

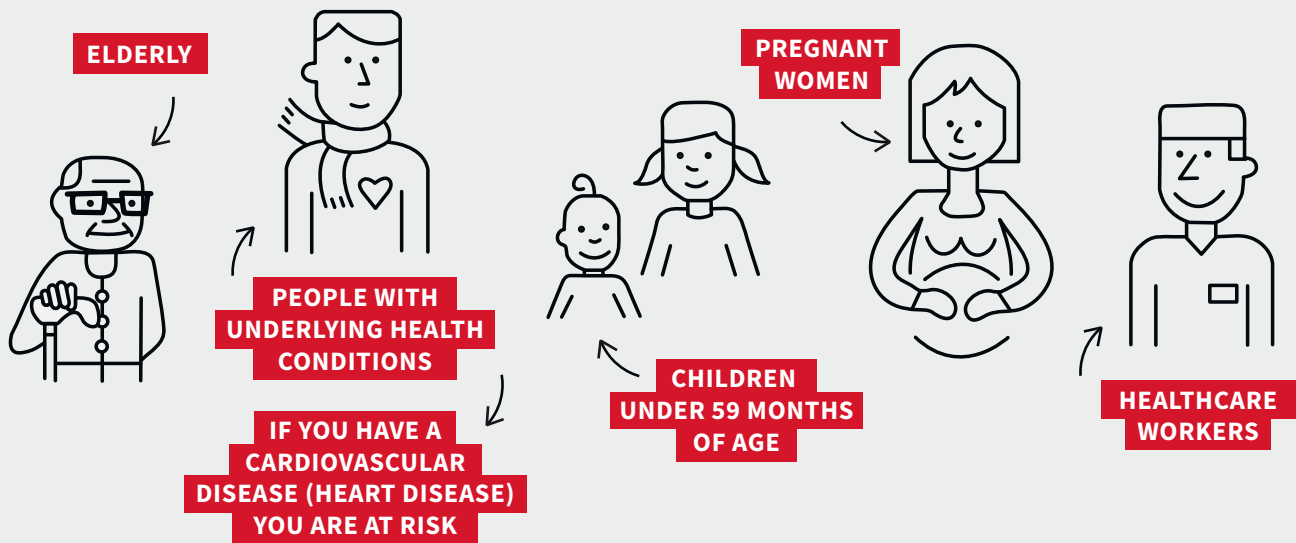
Influenza Vaccines and CVD



What is influenza and who is affected by it?

Influenza (“the flu”) is caused by influenza viruses which affects all parts of the world. Each year influenza is estimated to result in about 3 to 5 million cases of serious illness, and about 290,000 to 650,000 deaths^{1,2}.

Everyone can be affected but some are more at risk than others¹:



I have cardiovascular disease, what problems can I have if I get the flu?

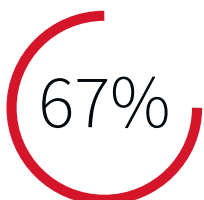
There are several studies that show that getting the flu can be particularly serious for people with cardiovascular disease:

- › In persons with cardiovascular disease, respiratory infections (which could be caused by the influenza virus) increase the risk of stroke and heart attacks three- and five-times respectively, in the three days following the beginning of the respiratory infection.
- › The risk of dying from acute myocardial infarction and chronic ischaemic heart disease is 30% greater during the influenza season.
- › Influenza patients may have underlying heart disease. A study showed that 50% of adults hospitalized during the 2014-2015 flu season in the USA had a heart condition.

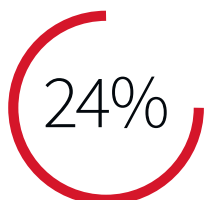
Should people with cardiovascular disease get their annual flu shot?

The World Health Organization recommends that people with cardiovascular disease get their annual flu shot. Studies show that influenza vaccination in cardiovascular disease patients:

Can reduce the chance of heart attacks by up to:



Can reduce the chance of stroke by:



But does the flu shot really work?

Because usually the vaccines contain elements from circulating influenza viruses, influenza vaccination will protect you against such infections and potential complications. However it may not protect you against all influenza viruses; sometimes new influenza viruses suddenly appear for which the vaccine will be less protective. Influenza vaccination will also not protect you against other infections, which can also give similar disease symptoms as influenza. Thus, although influenza immunization will protect you against infections and potential complications, it will not provide protection against all illness which might occur in the influenza season.

You can take other measures to help prevent the flu, such as covering your nose and mouth with a tissue when you cough or sneeze (throw the tissue in the trash after you use it), washing your hands often with soap and water, and avoiding touching your eyes, nose and mouth.

¹ <http://www.who.int/mediacentre/factsheets/fs211/en/>

² <http://www.who.int/wer/2012/wer8747.pdf>

³ Smeeth, L., Thomas, S.L., Hall, A.J., Hubbard, R., Farrington, P. and Vallance, P. (2004) Risk of Myocardial Infarction and Stroke after Acute Infection or Vaccination. *The New England Journal of Medicine*, 351, 2611-2618. <http://dx.doi.org/10.1056/NEJMoa041747>

⁴ Madjid, M., Miller, C.C., Zarubaev, V.V., Marinich, I.G., Kiselev, O.I., Lobzin, Y.V., Filippov, A.E. and Casscells, S.W. (2007) Influenza Epidemics and Acute Respiratory Disease Activity Are Associated with a Surge in Autopsy-Confirmed Coronary Heart Disease Death: Results from 8 Years of Autopsies in 34,892 Subjects. *European Heart Journal*, 28, 1205-1210. <http://dx.doi.org/10.1093/eurheartj/ehm035>

⁵ <http://www.cdc.gov/flu/heartdisease/index.htm>

⁶ Siriwardena, A.N., Asghar, Z. and Coupland, C.C. (2014) Influenza and Pneumococcal Vaccination and Risk of Stroke or Transient Ischaemic Attack—Matched Case Control

⁷ <https://www.cdc.gov/flu/about/qa/misconceptions.htm>

⁸ <https://www.cdc.gov/flu/consumer/prevention.htm>



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