What is evidence-based practice and how do we get there?

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This issue of the *Journal of Primary Health Care* has a special focus on evidence-based practice. The lead editorial is the keynote speech given by Professor Trisha Greenhalgh at the last annual conference held by The Royal New Zealand College of General Practitioners.[1] She eloquently identifies the limitations of evidence-based medicine, challenging us to consider other paradigms in the complex and non-linear business of general practice.

Dr Barry Parsonson offers one such paradigm of practice-based evidence.[2] He argues that we should consider findings from alternative methodologies as well as large-sample double-blinded randomised controlled trials as evidence to inform our practice. Single-sample case replication methods can be a powerful tool to evaluate individual-patient or small-group responses to an intervention. In this way cumulative data from our own practices can add to our evidence base.

A seminal paper by Professor Bruce Arroll and a team of Canadian and New Zealand colleagues explains how probabilistic reasoning influences the processes in which we engage in making a diagnosis.[3] Information we obtain from our patient's history, examination and investigative test results assist us in ruling in or out possible diagnoses. The aim is to increase the pre-test probability of a particular condition to the point where we can start treatment or instigate further (more invasive and/or expensive) tests, and decrease the pre-test probability of alternative possibilities so that those diagnoses are effectively excluded. This process reduces the likelihood of both false positives and false negatives (always, of course, being cognisant that rare things do happen, and therefore allowing new information to shift our estimate of probability).

In keeping with the theme of this issue, our *Back to Back* column addresses whether evidence-based guidelines lead to improved health outcomes. Dr Jim Vause, former Chair of the New Zealand Guidelines Group, argues that guidelines synthesize all the evidence and help shift practice.[4] He points to changes in practice in response to evidence as leading to the recent reduction in cardiovascular deaths. On the other hand, Associate Professor Dee Mangin argues that guidelines are a very imprecise tool, often including evidence that is poor quality or irrelevant and overly prescriptive for the complex contexts of primary care, while clinical decisions need to take into account many more factors than the ones presented in a linear flowchart.[5]

Events have overtaken us here, as the New Zealand Guidelines Group was shut down on 30 April 2012. It is unclear what will replace it, but while 'doorstop' guidelines may be a thing of the past, busy general practitioners (GPs) do need summaries of the latest research evidence, whether this is provided in paper or electronic form, or via peer group meetings or clinical detailing visits. In my opinion, there is still a need for an independent body to provide evidence in the context of local conditions. For example, internationally the general trend is to advise less use of antibiotics for sore throats, whereas in New Zealand we must consider the pre-test probability of a 'Strep' throat, with subsequent risk of rheumatic fever.

However, rather than single-disease, proscriptive guidelines, we may be better served by a combination of resources such as continuously updated electronic textbooks such as *DynaMed* as a point-of-care reference; the succinct summaries of Cochrane systematic reviews for primary care practitioners provided by *PEARLS (Practical Evidence About Real Life Situations)*; locally produced mini–research summaries and recommendations that address multimorbidity and contextual factors such as family, social, ethnic, policy

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and legislative issues and limitations, combined with cell-based collaborative education within primary care networks. This is a debate that needs to happen, to determine which strategy to replace the New Zealand Guidelines Group will best serve general practice.

The overall message is that there are many forms of evidence that inform our practice, including of course both the distilled summaries published in our regular columns, such as *String of PEARLS*, *Cochrane Corner*, *Potion or Poison?* and *Nuggets of Knowledge*, and the original research conducted in our own primary care environment. This issue includes three research papers addressing drug use by patients. Dameh and colleagues explore pharmacists' attitudes and practices towards non-prescription use of antibiotics,[6] Sheridan et al. look at GP experiences of misuse of psychoactive prescription drugs by patients[7] and Abbott et al. explore the availability of antidotes for accidental and intentional drug poisoning.[8]

While we have a long tradition in New Zealand of GPs and nurses working as a team in primary care, a study by Finlayson and Raymont shows that concepts of what constitutes a team differ, and a higher level of transdisciplinary teamwork may be advantageous for chronic disease management and population-based approaches.[9] This requires development of a well-trained primary care nursing workforce, and McKinlay and colleagues identify strategies that may overcome the barriers to developing such a workforce.[10] On a similar theme, our *Vaikoloa* column this issue looks at the Pacific workforce development within primary care.[11]

From the patient perspective, a study by Ludeke et al. looks at ways to address the barriers that might be experienced by Pacific people's access to primary care services,[12] and Jatrana and Crampton explore gender differences in financial barriers to primary care access.[13]

Research evidence such as this, as well as findings from randomised controlled trials, help inform best practice. Often, of course, there will be no evidence available or relevant to a specific patient with his or her own set of conditions, beliefs, expectations and social situation. We must also bring our professional experience and expertise into play. General practice will always be an inexact science as well as an art, and quality of care also relies on excellent communication skills and truly informed decision-making. All these are included in evidence-based practice.

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