Editor's comment

Marketing disease

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Walk into any pharmacy around the country at the moment and you will see advertisements for flu vaccines. In my local pharmacy the message is: 'Between 6 months and 100 years? You need a flu vaccine – get yours here: R59.99'. Makes sense, doesn't it? This is the time of the year for flu and new vaccines are produced each year as the strains circulate around the world, so we can all benefit from the herd immunity that results from as many people as possible getting a flu vaccine.

Writing in the *British Medical Journal*, Peter Doshi says that 'promotion of flu vaccines is one of the most visible and aggressive public health policies today'.[1] In 1990 in the USA, there were 32 million doses of flu vaccine available; today there are around 135 million doses available. In the USA these vaccines are administered everywhere – in pharmacies, supermarkets and even drive-throughs. In South Africa they are available at your local doctor, clinic, pharmacy and in old-age homes and retirement complexes. As in the USA, the growth in the supply of flu vaccines has been fuelled more by an aggressive public health campaign than by popular demand. The message is that we are all at risk of complications from flu, the flu shot is almost risk free and the vaccination saves lives.

I don't know what the uptake of flu vaccine is in this country, but in the USA there are mandatory flu vaccine policies in place because uptake is relatively low – compulsion has become the norm. But surely compulsion is fine – flu vaccines save lives and reduce complications from the virus – the science says so. The rub is that the science says no such thing. When the flu vaccine was first available in the 1960s it was recommended for everyone over the age of 65 and for healthcare workers. The recommended groups of people increased until, by 2000, everyone was deemed to be 'at risk'. During the 1990s the objective of the policy of expanding the groups of people who were encouraged to have a flu vaccine was to reduce excess mortality. 'Evidence' comes from the Centers for Disease Control (CDC) in the USA. They point to two retrospective, observational studies. One is a 1995 meta-analysis published in the *Annals of Internal Medicine* which concluded that 'many studies confirm that influenza vaccine reduces the risks for pneumonia, hospitalization [*sic*] and death in elderly persons during an influenza epidemic if the vaccine strain is identical or similar to the epidemic strain'. They calculated a reduction of 27 - 30% for preventing deaths from 'all causes' – any cause, not just flu. More recently, the CDC cited a *New England Journal of Medicine* paper that found a 48% relative reduction in risk of death.[2] As Doshi points out, if these statistics are true, influenza vaccines can save more lives than any other single licensed medicine in existence. Since at least 2005, non-CDC researchers have pointed out that it is well nigh impossible that flu vaccines could be preventing 50% of deaths from all causes when flu only causes around 5% of all wintertime deaths. Another study, not cited by the CDC, showed that flu vaccines reduced the odds of death in patients in hospital with pneumonia, but this study was done out of the flu season and was ascribed to the 'healthy user effect' – those who were vaccinated were generally healthier than those who were not. This bias has also been demonstrated in other flu vaccine studies.

Given that the observational studies are not to be trusted – and the CDC itself has admitted this – is there any evidence that flu vaccines reduce the deaths of older people – the original reason for the policy? The answer is 'virtually none'. There has only been one randomised trial of flu vaccines in older people – 20 years ago – and it showed no mortality benefit. This means that flu vaccines are approved for use in older people without any clinical trials demonstrating a reduction in serious outcomes. Approval is based on the fact that the vaccine can induce antibody protection, without any evidence that the presence of these antibodies translates into reduction in illness.

There is, however, some evidence that flu vaccines have some benefit. Trials in the healthy adult population have shown that where there is vaccine-virus strain match, vaccinating between 33 and 100 people results in one less case of flu.[3] What is lacking is any evidence that this reduction in risk of symptomatic flu in healthy adults extrapolates into any reduced risk of the serious complications of flu – hospitalisation or death.

A further complication is that not all flu is influenza. In the USA, out of hundreds of thousands of respiratory specimens tested, only 16% are found to be influenza positive. No wonder your friends tell you that their 'flu shots' don't work – Doshi says 'for most flus, they can't'. Flu vaccines are no longer regarded as entirely without risk. Australia recently suspended the use of H1N1 vaccine in under-fives because of an increased incidence of febrile convulsions, and Sweden and Finland have found a link between the same vaccine and an increase in the incidence of a form of narcolepsy in adolescents.

I have stopped having a flu vaccine – I had seen some of the literature that Doshi cites before reading his article. Perhaps we need to present patients with more information before trotting out the message that it is good to have a flu vaccine every winter.

1. Doshi P. Influenza vaccine: Marketing vaccine by marketing disease. BMJ 2013;346. [http://dx.doi.org/10.1136/bmj.f3037] (Published 16 May 2013.)
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3. Jefferson T, Di Pietrantonj C, Rivetti A, Bawazeer GA, Al-Ansary LA, Ferroni E. Vaccines for preventing influenza in healthy adults. Cochrane Database Syst Rev 2010; (7):CD001269.

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Guest editorial

General surgery

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General surgery ain't what it used to be. There have been several changes and challenges in general surgery in recent years. Firstly, there has been a natural tendency for general surgeons to want to focus on, and hence sub-specialise in, a particular area of general surgery. Consequently, it is difficult to find a surgeon in a tertiary centre who is comfortable doing all types of general surgery. The current sub-specialties in general surgery include hepatobiliary surgery, colorectal surgery, vascular surgery, breast surgery, endocrine surgery, trauma surgery, paediatric surgery, transplantation, and others that are being proposed.

The benefit is undoubtedly that the quality of care given to patients is of a very high standard.

The down-side of sub-specialisation has been the unskilling of surgeons in emergency surgery. The sub-specialist tends to focus on elective surgery in a particular sub-specialist area, and is reluctant to do after-hours calls, resulting in the treatment of the acute surgical emergency being far from ideal. A possible solution would be to create a non-trauma emergency surgery sub-specialty.

Minimally invasive surgery has become the norm and many complex operations are currently performed laparoscopically, including cholecystectomy, appendicectomy, fundoplication, colectomy, splenectomy, adrenalectomy, nephrectomy and liver resection. Advances in laparoscopic surgery include NOTES (natural orifice transluminal endoscopic surgery), SILS (single incision laparoscopic surgery) and robotic surgery.

In NOTES the gallbladder can be removed through the stomach via an endoscope (i.e. no skin incision) and in SILS laparoscopic surgery can be performed through a small, single abdominal incision.

In the current issue of *CME* we have tried to address some of these changes and challenges facing general surgery.