

INFLUENZA AND THE IMMUNISATION SCHEDULE

BJFM Editor Robert Mair speaks to immunisation expert Dr George Kassianos about changes to the immunisation schedule and implications for GPs.

The flu vaccine has been available in the UK since the late 1960s and is now offered to a wide range of people, including over 65s, children aged six months and over and those in at risk groups as identified by the Department of Health.

Its value is undeniable: a study in 2010 estimated that 7.6 million working days were lost because of flu – at a cost of £1.3 billion to the UK economy.¹ With this in mind, the government has led a concerted effort to increase the number of people who receive the flu vaccine, and this year will see further developments to the school immunisation programme in pilot areas.

However, the flu vaccine is just one in a busy immunisation schedule. Immunisation remains a highly successful weapon in the fight against disease, yet as more vaccines get developed, this means a busier schedule. Currently, the routine schedule includes 20 different injections placing a huge burden of responsibility on GPs.

Dr George Kassianos, immunisation lead at the Royal College of General Practitioners spoke to *BJFM* editor Robert Mair about the importance of maintaining this schedule and building on it to improve public protection.

The vaccination schedule is really busy at the moment – more so than ever before – so why is that and is there any scope to expand in the future?

Well it looks busy, but it is not busy enough. We have got some very clear omissions – mainly hepatitis B, meningococcal B and varicella (chicken pox). We haven't got those on the schedule and we should be having those. Vaccination is an effective way of preventing infectious diseases. If we omit anything, we risk getting the disease. If we include that element of vaccine then we prevent disease, so the choice is very clear. In addition, we are desperate for a pertussis booster for our 13-14-year olds.

Are there any general risks associated with vaccinations?

Are there risks of side effects to vaccines? Yes, of course there are – but the severe side effects are very, very rare. But there is no medicine that does not have a side effect. Vaccines are one of the safest drugs we have.

We're heading into the major flu season, so how successful have recent flu campaigns been?

It has been very successful in the UK. Only the Netherlands was more successful than us, so really, we have done extremely well. But we need to do better. The influenza vaccination is one of the most cost-effective measures you can take – not only to save lives but to save hospital admissions and consulting time. Vaccination is one of the most cost-effective measures you can take.

What's the difference between the tetravalent and trivalent vaccine?

Traditionally, the flu vaccines have had two A flu viruses and one B. There are two lineages in B – the Yamagata and the Victoria. Every year the World Health Organization (WHO) tells us which A and B viruses to put in our vaccine. In the last 10 years, in regards to the B strain, the WHO got it right in 50% of cases – so half the time. So the year they were saying there was going to be Yamagata you would actually get Victoria – and when it was Victoria you would get Yamagata. Or you would put Victoria in and you would get both Yamagata and Victoria. So it was a mismatch all the time.

“No child is having too many vaccines”

Then, in 2009, WHO asked all pharmaceutical companies that produce vaccines to put both Yamagata and Victoria into the B component, so there are two As and two Bs. What is the significance of that? We know that the B virus is very prevalent in young adults and the elderly, but especially so in young adults – children at school, people at universities and so on – so it is easily spread. So, by including both of these two lineages of the B in the vaccination, we have a far better chance of covering more of the population.

This year we have two vaccines that incorporate both the Yamagata and the Victoria. They are AstraZeneca's intranasal Fluenz Tetra, for children aged

two-17 years and Fluarix Tetra from GSK, for those aged 36 months and upwards.

So how does the GP's role fit into the school flu vaccination programme?

Children aged two, three and four will be vaccinated by GPs. Most GPs will have already sent letters to parents, and this year we're very lucky. In the past GPs have been asking the Department of Health to create ready-made letters which we can send to parents of children, over 65s and so on. We just populate these letters and send them out – and this year the letters are ready for us to use.

“We need to get 100% levels of immunisation for healthcare professionals”

How do you deal with parents who might be concerned that your children are receiving too many vaccines? And how can you work with them to allay their fears?

No child is having too many vaccines. We can take hundreds more antigens than those we give our children. By reducing the pertussis whole-cell vaccine to acellular vaccine we reduced, at a stroke, the number of antigens we give to babies. Generally, children can take many times more antigens than those we give them in the months we vaccinate.

In fact, at home, children would come into contact with thousands more antigens than we give them via vaccination.

What's on the horizon for further improvements for the vaccination programme?

Meningococcal B vaccine is there on the doorstep and waiting to be introduced but we haven't got it yet. We need to get to know the vaccine a little bit more. We need to complete some studies, which are currently being done. The DH needs to negotiate a price. When I purchase a vaccine now and give it to a patient (that is not our patient as we're not allowed to give it to our own patients unless they're in an 'at risk' group, so people who come from other practices to have it), the price is £50.

Now, if you write a private prescription, you would charge £80 to £120 for one dose. Infants need three doses in early infancy (two, three, and four months) and another dose at the age of 12 months. So altogether, parents would pay about £320-£480 to get the vaccine, which is expensive. So the Department of Health needs to negotiate a price.

Then we need to be sure about how we get that vaccine into the schedule.

One of the problems we have is that just under half of the children that have the Men B vaccine will develop a degree of pyrexia. So do we give them paracetamol to give to the child at home? Because if we do that, a study from the Czech Republic showed that you get a slightly lower antibody production. We need to look into things like this and be sure about what we're doing before the vaccine is introduced. The DH is doing this at the moment, to see what level of pyrexia we get and how we actually combat that problem.

Incidentally, the same author of the above study has done some new work with Bexsero and paracetamol and found no interference with antibodies to the other infant vaccines that were co-administered.

So, at the moment, that isn't ready, but what is ready is the hepatitis B vaccine – although it may be the case it is combined with others. But it is there, as is the varicella (chicken pox) vaccine. Why do we allow our children to get chicken pox – and of course, the same virus affects young adults and others? When a child gets chicken pox, it's not just the child that suffers. The parents also suffer. One of them will probably have to stay home from work to look after the child, therefore industry suffers as well.

Isn't that the same argument for the flu vaccine as well? A lot of work days are lost by parents being off ill, or looking after sick children because of the flu.

It's very important. There was a study – actually two studies – in the 1990s in the United States. They gave the influenza vaccine year on year to 16-65 year olds and compared them to a group of 16-65 year olds who did not have the vaccine. They found those who had the vaccine year on year not only suffered less from flu but also less influenza-like illness and colds, but also took 44% less days off work. That is staggering. That is why American employers are so hot on making the flu vaccine available for their employees. Now, in the case of the NHS, they should be making the vaccine available to every single employee in the NHS, because not only would you prevent the influenza in that employee, you would help their family and their friends, and that employee would be protected from spreading the disease to other healthcare professionals and to their patients.

This is why we need to get 100% levels of immunisation for healthcare professionals.

How close to achieving that 100% level are we?

We did very well in the UK last year. But we can do better. In my practice there are 36 doctors, nurses and staff and we had 100% uptake during last influenza season.

“I would like to appeal to every single healthcare worker to be vaccinated against influenza”

Is there a final call to action that you would like to make?

We need to stand by and support the huge initiative by the DH on introducing the Fluenz Tetra for children aged two-17. Now, two, three and four year olds will get it, and others will get it if they are in one of the at risk groups. All of the others will not get it unless they are in an area which is a pilot.

The pilots will show us how to do it, as we will have to find a way to vaccinate nine million children at a cost of £100 million. That’s the figures we’re talking about.

The pilots are in place and every year we go up in age. I think every one of us should support this programme because we need to make it a success. Can you show me another country in the world which makes the vaccine available to children for free? To the population of over 65s? To the people at risk? We are unique in the world.

Logistically this sounds like a huge challenge though.

Exactly. We’re talking about a huge number of people. But that’s what the pilots are for – to try and work through these details.

Also, I would like to appeal to every single healthcare worker to be vaccinated against influenza unless they have a mitigating reason. It is so important we do not infect our patients and our colleagues, and it is so important that we are at work every single day.

References

1. <http://www.co-operative.coop/corporate/press/press-releases/pharmacy/76-million-working-days-lost-due-to-flu/> [last accessed November 14]

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