Is the UK shingles vaccination programme fit for the future?

ANGELA DOWDEN

The shingles vaccine has been part of the vaccination schedule in the UK since September 2013. It is available for adults aged over 70 years who meet the eligibility criteria. But the programme has not been without its teething problems: this article gives an overview of the evolving shingles vaccination programme and how it is making itself fit for the future.

Shingles is an infection of a nerve and the area of skin around it, caused by a reactivation of the herpes varicella-zoster (chickenpox) virus. It is estimated that in the UK, nine out of 10 people have had chickenpox by the age of 15 years. Following this initial infection, the virus lies dormant in the nervous system until later in life, when it can then reactivate and reappear as shingles. Those over the age of 70 years are the most affected group and they also have the most painful symptoms.

Symptoms of shingles, which usually affect only one half of the body (typically the chest and abdomen), include pain, which is often severe, followed by a rash that develops into itchy blisters.

As well as often being very uncomfortable at the time, a bout of shingles can leave some people with lasting nerve pain – known as post-herpetic neuralgia – sometimes lingering for years after the initial rash has healed. And for one in a thousand people over 70 years old who develop shingles, the condition proves fatal.

UK shingles vaccination programme

It’s against this background that a shingles vaccination programme was introduced into the UK five years ago. Prior to April 2017, a shingles vaccine was offered routinely to individuals aged 70 years with a phased catch-up programme based on age as of 1 September that year. However, from April 2017, eligibility has been changed to the date a patient turns 70 years (routine cohort) and 78 years (catch-up cohort).

GPs may continue to offer immunisation to anyone who was eligible for the shingles vaccine in the previous year’s programme but has not yet been vaccinated, up until their 80th birthday. Who exactly is eligible in the year April 2018–March 2019 is shown neatly in the ‘wheel’ representation in Figure 1.
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Declining coverage

Comprehensive data on coverage of the shingles vaccine in England is collated on a regular basis. The statistics show a continuing fall in uptake of the vaccine since the initial introduction of the vaccine five years ago:¹

- Coverage in the routine cohort (aged 70 years) was 61.8% in 2013/14, 59.0% in 2014/15, 54.9% in 2015/16 and 48.3% in 2016/17.
- A decrease in coverage has also been observed in the catch-up cohort (aged 78 years), from 57.8% in 2014/15 and 55.5% in 2015/16 to 49.4% in 2016/17.

In reality, these figures are likely to underestimate the final totals of those who do get vaccinated, as patients who did not receive the shingles vaccine in the designated year may catch up in subsequent years. For example, coverage for 71-year-olds in England in 2016/17 was 63.3% by the end of August 2017, compared with 54.9% for this cohort at the end of August 2016. It’s also likely that part of the decrease in coverage in 2016/17 can be explained by a data artefact related to the change in the eligibility criteria during that period. Even so, the trend is still downwards. And according to information provided to Public Health England (PHE) by the equivalent agencies in Northern Ireland, Scotland and Wales, the figures and trend are also very similar in the other UK countries.

Why the fall off?

According to PHE, shingles vaccination coverage might be falling because of lack of awareness about the severity of shingles. “PHE is encouraging healthcare professionals and the public to be aware of the complications surrounding shingles and to encourage those within the eligible groups to get vaccinated,” they state. However, they acknowledge that the previously over-complex schedule for who should be vaccinated and when may also have contributed to the decline.

In April 2017, it was agreed that patients could be opportunistically immunised at any time of the year once they reached the eligible age (70 or 78 years). But initially, for reasons to do with vaccine supply, the majority of patients still had to be immunised during the autumn months (along with the flu vaccine), as had previously been the case.

Now, however, sufficient vaccine is available throughout the year, and in order to improve vaccine uptake, practices are being encouraged, as of April 2018, to opportunistically immunise patients all year round as and when they become eligible.²

“We… hope that simplifying eligibility will assist in helping practices to identify eligible patients, including those who have missed out previously,” a PHE spokesperson told Prescriber. “The supply of vaccine has been adjusted by PHE to accommodate this change and simplification of the eligibility criteria should be better for patients and healthcare professionals.”³

It’s an overhaul that is long overdue, according to some GPs. Commenting anonymously, one said that confusing messages for patients had made the situation a “quagmire”, and complained of anomalies in distribution, such as the same number of vaccines being given to university practices as to practices looking after 20 nursing homes.

“[Patients were hearing] ‘You are 71 and should have a vaccine; come back next month when we might have some. But your husband is 72, so he must wait until he is 79…’ or some such nonsense.”⁴

The fact that doctors, or very often practice nurses, can now administer the vaccination all year round could also help reduce the number of eligible elderly falling through the net as an unintended consequence of the pharmacy flu scheme. Identified in a 2017 PHE report as a contributory factor to the decline in shingles vaccination uptake, the pharmacy flu service encourages patients to go along to their local pharmacy rather than the GP for a routine over-65s flu jab. This could mean fewer opportunities by GP practices to identify eligible patients and offer them the shingles vaccine.

BMA GP Committee Prescribing Lead Dr Andrew Green adds: “While I agree we should try to get as many patients vaccinated as possible, the service does not provide resources for GPs to contact their patients, but relies on opportunistic vaccination. Amending the specification and payments to encourage a more proactive approach might be worthwhile.”⁵

Despite concern about coverage rates of shingles vaccination in the UK, they are better than in other developed countries – in the USA, where the vaccine is recommended routinely in all over 60 year olds, the vaccination rate ran at around 30.6% in 2015,⁶ while records for the Alberta area in Canada – where a shingles vaccination must be paid for – show the rate was a low 8.4% for those aged 60 years and above from 2009 to 2013.⁷

Efficacy of the vaccine

In December 2017, an evaluation of the first three years (until August 2016) of the shingles vaccination programme in England was published.⁸ This showed that the vaccine was 62% effective against shingles and 70 to 88% effective against post-herpetic neuralgia in this period.

In 2005, researchers carried out a very large study of Zostavax, the shingles vaccine used in the UK, involving over 38,000 adults aged 60 years or older.⁹

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¹ Public Health England/NHS. Shingles vaccination eligibility wheel poster for the period 1 April 2018 to 31 March 2019. With permission

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⁹ In 2005, researchers carried out a very large study of Zostavax, the shingles vaccine used in the UK, involving over 38,000 adults aged 60 years or older.
The results showed that:
• In adults aged between 60 and 70 years, the vaccine reduced the number of cases of shingles by 51.3%.
• In adults aged over 70 years, the vaccine reduced the number of cases of shingles by 38%.
• The vaccine reduced the incidence of post-herpetic neuralgia by over 66% in all age groups and for those who did get shingles, the vaccine reduced the severity of the disease.

As can be seen from these figures, efficacy falls as patients get older, and for this reason PHE deems those who have passed their 80th birthday to be ineligible for the vaccine. Other groups who are ineligible are those who have primary or acquired immunodeficiency states and also those on immunosuppressive or immunomodulating therapy.

However, the irony is that it is these groups who often need the shingles vaccine most. A study that compared over 144,000 shingles patients with a control group of individuals without shingles determined that patients with rheumatoid arthritis, inflammatory bowel disease or chronic obstructive pulmonary disease (COPD) were 27 to 44% more likely to develop shingles than patients without those diseases; patients with asthma, chronic kidney disease, depression and diabetes were also found to be at higher risk.

The study authors concluded that the strongest risk factors associated with shingles were diseases that caused severe immunosuppression; for example, patients with leukaemia were twice as likely to develop shingles as individuals without it, while patients with HIV were almost five times as likely to do so. The Zostavax vaccine is currently contraindicated in patients with such conditions, leading the authors to observe: “Alternative risk reduction strategies in these patients would help those at greatest risk of this disease and its complications.”

A new shingles vaccine

Could a new shingles vaccine called Shingrix be the answer for immunocompromised groups, and indeed be a better vaccine generally?

The short answer is probably yes. Identified as one of 12 new, game-changing drugs in the 2018 edition of Drugs to Watch by Clarivate Analytics, Shingrix has demonstrated robust efficacy in phase 3 trials. In people aged 50 years or older, and aged 70 years or older, Shingrix reduced the risk of shingles by 97.2% and 89.8% respectively, compared with placebo.9,10

Persuaded by the data, the US Centers for Disease Control and Prevention made a formal recommendation in January 2018 for providers in the USA to use Shingrix over Zostavax in adults aged 50 years and older. The vaccine was also approved in the EU and Japan in March 2018.

It is for immunocompromised patients in particular, who can’t currently have the Zostavax vaccine, that the buzz around the new vaccine would surely eradicate a lot of pain and misery for all.

The Zostavax vaccine is not available in the UK and this may continue for some time.”

In due course, the Department of Health will undoubtedly be looking at cost-effectiveness, as well as vaccine effectiveness and disease burden, in making any decision about whether Shingrix should replace Zostavax for all or some patients. But there’s no established timeline for if, or when, this might happen. It’s not as simple a decision as it appears either – Shingrix requires two doses (two months apart) to Zostavax’s one and the new drug is also more expensive, though it may be cost effective overall.12 Currently there are also supply problems in the USA, where providers have been warned that they may anticipate ordering limits and intermittent shipping delays through 2018.

However, if these potential barriers can all be overcome, we may be a step nearer towards reducing the incidence of shingles to unprecedented levels. Which would surely eradicate a lot of pain and misery for all.
References

Declaration of interests
None to declare.

Angela Dowden is a freelance journalist and registered nutritionist