

## ORIGINAL RESEARCH

# Evidence-based rural general practice: barriers and solutions in South Australia

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## ABSTRACT

**Introduction:** This paper reports on research to ascertain the views of general practitioners (GPs) practising in rural and remote areas of South Australia, on evidence-based medicine (EBM). It follows our previous paper that identified, through a literature search, the key issues in moving towards EBM in general practice in these areas <sup>1</sup>. The objective of the paper was to identify perceived barriers and potential solutions to evidence-based general practice in rural and remote South Australia.

**Method:** An interview survey was conducted in the year 2000 at 89 of 104 (86%) GPs' surgeries in three rural Divisions of General Practice in South Australia.

**Results:** EBM was viewed positively by 85%, and 94% reported practising EBM. However, barriers to EBM were identified by 84% and four key themes were identified. GP-related barriers identified by 60% included difficulty finding, appraising and applying evidence and lack of time to read, reflect and update practice. Patient related barriers (23%) included an apparent conflict between some patients' expectations and evidence. Environmental barriers (43%) related to remoteness included high workload, limited information and poor resources for continued medical education. Resource related barriers included a lack of computer hardware and software and slow, unreliable and expensive Internet access (14%). Potential solutions were suggested by 82%. The most frequent was improved hardware, software and Internet access (41%). Only 19% suggested formal training for GPs, while 26% suggested improved clinical practice guidelines and 23% suggested non-Internet based dissemination of information including a service to provide evidence-based answers to clinical problems.

**Conclusions:** EBM was viewed positively by the surveyed GPs and many believed they already practised it. Most identified barriers to full and effective use of EBM but also suggested solutions.



## Introduction

Our previous paper identified, from a search of the available research and information, the key issues in moving towards evidence-based general practice in rural and remote Australia<sup>1</sup>. There has been little research to understand the use of EBM by GPs practicing in these areas and whether or not the identified barriers to the practise of EBM<sup>2,3,4,5</sup> are more pronounced in rural/remote general practice. There may be fewer differences now in Australia in clinical general practice activity in rural/ remote areas compared to urban areas<sup>6</sup>. However the rural and remote context of practice may be associated with difficulties in accessing and applying evidence.

There is an imperative to move towards EBM in rural and remote areas as patients often have a limited choice of health care options. Designing appropriate strategies to encourage the widespread application of EBM in rural and remote Australia could assist in ensuring those options provide effective health care. This study provides information that may be useful in designing such strategies.

## Method

### Interview survey

The survey was undertaken among 89 of 104 (86%) GPs practicing in three rural Divisions of General Practice in 2000. Ethics approval was obtained from the Human Research Ethics Committee of the University of South Australia. Trained interviewers administered a 28-item survey at the GP's surgery. Demographic and other information such as location and membership of associations was obtained. GPs were asked open-ended questions about their views on EBM, whether they thought they practised it, the barriers they experienced in practicing it and if they found barriers, possible solutions to overcome these barriers.

The Divisions of General Practice invited participation and GPs were paid \$50 for their time.

### Definition of EBM

The definition of EBM used in the interview survey was 'the use of information in clinical decision making obtained from research, including systematic reviews and meta analysis of randomised controlled trials, or information from evidence-based clinical practice guidelines.'<sup>7</sup>. Interviewers outlined this definition prior to conducting the interview.

### Participants and setting

Using the Accessibility/Remoteness Index of Australia (ARIA)<sup>8</sup>, 30% of GPs who participated were located in a remote or very remote area. Seventy one percent of participants worked in group practices or collaboration with 29% working in solo practice. Almost three-quarters of participants were males (72%). Forty percent of participants were in the age group 45-54 years; with 11% younger than 35 years and 21% were older than 54 years.

## Analysis

Two researchers individually analysed the first 10 interviews and developed categories from these responses. The remaining interviews were then analysed, further categories identified, and responses were placed in these categories by one researcher. As a reliability check, a different researcher checked random surveys and noted whether or not they agreed with the categorisation. Where there was disagreement discussion occurred and consensus reached about where to categorise these data. Like categories of data were amalgamated into themes and the number of respondents presenting a theme were tallied. SPSS 8.0 for Windows was used to analyse quantitative data.



## Results

### Views of EBM

GPs overall viewed EBM positively (85%) and most considered that they practiced EBM (94%). Of those who viewed EBM positively, 22% thought EBM was good in theory but there was a gap between theory and practice and 20% thought they had always practiced this way and did not regard EBM as a new development.

### Barriers to practicing EBM

In all, 84% of GPs reported perceived barriers to the practice of EBM. These barriers were categorised as: GP related barriers; patient related barriers; environmental barriers; and resource barriers. The proportions presented here are in relation to the group of GPs who perceived barriers.

- **GP related barriers:** Sixty percent of GPs were uncertain where to look for evidence, how to find it quickly, how to deal with conflicting evidence and how to determine the level of the evidence. Some GPs (17%) considered that individual practitioner change was required in order to practice EBM and that they had 'done certain things in a way that work for the GP and the patient for years without an awareness that there isn't an evidence base for it'. The 'new' practice may be substantially different from that used before and require commitment and effort.
- **Patient related barriers:** In all, 23% of GPs considered that patients' expectations acted as a barrier to practicing EBM. At times some GPs reported it hard to convince patients that they did not need a (non-evidence-based) treatment and often experienced pressure to meet patient demands.
- **Environmental barriers:** The rural/remote location of practice was considered a barrier by

43%. GPs identified isolation from colleagues; difficulty in attending continuing medical education events; adjustments to practice because certain treatments or tests were not available to country residents; the workload in rural general practice; and lack of evidence resources at hand when working from different locations.

- **Resource related barriers:** Limited time to spend reflecting on practice and accessing evidence was identified as a resource issue by 29% of GPs. Some GPs (16%) identified gaps in evidence relevant to general practice and a lack of resources to encourage GP research. The speed of Internet access in rural areas, cost factors in using the Internet (inability to dial the Internet Service Provider for the cost of a local call), a lack of computer hardware and appropriate software affected 14%.

### GPs' solutions to overcome barriers to practicing EBM

The solutions presented by GPs were diverse and reflected the complex interaction of factors that acted as perceived barriers to the practice of EBM. In all 82% of GPs identified solutions and the proportions presented here are in relation to this group of GPs. Solutions were categorised as: GP related solutions; patient related solutions; resource related solutions; and solutions that require structural changes in the way general practice is organised in rural and remote areas.

- **GP related solutions:** In all, 19% of GPs suggested that continuing medical education events using various styles of presentation, self-learning, seminars, academic detailing and a travelling 'road show' would provide new information about EBM. In addition 14% required easier access to and training to use the Cochrane Library. Giving sound reasons to change clinical practice and 'demystifying' EBM were solutions suggested by 14% of GPs to overcome resistance to a new way of practicing.



- **Patient related solutions:** Patient education about the evidence base of treatments, particularly antibiotics, was seen as necessary by 10% of GPs. Handouts for patients and television campaigns were among the methods suggested to achieve patient education.
- **Resource related solutions:** According to 41% of GPs, improvements in computer hardware and software and quicker and cheaper Internet access would make the Internet more accessible, and hence might increase the practice of EBM. Improvements in clinical practice guidelines (CPGs), for example, to collate CPGs in summary form; provide a list of best evidence-based guidelines and put CPGs on one disease entity together were solutions identified by 26% of GPs. A further 23% suggested non-Internet based resources to disseminate evidence including a service to find evidence to quickly answer a clinical question. Finally 14% of GPs recommended increasing the amount of research in general practice.
- **Structural changes in general practice:** Only a small number of GPs suggested structural changes in rural general practice. These were, to increase the permanent rural workforce to enable GPs to have more time (8%) and to provide financial incentives to practice EBM (5%).

## Discussion

Our survey indicates that rural and remote GPs are supportive of the move to EBM but they noted that there are key barriers to practicing this way. Over half of those who perceived barriers acknowledged difficulty in knowing where to look for evidence, identifying the level of validity of evidence and dealing with conflicting evidence, the 'heart' of EBM<sup>9</sup>. This is consistent with previous research that found barriers to practicing EBM are perceived by GPs as gaps in knowledge, experience and skills, time pressures and

patient requests conflicting with effective health care<sup>3,5</sup>. In addition GPs in this study identified the rural location as an additional factor to be overcome. Importantly, our data acknowledges the effect of isolation, workload, and the lack of resources that are perceived as barriers to the uptake of EBM in rural and remote general practice.

This study also provides some insights into how GPs practicing in rural and remote areas consider the barriers to practicing EBM may be overcome. Suggestions covered all four areas relevant in changing clinical practice, organisational change including increasing resources, access to new information, training and behavioural change<sup>10</sup>. However suggestions were more frequently related to resource issues rather than the need to change clinical practice. While over one half of GPs said they found it difficult to find, appraise and apply evidence, less than one quarter suggested that they needed training to address this issue. There were even fewer suggestions relating to changing the organisation of general practice.

### Research/strategies to increase the uptake of EBM

Much has, and is being done, to increase the uptake of EBM. The National Institute of Clinical Studies (NICS)<sup>11</sup> is doing important work to bridge the gap between evidence and practice. Broad strategies suggested by NICS to encourage change include increased use of technology to access evidence and education leading to behavioural change. Resources are now available to access evidence at the point of care. For example clinical evidence is available now in hard copy, Web based, CD ROM and Palm hand held devices<sup>12</sup>. In Australia, University Departments of Rural Health and Rural Clinical Schools are providing a rural academic network that compliments the work of Divisions of General Practice<sup>13</sup>. The National Health and Medical Research Council (NHMRC) has resourced research strategies to increase EBM<sup>14</sup> and work is being done by the Royal Australian College of General Practitioners to develop comprehensive and accessible clinical practice guidelines<sup>15</sup>.



Undoubtedly there are gaps in the evidence-base to support clinical practice in rural and remote areas, however in the absence of relevant randomised controlled trials there is a body of 'best evidence' available through the BMJ Publishing Group's Clinical Evidence<sup>12</sup>. Furthermore, developing resources for patients about evidence-based treatments, for example, the leaflets produced by the South Australian campaign to reduce antibiotic consumption<sup>16</sup>, may assist GPs implement EBM with their patients. Internet sites, such as the Cochrane Consumer Network<sup>17</sup>, may enable better access for patients to research information.

## Conclusions

If GPs are to change their clinical practice to move towards EBM, they need to be engaged in a multifaceted change process. Expressing positive attitudes towards EBM may in itself not result in change, but it is an important start. Changing clinical practice is complex and requires organisational supports, acquisition of new knowledge and application of skills learnt. Any one strategy in isolation is unlikely to be successful.

There seem to be factors that are particular to GPs practicing in rural and remote areas that may make the process of change more difficult. These GPs are relatively isolated from a culture to develop and support EBM. They may have difficulty in accessing practical workshops and may have problems with the speed and cost of the Internet. They may be remote from academic detailing that might assist in changing clinical practice. Therefore in designing strategies to be used in rural and remote areas, the barriers and solutions identified by GPs working in these areas should be considered.

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