

Immunisation Subcommittee of PTAC
Meeting held 12 February 2013

(minutes for web publishing)

Immunisation Subcommittee minutes are published in accordance with the *Terms of Reference for the Pharmacology and Therapeutics Advisory Committee (PTAC) and PTAC Subcommittees 2008*.

Note that this document is not necessarily a complete record of the Immunisation Subcommittee meeting; only the relevant portions of the minutes relating to Immunisation Subcommittee discussions about an Application or PHARMAC staff proposal that contain a recommendation are generally published.

The Immunisation Subcommittee may:

- (a) recommend that a pharmaceutical be listed by PHARMAC on the Pharmaceutical Schedule and the priority it gives to such a listing;
- (b) defer a final recommendation, and give reasons for the deferral (such as the supply of further information) and what is required before further review; or
- (c) recommend that PHARMAC decline to list a pharmaceutical on the Pharmaceutical Schedule.

These Subcommittee minutes were reviewed by PTAC at its meeting on 9 &10 May 2013, the record of which will be available in July 2013.

Record of the Immunisation Subcommittee of PTAC teleconference held on 12 February 2013

1 Influenza vaccine for patients four years of age or less

- 1.1 The Subcommittee noted that the currently funded influenza vaccines were trivalent vaccines. Members noted that internationally quadravalent vaccines are becoming available and that these would be of interest given the additional antigen coverage.
- 1.2 The Subcommittee noted that currently funded influenza vaccines are both inactivated vaccines. Members noted that internationally live attenuated influenza vaccines (LAIV) were registered; however these are not registered in New Zealand. The Subcommittee noted these may be of interest given the intra-nasal route of administration which may aid uptake. Members considered that LAIVs may result in broader more effective immune responses, in those children aged greater than 2 years.
- 1.3 The Subcommittee noted that there was ongoing work with adjuvanted influenza vaccines. There are no registered adjuvanted influenza vaccines in New Zealand. Members noted that these vaccines may provide a greater immune response particularly for the elderly, and possibly the very young. Adjuvanted vaccines show an increased local reactogenicity profile and one monovalent pandemic adjuvanted vaccine has shown an association with narcolepsy.
- 1.4 Members noted that there were developments in influenza vaccine delivery such as intradermal and intranasal delivery systems and these should be considered once the evidence has been developed.
- 1.5 The Subcommittee noted that the vaccine schedule for patients under the age of nine who had not previously received an influenza vaccination would be two doses a month apart. Members noted that after the first course of influenza vaccine a one dose annual schedule could be used.
- 1.6 Members noted that in 2010 there was an increase in reports of fever and febrile convulsions in children vaccinated with one brand of influenza vaccine, Fluvax. Members noted that children under 9 years should be vaccinated with the alternative brand Fluarix to avoid the risk of increased fever and febrile convulsions.
- 1.7 The Subcommittee noted the Southern Hemisphere Influenza Vaccine Effectiveness Research and Surveillance (SHIVERS) study's first year (2012) data in relation to the impact of influenza in New Zealand. The Subcommittee noted that the SHIVERS study showed that the group with the largest burden of hospitalisation from influenza was those patients under the age of four, particularly infants under one year of age. Members noted that Māori and Pacifica peoples had a high incidence when population adjusted.

- 1.8 The Subcommittee noted the cumulative frequency data for patients being admitted to Intensive care units with influenza for the 2012 influenza season, provided by Environmental Science and Research (ESR) to PHARMAC. The Subcommittee noted that the cumulative frequency by age showed that 50% of ICU admissions for influenza occurred in patients less than 6 months of age, and approximately 80% occurred in patients aged 2 years and under. Members noted that influenza vaccines were not registered for use in patients under six months of age.
- 1.9 The Subcommittee noted that there was little evidence available for efficacy of influenza vaccine in patients under the age of 2 years. Members noted the Cochrane review (Jefferson et al 2012) examined vaccines for preventing influenza in healthy children. The review noted two levels of outcome, either symptoms of influenza accompanied by a positive laboratory diagnosis (a measure of vaccine efficacy) or Influenza-like-illness (ILI): symptoms of influenza only (a measure of vaccine effectiveness). The Committee noted that the randomised controlled trials (RCTs) for live attenuated influenza vaccine in the review showed an 80% overall efficacy (RR 0.20; 95% CI 0.13 to 0.32), with at least six children over the age of 2 must be vaccinated to avoid one case of influenza (i.e. one set of symptoms with one infection); the Cochrane review could find no usable age-specific RCT data for live attenuated influenza vaccine for those aged 2 or less.
- 1.10 The Subcommittee noted that for trivalent inactivated vaccine, overall efficacy in children is less (vaccine efficacy (VE) = 59%, RR 0.41; 95% CI 0.29 to 0.59) than for live attenuated vaccines. In children aged 2 or less the inactivated vaccines may reduce the risk by almost half (VE 45%, RR 0.55; 95% CI from 0.18 to 1.69). Members noted the observation was based on a single, relatively small study (Hoberman et al. JAMA 2003;290:1608-1616) whose estimate was imprecise with a wide 95% CI which did not reach statistical significance (being the basis for the conclusion by the Cochrane review authors that inactivated vaccines in children aged 2 years or younger are not significantly more efficacious than placebo). However the Subcommittee noted that the p value for subgroup differences was 0.13 (Chi² 4.12) (Cochrane review Analysis 2.1), suggesting that there may still be an effect across the whole under 15 years age group including for the subgroup of children under 2 years. The Subcommittee noted that there was greater evidence of efficacy in patients over the age of 2.
- 1.11 The Subcommittee noted that vaccination during pregnancy may confer protection to the unborn child as well as reducing the risks of influenza during pregnancy. Members noted that influenza vaccine was funded for pregnant women already and that uptake of vaccine should be encouraged. Members considered that maternal vaccination may confer a benefit for children under 6 months of age, depending on the timing of the vaccination in the gestational period. The Subcommittee therefore considered that influenza vaccination should be promoted and encouraged during pregnancy, to provide maternal-foetal transfer of immunoprotective antibodies.
- 1.12 The Subcommittee considered that, as the highest rate of influenza resulting in ICU admission occurred in patients under 6 months of age, targeting an increase in uptake in pregnant women would likely provide the greatest benefit at this time.

The Subcommittee considered that the timing of the vaccination would be a balance between risks to the mother and foetus in utero versus the protection offered to the infant ex utero. Members considered that currently the risk benefit ratio favours immunisation at the start of the influenza season, regardless of trimester.

- 1.13 Members considered that the Ministry of Health should seek ways to ensure that lead maternity carers (LMCs) ensure that their patients understood the need for influenza vaccination and that patients were offered this vaccine.
- 1.14 The Subcommittee considered that as the influenza vaccine to pregnant women offers protection to ex utero infants the Ministry of Health could consider it for inclusion in the current health target for immunisation of infants.
- 1.15 The Subcommittee noted that it would be preferable to have influenza immunisation recorded on the National Immunisation Register. Members noted information from Ministry of Health regarding the timelines for changes to the NIR.
- 1.16 The Subcommittee noted that the Immunisation information for the 2013 season had already been produced, and that any changes to the current season could not be complicated as this would be difficult to implement.
- 1.17 The Subcommittee considered that targeting children who were high risk would be of benefit. Members noted that patients with a history of respiratory issues would benefit most from vaccination, including them being more likely to be admitted to hospital and intensive care if affected by influenza virus. Members considered that the current asthma criteria did not adequately cover under 5 year olds as diagnosis of asthma in this age group is heterogeneous and often an evolving process over time.
- 1.18 The Subcommittee considered that patients under the age of 5 who had been admitted to hospital for a respiratory illness should be vaccinated. Members noted that patients who were treated in the community for significant respiratory illness, who had not been hospitalised, should also be vaccinated.
- 1.19 The Subcommittee noted that at this time there was no evidence that cocooning strategies were effective in preventing influenza and that this could not be recommended as a strategy at this time.
- 1.20 The Subcommittee **recommended** that PHARMAC widen access to funded influenza vaccine with a High priority for patients under the age of 5 years who meet the following criteria

Patient has been hospitalised for respiratory illness or has a history of significant respiratory illness.
- 1.21 Members noted that Canterbury DHB had provided free vaccination to all children under the age of 18 since the February 2011 earthquake and that uptake had fallen now to less than 20% and at this level is not providing any herd immunity benefits. Members considered that the number of patients accessing influenza vaccine under the proposed criteria would not be large.

- 1.22 Members noted the need for on-going review of influenza vaccine, and noted that there is a systematic review currently being under taken in the UK to identify those children considered most at risk, that will benefit most following the initiation of vaccination for all paediatric patients.

2 General issues

- 2.1 With regard to immunisation in general, the Subcommittee noted that the pertussis vaccination was now funded during pregnancy and that this vaccine should also be promoted by LMCs.
- 2.2 Members also considered that the Ministry of Health should investigate ways to ensure all health providers are aware of the Government health targets regarding vaccine, and ensure that barriers to integrated care are removed to ensure ease of access for patients to immunisation.