BACKGROUND AND RESEARCH TOOLS

An Evidence-based approach for the AOD sector

ADCA
Alcohol and other Drugs Council of Australia

Acknowledgements
This resource was prepared on behalf of the Alcohol and other Drugs Council of Australia (ADCA) by Jane Shelling and Kimberley Clarke.

Feedback and assistance from ADCA's members, ADCA's National Resource Centre Advisory Committee and those involved in our evidence-based practice workshops over the past year is gratefully acknowledged.

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ISBN 978-1-876837-12-9

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Introduction

As health professionals, there is a responsibility for the alcohol and other drug (AOD) workforce to ensure our practice will achieve the best possible outcome for our target group or client. Best practice is often defined by current evidence; however there are many barriers preventing alcohol and other drug workers from applying established models of evidence-based practice to their work. The aim of this project is to assist the alcohol and other drug sector in a practical way to more rigorously research and find evidence to help guide their practice. Drawing upon principles of evidence-based practice, and the needs of the broader AOD sector, this paper will provide an evidence-based protocol applicable to those working to reduce drug related harm.

Background

Central to the principles of evidence-based practice is the notion of what is regarded as "sound evidence". Due to the sheer number of research projects conducted and published annually, it is often difficult for practitioners to determine what evidence they should base their practice on. For this reason, frameworks such as evidence-based medicine require the application of the hierarchy of evidence in order to determine what evidence can be used to inform practice (Reimer, Sawker & James 2005).

The reliance on the hierarchy of evidence is the cause for much debate regarding the validity of evidence-based medicine and evidence-based practice (Reimer et al 2005). The hierarchy of evidence regards systematic reviews of randomised control trials (RCT) as the 'gold standard' of evidence (Sackett, Rosenberg, Gray, Haynes & Richardson, 1996). As a scale, the hierarchy of evidence uses study design to rank the quality of evidence, and accordingly those study designs which carry the least risk of bias and confounding are seen to be the most reliable (Reimer 2003).

Critics argue that relying solely on study design as a marker for quality may lead to the exclusion of some forms of evidence that may prove useful (Rychetnik, Frommer, Hawe & Shiell 2006). It is suggested by eliminating any possible bias from a study one is actually removing or altering the context in which the behaviour or intervention is occurring (Rychetnik & Frommer 2000). It is suggested that lower levels of evidence, such as that derived from studies of a cohort or longitudinal design, may be more appropriate for investigating research questions that explore behaviours or interventions that occur in social settings (Gowing 2001). A similar argument exists concerning the applicability of traditional evidence appraisal criteria within the public health arena where the literature argues that "Good information on the effects of the context and of interactions between the context and the intervention requires a combination of different types of research, including experimental, observational, multi-level and qualitative approaches", (Rychetnik & Frommer, 2000, p 11).

In recent times, there has been an increased emphasis on the importance of factors such as clinical judgement and client or population group preference in guiding practice. This has led to the recognition of evidence-informed practice as an alternative to other approaches such as evidence-based medicine, or evidence-based practice. Supporters of the evidence-informed approach argue that the term evidence-based practice diminishes the importance of clinical judgement and client preferences, and implies evidence is the only contributing factor influencing decision making (Nutley, Davies & Walter, 2003). Evidence-informed practice recognises the role of professionalism in determining how evidence is applied to particular circumstances (Phillips 2004).

Evidence-based practice in the AOD sector

There are many barriers preventing members of the AOD sector from transferring evidence into practice (Roche in Roche & McDonald 2001). The AOD sector is characterised as being under-resourced and overworked, and it is often difficult for workers to find the time or organisational support to undergo the seemingly vigorous processes needed to apply evidence into practice.

Reimer et al 2005 highlights the practical limitations to applying evidence into practice within the AOD sector according to the following groups:

>> Individual Factors. This includes factors such as beliefs, attitudes and values, professional development, skills and interests.
>> Organisational factors. Includes factors such as job burn out, poor leadership, a change-adverse culture and lack of organisational support for applying evidence into practice.
>> Community factors. These factors are applicable to community-level interventions and programs. Factors include differing backgrounds and training, differing perspectives on prevention, lack of community readiness, and competing political interests.

Considering the many barriers to applying evidence into practice as outlined by Reimer et al 2005, it is argued that current protocols such as evidence-based medicine and evidence-based practice are not entirely suited to the AOD sector in Australia. There is a need for an approach which is considerate of the many barriers faced by the sector, and aim to overcome these barriers.

In addition, one should also recognise that the AOD sector is broad and diverse. Interventions occurring within the sector range from clinically based treatment interventions in a hospital setting, through to population based preventative interventions which occur in a community setting. Certain questions within the sector require an approach which incorporates principles from an evidence-based medicine approach, while others should acknowledge the influence social and psychological factors have on the intervention and adopt a more evidence-based public health approach. Professionalism and clinical judgement are often strongly relied upon in the AOD sector and should play a strong role in determining how evidence is applied into practice. This 'horses for courses" approach is well identified within the literature (Nutley et al 2003), and should be one that is adopted in the AOD sector.

AOD Evidence-Based Practice Model

How to use the model

ADCA's model suggests a process that AOD workers can apply to assist in adding rigour to their practice, and to progress a "research into practice" paradigm. The most important aspect to remember when working with the ADCA model for evidence-based practice is to adopt a 'horses for courses' approach to applying evidence into practice in the AOD field. AOD workers are faced with many problems in their day to day work, and the type of problem identified can greatly determine what type of evidence to use to inform your practice.

If your problem is one that is related to therapy, harm, prognosis, diagnosis or intervention, ADCA strongly recommends that you apply an evidence-based medicine approach to answering your query. Ample information on evidence-based medicine can be found in the literature, and we have provided some references to sources in this kit. The purpose of this kit however is not to guide you through a process of evidence based medicine, but rather help you follow a rigorous evidence-based approach to addressing population based problems which are more common to the alcohol and other drug field.

When a problem does not fit within an evidence based medicine approach, it is still important to ensure that you are applying fundamental principles of evidence-based practice in your work. This kit outlines a model for practitioners to follow when problems occur within the scope of prevention, health promotion, policy and public health. The model follows the ideals of the evidence-based medicine model but tries to incorporate rigour in a manner more realistic to the AOD setting. As discussed previously, many AOD workers are limited in the time and resources they can spend on activities needed to apply evidence into practice. In response to this, ADCA suggests that workers use this model to guide their practice within the resources they have available. Not all workers will be

able to spend exhaustive amounts of time on each of the individual steps, however it is important to remember that even applying part of the model will be better than not applying any at all.

Before using the model
It is important to spend some time on preparation prior to applying the model to a problem in your workplace.

Identify the problem.
It is important to accurately define the problem before you attempt to address it. Often, doing some preliminary database searching can ensure you fully understand the dimensions of the problem. Also, make sure that you discuss the problem with your colleagues to determine if they are experiencing similar problems.

Time and resource allocation
You should also consider the amount of time and resources that you can comfortably allocate to the research process. It may also prove useful to discuss the evidence-based practice process with your manager and immediate colleagues – or even get them involved. This way, they are aware of what you are doing, and are more likely to support you through the process.

References

Gowing L. 2001. "Evidence-Based Practice: From Concepts to Reality", in Roche & McDonald, Systems, Settings, People: Workforce Development Challenges for the Alcohol and other Drugs Field, National Centre for Education and Training on Addictions, Adelaide.

Nutley S, Davies H & Walter I. 2003. Evidence Based Policy and Practice: Cross Sector Lessons from the UK. Keynote Paper for the Social Policy Research and Evaluation Conference, Wellington NZ.

Phillips M. 2004. Continuing Professional Development and Evidence-Informed Practice: Working Paper Series vol. 1. University of Bristol, Department of Management, Bristol.

Reimer B. 2003. Strengthening Evidence-Based Addiction Programs: A policy discussion paper. Alberta Alcohol and Drug Abuse Commission, Canadian Centre on Substance Abuse, and the National Policy Working Group, Canada.

Reimer B, Sawka E & James D. 2005. "Improving Research Transfer in the Addictions Field: A Perspective from Canada", Substance Misuse and Use, vol 40, pp 1707-1720.

Roche A, 2001, "What Is This Thing Called Workforce Development", in Roche & McDonald, Systems, Settings, People: Workforce Development Challenges for the Alcohol and other Drugs Field, National Centre for Education and Training on Addictions, Adelaide.

Rychetnik L & Frommer M. 2000. A Proposed Schema for Evaluating Evidence on Public Health Interventions: A discussion paper prepared for the National Public Health Partnership. National Public Health Partnership, Victoria Australia.

Rychetnik L, Frommer M, Hall P & Shiell. 2002. "Criteria for evaluating evidence on public health interventions", Journal of Epidemiology and Public Health, vol 56, pp 119-127.

Sackett D, Rosenberg W, Gray J, Haynes R & Richardson W. 1996. "Evidence based medicine: what it is and what it isn't", British Medical Journal, vol 312, pp 71-72.

RESEARCH TOOLS

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Recommended Databases for AOD Resources

FREE ACCESS DATABASES

AOD guidelines and protocols - www.adca.org.au/resource/
Links to AOD guidelines and protocols, available from ADCA's National Resource Centre (NRC) web page.

Drug database - www.adca.org.au/drug
Drug is the online database of ADCA's National Resource Centre. It currently contains over 63,000 references to books, videos, journal articles, conference papers, research reports and unpublished materials on the health, social and economic aspects of alcohol, tobacco and other drug use. Each month Drug is updated adding an additional 300 references all of which are available from the NRC.

Cochrane Library - www.thecochranelibrary.com
The Cochrane Library contains high-quality, independent evidence to inform healthcare decision-making. It includes reliable evidence from Cochrane and other systematic reviews, clinical trials, and more. Cochrane reviews bring you the combined results of the world's best medical research studies, and are recognised as the gold standard in evidence-based healthcare.

Cork - www.projectcork.org/database_search/
The Cork database includes over 69,000 items on substance abuse, indexed by over 400 terms. Items are primarily from the professional literature and include journal articles, books, book chapters, and reports. The database is updated quarterly.

PubMed (Medline) - www.pubmed.gov
PubMed is a service of the U.S. National Library of Medicine that includes over 16 million citations from MEDLINE and life science journals for biomedical articles back to the 1950s. PubMed includes links to full text articles and other related resources.

FEE-BASED DATABASES

CINAHL - www.cinahl.com/

CINAHL is a multidisciplinary database covering the nursing, allied health, biomedicine, and consumer health literature from 1982 to present.

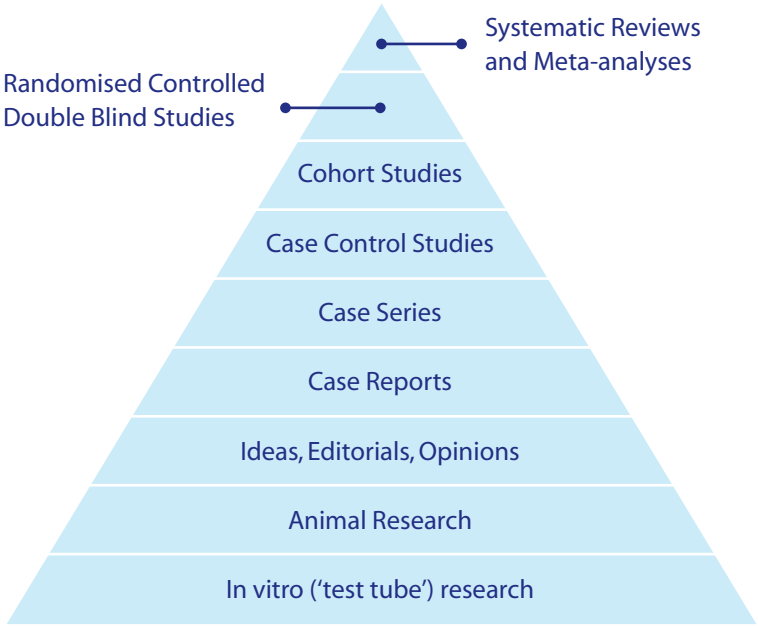
Informit - www.informit.com.au/

Informit is a suite of databases from Australasia's leading agencies and institutions that index and abstract a vast range of Australasian sources of information, including the Drug database, but also sources for rural, aboriginal and crime issues. The NRC provides ADCA members with access to RMIT Informit datbases.

Levels of Evidence

There are several tables showing the hierarchy of evidence which can be helpful in determining higher levels of evidence. This pyramid demonstrates the evidence-based medicine hierarchy of evidence.

Evidence Pyramid



Suny Downstate Medical Centre 2007, A guide to research methods, available at: http://library.downstate.edu/ebm/2toc.htm

AOD Evidence Checklist

KEY CHECKS	CONSIDERATIONS	YES/NO/ CAN'T TELL
The topic		
Clarity	Is the purpose/query/objective/ intervention clearly stated?	
Relevancy – Accurate reflection of my scenario/situation.	Is my specific query/situation addressed? Consider client/population's age, sex, race, social background/situation.	
Size	Significant number of participants in study.	
Setting Accurate reflection of my setting.	Rural/Metro Is the setting Australian or a country with a similar social setting?	
Trustworthiness	Is the study design used appropriate?	
The recommendation		
Results	Were the results clearly stated? Were full explanations given?	
Ability to Replicate	Has the study already been replicated or could it be replicated in my own situation? Consider costs, appropriateness and additional resources required.	
Credibility	Is the action or recommendation in line with your current practice? Is it logical and reasonable?	
Impact	Were the negative and/or positive impacts and/or unexpected outcomes of following this course fully explained?	
General Considerations		
Currency	Is the date when the evidence was produced relevant? Is currency an impact factor?	
Organisation associated with evidence	Is this a known organisation? Do they have a particular bias or affiliation?	
Author	Is the author known? Does he/she have a particular bias or affiliation?	
Journal	Is this a well known and respected journal? Consider criteria for article inclusion.	
Ethics	Was any ethics approval sought or is there an ethics statement made?	
Funding	Has the source of funding been disclosed?	

Finding out more about Evidence-Based Medicine

For those new to evidence-based medicine there are a wide variety of resources available to help with understanding concepts. Listed below are only a few of the many sites which are easily accessible. Universities, hospitals and health service libraries run evidence-based medicine classes for nurses, medical students and other health personnel - there may be opportunities for you to participate too.

Online Articles

Craig, JC, Irwig, LM, & Stockler MR. 2001, Evidence-based medicine: useful tools for decision making. MJA, 174: 248-253.
www.mja.com.au/public/issues/174_05_050301/craig/craig.html

Sackett, D, 1996, Evidence based medicine: what it is and what it isn't. BMJ, 71-72.
www.bmj.com/cgi/content/full/312/7023/71

'How to read a paper' is an excellent series of BMJ articles by Trisha Greenhalgh (also available as a book).
www.bmj.com/collections/read.dtl

Terminology

Glossary of terms: a students guide - Denison Library, University of Colorado
denison.uchsc.edu/SG/glossary.html

Tutorials

Introduction to Evidence-Based Medicine: a self paced tutorial - Duke University Medical Center Library and Health Sciences Library, University of North Carolina.
www.hsl.unc.edu/services/tutorials/EBM/index.htm

Evidence-based medicine tutorial – University of Massachusetts Medical School
library.umassmed.edu/EBM/index.cfm

Web sites

Centre for Evidence-Based Medicine – Oxford
www.cebm.net/

Evidence Based Medicine Toolkit – University of Alberta, Canada
www.med.ualberta.ca/ebm/ebm.htm

Evidence-Based Practice – University of Western Australia Library, see under Education, training & support.
www.library.uwa.edu.au

Glossary of Evidence-Based terms

This glossary includes definitions from: Oxford Centre for Evidence-Based Medicine 2007, Glossary of terms in evidence-based medicine, available from: http://www.cebm.net/glossary.asp, and Rychetnik, L, Hawe, P, Waters, E, Barratt, A, & Frommer, M 2004 'A glossary for evidence-based public health'. J Epidemiol Community Health, vol.58, pp.538-545.

Blinded A study is blinded if any or all of the clinicians, patients, participants, outcome assessors, or statisticians were unaware of who received which study intervention. The double double-blind usually refers to patient and clinician being blinded, but is ambiguous so it is better to state who is blinded.

Clinical Practice Guideline is a systematically developed statement designed to assist practitioner and patient make decisions about appropriate health care for specific clinical circumstances.

Cohort Study involves identification of two groups (cohorts) of patients, one which did receive the exposure of interest, and one which did not, and following these cohorts forward for the outcome of interest.

Cost-Benefit Analysis converts effects into the same monetary terms as the costs and compares them.

Cost-Effectiveness Analysis converts effects into health terms and describes the costs for some additional health gain (e.g. cost per additional MI prevented).

Evidence In the broadest sense, evidence can be defined as "facts or testimony in support of a conclusion, statement or belief" and "something serving as proof". Such a generic definition is a useful starting point, but it is devoid of context and does not specify what counts as evidence, when, and for whom.

Evidence-Based Health Care extends the application of the principles of Evidence-Based Medicine (see below) to all professions associated with health care, including purchasing and management.

Evidence-Based Medicine is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.

Expert Opinion usually refers to the views of professionals who have expertise in a particular form of practice or field of inquiry, such as clinical practice or research methodology. Expert opinion may refer to one person's views or to the consensus view of a group of experts. When the concept of evidence-based practice was first introduced, expert opinion was identified as the least reliable form of evidence on the effectiveness of interventions, and positioned at the lowest level in "levels of evidence" hierarchies. Other developments have determined that ranking expert opinion with levels of evidence is not useful or appropriate because expert opinion is qualitatively different to the forms of evidence that are derived from research. Opinion can be identified as a means by which research is judged and interpreted rather than as a weaker form of evidence.

Lay Knowledge refers to the understanding that members of the lay public bring to an issue or problem. Lay knowledge encompasses "the meanings that health, illness, disability and risk have for people." Formal identification and examination of lay knowledge is mostly conducted through qualitative forms of inquiry. Adequate attention to lay knowledge has been proposed as a criterion for critically appraising qualitative research. Concerns that some health professionals may not adequately value lay knowledge have been expressed. Lay knowledge can be difficult to access and synthesise, and focus on quantitative forms of evidence can lead decision makers to undervalue the lay knowledge that is derived from narratives and stories.

Meta-analysis is a systematic review or overview which uses quantitative methods to summarise the results.

Peer review is a review of journal articles by others in the same field. Peer review is the primary method for quality control in medical publishing.

Randomised Controlled Clinical Trial is when a group of patients is randomised into an experimental group and a control group. These groups are followed up for the variables / outcomes of interest.

Sensitivity is the proportion of people with disease who have a positive test.

Specificity is the proportion of people free of a disease who have a negative test.

Systematic Review is a literature review focused on a single question which tries to identify, appraise, select and synthesis all high quality research evidence relevant to that question.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