



Delayed antibiotics for children with acute otitis media: is practice change sustainable?

Christopher J Cates

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Jottings....

Practice is usually hard to change. At workshops, I often get participants to list how many changes they have made in their clinical practice in the past 12 months. These can be changes of preferred treatments, using a new test, or stopping something. Most folk list only 2 or 3 changes and usually do not know the evidence behind these changes. One issue of *Evidence-Based Medicine* should then be able to dramatically improve the rate of change! But even when we are motivated, a change of practice can feel awkward. Take reducing antibiotics for respiratory tract

infections—knowing doesn't seem to change much. Several trials have showed that delayed prescribing is helpful in getting doctors and patients to change. But is that change sustained long term? Well, Chris Cates, a pioneer of delayed prescribing, gives an account of the long-term follow-up of changes in his own general practice. It seems not only did they change, but local practices adopted the change as well. Now if we can just do that with all of the 20 changes in every issue of *Evidence-Based Medicine*!

Paul Glasziou, MBBS, PhD

Delayed antibiotics for children with acute otitis media: is practice change sustainable?

Overuse of antibiotics is an ongoing concern because of antibiotic resistance. We previously found that half of the antibiotic suspensions prescribed to children in our practice were given for acute otitis media. We were not convinced that all of these children needed antibiotics in view of a systematic review of the evidence,¹ and in July 1997, we decided to see if we could change our practice.

SETTING AND DESIGN

Manor View and Attenborough practices serve the population in Bushey and Oxhey, a suburban setting in south west Hertfordshire. They are both training practices, with similar list sizes of about 11 000 patients and relatively few patients who do not have English as their first language.

We adopted an evidence-based patient handout for parents and also started to offer a deferred antibiotic prescription (with advice not to give the antibiotics immediately) for children with earache and inflamed eardrums who were not unduly ill. In March 1999, we published the results of a before–after study in which we compared prescribing of amoxicillin suspensions in our practice (Manor View) with that of a nearby control practice (Attenborough) over the first year after we changed practice.² We now report what happened to prescribing in the subsequent 3 years.

MEASURES OF IMPROVEMENT

Reduction in antibiotic load on children is important to their parents, and therefore, this was the key outcome measure. PACT (Prescribing Analysis and Cost) data were collected to assess how many prescriptions for amoxicillin suspension were taken to the chemist on a monthly basis. This was found to be a good measure of antibiotic use for children with ear infections in our practice (as the number of prescriptions for other antibiotics for ear infections balanced the number of prescriptions for amoxicillin suspension used for other conditions). Data were also obtained from south west Hertfordshire District prescribing figures and from National PACT data for England and Wales. The PACT data were analysed as the annual number of prescriptions per 100 children < 5 years of age.

For Manor View, all 4 years after the change in practice were compared with baseline, using national prescribing as a control. For Attenborough, the final 3 years (which followed dissemination of our results) have been compared with the first year after

baseline, as it was during the second year that they adopted the policy of using deferred prescriptions. Tests for interaction were done using the Altman method.³

STRATEGY FOR CHANGE

The decrease in antibiotic prescribing found in the initial before–after study were disseminated at a meeting at the local postgraduate centre in Watford during the second year and were published in the *BMJ*² and disseminated through the Beacon practice scheme. There were several hundred letters and emails asking for copies of the handout (as this was not originally posted on the *BMJ* website). I wondered whether the change in prescribing would be sustained in Manor View practice after the first year of the project and whether there would be any subsequent change in prescribing in the Attenborough practice.

EFFECTS OF THE CHANGE

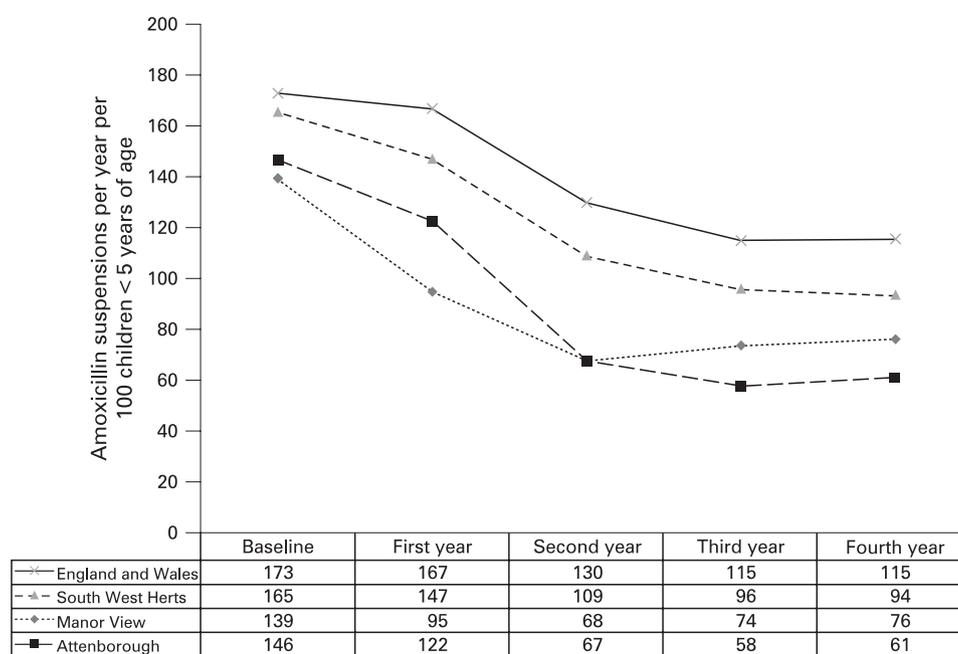
The national, district, and practice prescribing levels for the baseline year, the first year after Manor View changed practice, and the subsequent 3 years are shown in the figure.

In all 4 years after the change in practice at Manor View, prescribing levels of amoxicillin fell significantly more than national prescribing levels, with an overall relative risk reduction (RRR) of 26% (95% CI 23 to 30). There was no significant difference between the first year and the following 3 years.

Comparing the first year with the next 3 years at the Attenborough practice, there was a significant fall in amoxicillin prescribing after they took up deferred prescribing of antibiotics for children with ear infections. The RRR was 29% (CI 20 to 37) compared with the first year when they had not changed practice. As shown in the figure, the final 2 years produced a larger reduction in prescribing at Attenborough compared with Manor View (which had reached a plateau).

District prescribing fell in relation to national figures, but the relative change was much smaller after our results were disseminated in Watford: the RRR was 5% (CI 4 to 7) comparing the final 3 years with the first year.

In practice, we did not find that parents were returning because they were dissatisfied with the new strategy. Many parents have now adopted their own initial wait-and-see period and bring their children with earache only if they are worried



National, district, and practice prescribing levels of amoxicillin suspension for children with acute otitis media

about them or if they have not improved after an initial period on paracetamol suspension.

It would therefore appear that our approach has brought about a sustained reduction in the use of antibiotics for children with acute otitis media, and after dissemination of our findings, similar results have been replicated in the Attenborough practice using deferred prescribing of antibiotics for children who are not unduly ill. Because we do not know the extent to which the strategy has been adopted in the district, we do not know how much it has contributed to the small decrease in district prescribing (compared with national figures).

NEXT STEPS

NICE guidelines issued recently advocate watchful waiting and adequate pain relief (with consideration of deferred antibiotic prescription) for children with acute otitis media who are not seriously ill.⁴ The approach is also advocated for other upper respiratory infections, such as sore throat and sinusitis. Interestingly, the control practice did not uniformly decide to take up the evidence-based handout but did report that they found deferred prescribing to be a helpful approach.

Use of deferred prescriptions for children with acute otitis media has been used successfully in a randomised controlled trial in the USA,⁵ and the approach has also now been included in US paediatric guidelines.⁶ Deferred prescribing has also been the subject of a Cochrane Review,⁷ and an individual patient meta-analysis of children with acute otitis media has been published.⁸ This has helped to define which children are most likely to benefit from antibiotics (children <2 y of age with

bilateral otitis media and children with otitis media and otorrhoea).

Christopher J Cates, MA, FRCGP

St George's, University of London; London, UK

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