# Heart attacks could be reduced by rethinking the way we prescribe statins

March 11 2016

Dr. George Thanassoulis, clinician-researcher at the Research Institute of the McGill University Health Centre (Montreal). Credit: McGill University Health Centre

Millions of people today take statins to help lower their cholesterol level. Currently statins are prescribed to patients based on their future risk of

cardiovascular disease - mainly driven by age - which excludes many individuals who may benefit from them. A new study led by the Research Institute of the McGill University Health Centre (RI-MUHC) in Montreal, with collaborators from the United-States, is changing the way we think about prescribing statins. The research team has developed a new approach to determine which individuals should receive these important medications. The findings, which are published online in *Circulation*, the journal of the American Heart Association, could improve prevention of heart disease, especially in younger people.

"Our study is changing the way we think about prescribing statins; we should not only be considering who is at risk of heart disease but, more importantly, who would benefit from these medications based on randomized clinical trial data," says study-lead author, Dr. George Thanassoulis, who is the director of Preventive and Genomic Cardiology at the MUHC and an associate professor in Medicine at McGill University. "For example, younger patients who have high cholesterol, are frequently considered too young to be at risk for heart attack in the short term, but our analysis shows that they would benefit from treatment, even in the short term, and therefore should be eligible for statin treatment."

The research team performed their modelling study using data from 2,134 participants from the National Health and Nutrition Examination Survey - a nationally-representative US cohort, between 2005 and 2010, representing 71.8 million Americans potentially eligible for statins. Two approaches for statin eligibility were compared: a ten-year risk based approach, currently in use, and an individualized benefit approach. The latter method of determining who should receive statins was found to produce greater eligibility.

"Using a benefit-based approach, we identified 9.5 million lower-risk Americans not currently eligible for statin treatment, who had the same

or greater expected benefit from statins as higher-risk individuals," explains Dr. Thanassoulis. "These individuals were lower-risk because they were younger but they also had higher levels of low-density lipoprotein cholesterol which we known to be an important cause of heart disease. Targeting statin treatment to this group would be expected to prevent an additional 266,000 heart attacks and strokes over 10 years,"

"This strategy will transform cardiovascular prevention for the better," adds study's co-author, Dr. Allan Sniderman, MUHC cardiologist and associate professor in Medicine at McGill University. "For too many, the present approach starts too late; an earlier start will multiply the lives saved."

Dr. Thanassoulis and collaborators are now developing a Web interface to extend the use of this calculation model to physicians. Researchers hope this new way will help develop guideline recommendations that better identify individuals who meaningfully benefit from statin therapy.

Provided by McGill University Health Centre