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Immunisation in hospital: an opportunity repeatedly missed

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New Zealand struggles to achieve immunisation coverage rates sufficient to generate herd immunity. As a result, the population remains vulnerable to epidemics of measles and pertussis, and individuals susceptible to vaccine preventable diseases. A succession of Ministry of Health targets have failed to be met and ethnic disparities persist with lowest coverage rates among Māori.[1] Missed opportunities for immunisation in primary care have been identified as a major contributor to low immunisation rates[2] and for any one patient those opportunities may be multiple.[3]

In this issue of the *New Zealand Medical Journal*, Wrigley and Gilbert[4] present their findings of an audit at Rotorua Hospital of opportunistic immunisation of 3 to 24-month-old children in hospital. This was performed as a chart review so may under-record the times that immunisation plans were discussed, but not documented. However, the clear figure emerges that of 119 children known by ward staff to be incompletely immunised for age, only four were then immunised in hospital, a discussion was recorded in 15 and 5 were referred to their general practitioner on discharge. In addition, 40 of the under-immunised children had had at least one previous admission to the children's ward suggesting repeatedly missed opportunities.

So why is immunisation so neglected for hospital inpatients? There is undoubtedly a perception that immunisation belongs in the territory of primary care so perhaps immunisation in hospital constitutes "poaching". General practitioners (GPs) receive a small subsidy for giving vaccinations but this does not ensure timeliness of administration, a factor known to be important regarding the risk of pertussis in infancy.[5] There is also a reluctance to immunise sick children, but there are very few true contraindications to administration of vaccines to children with intercurrent illnesses, with or without fever.[6]

Junior hospital staff may feel less confident discussing immunisation than primary care staff, although even this latter group has been shown to harbour misconceptions regarding contraindications to immunisation.[7] A frequently heard objection to giving a vaccine is that there is no nurse on duty who has done a vaccinator course. This is not strictly a barrier as any registered nurse or doctor can give a prescribed vaccine. However, it is much better to have a few staff who do all the vaccinations as they will become familiar with the schedule, the age- appropriate vaccines, and their different packaging and delivery: it is no good arranging vaccination in hospital if the wrong vaccine is charted, dispensed, or a component left in the box.

But the greatest factor is simply that the issue is not addressed: an immunisation history is an essential component of every paediatric admission clerking yet the Rotorua study found no documentation in 16% of the 369 patient charts audited. The advent of the National Immunisation Register (NIR), rolled out from 2004, should put an end to all excuses about not having access to a patient's immunisation record. But currently the register is underutilised by hospitals : if either electronic or faxed

information were linked to every admitted patient's record opportunistic immunisation could more readily occur in hospital or be arranged at the GP's post discharge.

The authors of the Rotorua study correctly identify from the literature[8,9] actions that could improve delivery, but I believe this should be taken further. Each paediatric ward or department needs an immunisation champion, preferably a nurse, who takes responsibility for identifying incompletely immunised children and arranging the catch up vaccines in consultation with the medical staff. In addition, consideration should be given to what extra vaccines (beyond the routine schedule) should be offered : for example whilst conjugate pneumococcal vaccine has finally been introduced for infants there are still be many children with qualifying medical and surgical conditions[8] who should have received it.

Another example is the influenza vaccine which is vastly underutilised in children despite its being licensed down to six months of age and children carrying a high morbidity from this infection as well as being supreme, prolonged transmitters to others. Varicella vaccine, too expensive for many families to afford, could be given to many medically fragile children with frequent admission to hospital. It is also known that infants and children in tertiary care are at greater risk of being unimmunised that their healthy counterparts.[9] It takes active management of immunisation to ensure that premature infants, babies with congenital defects requiring prolonged hospital stay (who may never register with a GP) and those who may require solid organ transplant, not only receive routine immunisations on time but any recommended extra vaccines, possibly on an accelerated schedule.

There are thus three identifiable groups of infants and children who are a captive audience for immunisation when in hospital: the high users of Primary Care (but always "too sick" to immunise); the high users of hospital care who tend also to be the same disadvantaged groups that access primary care poorly or not at all; and the medically disadvantaged chronic and tertiary care patients.

The majority of under-immunisation in New Zealand does not arise from opposition to vaccination and those in greatest need of immunisation are missing out. If the gap between actual and desired coverage rates and ethnic disparities in coverage are to be reduced, hospital paediatric departments need to use the opportunity that the NIR now presents to ensure that documentation is accurate, and catch-up immunisation can either be initiated in hospital or at least made part of every discharge plan.

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