

Getting to the pharmacy: auditing primary non-adherence

We read with interest the recent *Viewpoint* article on medicines adherence.¹ Dr Bryant highlights the complexities of researching adherence, with published studies often relying on measures like prescription refills, electronic monitoring of container opening, self-reporting or changes in clinical indicators.¹ However, such measures ignore an aspect of adherence that is all too familiar to general practice, that of primary non-adherence—in other words, the prescriptions that never even get dispensed.

This issue was the focus of a local clinical audit in 2006, where all electronically generated prescriptions by one GP were linked with prescriber-based information provided by the Ministry of Health to estimate dispensed prescriptions. At the time, the part-time GP's workload was restricted to high school-aged students who attended any of three school-based clinics in rural Waikato. Overall, 40% of all prescriptions generated during one school year were not dispensed, ranging from 31% to 48% across the three school settings. The bulk of the un-filled prescriptions related to contraceptives and antibiotics, most of which are readily available on a Prescriber Supply Order in New Zealand. Direct dispensing was an effective ongoing intervention to overcome some of the adherence barriers faced by the young students.

How common is primary non-adherence in a more general setting? A recent US study reported 7.4% (1142) of patients enrolled in an integrated health care delivery system, who were newly prescribed antihypertensive, antidiabetic, or antihyperlipidaemic medication, did not have their medication dispensed.² As the study authors say, overlooking primary non-adherence distorts the true relationship between medication adherence and clinical outcomes.

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The importance of locality planning in New Zealand health care

Although New Zealand (NZ) is a small country, our population is dispersed and there are significant differences between regions and across the urban/rural divide. I argue that the planning of community health care services must be locality-based.

Variability is a hallmark of the NZ primary health care (PHC) system. Across districts there is significant variability in the availability of general practitioners,¹ the characteristics of practices (especially between privately-owned, community-owned and low cost access practices),² the historical origins and current activities of Primary Health Organisations (PHOs)³ and their response to the present government's initiatives.⁴ Further, there are differences in the skills and interests of individual providers, and in the relationships between them.

Geography also has a significant impact. In small, relatively remote towns, distance is a key difficulty, but the small population is likely to be cohesive. There are particular benefits from out-reach clinics, dispersed testing facilities and the local provision of beds to which sick or injured people can be admitted for observation. Providers of different types can work together informally and there are opportunities for community development.

In contrast, in large cities distances are short and public transportation is available. However, community relationships may be weaker and health care providers may be unknown to each other. Under these circumstances, coordination of services is important and it is useful to ensure that different types of services are available to meet the needs of different groups.

Localities should be big enough to be independently viable but not so big as to have widely differing needs. In some cases smaller populations need specific attention. For example, on Auckland's North Shore, it would be desirable to distinguish Kaipatiki (a local board of Auckland City) which includes the more deprived neighbourhoods, rather than North Shore (a ward of the City) which also includes the well-off neighbourhoods of Takapuna and Devonport.

Locality planning has been embraced by Waitemata and Counties Manukau District Health Boards (DHBs) but it is, as yet, unclear how it will manifest. Each locality requires a unit, having oversight of all health services, able to undertake needs analysis and responsible for meeting these needs with the resources available. If such units are established, their

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responsibilities should be clearly defined to reduce the wasteful conflict that often exists between organisations at present.³ They could be the loci where community needs (as assessed by the community and local health providers), service planning and coordination (now undertaken by both PHOs and DHBs) and outcome requirements (generated primarily by the Ministry and overseen by DHBs), come together. The units should see themselves as advocates for their community, arranging and coordinating services to fit the unique needs of their population. They need to be acceptable to all provider groups and require discretionary income.

The creation of effective locality units requires reciprocal changes in existing bodies. DHB planning and funding divisions need to limit themselves to defining and monitoring outcomes while letting the locality units decide how these should be achieved. PHOs may sub-divide themselves to correspond to locality boards, while continuing to provide clinician education and back-office practice operations, at a district, or even regional level. Community services, whether provided by the DHB or by PHOs, need to be organised by locality.

For PHC to fulfil its potential in NZ, services must become more accessible, complete and coordinated, and need to be appropriately targeted for each locality. Well-targeted and coordinated services would use resources more effectively and can produce better outcomes without increasing cost.

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Access–literacy gap in online health education for diabetes—Internet access is just one link

Online ‘web’ applications for diabetes health education hold potential for empowering patients with self-monitoring and feedback at their homes.¹ The cross-sectional telephone survey of 68 patients in Northland, New Zealand adds valuable contribution to this emerging area of research.² This pilot

study is useful to other parts of the world with indigenous subgroups experiencing rapid social change and a high incidence of diabetes, such as the United Arab Emirates with over 24% of the adult population affected.^{3,4} The authors highlight the gap between having Internet access at home and being able to use online applications effectively (‘Internet Literacy’) among low-literacy patients.

That patients with limited literacy can improve behaviours such as diet, exercise and medication adherence with Internet-based programmes was recently shown in a 12-month randomised controlled trial with 463 patients.⁵ Another trial recruiting 270 adults with diabetes found that literacy and ethnicity did not correlate with online engagement—a reassuring result for reaching minorities.⁶ Unfortunately, the effect size has been frustratingly small in terms of HbA1c control and other biomedical outcomes, and at times non-significant as in a smaller trial enrolling 70 adolescents with Type 1 diabetes.⁷

Further research should focus on design enhancements for patients with low literacy and different ethnic backgrounds. For example, websites should minimise log-in process (or use an open portal) and provide content on difficult-to-ask questions from local physicians with active discussion boards.⁸

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