Implementing Evidence–Based Practice in Children's Mental Health

A Research Report Prepared for the
British Columbia Ministry of Children
and Family Development

November 2005

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CONTENTS

ACKNOWLEDGEMENTS

PREFACE

This report is one in a series of research reports being prepared by the Children's Mental Health Policy Research Program at the University of British Columbia at the request of British Columbia's (BC's) Ministry of Children and Family Development (MCFD). To support MCFD's goal to improve children's mental health in BC, in 2002-2003 we produced four reports: on population health and clinical service considerations;[1] on practice parameters for treating attention-deficit/hyperactivity disorder, conduct disorder, depression, obsessive-compulsive disorder and schizophrenia;[2] on child psychiatric epidemiology;[3] and on performance monitoring.[4] In 2003, MCFD then announced a new *Child and Youth Mental Health Plan (the Plan)*[5] to better address the needs of children and families in BC.

Our research reports support MCFD's *Plan* by identifying the most effective interventions available for a variety of children's mental health problems. This report focuses on implementing evidence-based practice in children's mental health. We recently produced reports on preventing and treating conduct disorder,[6] anxiety disorders[7] and depression.[8] With partners, we have also produced reports on the mental health of First Nations children[9,10] and on the treatment of early psychosis.[11] Future reports will focus on suicide prevention, eating disorders, concurrent disorders, attention problems, other mood and developmental problems, parenting and service models.

Our reports are intended to be a resource for policy-makers, practitioners, researchers, families, teachers and community members working with children in BC. We recognize that research evidence is only one component of good policy and practice. This report addresses only the content, or the specific factors, in implementing evidence-based practice. Applying this content in policy and practice requires integration of the research evidence together with individual clinical experience, and child and family preferences. Our goal, nevertheless, is to facilitate evidence-based policy and practice by making summaries of the best research evidence available to everyone concerned with improving children's mental health in BC.

EXECUTIVE SUMMARY

Despite widespread acknowledgement that health practitioners need to be informed of the best currently available research evidence, implementing evidence-based practice (EBP) can be a challenge in real-world settings. Considerable recent literature has examined EBP. However, few studies have investigated the implications of EBP for interdisciplinary children's mental health teams. This report focuses on implementing EBP in children's mental health. We identified systematic reviews published between 1999-2003 on the topic of implementing EBP in a variety of health settings applicable to children's mental health. To be included, systematic reviews had to meet a high standard involving a description of the search strategy and a list of criteria used to select original studies for detailed review. Reviews also had to include at least two randomized controlled trials.

Findings

- Thirteen reviews describing eight different interventions for implementing EBP met criteria. Most studies occurred in either hospitals or primary care settings. Most participants were physicians. None of the reviews included studies that specifically examined EBP in children's mental health.

- Active approaches were the most promising for changing practitioner behaviour: audit and feedback, educational outreach, interactive events, local opinion leaders and reminders.

- Passive approaches including didactic events and educational materials can improve knowledge. Improved knowledge may predispose practitioners to change but may have little direct impact on the practitioner's behaviour.

Recommendations

- More research is needed on implementing EBP with practitioners in children's mental health, particularly in interdisciplinary team settings with social workers, psychologists, nurses, psychiatrists, family physicians and others.

- While the current research evidence has limitations with respect to children's mental health, it does nevertheless suggest that *active* interventions (such as educational outreach and interactive events) are likely to be more effective than *passive* interventions (such as educational materials and didactic events) for changing practitioner's behaviour.

- Research in children's mental health needs to be informed by the experiences of practitioners, children and families, particularly regarding the implementation of EBP.

- Evaluations should be completed when new interventions (or new combinations of interventions) are piloted in children's mental health.

1 INTRODUCTION

1.1 What is Evidence–Based Practice?

In the health field, the ongoing process of learning about and using research evidence to guide practice has been termed evidence-based practice (EBP).[12,13] The research evidence on prevention and treatment in children's mental health is constantly evolving. The goal of EBP in children's mental health is to ensure that the most effective prevention and treatment approaches are communicated and used to help children and families. Ideally, the research evidence is also continuously informed by practice to ensure that the experiences and perspectives of practitioners, children and families are taken into account.

Many systematic reviews have been published on implementing EBP.[14-19] However, consistent definitions have not always been used to describe interventions for implementing EBP. This report will use definitions developed by the Cochrane Effective Practice and Organization of Care (EPOC) review group as outlined in Table 1.[20]

TABLE 1. Interventions for Implementing Evidence–Based Practice

- *Audit and Feedback:* Practitioners' clinical performance is monitored over time, then feedback is provided about performance relative to predetermined standards.

- *Didactic Events:* Practitioners attend an educational meeting, such as a lecture, where limited interaction occurs between themselves and the educator/facilitator.

- *Educational Materials:* Practitioners receive published or printed recommendations for practice such as practice parameters, audio-visual material or electronic publications.

- *Educational Outreach:* Practitioners receive training or information from an educator/facilitator who visits the practitioner in their own setting (also termed academic detailing).

- *Interactive Events:* Practitioners at tend an educational event, such as a workshop, where there is interaction with others through role-playing, case discussion or rehearsal.

- *Local Opinion Leaders:* Practitioners receive information from "leaders" who have been (formally or informally) nominated by their peers because they are perceived as influential.

- *Reminders:* Practitioners receive reminders that prompt them to recall information or perform an action.

Adapted from EPOC[20]

1.2 Purpose of this Report

This report was requested by MCFD in order to inform the development of more effective policies and programs for implementing EBP in children's mental health. There is a considerable body of research on this topic including several previous systematic reviews. In 1999, the National Health Service (NHS) published a comprehensive synthesis of the best available research evidence for implementing EBP.[17] Consequently, this report summarizes the NHS review, then updates the NHS findings, focusing on interventions for implementing EBP that were relevant to children's mental health and that facilitated practitioner behaviour change. This report only reviews what EPOC has identified as "professional interventions" (see Table 1). A discussion about financial, organizational or regulatory interventions is beyond the scope of this report.

The provision of effective mental health prevention and treatment involves a number of factors beyond just research evidence. For instance, a practitioner's skills and style are critical to the success of any intervention including the ability to establish therapeutic relationships with children and families. These and other aspects of the therapeutic process including setting, frequency and milieu are generally referred to as nonspecific factors. Specific factors are those that reflect the content or therapeutic approach. Both specific and non-specific factors are essential to successful outcomes. However, this report addresses only the specific factors, or the content, that can be used in implementing EBP. A discussion about the processes used to implement these interventions is beyond the scope of this report.

2 METHODS

Using Medline, PsycINFO, the Cochrane Database of Systematic Reviews and the Cochrane EPOC register, we searched for systematic reviews published in English from 1999–2003 on interventions that were relevant to implementing EBP in children's mental health. Reviews were included that examined *efficacy* (can this intervention work in idealized settings?) and, if possible, *effectiveness* (does this intervention work in usual settings?). We also sought information on the costs of interventions. The search terms were *continuous quality improvement, quality assurance, changing practice, continuing education, research uptake, research dissemination, professional practice, local consensus, reminder or audit, patient-mediated intervention, educational material, conferences, outreach* and *local opinion leaders.* Where applicable, search terms were modified to follow database indexing. Reviews about the management of specific health problems were excluded unless they related to children's mental health. All abstracts identified through these searches were assessed by two reviewers. Relevant reviews were then retrieved. Two authors independently assessed all reviews retrieved using the criteria outlined in the Appendix. To be included, reviews had to meet a high standard involving a description of the search strategy and a list of the inclusion/exclusion criteria used to select articles for detailed review. Reviews also had to include at least two high-quality randomized controlled trials. A meta-analysis was not attempted due to diversity in methods used and populations studied. Disagreements about which articles to include were resolved by consensus.

3 FINDINGS

3.1 Summary

In 1999, the NHS summarized the best available research evidence on implementing EBP.[17] Based on 44 high quality reviews published between 1977-1999, NHS concluded that: 1) using educational outreach or reminders can effectively alter practitioner behaviour; 2) audit and feedback, didactic events and interactive events altered practice under certain conditions; 3) distributing educational materials did not alter practice but raised awareness; and 4) research on local opinion leaders was limited, making it difficult to draw conclusions.

To update the NHS findings, reviews were sought from 1999-2003. In total, 28 reviews were retrieved. Of these, 13 reviews met our inclusion criteria.[21-33] The number of original studies and the main interventions evaluated in each review are summarized in Table 2. Seven of the reviews evaluated audit and feedback; six reviews evaluated didactic events, educational materials and interactive events; and five reviews evaluated educational outreach and reminders. In addition, three reviews evaluated reminders and one evaluated local opinion leaders. The reviews examined studies that were conducted internationally including North America, Europe, Asia and Australia. Most studies were conducted in hospitals or primary care settings and most participants were physicians. Only two reviews focused on nurses and other health practitioners (such as clinical psychologists) as participants.[21,27] Most reviews used qualitative methods to draw their conclusions and focused on specific behaviours that were easy to measure, such as screening or prescribing. Two reviews also used meta-analytic techniques[23,31] and six reviews performed basic quantitative calculations (such as relative risk ratios).[26-30,32] Nine reviews attempted to systematically compare single and combined interventions.[23,25-32] While most studies described in the reviews examined efficacy, since studies were carried out in working clinical settings effectiveness can also be inferred. None of the reviews assessed costs.

TABLE 2. Systematic Reviews on Implementing Evidence–Based Practice

Authors (year)	Number of Original Studies Included	Audit and Feedback	Didactic Events	Educational Materials	Educational Outreach	Interactive Events	Local Opinion Leaders	Reminders
Aylward, Stolee, Keat, et al. (2003)[21]	48	✔	✔	✔	✔	✔		
Bordley, Chelminksi, Margolis et al. (2000)[22]	15	✔						
Davis, Thomson O'Brien, Freemantle et al. (1999)[23]	14		✔			✔		
Figueiras, Sastre & Gestal-Otero (2001)[24]	51	✔	✔	✔	✔	✔		✔
Freemantle, Harvey, Wolf et al. (2003)[25]	11			✔				
Hulscher, Wensing, Van der Weijden et al. (2003)[26]	55	✔	✔	✔	✔	✔		✔
Thomas, Cullum, McColl et al. (2003)[27]	18			✔				
Thomson O'Brien, Oxman, Davis et al. (2003)[28]	37	✔						
Thomson O'Brien, Oxman, Davis et al. (2003)[29]	12	✔						
Thomson O'Brien, Oxman, Davis et al. (2003)[30]	18				✔			
Thomson O'Brien, Freemantle, Oxman et al. (2003)[31]	32		✔			✔		
Thomson O'Brien, Oxman, Haynes et al. (2003)[32]	8						✔	
Tu & Davis (2002)[33]	12	✔	✔	✔	✔	✔		✔

3.2 Audit and Feedback

The practice of audit and feedback, where practitioners have their clinical performance monitored and then receive input about their work, was examined in seven reviews.[21,22,24,26,28,29,33] All reviews found that audit and feedback alone or in combination with other interventions was generally effective in changing practitioner behaviour. However, authors of one review stated that it may be difficult to generalize these results beyond changing simple behaviours, such as prescribing or ordering diagnostic tests.[28] Furthermore, in a second review completed by the same authors, it was argued that there was not enough evidence to draw clear conclusions about which other interventions were the most effective when combined with audit and feedback.[29]

3.3 Didactic Events

Conferences or lectures, which provide only limited opportunities for interaction between educators/facilitators and participants, were the primary form of didactic events discussed in the literature. Six reviews examined this approach.[21,23,24,26,31,33] Three of these reviews concluded that didactic events alone were not effective in altering practitioners' behaviour.[21,23,24] However, the same reviews also reported significant improvements in knowledge. Aylward and colleagues concluded that even though practitioner behaviour did not change, improvements in knowledge were still significant because knowledge predisposes practitioners to future behaviour changes.[21] Three reviews found small behaviour changes when didactic events were combined with other types of interventions, such as audit and feedback or educational materials.[23,26,31]

3.4 Educational Materials

The use of educational materials was generally limited to the distribution of printed materials such as reports or practice parameters. Six reviews examined the distribution of educational materials.[21,24-27,33] Five of these reviews concluded that using educational materials had little or no effect on practitioner behaviour.[21,24-26,33] However, one review found that these materials did improve knowledge.[24]

3.5 Educational Outreach

Educational outreach, or academic detailing, is an approach whereby a trained educator/facilitator visits a host practitioner site to provide an educational intervention. Five reviews assessed this intervention.[21,24,26,30,33] Four out of five reviews found that educational outreach altered practitioner behaviour. [21,24,26,30] In addition, one review concluded that educational outreach in combination with educational materials changed practitioner behavior.[24] One review concluded that the evidence did not support the use of educational outreach.[33]

3.6 Interactive Events

This approach encourages active learning through workshops and seminars, often involving activities such as role playing, case discussion and intra-session practice or rehearsal. Six reviews reported on the outcomes of this intervention.[21,23,24,26,31,33] Three reviews found that using interactive events alone improved practitioner performance.[21,23,24] Two reviews compared interactive and didactic events and found greater practice improvements for interactive events.[26,31] One review concluded that the evidence did not support the use of interactive events.[33]

3.7 Local Opinion Leaders

One review studied the impact of local opinion leaders.[32] Local opinion leaders were chosen by their peers to be involved with implementing EBP but the studies rarely stated which activities (such as seminars, workshops or educational outreach) the leaders actually engaged in.[32] Despite this ambiguity, the review did conclude that local opinion leaders had an impact on behaviour and helped practitioners to implement EBP.[32]

3.8 Reminders

Reminders prompt the practitioner to recall information or perform a clinical action. This intervention was discussed in three of the 13 reviews.[24,26,33] Reminders were found to be effective alone or in combination with other interventions in all three reviews. One article concluded that reminders were most effective when combined with other active interventions, such as interactive events or educational outreach.[24] Another review stated that reminders appeared to be particularly effective in helping practitioners to complete specific targeted tasks (such as prescribing) rather than more complex tasks (such as diagnosis).[33]

4 DISCUSSION

Similar to the NHS findings from 1999,[17] active interventions (audit and feedback, educational outreach, interactive events, local opinion leaders and reminders) were more successful than passive ones (educational materials and didactic events) at changing practitioner's behaviour. However, didactic events and educational materials were more likely to improve knowledge. This knowledge can predispose practitioners to future behaviour changes by altering their attitudes and belief systems.[21] As well, audit and feedback and reminders may not be effective in every situation. These interventions were most effective when used to target simple behaviours such as prescribing practices.

There are several limitations in the research on implementing EBP. First, most of the studies included in the reviews used physicians as participants. Also, a significant number of the studies were carried out in hospitals. More studies are needed to increase our understanding of implementing EBP with children's mental health practitioners, particularly in interdisciplinary community settings. Finally, we were unable to draw any conclusions about the effectiveness of single interventions versus combinations. Nine reviews did try to systematically compare individual and combined interventions but could not draw clear conclusions, either because there were no high quality studies available or, if available, the methods and populations were extremely diverse.[23,25-32]

To facilitate the adoption of research evidence, it is important to account for barriers to implementation (e.g., workload issues, resistance to innovation or inflexible organizational structures) and the unique needs of local environments (e.g., interdisciplinary teams). Although a thorough review of organizational issues was beyond the scope of this report, it is important to acknowledge that supervisors play a key role in modelling EBP by using research evidence to challenge and evaluate existing and new practices. Supervisors can also support EBP by encouraging practitioners to become involved in the research process, for example by participating in program evaluation or by consulting with researchers.

The optimal goal is to encourage practitioners' and families' self-directed capacity in terms of generating, validating, disseminating and using research evidence. Furthermore, by participating in research (such as program evaluation), practitioners and families can contribute their experiences and perspectives, which in turn can strengthen the research evidence and help ensure its relevance.

5 RECOMMENDATIONS

■ More research is needed on implementing EBP with practitioners in children's mental health, particularly in interdisciplinary team settings with social workers, psychologists, nurses, psychiatrists, family physicians and others.

■ While the current research evidence has limitations with respect to children's mental health, it does nevertheless suggest that *active* interventions (such as educational outreach and interactive events) are likely to be more effective than *passive* interventions (such as educational materials and didactic events) for changing practitioner's behaviour.

■ Research in children's mental health needs to be informed by the experience of practitioners, children and families, particularly regarding the implementation of EBP.

■ Evaluations should be completed when new interventions (or new combinations of interventions) are piloted in children's mental health.

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Criteria for Evaluating Research Articles

Basic Criteria
- Published in English about children or youth aged 18 years or younger
- On topics relevant to children's mental health policy and practice in BC

Systematic Reviews
- Clear statement of relevant topic
- Clear description of methods including sources for identifying literature reviewed
- Explicit statement of criteria used for selecting articles for detailed review
- At least two articles reviewed meet criteria for assessing original studies

Original Research Studies
- Clear descriptions of participant characteristics, study settings and interventions
- Random allocation of participants to comparison groups
- Maximum drop-out rate of 20 per cent (post-test)
- Outcome measures of both clinical and statistical significance
- For treatment, diagnostic "gold" standards used
- For medication, double-blinding and placebo controls used

Adapted from Evidence Based Mental Health[34]