

Computerised prescribing: assessing the impact on prescription repeats and on generic substitution of some commonly used antibiotics

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TO THE EDITOR: Newby and Robertson's study of the effect of computerised prescribing on the frequency of repeat prescriptions for antibiotics is important in highlighting unnecessary repeat prescribing.¹ However, their work has highlighted another issue — researchers' growing habit of using the prescription of selected antibiotics to infer indication, and then to measure appropriateness of care.

When using the term "upper respiratory tract infections" (URTIs), do the authors mean viral infections or all URTIs, including bacterial infections? They state:

While we did not include data on the indication for treatment in our study, the antibiotics we chose are those commonly used for respiratory tract infections. Therefore, the continued high rate of repeat ordering for these antibiotics remains a concern.¹

We support the latter statement wholeheartedly, but the inference that the antibiotics examined in the study were used to manage URTIs (because these antibiotics are "commonly used to treat URTIs") is inappropriate and incorrect. A media report misguidedly described Newby and Robertson's study as examining "how GPs' use of computerised prescribing systems affects antibiotic prescribing for upper respiratory tract infection."² The study was not about prescribing of antibiotics for URTIs, but this implication is apparent in their article.

From the national Bettering the Evaluation and Care of Health (BEACH) program 2006–2009,³ we examined 20 011 general practitioner prescriptions for Newby and Robertson's selected antibiotics: amoxycillin, amoxycillin/clavulanate, roxithromycin, and cefaclor. We would usually include cephalexin, because it is prescribed as often as cefaclor for URTIs at BEACH encounters, but we have limited our comparison to the above four antibiotics. In the BEACH program, GPs link the prescription to the problem being managed so we can determine the indication for which these antibiotics have been prescribed. Over the 3-year period of

the 2006–2009 BEACH program, only 21.1% of these antibiotics were prescribed for URTIs (adults [≥ 15 years], 20.6%; children [0–14 years], 22.7%). In four out of five cases, the prescriptions were for acute bronchitis, sinusitis, acute otitis media or myringitis, tonsillitis, urinary tract infections, skin infections, pneumonia, and a variety of systemic infections.

It cannot be assumed that a URTI is the indication simply because these antibiotics are most commonly used for its management, and by inference, that GPs are prescribing inappropriately.

Newby and Robertson are not alone — the 2010 Productivity Commission report used the number of prescriptions for “antibiotics most commonly used to treat URTI” as one indicator of the appropriateness of GP services.⁴ These antibiotics are, in most cases, prescribed for indications other than URTI. The appropriateness of this prescribing cannot be assessed without knowledge of the indication, and without clear guidelines as to what level of antibiotic prescribing for each indication is “best” quality.

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1 Newby DA, Robertson J. Computerised prescribing: assessing the impact on prescription repeats and on generic substitution of some commonly used antibiotics. *Med J Aust* 2010; 192: 192–195.

2 du Toit S. “No substitution” now rare: study. Sydney: *Pharma in Focus*, 22–28 Feb 2010. <http://www.pharmainfocus.com.au/NewsPrint.asp?newsid=3104> (accessed Feb 2010).

3 Britt H, Miller GC, Charles J, et al. General practice activity in Australia 2008–09. Canberra: Australian Institute of Health and Welfare, 2009. (AIHW Cat. No. GEP 25; General practice series No.25). <http://www.aihw.gov.au/publications/gep/gep-25-11013/gep-25-11013.pdf> (accessed Mar 2010).

4 Steering Committee for the Review of Government Service Provision. Report on government services 2010. Vol. 2. Canberra: Productivity Commission, 2010. http://www.pc.gov.au/__data/assets/pdf_file/0006/93903/rogs-2010-volume2.pdf (accessed Mar 2010). □

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IN REPLY: We accept the evidence presented by Henderson and colleagues that the antibiotics examined in our study are not used exclusively for upper respiratory tract infections (URTIs), and we acknowledge in our article the lack of information on indication for treatment. However, data from the Bettering the Evaluation and Care of Health (BEACH) program have been used by others to suggest that the four antibiotics represent over 60% of the prescribed antibiotics for URTIs.¹ Our study does not assess the appropriateness of the antibiotic choices, focusing instead on duration of therapy as implied by the issuing of repeat prescriptions.

Irrespective of indications for use of these antibiotics, our data still support our primary conclusion that computerised prescribing is associated with increased repeat ordering for these, and probably other, antibiotics. The increase in repeat ordering could possibly be explained if doctors who use computers to prescribe see “sicker” patients or a significantly different case-mix from those who write prescriptions by hand. However, the size of the difference (70% v 40% of prescriptions with repeats, respectively), the consistency across the antibiotics examined, and the identical rate of repeat ordering on handwritten prescriptions in both surveys, makes this conclusion unlikely.

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1 National Prescribing Service. Prescribing practice review 9: questions to review your prescribing. Sydney: NPS, 2000. http://www.nps.org.au/__data/assets/pdf_file/0005/16925/ppr09.pdf (accessed Mar 2010). □