



Are general practice registrars prepared for immunisation?

A cross sectional survey



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OBJECTIVE

To describe undergraduate formal training on immunisation as remembered by general practice registrars and its perceived helpfulness.

SETTING AND METHODS

Self completed questionnaire by all general practice registrars in advanced general practice terms (second 6 months of general practice) in New South Wales during 2002.

RESULTS

Formal undergraduate training in immunisation was reported by 68% (84/123) of respondents. The 20% who remembered formal practical training were significantly more likely to rate it as helpful (OR: 1.7 $p < 0.05$). Only 33% recalled a practical session offered by one university during an undergraduate paediatrics rotation. The most frequent training request was for practical experience, and the most commonly used print resource was the *Australian Immunisation Handbook*.

DISCUSSION

General practice registrar access to a training session on practical immunisation techniques and childhood immunisation before commencing the basic general practice term might be helpful. Registrars should automatically receive a copy of the *Australian Immunisation Handbook* which might address perceived education needs.

Immunisation occupies an important proportion of Australian general practitioners' time. It is the third most common reason for consultation¹ at about seven immunisation encounters per week.² General practitioners are the most frequent providers of childhood immunisation at 71% of all providers.³

Yet training on practical skills for immunisation, especially correct injection technique, is not always offered to medical students and general practice registrars. Undergraduate formal training typically amounts to one lecture or tutorial. Formal and informal training occurs during a general practice term. One university module that has students giving vaccines to each other under supervision may be the most intensive in Australia.

We sought to evaluate the persistence of this at the University of Sydney (New South Wales) in general practice registrars.

Methods

Two groups of general practice registrars comprising all advanced term registrars in New South Wales attended training seminars in Sydney in March and September 2002. They were all in their second, 6 month full time equivalent term working in supervised general practice. They were given a three page questionnaire containing 23 questions covering undergraduate training in immunisation, levels

of confidence, use of written materials and knowledge regarding needle gauge and injection site. Data were analysed using the chi-square test and content analysis.

Results

Undergraduate formal training in immunisation

All 123 attendees completed the questionnaire. The mode year of graduation was 1998, with 41 (33%) students graduating. To a question asking whether and what kind of formal training they had received, 84 (68%) remembered formal immunisation training in their basic medical degree; of these, 73 (87%) had a lecture, 30 (36%) a tutorial, and 24 (29%) a practical session. There were 40 registrars who attended the University of Sydney which offered a practical session during their undergraduate paediatrics term; only 12 (33%) recalled it.

We asked about the helpfulness of respondents' undergraduate immunisation teaching: 17 (21%) found it very helpful, 27 (31%) moderately, 37 (44%) somewhat, and three (4%) found it not helpful. The 24 who reported receiving a practical session were significantly more likely to find their training helpful than others (OR: 6.55 $p < 0.05$). Fifty registrars made suggestions for improvements to their undergraduate training on immunisation; 23 would have more practical training, 10 some

skills in communicating benefits and risks with parents, six each on vaccine preventable diseases with vaccine risks and the immunisation schedule, and five wanted arguments to counter the antivaccine lobby.

Confidence and knowledge

Not feeling confident with injection technique was reported by 49 (40%) of respondents, 48 (39%) felt they had insufficient knowledge of the immunisation schedule, and 61 (50%) said they did not know contraindications for specific childhood vaccines. Although the *Australian Immunisation Handbook* (7th edition)⁴ recommends using 23 gauge 25 mm (blue hub) needles instead of the shorter 25 gauge 16 mm (orange hub) needles for minimising local reactions,^{4,5} only 70 (57%) of respondents correctly nominated them for vaccinating an infant 2 months of age. However, 116 (94%) correctly nominated the thigh as the preferred site for vaccination in infants under 12 months of age.

Current use of written materials

Registrars used widely distributed written materials on immunisation to different extents. The *Australian Immunisation Handbook*⁴ was used most widely, 89 (73%) using it 'regularly' or 'always'. Other sources of information included 'Immunisation myths and realities',⁶ 'Keep it cool – the vaccine cold chain',⁷ 'Understanding childhood immunisation',⁸ and 'Understanding infant hepatitis B immunisation'.⁹

When asked about the preferred method for being updated on changes to the Australian Standard Vaccination Schedule, most nominated a revised *Australian Immunisation Handbook* as being the most useful, followed by leaflets (Table 1).

Discussion

The low rate of recall of immunisation training sessions offered, and the overall low levels of self confidence reported after 6 months of general practice training suggest that practical instruction in this area may be either inadequate or poorly recalled.

Moreover, immunisation is only one of many competing training needs in an already

overcrowded basic medical curriculum. Perhaps theoretical and introductory teaching should be used at undergraduate level and practical training best placed early in, or just before the general practice registrar program when it becomes more relevant.

For a registrar new to practice, the correct technique for, and answers to common concerns surrounding vaccination may be anything but routine. Some regional training providers have developed modules for practical immunisation training. Should this be delivered at a pre-basic term workshop before commencing a basic general practice term?

Our study supports previous research showing the *Australian Immunisation Handbook* as a popular authoritative source of information on immunisation.¹⁰ However, as it is sent only to doctors registered with the Australian Childhood Immunisation Register, we recommend that general practice registrars automatically receive a copy before commencing general practice.

Limitations

That this study obtained a 100% response rate is a strength. However, the sample – limited to only one state – may mean these results should be generalised across Australia with caution. The greatest limitation of this study is its validity. The survey's placement at the end of an immunisation seminar may have biased the answers if respondents were left either buoyed or discouraged by the seminar and over- or under-rated their confidence. Also, to what extent do these memories reflect the educational adequacy of a university course delivered years before? Nevertheless, the survey is strengthened by also measuring the current experience of registrars who are likely to be immunising frequently.

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Table 1. Registrar's suggestions for being updated on Australian Standard Vaccination Schedule changes

Method	Frequency (n)*
Revised Immunisation Handbook	108
Leaflets	68
Posters/fridge magnets	49
Lectures	44
Web page	40
CD-ROM	26
Tapes/videos	17

* Respondents could nominate more than one category

Implications of this study for general practice

- General practitioners provide most immunisation for Australians.
- Many registrars do not feel confident in injection technique or knowledge of immunisation.
- Training in immunisation with more practical components, early in post-graduate training might address these deficits.

Conflict of interest: Alison Williams was technical editor of the *Australian Immunisation Handbook* (8th edition). Peter McIntyre has been a major contributor to the design and implementation of the practical training sessions conducted for the University of Sydney students.

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