to reduce fatal cardiac events and save lives.

"A large study that was international in scope and representative of patients such as those in North America and Canada in particular could help answer this question," he says.

This research could also potentially boost use of the vaccine, which Udell believes is still woefully low. "The use of the vaccine is still much too low, less than 50 per cent of the general population; it's even poorly used among health care workers," he says. "Imagine if this vaccine could also be a proven way to prevent heart disease."

An Ipsos Reid survey conducted by B.C. and Quebec Lung Associations this year found that 36 per cent of Canadians reported having received a flu shot in 2011.

And according to the Public Health Agency of Canada's National Advisory Committee on Immunization (NACI), the 2008 Adult National Immunization Coverage Survey found that vaccination rates for adults 18 to 64 years of age with a chronic medical condition is low at 35 per cent.

It also found that non-institutionalized seniors aged 65 and older have higher coverage, at 66 per cent.

According to the NACI, rates for both groups have declined somewhat since their 2006 survey and fall short of the 80 per cent national targets for influenza vaccine coverage in adults under age 65 with chronic conditions and in seniors.

People with ICDS who get the shot have fewer adverse events The second study, conducted by cardiologists Drs. Ramanan Kumareswaran and Sheldon Singh from Sunnybrook Health Sciences Centre examined the use of the influenza vaccine in patients with implantable cardiac defibrillators or ICDs.

"Anecdotes suggest that patients have more ICD shocks during flu season. We were trying to figure out what we can do to reduce the amount of shocks in (our clinic's) ICD population during the flu season," says Dr. Kumareswaran.

Patients with ICDs that had appointments at the Sunnybrook Hospital ICD clinic between September 1st 2011 and November 31st 2011 completed a survey that identified their demographics, health status, if they received a flu shot in the past year and opinions towards the vaccine.

The patients' health charts were reviewed to determine all ICD therapies in five months preceding the 2010 flu season (June to October) and for three months during the 2010-2011 flu season (December to March).

A total of 230 patients with an average age between 70 and 74 completed surveys with 179 (78 per cent) patients reported receiving the vaccination in the previous year. Just over 20 per cent did not receive the vaccine.

The patients who did not receive the [flu vaccine](#) had a trend toward experiencing more ICD therapies on average. Specifically, 10.6 per cent

of patients who received the vaccine received at least one ICD therapy during [flu season](#) compared to 13.7 per cent of patients who did not receive the influenza vaccine.

"What is interesting is that if this is consistent over time, it could be of significant benefit to our patient population who already have compromised survival to start with," says Dr. Singh.

"We would like to look at this on a larger scale to determine whether or not our results can be replicated. We're in the process to determine how best to do that." An ICD is a small battery-powered electrical impulse generator implanted in patients who are at risk of sudden cardiac death.

The device is programmed to detect cardiac arrhythmia and correct it by delivering a jolt of electricity or increasing the heart rate to restore a healthy rhythm once an irregular beat has been detected.

About 5,000 Canadians get ICDs every year and there are about 100,000 Canadians who currently have them. (Most Canadians with advanced heart disease are potential candidates for ICDs.)

Heart and Stroke Foundation spokesperson Dr. Beth Abramson says these studies strengthen National Advisory Committee for Immunization recommendations for the use of the [influenza vaccine](#) in those at high risk of developing influenza related complications, such as patients with heart disease or diabetes, and those who have close contact with those at high risk of developing complications.

"In addition to leading a heart healthy life, having an annual flu shot could be another easy way to help prevent cardiac events," she says.

Dr. Abramson notes that the Heart and Stroke Foundation recommends an influenza vaccination for those at high risk of influenza-related

complications or hospitalization (including people with heart conditions, those with diabetes, people over 65 years of age, people with a BMI at or above 40 and children or adults treated with ASA). It is also recommended for people who are most likely to transmit [influenza](#) to high risk individuals (family members, friends, coworkers, healthcare provider and caregivers).

Provided by Heart and Stroke Foundation of Canada

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