

QUALITY IN HEALTH CARE

Editorials

Clinician education: a key to implementing asthma guidelines?

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Physician education, usually through outreach visits, is a common method of trying to improve adherence to clinical guidelines in primary care. But how effective is this approach? On page 92 Smeele *et al* report minimal improvements after a guidelines education programme for asthma and chronic obstructive airways disease. A total of 34 self selected Dutch general practitioners (GPs) were randomised to intervention and control groups; the intervention group were offered four education sessions, each lasting two hours, to help them to implement national guidelines. The small group sessions focused primarily on information transfer, peer review, and skills training. Attendance was moderate. Twelve months later there were only marginal differences in asthma knowledge scores for physicians. Patient outcomes did not differ between intervention and control practitioners.

In contrast with the huge numbers of asthma guidelines developed,¹ there are few good quality studies of how to make them work in practice. This is not surprising because good studies are hard to do. Secular trends towards improved care, as shown by Smeele *et al*, mean that randomised controlled designs are mandatory when testing the effectiveness of an implementation method. Changes in practice that result from taking part in research rather than from an intervention itself (an example of the Hawthorne effect) mean that balanced incomplete block designs are preferable, so that control practices are also exposed to the “halo” of research activity. In primary care, interventions are usually at the level of the practice, making this the appropriate unit of randomisation and analysis. Studies need to be large enough to detect changes in important patient outcomes such as health service usage and quality of life, and be long enough in duration to distinguish brief from sustained effects. Quality of life is often difficult to measure in mobile, deprived, ethnically diverse populations—exactly those where asthma is often a significant problem. Guidelines come with a price tag: cost effectiveness studies are vital if we are to learn whether guidelines programmes result in net savings.

The study by Smeele *et al* contributes to the debate about which methods are effective for implementing guidelines, but is underpowered for the detection of moderate improvements in GP performance. Nevertheless, it joins other studies that have addressed implementation of

asthma guidelines. So, can education improve implementation of these guidelines?

Doctors who developed their own practice guidelines for childhood wheezing improved their prescribing and their patients wheezed less compared with control groups.^{2,3} In contrast, patient outcomes were unchanged when GPs took part in small group education without guidelines development.⁴ Unfortunately, de novo guidelines development within individual practices is not a practical approach. Two studies suggest that education can improve use of asthma guidelines and improve care even in socially deprived areas where underdeveloped practice is common. Feder *et al* randomised 24 East London general practices to receive either asthma or diabetes guidelines (a balanced incomplete block design).⁵ The intervention consisted of three lunchtime education sessions using local colleagues as opinion leaders to discuss guidelines use, a simple manual medical record reminder stamp, and audit with feedback. A year later, improvements were seen in all seven diabetes process of care measures, and in two (quality of prescribing and review of inhaler technique) of six asthma measures. In New York, Evans *et al* randomised 22 community paediatric clinics⁶: an intensive programme of seven education sessions each lasting three hours, based on national asthma guidelines, with intensive administrative support resulted in improved diagnosis and prescribing, and increases in routine and emergency visits for asthma. Are doctors the best people to do the educating? Probably not, without some help by experts. In a randomised trial of 74 general practice paediatricians in Michigan, Clark *et al* used a skilled educationalist, working with a doctor, in a programme of two interactive seminars, each of two and a half hours.⁷ Sessions focused on good communication skills and developing a physician-patient partnership in managing asthma, and were linked to US national guidelines. Follow up for 12 months showed improved prescribing of asthma prophylaxis, better communication during consultations, and reduced non-emergency care. Less frequent emergency visits were seen in patients on prophylaxis who were frequent (more than three a year) emergency attenders. More importantly, these improvements persisted for more than two years after the intervention, suggesting that good and relatively brief implementation can have a prolonged effect without re-enforcement.⁸

When are educational interventions less likely to work? Weak guidelines dissemination strategies combined with traditional didactic continuing medical education (CME) methods are poorly effective. In a controlled, but non-randomised study, Gorton *et al* tested the effect of three methods of disseminating US national asthma guidelines to 60 ambulatory care physicians in Arkansas, compared with 20 other local physicians as controls.⁹ All three methods: detailing by telephone with a posted guidelines summary and CME conference; a computerised guideline summary (not an interactive decision support system); and a multimedia package of posters, videos, faxes, and a CME conference resulted in small improvements in either prescribing or frequency of peak flow measurements. No group showed improvements in both measures, however.

Two studies, both by White *et al*, suggest that education may need to be focused around guidelines. Twenty seven UK GPs were randomised to take part in one of two educational groups or a control group.¹⁰ Educational groups discussed asthma management strategies over eight sessions, but developed no formal management protocols. Follow up of patients over two and a half years showed no improvements in asthma morbidity. In a further study, White randomised 23 general practices to receive patient specific morbidity feedback, inserted into patient records, with additional presentations of morbidity data to practice teams.⁴ Surprisingly, no improvements in patient morbidity or prescribing were found. Non-educational methods may have a place: a similar study testing prompts in medical records placed by an audit facilitator, but without direct educational contact between facilitator and clinicians, showed improved asthma prescribing and diagnosis over a year,¹¹ but no longer.¹²

Although few, these studies addressing asthma care echo findings from systematic reviews covering other clinical areas. Grimshaw and Russell highlighted the importance of educational interventions such as outreach visits in guidelines implementation.¹³ Worrall *et al*'s systematic review of 13 trials of guidelines introduction in primary care showed patchy improvements in care.¹⁴ Only five of 13 trials showed benefits and these were, at best, modest. Wensing and Grol's review comparing the efficacy of single versus combined guidelines implementation strategies found some support for the latter.¹⁵ Thompson *et al*'s review of outreach visits found improvements in practice in all 18 studies.¹⁶ Finally, Davis *et al*'s systematic review of the efficacy of CME strategies also supports outreach visits as an effective method of changing clinician behaviour.¹⁷

Finally, are we able to highlight key elements for making guidelines work in practice? Firstly, qualitative work on introducing guidelines suggests that success is more likely if barriers such as organisational problems and practitioner conflict are identified^{18 19} and targeted. Secondly, combined

implementation strategies may be better than education used alone. Thirdly, avoid education sessions using information transfer alone; use interactive methods with the help of an educationalist. Trials including economic analyses and studies of other promising methods of implementing guidelines, such as computerised decision support, are awaited. In the meantime, notwithstanding Smeele *et al*'s essentially negative trial, carefully designed educational strategies still hold the most promise for improving asthma management through clinical guidelines.

CHRIS GRIFFITHS
GENE FEDER

Senior Lecturers, Department of General Practice and Primary Care, St Bartholomew's and the Royal London School of Medicine and Dentistry, London, UK

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