

What is evidence-based practice anyway?: A rural survey

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INTRODUCTION

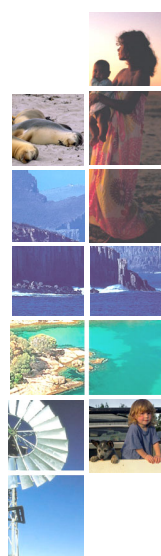
Health service system developments in recent decades have, both nationally and internationally, been increasingly focused on quality service delivery and the attainment of improved health outcomes. Evidence-based practice (EBP) has been promoted as a central mechanism through which to achieve improved quality and safety in health service delivery (World Health Organisation, 1999; Australian Health Ministers Advisory Council, 1996).

Studies to date on the uptake and application of evidence to practice have been limited in two main ways: 1) they have either been based in metropolitan locations and, in focusing on the needs and issues of the urban environment, have developed response strategies which often lack compatibility and transferability to the rural and remote context **and/or** 2) they have been uni-disciplinary in focusing on the perceptions of single health discipline assessments of the advantages, disadvantages and barriers attributable to the EBP movement (DiCenso et al, 1998; Dunston & Sim, 2000; Freeman & Sweeney, 2001; Gambrill, 1999; Hayes & Haines, 1998; McColl et al, 1998b; Retsas, 2000; Taylor et al 2002). Despite the promotion of multi-disciplinary approaches in health services policy (Australian Health Ministers Advisory Council, 1996; Commonwealth Department of Health and Aged Care 1999a, 1999b, 1999c, 2000), the narrow, mechanistic and linear theory bases driving implementation of EBP (Mulrow et al, 1997; NHMRC, 1998; Sackett & Rosenberg, 1996; Stevens et al, 1999) give limited consideration to the application of evidence-based approaches within multi-disciplinary teams or to the implementation issues relating to discipline diversity at the multi-disciplinary level. This study directly addresses these limitations as it investigates the uptake and appropriateness of EBP from the perspective of practitioners working in multi-disciplinary teams in rural environments.

DESCRIPTION OF THE STUDY

Overview

The findings outlined in this paper are one part of an intensive three-year project involving site-based case studies of three health services located in regional, rural and remote Victoria. The Accessibility/Remoteness Index of Australia (ARIA) (Department of Health and Aged Care, 1999) was used to select services for inclusion in the study. The sites studied represent B (Highly Accessible), C (Moderately Accessible) and D (Remote) ARIA rated locations. Participants in the study are hospital/community-based rural practitioners working in multi-disciplinary teams in treatment areas with established evidence-based frameworks. The research questions focus on exploring the differing levels of knowledge, understanding and uptake of



EBP within and between health disciplines while considering the impact of disciplinary practice bases and organisational behaviour and structure on uptake of rural multi-disciplinary EBP. Ethics approval for the study was gained from the Ethics Committees and/or Boards of Management at the University of Ballarat and at each of the participant health services. The study's evidence was obtained through a questionnaire distributed to health service staff, individual interviews with 54 practitioners working in multi-disciplinary teams, group interviews with 5 multi-disciplinary/management teams, individual interviews with 8 management level staff as well as demographic and document analysis of locations and program areas. The results reported here draw upon an analysis of 206 questionnaires from practitioners working in each of the site locations across the study region.

Method

A structured questionnaire was developed which focused on the variables of practitioner knowledge, skill, attitudes and frequency of use of research evidence and clinical practice guidelines. It also allowed for rating of the type of evidence used and asked for written comments relating to motivators for adoption (or non adoption) of evidence to inform practice. Questionnaire content was devised from multiple sources including Upton's (1999) questionnaire/attitude scale and an extensive literature review process. The review was used as the basis for a series of questions designed to enable participants to test their knowledge of EBP, to assess their skill base and to rate their view/attitude on definitive statements about the evidence-based movement. Questionnaires were distributed to participants via line managers after the researcher had attended each site to outline the research study and provide opportunity for issues clarification. Returned questionnaires were analysed using the Statistical Packages for the Social Sciences Program 11.0. This paper also includes a number of interview quotes from participants at each of the study sites. They help to clarify viewpoints in regard to questionnaire data and were identified during initial analysis and coding of interview transcripts undertaken using the NVivo qualitative data management package.

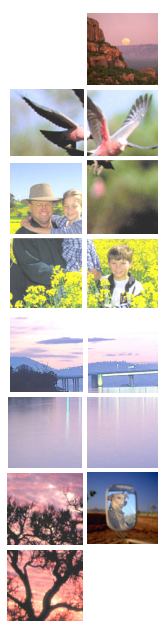
The results included here are limited to reporting on 2 key response areas. These are:

- the knowledge level of practitioners working in multi-disciplinary teams of EBP and the availability of evidence
- the attitudes of practitioners to the evidence-based movement.

RESULTS AND DISCUSSION

The sample

A total of 331 questionnaires were distributed across the three health services involved in the study. These services are referred to within this paper as "Major Regional" (representing responses from site B – ARIA rated Highly Accessible), "Regional" (responses from site C – ARIA rated Moderately Accessible) and "Remote" (responses from site D – ARIA rated Remote). While criterion sampling was used as a mechanism to ensure uniformity in selection of study participants, staffing profiles differ between sites due to variations in site sizes and service profiles. Acknowledging



differentials in base numbers between health services, the sample size was representative of the site staffing profiles and is outline in Table 1.

Return rates and staffing profile

The overall return rate across all three locations was 62% (n=206) with the highest return rate of 76% being from “Remote” and the lowest of 59% being from “Regional”. Allied Health practitioners provided the highest overall return rate across all three sites with 70% (n=62) at “Major Regional”, 83% (n=15) “Regional” and 86% (n=6) at “Remote”. A detailed breakdown of return rates by discipline type is outlined in Table 1

Table 1 Return rates and staffing profile

Health discipline	“Major” % (n=104)	“Regional” N	“Regional” % (n= 83)	N	“Remote” % (n – 19)	N
Medicine	50	2	56	19	40	2
Nursing	56	40	55	49	85	11
Total allied health	70	62	83	15	86	6
Overall return rates for individual allied health disciplines						
Social work	43	6	100	2	100	1
Psychology	87.5	7	Not employed		Not employed	
Physiotherapy	63	10	83	5	100	2
Occupational therapy	92	12	67	2	100	2
Dietetics	70	7	50	1	Visiting service	
Speech pathology	67	8	100	4	Unfilled vacancy	
Podiatry	100	4	100	1	Not employed	
Prosthetics/ orthotics	75	6	Not employed		Not employed	
Exercise therapy	14.5	2	Not employed		Not employed	
Diversional therapy	Not employed		Not employed		100	1
Site returns	63	104	59	83	76	19

MAJOR FINDINGS

Knowledge of EBP

Practitioner knowledge of the notion of EBP was assessed based on True, False or Uncertain responses to a total of nine statements about the nature of EBP. Examples of statements include “EBP is about ensuring that practitioners have ongoing access to current validated research findings” and “ randomised control trials and systematic reviews are considered the “gold standard” of evidence in the evidence-based movement”. Results were collated and participants given a rating of High (7–9 correct responses), Medium (4–6 correct responses) or Low (0–3 correct responses). An overall assessment of findings indicates that all disciplines, across all locations, had some knowledge of the concept of EBP. Disciplines such as medicine, physiotherapy and psychology rated consistently High, across all locations, in their level of knowledge of the EBP movement. As stated by one physiotherapy participant:

I think the push is very, very strong in physiotherapy... there is a strong commitment from both the APA and from the teaching universities to support EBP as a core aspect of our discipline.

Social work, across all locations, rated consistently lower in knowledge of EBP than other health disciplines while all other disciplines rated between High and Medium in this category. These results reinforce previous study findings that identified higher levels of knowledge of EBP among scientific disciplines such as medicine (Cochrane, 1999; Dawes et al 1999; Ferlie et al, 1999; Sackett et al, 1996) and lower levels of knowledge of EBP in the social work field (Hemmings, 2000; Shaw, 1997; Sheldon 1998; Webb, 2001).

These results mirror the data for evidence usage levels with figures for frequency of use of EBP showing that, as an average across sites, 71% of psychologists, 60% of physiotherapists and 45% of medicine staff access evidence on a daily/weekly basis as opposed to 25% of occupational therapists and 22% of social workers.

Practitioners were also asked to rate their knowledge of the **availability** of evidence for both their own discipline area and for other health disciplines. This data was collected using a five point scale from Poor through to Excellent. The only discipline in which all respondents rated their knowledge of available evidence within their discipline as High was psychology ("Major Regional"). These results are reinforced by interview statements such as:

In psychology we look at a lot of scientifically based evidence... it is strongly emphasised through training and skill development ... we must know "why do you think that" ... "how can you prove that?" So there is an evidence slant on a lot of what we do.

Medicine varied from High to Low on knowledge of availability of evidence within their own discipline area across 2 of the 3 sites. "Major Regional" rated knowledge as Medium or Low. Across all sites, the number of medical practitioners who rated knowledge of availability as High never exceeded 50%. Written feedback in the questionnaire, in line with findings of previous studies (Ferlie et al, 1999; Freeman & Sweeney, 2001; Hayes & Haines, 1998) suggests that medical practitioners understand and support the concept of EBP but consider contextual and individual client issues as well as clinical experience before seeking evidence. These factors impacted on the extent to which practitioners explored evidence-based options and subsequently on the breadth of knowledge on availability of evidence held by this discipline area.

Similar statistical findings exist with the number of occupational therapists across all three sites rating a High understanding of evidence availability at percentages of 50% or less. Feedback suggests that this result is closely linked to the fact that, "Evidence-based practice in occupational therapy is a fairly new thing and there is not a lot of evidence around". This caused limited knowledge of availability as some practitioners were reluctant to spend time seeking out evidence when "it takes so much time to find scarce information that is even relevant to the problem I am facing".

The only discipline which rated Low, across all sites, for their knowledge of the availability of evidence for their discipline, was social work.

There were no significant differences between each of the study sites in terms of practitioner ratings of their knowledge of availability of evidence in their own discipline area although the qualitative data from interviews does illustrate site-specific differences in regard to **why** practitioners do not seek out available evidence in their own discipline areas. These factors are outlined later in this section while a detailed, discipline-based breakdown of results is provided in Table 2.

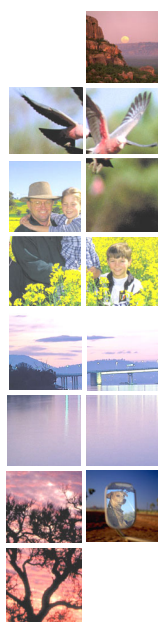


Table 2 Knowledge of availability of research evidence in own discipline area (average across sites)

Health discipline	% High	% Medium	% Low
Medicine	29	28	42
Nursing	38	22	40
Social work	6	6	88
Psychology	100		
Physiotherapy	47	47	6
Occupational therapy	28	31	41
Dietetics	43	50	7
Speech pathology	19	69	12
Podiatry		50	50
Orthotist/prosthetist	17	33	50
Exercise therapist	50	50	
Diversional therapist		100	

Knowledge of the EBP was also examined through testing discipline understanding of the availability of evidence for other disciplines areas (Table 3). The results indicate that all disciplines, across all study sites, had limited understanding of evidence bases of other disciplines. This is a factor likely to impact on the ability of health services to successfully implement multi-disciplinary evidence-based approaches. A review of the international literature emphasises the importance of multi-disciplinary work in contemporary health service provision (Abramson & Mizrahi, 1995; Badger & Ackerson, 1997; Patel et al, 2000; Patronis Jones, 1997; Pugh et al, 1999) with the application of multi-disciplinary approaches having been found to increase efficacious health outcomes for individual patients (Feder et al, 2001; Stewart et al, 2000).

Health problems are rarely one-dimensional. Individuals often present with complex needs and require input from a variety of professionals with diverse skill bases (Australian Health Ministers' Advisory Council 1996). Within this context, the failure of practitioners to develop any significant understanding of evidence bases of other team practitioners needs to be considered. Verbal feedback from participants suggests that this is a need beginning to be identified within multi-disciplinary teams, as evidenced by participants' comments such as "it is critical to understand the evidence-based being used by other practitioners if we are to tailor treatment responses to achieve the best possible outcomes for patients". Practitioners identified that effective multi-disciplinary collaboration is dependent on the capacity of each discipline to feel confident in the treatment approaches adopted by other practitioners within the team. EBP is viewed as a mechanism through which to foster this confidence, however data indicate a limited inter-disciplinary knowledge of the evidence bases used within the multi-disciplinary team. The implications of this knowledge gap for effective multi-disciplinary EBP will be explored as a central component of this three-year study.

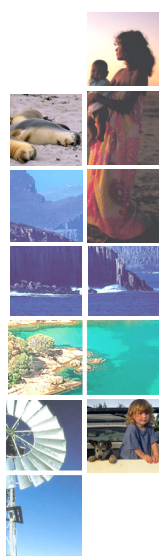


Table 3 Knowledge availability of research evidence in other discipline areas (average across sites)

Health discipline	% High	% Medium	% Low
Medicine		30	70
Nursing	19	19	62
Social work		11	89
Psychology	14	57	29
Physiotherapy	23	30	47
Occupational therapy	8	19	72
Dietetics		22	78
Speech pathology		37	63
Podiatry			100
Orthotist/prosthetist			100
Exercise therapist	50		50
Diversional therapist		100	

Attitude toward the evidence-based movement

The attitude amongst practitioners to EBP, across all three locations, was extremely positive. In line with findings of studies such as Guyatt et al, 2000; McColl et al, 1998b; Taylor et al, 2002, the vast majority of disciplines achieved a 100% rating in the High category and saw evidence-based approaches as beneficial to service delivery. Nursing (across all locations), social work (at “Major Regional” and “Remote” sites) and Orthotics/Prosthetics raised some concerns about EBP and its applicability to their practice bases. These concerns are articulated in the following interview comments,

Social workers not dealing with science. We’re dealing with human issues, we’re dealing with feelings. We’re dealing with emotions that aren’t prescriptive... they are the sorts of factors that individuals bring into a situation that cannot be just prescribed as a fixture...from the social work perspective we believe “the client knows best”.

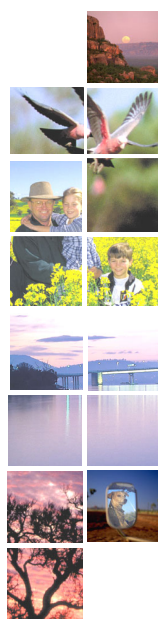
If nurses are going to use EBP, it has to follow their intuition, you know, that gut feeling about things and a lot of people can’t see beyond their own practice. So I think that you’ve gotta feel that it’s going to be a benefit to use it. That it fits with your way of thinking and doing things.

In prosthetics/orthotics there’s been a big push to become more scientific but lots of practitioners still feel that is not the way they were taught and they don’t have the time or the interest... the profession is not really grasping it wholeheartedly.

The identification of these signals the fact that there are practitioners within the multi-disciplinary context who remain concerned about the applicability and relevance of EBP to their discipline area. This is an issue that will need to be addressed if uptake levels of EBP are to be maximised in the context of multi-disciplinary practice.

In summary, the questionnaire responses indicate that multidisciplinary practitioners overall, and across varying degrees of rurality, understand and support the notion of EBP but need to expand their knowledge of both evidence in their own discipline and other discipline areas. Specific factors identified by practitioners as impacting on their capacity to pursue evidence relate to:

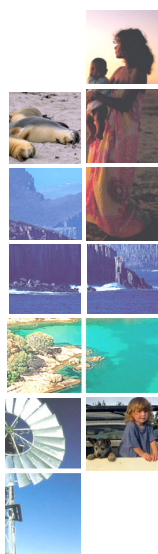
- Time restraints. Practitioners across all locations identified this as a limiting factor in their ability to seek evidence to inform decisions. Feedback from both “Regional” and “Remote” identified this as particularly critical with the severity of time restraints increasing in line with the degree of rurality. Time allocation for



travel in remote environments was a major factor, “you don’t have time to sit there and read 20 articles. Time is very, very tight and this influences what evidence and what research we access”.

- Resource availability. Participants identified that, while EBP might specify “best practice”, the capacity to adopt an approach was often dependent on access to specific resources. In rural environments resource availability is often limited and this impacts significantly on any capacity to adopt recommended practice. The influence of this factor increased dramatically in line with increasing degrees of rurality – particularly in “Remote” where practitioners need to carry equipment with them to provide treatments in isolated locations.
- Access. While the capacity to access to evidence-based resources was not considered to be an issue in either “Major Regional” or “Regional” with both services having access to library, data bases and other Internet resources, this was a critical issue for “Remote”. This location had very limited Internet and no library access which established a major barrier to adoption of EBP.
- Paucity of information. EBP remains an emerging concept in many disciplines including speech pathology, social work and occupational therapy. This means that, regardless of practitioner interest in pursuing evidence, it is not available to enhance treatment decisions. This fact has led to different levels of maturity within the multi-disciplinary team in relation to the evidence-based concept, has resulted in variant levels of understanding of EBP and is leading to the maintenance of uni-disciplinary boundaries within a multi-disciplinary environment.
- The generalist nature of work undertaken at “Regional” and, to a greater extent “Remote”, meant that practitioners were unable to take the time to access evidence on all the conditions encountered. As one participant said, “most people here do between 3 and 8 jobs so the pressure is on and you let things slide just so you can get things done”.
- Access to staff training. While “Major Regional” participants indicated strong organisational support and capacity to undertake professional development in evidence-based practice, the geographical distances and the inability to gain backfill were determinants in both “Regional” and “Remote” in the capacity of participants to enhance evidence-based skills.
- Contextual relevance. Disciplines felt that available evidence, having been developed in metropolitan locations, often lacked contextual relevance. This was particularly relevant for “Regional” and “Remote” where geographic isolation and resource scarcity had a significant impact on capacity to adopt suggested evidence-based approaches.
- Discipline philosophy. Some disciplines within the multi-disciplinary team questioned the relevance of EBP to their discipline area. This view is particularly notable in feedback from nursing in “Remote” where the staffing profile included large numbers of older, hospital trained nurses. Statements such as:

It’s a culture thing, especially for hospital trained nurses – we are all quite old now, where probably the uni kids get evidence-based stuff in their training, so they tend to look at nursing differently, but for the older bracket, they find it very difficult to use data to back up their work in clinical practice,



highlight that EBP involves cultural change processes. In remote areas, already encountering resourcing, time and distance factors which impact on the capacity to adopt EBP, this represents an additional complicating element in the EBP uptake process.

CONCLUSIONS AND RECOMMENDATIONS

Multi-disciplinary evidence-based practice is a concept which has had limited consideration to date. While significant time and resourcing has been allocated to increasing the uptake of EBP for disciplines such as medicine and physiotherapy, the notion of evidence to inform practice remains new to many health disciplines, particularly in remote locations. Work needs to be undertaken to redress this balance, especially given the pivotal role played by multi-disciplinary practitioners in rural and remote Australia.

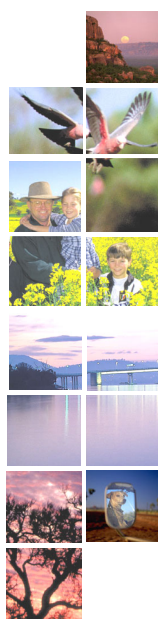
Current health policy development in relation to EBP assumes health disciplines are at comparable stages in understanding and uptake of EBP. While there is policy rhetoric around EBP and multi-disciplinary approaches to health care, no framework exists to build and implement uptake by multi-disciplinary teams operating in rural and remote environments. Policy initiatives need to reflect the diverse needs of different disciplines in adoption of EBP.

Rural environments impact significantly on practitioner capacity to adopt EBP therefore policy and funding targets need to address issues of access, professional development and contextual relevance for all discipline areas, to encourage expansion in uptake levels.

ACKNOWLEDGMENTS

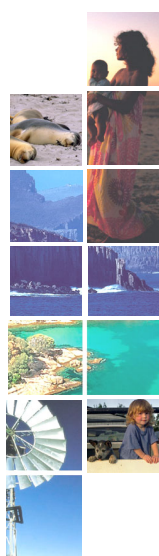
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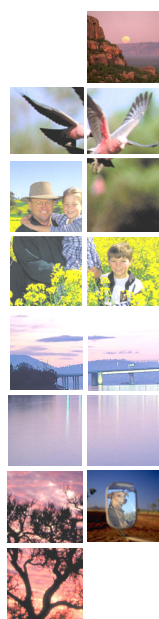
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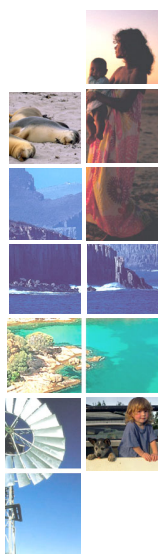


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PRESENTER

Angela Murphy is undertaking a PhD by research in the School of Behavioural and Social Sciences and Humanities at the University of Ballarat. She is a teacher and social scientist who has worked for many years in the community-based health and welfare sector in rural and remote Victoria. She has practice experience and a strong interest in rural health issues and has recently been involved in rural and regional research with both the government and the non-government sector. She teaches part time in the Rural Social Welfare course at the University of Ballarat and is also involved in consultancy work with the Institute for Rural and Regional Research. Much of the work she undertakes as a consultant involves working with small rural and remote communities across the Grampians Region of Victoria. This experience has fuelled her interest in research into the unique aspects of rural and remote health practice. The paper being presented today is part of a three-year study investigating the applicability of multi-disciplinary evidence-based health care to rural and remote service provision. The focus of the paper is on the analysis of 206 questionnaires that have been returned from practitioners working in three health service sites in rural Victoria that provide insights into the views and knowledge of rural practitioners about the evidence-based movement.

