

The flu vaccine is being oversold – it's not that effective

June 5 2018, by Chris Del Mar And Peter Collignon



Credit: AI-generated image ([disclaimer](#))

Winter has started, and with it, flu season. Inevitably, all of us (young, old and sick) have been implored to be immunised against influenza, with [some eligible](#) for a subsidised vaccine. And people are heeding the message, to the point that there is [now a shortage](#) of available vaccines.

At the same time, findings from [three important Cochrane reviews](#) on the effectiveness of the influenza vaccination aren't consistent with the advice we've been given.

Cochrane reviews are independent systematic reviews, which are comprehensive analyses of most of the literature relevant to a research topic. Cochrane reviews summarise the results in a multitude of studies, and are regularly updated to absorb new research.

These three Cochrane reviews have been recently updated, as well as stabilised, which is what happens when it looks as if it seems unlikely new research would be published that would change the conclusions.

What the reviews found

The [first Cochrane review](#) looked at the effects of the [influenza vaccine](#) in healthy adults from 25 studies conducted over single influenza seasons in North America, South America, and Europe between 1969 and 2009. It found the [vaccine](#) reduced the chance of getting laboratory confirmed influenza from 23 cases out of 1,000 to 9 cases out of 1,000.

While this seems to be a reduction of more than 50%, that seems less optimistic expressed in absolute terms:

The infection rate in adults drops from 2% per year to 1%. You could say that's halved, but it effectively only drops by 1%. So this means that out of every 100 healthy adults vaccinated, 99 get no benefit against laboratory confirmed influenza.

The [second Cochrane review](#) – which looked at trials in children over single influenza seasons in the US, Western Europe, Russia, and Bangladesh between 1984 and 2013 – found similar results.

The [third Cochrane review](#) looked at vaccines for the elderly in nursing homes. It found much less good evidence, with only one randomised trial – considered the gold standard in clinical trials as it establishes causation rather than correlation.



Credit: Nataliya Vaitkevich from Pexels

While [observational studies](#) (that draw inferences from a population to establish associations) have been done to show benefits of the vaccines, bias means we [cannot rely](#) on their results.

There are also potential harms from influenza vaccines noted in the

reviews. They range from serious (a neurological disease called Guillain Barre) through to moderate (fevers, in children especially – some of which will cause febrile convulsions), and trivial (a sore arm for a couple of days).

Why are we so scared of the flu?

There is a special concern about influenza from a public health point of view. This come about from its potential to cause pandemics. The first in modern history was the Spanish influenza pandemic of 1918-19, when tens of millions of people died worldwide.

There have also been been several, less severe pandemics. These include the most recent swine flu that, although while affecting some (unexpected) groups of people (including pregnant women, those who were obese, and had asthma), caused [little more effect](#) on the overall population than the usual seasonal influenza.

Public health experts worry about another pandemic that can be more harmful and contagious, which could be devastating. But it's important to note that the vast [majority of deaths from Spanish influenza](#) were from secondary bacterial infections and predated the antibiotic era.

The reasons [influenza virus](#) has this ability to cause new pandemics comes from its instability – it changes genetically easily, making it more difficult for our immune systems to recognise newer strains. The effect is that new vaccines must be prepared every year for a best-guess at next year's virus, and we need vaccination every year.

Influenza can also undergo a more radical change, such as when a new form of the virus emerges from an animal host (wild or domesticated birds or pigs, for example). This moving target makes it more difficult to vaccinate against – especially with the genetic shifts of pandemics. Just

when we need protection most, vaccines can provide it least.

So what, if not the vaccine?

There are [physical barriers](#) that can prevent the spread of [influenza](#). These are the masks (to reduce the spread of aerosol-borne virus particles), hand washing (to reduce the spread of virus from hands onto shared surfaces), and quarantine measures (isolating infected people to reduce their infectivity).

There is now reasonable evidence that such measures reduce infections considerably. It might take a bit of effort to change the psyche of Australians to make wearing a facemask if you have an acute respiratory infection. Even the heroic "soldiering on to work" (or school) with your virus needs to be reversed as a [public health](#) act.

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