

GPs want tailored, user friendly evidence summaries

A cross sectional study in New South Wales

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BACKGROUND

This study aimed to measure the use of, and barriers to, using evidence among general practitioners since computerisation of general practice; GP preference for patient involvement in health care decisions; and GPs' preferred strategies to increase the use of evidence.

METHOD

A cross sectional, open ended telephone survey was conducted with 107 (out of 155) New South Wales GPs randomly selected from the New South Wales Medical Board register. The survey sought self report to open ended questions about information sources informing decisions, perceived barriers to using evidence, and suggested strategies to improve clinical decisions, plus Degner scale for patient involvement.

RESULTS

Evidence based sources remained the least likely to be used for informing decisions about patient care (23.4%). Opinion based sources were most commonly used (50.5%), with industry sponsored sources second (27.1%). Rural GPs were more likely to use opinion based sources (OR=1.55, 95% CI: 1.00–2.40). The most common perceived barriers were 'a lack of time' (22.0%), 'a lack of evidence or conflicting evidence' (13.1%), 'not knowing where to look' (10.3%) and 'not being able to tailor evidence to individual patients' (9.3%). The majority of GPs (72.0%) preferred patients to have some role in decision making. The most common suggestions for improving decision making were 'simply formatted evidence summaries' (28.0%) and 'mechanisms for tailoring evidence with individual patients' (13.1%).

DISCUSSION

The use of evidence based sources for clinical decision making in general practice remains limited. Potential strategies to overcome this should focus on providing more user friendly evidence summaries, involving patients in evidence based decision making, and finding mechanisms to tailor evidence to individual patients.

General practitioners are the first point of contact with the health care system in many countries. It has been estimated that 80–85% of the population in countries such as Australia, the United Kingdom and Canada have a regular GP to whom they would turn for health care at least once per year.^{1–3} This is a complex environment for evidence based decision making, with multiple problems being addressed within the one consultation and a range of specialty areas being traversed within the 1 day.^{1,2} The average length of such consultations is around 15 minutes.⁴

Surveys of Australian GPs' use of evidence in the late 1990s showed that fewer than 20% had internet access at their surgeries, fewer than half knew about evidence based online databases, and fewer than 5% had used them.^{5,6} Earlier studies have also shown that GPs were

keen to receive training in computer literacy and database searching, but training in critical appraisal was a lower priority compared with time pressures, patient factors and difficulties with applying the evidence.^{6,7}

Many general practices have since become computerised. An Australian 2004–2005 audit¹ estimated that 95% of practices were computerised and another⁸ reported that in 2003, approximately two-thirds of GPs (66.1%) used the practice computer for accessing the internet and/or email. Similar trends have been observed in the United Kingdom.⁹

A number of systematic reviews have identified effective strategies for getting research evidence into practice. Such strategies include computerised or manual reminders,^{10,11} audit and feedback,¹² outreach visits,¹³ local opinion leaders and consensus,¹⁴ interactive small group education,^{15,16} information skills training,¹⁷ teaching

critical appraisal,¹⁸ risk communication and tailored health information,¹⁹ and computerised decision support systems.²⁰

Many of these strategies have been implemented via programs such as the UK's Critical Appraisal Skills Program and National (formerly National Electronic) Library for Health,²¹ recall systems, audit and small group education programs in Australia (many of which have been implemented by primary care trusts or equivalents), professional college vocational registration programs and national institutes for clinical excellence.

The impact of these changes on GPs' use of evidence in their day to day practice has not been well evaluated in recent years.

Method

A random sample of GPs was identified from the New South Wales Medical Board register in Australia and cross checked against the electronic telephone directory to derive a sample of 155 GPs currently in practice. These GPs were contacted by telephone between July and November 2003 and asked four questions. Three questions were open ended, and responses were recorded verbatim. The survey was kept short to maximise the response rate and used open ended formats to avoid a cueing effect. The fourth question was a validated scale for patient involvement in decision making.²²

Content analysis of the responses adopted a thematic approach, as most answers were limited to 1–2 phrases or sentences. Two researchers worked independently to develop a coding framework for questions 1, 2 and 4, and consensus was reached on the coding schema, with only a small proportion of discordant items. Kappa statistics were calculated for inter-rater reliability. A category was recorded as 'mentioned' or 'not mentioned', and GPs may have included more than one category in their responses (eg. they may report using the internet and using clinical practice guidelines to inform clinical decisions). These individual categories were grouped under broader theme headings.

Several demographic characteristics ('years since graduation', 'gender' and 'practice postcode') were also recorded. 'Years since

graduation' was dichotomised at 10 years to reflect those who graduated before evidence based practice (EBP) was incorporated within training. Postcode was used to assign government derived, area based measures of socioeconomic disadvantage (Socio-Economic Indexes for Areas [SEIFA] scores)²³ and rurality (Accessibility/Remoteness Index of Australia [ARIA] scores).²⁴ SEIFA scores are derived from weighted variables within the Australian Bureau of Statistics Census of Population and Housing and were kept as a continuous variable in this analysis. ARIA scores are based on population and infrastructure distribution in an area, and scores of 0–1.84 include capital cities and other metropolitan areas. Scores above 1.84 were classified as 'rural' and included large and small rural centres along with all other remote and very remote regions. Univariate logistic regression was performed to test for associations between these demographic variables and the categorical responses using SAS 9.1 software. The study was approved by the Human Research Ethics Committee at The University of Sydney.

Results

The study sample had a similar distribution to the Australian general practice workforce; response rate 107/155 (69%). Nonresponders had similar characteristics to responders, with 62% being male and 64% practising in a major city (*Table 1*).²⁵

Kappa statistics are shown in *Table 2*. One of the coders had limited familiarity with some resource names and systems used in general practice, and this accounted for most of the discrepancies. Kappa scores for inter-rater reliability have been accepted as 'excellent' at 0.75–1.0, 'good' at 0.60–0.74, 'fair' at 0.40–0.49 and 'poor' if less than 0.40. The majority of coding in this study had excellent inter-rater reliability.²⁶

Major themes

Information sources for clinical decisions

Many of the information sources mentioned by GPs contained an uncertain level of research based evidence. Seventy-two percent used such sources for informing decisions. Half of the participating GPs used opinion based resources such as peers, personal experience and specialist colleagues to inform decisions about patient care. Twenty-seven percent used resources that were sponsored and/or provided by the pharmaceutical industry, and the least used information sources were evidence based such as clinical practice guidelines, databases or the Cochrane Library.

There was a positive association between rurality and the use of opinion based sources for clinical decision making (OR=1.55, 95% CI: 1.00–2.40, $p=0.05$). The association between peers as an information source and rurality almost approached statistical significance, and may have largely accounted for this effect (OR=1.43, 95% CI: 0.96–2.11, $p=0.07$). In addition, rural GPs were more likely to report using nonspecific information sources such as 'the internet' (OR=1.56, 95% CI: 1.04–2.33, $p=0.03$).

Barriers to using evidence

Although the reported use of evidence based information sources was low, 28% of GPs said they faced no barriers to using research based evidence in making clinical decisions. Systemic problems (particularly time constraints) were thought to be a barrier by 25.2% of GPs, and lack of skills (particularly 'not knowing where to look') by 21.5%. This feeling among GPs that they can't find what they need is also reflected in the fact that 18.7% felt the quality of evidence was a barrier, especially conflicting or inconclusive evidence. A number of GPs (13.1%) also thought that patient preference and problems tailoring to their circumstances was a barrier to using evidence in making clinical decisions.

Table 1. GP survey sample characteristics (n=107)

Characteristic	N	%
Male	75	70
Graduated 10 or more years ago	97	91
Practice postcode below median SEIFA index of relative socioeconomic disadvantage	59	55
Practice postcode in major city	69	65

Table 2. NSW GP evidence use, barriers and facilitators 2003 (n=107)*

	N	%	Kappa (k)**
Question 1. What sources do you tend to rely on for informing decisions about patient care?			
• Opinion based	54	51	0.94
– personal experience	26	25	0.98
– specialists	26	24	0.88
– peers	18	17	0.93
• Commerce based	29	27	0.71
– industry sponsored	29	27	0.71
• Possibly evidence based (not specified)	77	72	0.86
– patient's clinical findings	4	4	1.0
– continuing education	36	34	0.96
– print (not specified)	39	37	0.62
– computer (not specified)	16	15	0.85
– texts	23	22	0.92
• Evidence based (specified)	25	23	0.72
– government or college publications	6	6	0.60
– evidence based sources	20	19	0.54
Question 2. What barriers have you experienced, if any, to using research based evidence in making decisions about the care of individual patients?			
• None	32	28	
• System based barriers	27	25	0.82
– internet access constraints	4	4	0.71
– time constraints	24	22	0.85
– lack of payment	1	1	0.39
• Skills based barriers	23	22	0.89
– don't know where to look	11	10	0.71
– lack of computer and searching skills	4	4	0.37
– lack of appraisal skills	7	7	0.26
– need expert interpretation	7	7	0.33
– lack of confidence	6	6	0.58
• Quality of evidence barriers	20	19	0.77
– need summaries or better formats	6	6	0.47
– conflicting or lack of evidence	14	13	0.82
• Application related barriers	14	13	0.83
– can't tailor to individual patient or GP context	10	9	0.68
– patient preferences and beliefs constrain	5	5	0.79
Question 4. Is there anything that you believe would assist you generally in making clinical decisions about the care of your patients?			
• None	36	34	
• System related	11	10	0.85
– improved internet access	1	1	0.49
– health system changes (time)	10	9	0.89
• Skills related	10	9	0.62
– continuing education	10	9	0.62
• Quality of evidence related	30	28	0.91
– evidence summaries and improved format	25	23	0.83
– more evidence	8	8	0.64
• Application of evidence related	14	13	0.75
– mechanisms for tailoring to individual	10	9	0.14
– mechanisms for informing patients and eliciting preferences	5	5	0.83
– better clinical information	6	6	0.47
• Second opinion related	9	8	0.89
– expert or second opinion	9	8	0.89
* Multiple responses possible ** Kappa reliability scores: 0.75–1.0 = 'excellent', 0.60–0.74 = 'good', 0.40–0.49 = 'fair', <0.40 = 'poor'			

Male GPs were more likely than female GPs to report that they had 'no barriers' to using research based evidence in clinical decisions (OR=6.44, 95% CI: 1.8–23.07; $p=0.004$). This may be attributable in part to the fact that male GPs were less likely to report a 'lack of confidence' as a barrier to using evidence (OR=0.19, 95% CI: 0.03–1.11, $p=0.06$). Male GPs were also less likely to report 'lack of computer skills' as a barrier, although this did not reach statistical significance (OR=0.13, 95% CI: 0.01–1.31, $p=0.08$). It is worth noting that there was no gender difference in reported use of computerised sources for informing clinical decisions in the previous question. Male GPs were also less likely to report that 'difficulty in tailoring the evidence to individual patients' was a barrier (OR=0.24, 95% CI: 0.06–0.93, $p=0.04$).

Despite being more frequent users of computer based sources for informing decisions, rural GPs were more likely than their urban colleagues to report 'lack of computer skills' as a barrier to using evidence (OR=1.89, 95% CI: 1.09–3.28).

Suggested strategies to improve clinical decision making

Approximately one-third of GPs (33.6%) offered no suggestions for improving clinical decision making. Almost as many (28.0%) however, would like to have more user friendly summaries of evidence, and 13.1% suggested that strategies to help integrate patient preferences and to tailor the evidence to individuals would be helpful. Rural GPs were more likely to suggest that continuing education would be useful for facilitating evidence based decision making (OR=1.97, 95% CI: 1.23–3.15, $p=0.005$).

Preference for patient involvement

The majority of GPs (72%) preferred patients to have some role in decision making, although there were no GPs who felt that decisions should generally be left entirely in the control of the patient, and there were some who felt that the doctor should decide entirely (Table 3). There were no significant associations between 'GP gender', 'years since graduation', socioeconomic status, rurality and preference for patient involvement in decisions.

Table 3. GP preferences for patient involvement in decisions (n=107)

Patient involvement	N	%
Patient decides entirely (A)	0	0
Patient has final say (B)	27	25
Decision shared equally (C)	50	47
Doctor has final say (D)	25	23
Doctor decides entirely (E)	5	5

Discussion

This study has shown that evidence based resources remain the least likely to be used by GPs in NSW despite improved internet and database access. Time constraints continue to be a significant barrier. The majority of GPs would prefer their patients to be actively involved in health care decisions and many are struggling to find resources in user friendly format that can be tailored to the individual consultation.

A recent survey of UK GPs found a similar level (20%) of reported 'evidence use' and a similar preference for advice from peers.²⁷ Likewise, time constraints were the main barrier that needed to be overcome before EBP could increase among UK GPs. However, unlike our study, which used open ended questions, Upton asked GPs to rate a list of predefined information sources, barriers and facilitating factors. These did not include options such as 'user friendly evidence summaries' and 'tools for tailoring evidence to individual patients' which were suggested, without prompting, by our participants.

Some of the strengths of this study are its open ended, question response format and high response rates among a representative sample of GPs in active practice. It has also demonstrated strong inter-rater reliability in analysis of their responses. However, the design permitted only a small number of questions to be administered via the telephone and precluded the use of questionnaires from other studies which might have provided a useful comparison.⁷

This study showed that rural GPs were more likely than urban to use opinion based resources (eg. peers) to solve problems and felt less confident using computers to find evidence. This may reflect their geographic isolation and/or fewer information technology and information management continuing education programs in rural areas.

Taylor et al²⁸ surveyed 89 rural GPs in South Australia using a mixed closed and open ended questionnaire. His study reported that 41% of rural GPs believed 'improved internet access' would increase evidence use, but this was not found to be the case among our participants. Like us, Taylor found through open ended questioning that 23% of GPs thought improved formats and presentation of the evidence would facilitate EBP.

Male GPs were more likely to report 'no barriers' to EBP, and female GPs were more likely to report 'a lack of confidence' as a barrier. Such gender differences in self assessment are consistent with other studies reporting that women tend to under-rate their ability and have higher performance expectations than men.^{29,30} Bakken et al²⁹ studied physicians at the University of Wisconsin-Madison from 2000–2002 and looked at gender differences in self assessed abilities to apply knowledge and skills in six core competencies for clinical research. Women gave themselves a lower score than men in 21 of the 35 objectives, particularly in the domain of 'maintaining expertise in a research domain'. When empirically tested, there was usually no gender difference in overall cognitive ability.³⁰ Notably, Bakken found that gender differences were more rather than less pronounced after workshop training, further suggesting that training may have a limited role in addressing these barriers.

More recent articles on evidence based decision making are consistent with our study's suggestion that the integration of evidence with clinical expertise, social context and patient preference is fundamental to evidence based decision making.^{31,32} While many advances have been made over the past decade toward improving access to evidence and providing systems that automate recall and audit activities, there is still limited use of evidence in general

practice decisions. The time poor and content diverse milieu of general practice requires more user friendly formats for summarising evidence across a range of common clinical conditions. It also requires tools that will facilitate patient involvement in health care decisions and the capacity to tailor evidence to meet the needs of individual patients.

It appears that among GPs 'there is a will but not yet a way' to use research based evidence in clinical care. Interactive decision aids and risk communication tools may be worth more rigorous evaluation in the general practice setting.

Conflict of interest: none declared.

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