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Supporting decision-making processes for evidence-based mental health promotion

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SUMMARY

The use of evidence is critical in guiding decision-making, but evidence from effect studies will be only one of a number of factors that will need to be taken into account in the decision-making processes. Equally important for policymakers will be the use of different types of evidence including implementation essentials and other decision-making principles such as social justice, political, ethical, equity issues, reflecting public attitudes and the level of resources available, rather than be based on health outcomes alone. This paper, aimed to support decision-makers, highlights the importance of commissioning high-quality evaluations, the key aspects to assess levels of evidence, the importance of supporting evidence-based implementation and what to look out for before, during and after implementation of mental health promotion and mental disorder prevention programmes.

Key words: evidence; decision making; mental health; promotion; prevention

WHY EVIDENCE IS CRITICAL FOR MENTAL HEALTH PROMOTION

Building on generic principles and the findings of studies in this issue, this short paper is a more reflective piece aimed at policy and decision-makers, to facilitate the greater use of evidence in decision-making and to promote the use of the evidence-base to support and validate decision-making for mental health promotion and mental disorder prevention (Box 1).

Evidence is commonly referred to as information with the aim to confirm a fact, offering proof that a certain statement reflects the actual reality, or the opposite, that a statement conflicts with the truth. The word evidence is used from different perspectives, ranging from testimony of expert witnesses in court to complex experimental research. A starting point of the evidence debate in the health field is evidence-based medicine (EBM), a conscientious, explicit and judicious use of current best evidence obtained by scientific method to make decisions about treatment and care of individual patients (Sackett *et al*., 1996). Growing concern about the use of treatment methods not based on state-of-the-art knowledge led to the creation of EBM. In EBM, individual studies on a specific topic are critically appraised with respect to how trustworthy or free of bias they are, and their results are synthesized (usually by systematic reviews and meta-analyses), with the findings then cast into evidence-based practice guidelines. EBM emphasizes the need to generate knowledge through controlled empirical research that can provide the most unbiased results.

Box 1: Definitions of mental health promotion and mental disorder prevention

Mental health promotion implies the creation of individual, social and environmental conditions that are empowering and enable optimal health and development. Such initiatives involve individuals in the process of achieving positive mental health and enhancing quality of life. It is an enabling process, done by, with and for the people.

Mental disorder prevention aims at reducing occurrence, frequency and re-occurrence of mental disorders, the time spent with symptoms, or the risk for a mental illness, preventing or delaying their occurrence and also decreasing their impact in the affected person, their families and society.

Evidence-based public health, defined as the public health endeavour in which there is an informed, explicit and judicious use of evidence that has been derived from any of a variety of science and social science research and evaluation methods (Rychetnik *et al*., 2002), follows the same principles as EBM. However, it includes a larger variety of evaluation methods that can capture the idiosyncrasies of the social context and the nature of public health interventions. Because of the complex nature of social interventions, evidence in public health may be best achieved by using both experimental and non-experimental methods.

As highlighted across the papers in this issue and stated elsewhere, and especially in the field of mental health promotion and mental disorder prevention, there is a difference between a systematic review of the literature and a systematic review of the best available evidence (Carter, 2010). This speaks to the limitations that have been associated with evidence-based public health (Kemm, 2006).

Regrettably, the word 'evidence' is used in the mental health promotion–mental disorder prevention field to refer to anything, from the results of a rigorous research study to the views of the general public. In addition to 'evidence' and 'evidence-based' being vague terms frequently used rather loosely, too often in this field, any intervention that has been subject to the most marginal of evaluations may be considered to be 'evidence-based', or often also wrongly named 'best practice'.

Much of the reflections in this paper are applicable to all complex interventions in public health, health promotion and beyond, which can be delivered across many different sectors and have outcomes relevant across education and social inclusion to growth and development, and which are not usually subject to the same mandatory requirements for evaluation as health-care treatments.

Especially in decision-making, it is essential to understand and be able to appraise the available evidence realizing the caveats of what is published as well as taking into account other variables that can help guide new policy directions. This paper reflects on decision-making and new policy directions for evidence generation and appraisal that can be applied to mental health promotion and mental disorder prevention, including the importance supporting the generation of high-quality evaluations, how to best asses and use evidence, the aspects to consider when supporting evidence-based implementation and what to look out for before, during and after implementation.

SUPPORTING THE GENERATION OF HIGH-QUALITY EVALUATIONS

As shown in the systematic reviews in this issue, taking evidence into account is critical in decision-making for implementation, as programmes vary greatly in their costs and cost-effectiveness (McDaid and Park, 2011) as well as in their potential impacts on health, mental health and other societal issues (Czabała *et al*, 2011; Forsman *et al*., 2011; Stewart-Brown and Schrader-McMillan, 2011; Weare and Nind, 2011).

Different relevant questions in policy- and decision-making that require evidence include: 'Does the intervention work?', 'Can it work in my setting?', 'What will it cost to deliver?' and 'What broad benefits may it convey?' Therefore, when trying to answer such questions, it is essential to identify what type of available evidence exists and might be helpful for this purpose.

In many cases, answering these questions does not necessarily mean commissioning new original research studies. As evidenced in this issue, the most powerful tool is the rigorous systematic review and (where possible) meta-analysis, as this combines the results from many previous well-designed studies rather than just relying on the results of a single study alone. Too often little is done to make use of all knowledge not only from previous evaluations but also from epidemiological research.

Whether existing evidence is sufficient or new has to be commissioned, decision-making and commissioning of useful evaluations should be based on high-quality studies that use the appropriate research designs to answer each specific question (Table 1) (Gray, 1996; Petticrew and Roberts, 2003). The evaluation and the related commissioning of evidence along with its interpretation should be broad based, and take into account other factors that will impact on successful implementation. These include the appropriateness and acceptability of an intervention in any one culture or setting, constraints on available human and financial resources, and any difference in the context in which an intervention is to be delivered (Petticrew and Roberts, 2005).

In addition, when commissioning studies, it is critical to ensure that methodological standards are adhered to both in the conducting and reporting of studies so to enhance the quality of evaluation. Guidelines have been developed by major international bodies on both the conducting and reporting of most research methodologies (e.g. Moher, 1998; Moher *et al*., 1999). To facilitate this, research funders build in incentives to ensure that high-quality studies comply with such guidelines. These guidelines apply as much to high priority studies undertaken in real-world conditions (where the evidence-base may still be limited), as they do to efficacy studies.

Ideally, in evaluative studies, appropriate outcome measures are chosen during the study development phase and according to a research hypothesis that matches the policy question. It is important to realize that convenient and readily available outcomes are not necessarily the most important or relevant ones (Gilbody *et al*., 2003).

Equally, sometimes the success or failure of mental health promotion interventions cannot be fully determined for a long period of time. All mental health promotion and mental disorder prevention programmes should routinely collect information on long-term health impacts (e.g. development of new cases of depression after a few years of the intervention; children long-term resilience and mental health outcomes) (Redmond *et al*., 2009), as well as social and economic outcomes (e.g. educational attainment, sick leave rates, crime), given the nature of such programmes in producing resilience and strengthening overall outcomes on the

Table 1: Typology of evidence (Petticrew and Roberts, 2003)

Research question	Qualitative research	Survey	Case–control studies	Cohort studies	RCTs	Quasi-experimental evaluations	Non-experimental evaluations	Systematic reviews
Effectiveness								
Does it work? Does doing this work better than doing that?				+	++	+		+++
Process of service delivery								
How does it work?	++	+					+	+++
Salience								
Does it matter?	++	++						+++
Safety								
Will it do more good than harm?	+		+	+	++	+	+	+++
Acceptability								
Will children/parents be willing to or want to take up the service offered?	++	+			++			+++
Cost-effectiveness								
Is it worth buying this service?					++			+++
Appropriateness								
Is this the right service for these children?	++	++						++
Satisfaction with the service								
Are users, providers and other stakeholders satisfied with the service?	++	++	+	+				+

long term (Donelan-McCall *et al.*, 2009; Eckenrode *et al.*, 2010). This is particularly relevant given the large range of multi-faceted outcomes that have resulted from mental health promotion programmes, showing impact on other sectors such as education, labour and employment, family cohesion etc., but only showing its impacts after a longer time span than that included in standard evaluations.

Especially in this complex types of interventions where health and social outcomes go hand in hand, long-term evaluations are essential. Interventions need sufficient time to show effect (or lack thereof) and to provide an accurate estimation of the duration of any effects. Knowledge of the duration of effects should help improve the effectiveness of interventions by guiding decisions about when and for how long interventions should be provided. Long-term follow-up can also show the real reach of programme effects and will lead to more convincing advocacy messages to influence the support for interventions (Flay, 2009).

ASSESSING AND USING EVIDENCE

When considering available evidence, it is essential to assess the quality of evaluations and the strengths and limitations of study findings, including the appropriateness of using a specific study design to evaluate the effects of an intervention and the likelihood that the results are susceptible to bias (Cochrane, 1976; Jadad *et al.*, 1998). However, it is also critical to look, for example, at the magnitude of effectiveness (how important or clinically significant a given result is in its context); the credibility of the study (is the study relevant to the wider population for whom the intervention is intended); how complete a study is (relevance of outcomes for all stakeholders); or the transferability of a study to a different context of that in which it was delivered (Rychetnik *et al.*, 2002; Grade, 2004; Herrman *et al.*, 2005; Rose *et al.*, 2006).

Using evidence in decision-making, even when of quality and readily available is not always easy; the lack of its use is much related to the need for transparency, clarity and simplicity in reporting study results (Clement and Buckley, 2011). The findings need to be presented in a way that makes sense to different audiences, including policymakers, professionals and the general public. For instance, traditional statistical outcomes could be transformed into understandable percentages of improvement, which are easier to understand (Moher *et al.*, 2010). It has been advised that to facilitate such decision-making processes, range of publications are available, facilitating the translation of science into policy and practice; for example, technical research publications could be accompanied by a brief non-technical summary of the findings; using workshops as a means to informing policymakers and other key stakeholders; or producing targeted documents adapted to communicate findings in a language that is more understandable but still using best available evidence (Jané-Llopis and Braddick, 2008; Jané-Llopis and Gabilondo, 2008; McDaid, 2008; Wahlbeck and Mäkinen, 2008).

Equally, it is rarely that intervention evaluations address the more complex issues around ethics or social responsibility. These broader equity issues will be critical when appraising the evidence and particularly need to be considered in good fairness in the decision-making process. Even for very robust and efficacious interventions, political factors and ethical considerations will need to be made to guide informed decisions. For example, the acceptability and fairness of a policy to a target population; in the case of population-based interventions, the fact that the intervention might be discriminating a subgroup of more marginalized individuals; whether policymakers may be willing to sacrifice some absolute gain in health in order to reduce inequalities in health status by focusing interventions on specific vulnerable population groups. Some of these issues are essential in decision-making and need balanced consideration, especially in times when interventions are coming under scrutiny, but it is important to note that there is no such thing as 'value-free evidence'; decisions will always be informed by various values and perspectives.

SUPPORTING EVIDENCE-BASED IMPLEMENTATION

During the needs assessment in a decision-making process, it is important to involve different stakeholders in the process of identifying policy relevant questions to ask and setting policy priorities (European Commission, 2005; World Health Organization, 2005; Rose *et al.*, 2006). To successfully implement evidence-informed policy, it is important to engage key stakeholders by

developing a shared vision, clear goals and objectives for a given intervention, considering the different values and acceptability to the general public of a given implementation decision (Barry and Jenkins, 2007). The goals of a given initiative need to be concrete, attainable, measurable and agreed by all members. An early assessment of participation readiness, such as community readiness, is also crucial in determining the nature and timescale of implementing a new programme (Jané-Llopis *et al*., 2005).

Just because an intervention has been effective in one country or culture, this does not mean that it will necessarily be effective elsewhere (Rothwell, 2005). When it is clear that an intervention can work in a new setting, studies should focus on identifying the mechanisms and processes of adaptation and reinvention that can help maintain effectiveness. It is essential to explore the transferability of preventive practices to different cultural situations. Qualitative research methods can be used alongside quantitative research methods to provide essential insights into the processes for successful transferability, adaptation and innovation (Dixon-Woods *et al*., 2004; Brownson *et al*., 2009).

One limitation of the available evidence for prevention and promotion in mental health is the lack of evaluation studies of programmes that have already been implemented and sustained in the real world (World Health Organization, 2004a,b; Jané-Llopis and Anderson, 2006). The creation of partnerships for the implementation and evaluation of new and existing interventions for prevention and promotion between practitioners and research teams should be stimulated (Lavis *et al*., 2003). Such collaborative alliances could result in research and practitioners working together in the design, implementation and evaluation of programmes and subsequently increase knowledge of effectiveness in the real world. This may help improve the quality of implemented interventions and generate the further real-world evidence that can help in the decision-making process (Pope and Mays, 2006).

BEFORE, DURING AND AFTER IMPLEMENTATION

The impacts of some interventions on health and other outcomes may take many years to be realized. In the absence of information on long-term outcomes, decision modelling techniques can be a very useful aid to the policymaking process. Using available data on short-term impacts and costs can be used to estimate long-term costs and consequences of different programmes. Data used in models about potential long-term impacts can be varied—if an intervention appears to be cost-effective using very conservative assumptions, this may provide powerful support for investment in promotion and prevention in mental health (Byford *et al*., 2003). Similarly, using what economists call threshold analysis, i.e. identifying the level of effectiveness that an intervention must achieve for a given level of resource in order to be considered cost-effective, can also be helpful. This has for instance been used to help inform policymakers about the potential cost-effectiveness of suicide prevention programmes (Hale *et al*., 2005).

As part of the policymaking processes, it can be important also to consider the mental health impacts of other public policy decisions. For instance, what might be the impact on mental health of a new urban regeneration scheme? How an investment in mental health promotion programmes at the workplace will affect absenteeism and productivity? Health impact assessment is a well-developed technique for identifying the potential health risks and opportunities associated with different policies. Incorporating health impact assessment (including mental health indicators) into the policymaking process can help promote a multi-sectoral approach to the promotion of mental health and well-being (Quigley *et al*., 2006). In this context, infrastructures that support mental health promotion and prevention and encourage collaboration within other public health initiatives as well as with other government sectors outside health can help ensure the sustainability of all programmes and a holistic approach to implementation. While the principles discussed in the evidence appraisal and decision-making processes in this paper are applicable across different sectors, specific idiosyncrasies of each sector would have to be taken into account. The need for efficient use of resources and the clear opportunity given the nature of many similar interventions with gains for different sectors point to the larger question that still remains to be tackled, how multi-sectorality and cross-government integration can be further embedded in decision-making processes.

CONCLUSION

In evidence-based decision-making in mental health promotion and prevention, guiding principles include:

(i) Thoroughly search for available information to avoid duplication;
(ii) Use high-quality available research-based information to answer appropriately questions that need answers;
(iii) Undertake critical assessment (ethical issues, acceptability, resources) to see if it fits with needs; and
(iv) Weigh the strengths and limitations of assessed evidence and decide on best course of action or no action.

Without evidence of effectiveness, it is difficult to make a case for investment in mental health. Moreover in the absence of good evidence, there is in fact a danger that inappropriate policies and practices are introduced that may both be harmful and waste scarce resources. However, it is important to note that there is no such thing as 'value-free evidence'; decisions will always be informed by various values and perspectives, and decision-makers will always inevitably be faced with certain degrees of uncertainty.

REFERENCES

Barry, M. and Jenkins, R. (2007) *Implementing Mental Health Promotion*. Churchill Livingstone Elsevier, Edinburgh.

Brownson, R., Fielding, J. and Maylahnm, C. (2009) Evidence-based public health: a fundamental concept for public health practice. *Annual Review of Public Health*, **30**, 175–201.

Byford, S., McDaid, D. and Sefton, T. (2003) Because it's worth it. A practical guide to conducting economic evaluations in the social welfare field. Joseph Rowntree Foundation, York Publications, York. http://www.jrf.org_uk/bookshop/eBooks/189351123.pdf.

Campbell Collaboration. http://www.campbellcollaboration.org.

Carter, B. (2010) Evidence-based decision-making: practical issues in the appraisal of evidence to inform policy and practice. *Australian Health Review*, **34**, 435–440.

Clement, Z. and Buckley, N. (2011) Reporting of randomised controlled trials: before and after the advent of the CONSORT statement. *Journal of Clinical Medicine and Research*, **3**, 28–34.

Cochrane, A. (1976) *Effectiveness and Efficiency*. The Nuffield Trust, London.

Cochrane Collaboration. http://www.cochrane.org.

Czabała, C., Charzyńska, K. and Mroziak, B. (2011) Psychosocial interventions in workplace mental health promotion—an overview. *Health Promotion International*, **26**, i70–i84.

Dixon-Woods, M., Agarwal, S., Young, B., Jones, D. and Sutton, A. (2004) *Integrative Approaches to Qualitative and Quantitative Evidence*. NHS Health Development Agency. http://www.nice.org.uk/download.aspx?o=508055.

Donelan-McCall, N., Eckenrode, J. and Olds, D. L. (2009) Home visiting for the prevention of child maltreatment: lessons learned during the past 20 years. *Pediatric Clinics of North America*, **56**, 389–403.

Eckenrode, J., Campa, M., Luckey, D., Henderson, C., Cole, R., Kitzman, H. *et al.* (2010) Long-term effects of prenatal and infancy nurse home visitation on the life course of youths: 19-year follow-up of a randomized trial. *Archives of Paediatrics and Adolescent Medicine*, **164**, 9–15.

European Commission (2005) Green paper. Improving the mental health of the population: towards a strategy on mental health for the European Union. http://ec.europa.eu/health/ph_determinants/life_style/mental/green_paper/mental_gp_en.pdf (last accessed August 2011).

Flay, B. (2009) The promise of long-term effectiveness of school-based smoking prevention programs: a critical review of reviews. *Tobacco Induced Diseases*, **5**, 7.

Forsman, A., Nordmyr, J. and Wahlbeck, K. (2011) Psychosocial interventions for the promotion of mental health and the prevention of depression among older adults. *Health Promotion International*, **26**, i85–i107.

Gilbody, S.M., House, A.O. and Sheldon, T.A. (2003) *Outcomes Measurement in Psychiatry. A Critical Review of Outcomes Measurement in Psychiatric Research and Practice*. NHS Centre for Reviews and Dissemination, York, UK.

GRADE Working Group (2004) Grading quality of evidence and strength of recommendations. *British Medical Journal*, **328**, 1490–1994.

Gray, M. (1996) *Evidence-Based Healthcare*. Churchill Livingstone, London.

Hale, J., Cohen, D., Ludbrook, A., Phillips, C., Duffy, M. and Parry-Langdon, N. (2005) *Moving from Evaluation into Economic Evaluation: A Health Economics Manual for Programmes to Improve Health and Well-being*. National Assembly for Wales, Cardiff.

Herrman, H., Saxena, S. and Moodie, R. (eds) (2005) *Promoting Mental Health: Concepts, Emerging Evidence, and Practice*. World Health Organization, Geneva. http://www.who.int/mental_health/evidence/MH_promoting_Book.pdf.

Jadad, A. R., Cook, D. J., Jones, A., Klassen, T. P., Tugwell, P., Moher, M. *et al.* (1998) Methodology and reports of systematic reviews and meta-analyses: a comparison of Cochrane reviews with articles published in paper-based journals. *Journal of the American Medical Association*, **280**, 278–280.

Jané-Llopis, E. and Anderson, P. (eds) (2006) *Mental Health Promotion and Mental Disorder Prevention across European Member States: A Collection of Country Stories*. European Communities, Luxembourg (first and second editions).

Jané-Llopis, E. and Braddick, F. (2008) *Mental Health in Youth and Education*. Consensus Paper. European Communities, Luxembourg.

Jané-Llopis, E. and Gabilondo, A. (2008) *Mental Health in Older People*. Consensus Paper. European Communities, Luxembourg.

Jané-Llopis, E., Barry, M., Hosman, C. and Patel, V. (2005) The evidence of mental health promotion effectiveness: strategies for action. *Promotion and Education*, Suppl. **2**, 9–25. http://www.iuhpe.

Kemm, J. (2006) The limitations of 'evidence-based' public health. *Journal of Evaluative Clinical Practice*, **12**, 319–324.

Lavis, J., Robertson, D., Woodside, J. M., McLeod, C. B. and Abelson, J. (2003) How can research organisations more effectively transfer research knowledge to decision makers? *Milbank Quarterly*, **81**, 221–248.

McDaid, D. (ed). (2008) *Mental Health in Workplace Settings*. Consensus Paper. European Communities, Luxembourg.

McDaid, D. and Park, A. (2011) Investing in mental health and wellbeing: findings from the DataPREV project. *Health Promotion International*, **26**, i108–i139.

Moher, D. (1998) CONSORT: an evolving tool to help improve the quality of reports of randomised controlled trials. Consolidated Standards of Reporting Trials. *Journal of the American Medical Association*, **279**, 1489–1491.

Moher, D., Cook, D. J., Eastwood, S., Olkin, I., Rennie, D. and Stroup, D. F. (1999) Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement. Quality of reporting of meta-analyses. *Lancet*, **354**, 1896–1900.

Moher, D., Hopewell, S., Schulz, K., Montori, V., Gotzsche, P., Devereaux, P. *et al.* (2010) CONSORT Explanation and Elaboration: updated guidelines for reporting parallel group randomised trials. **63**, 1–37.

Petticrew, M. and Roberts, H. (2003) Evidence, hierarchies, and typologies: horses for courses. *Journal of Epidemiology and Community Health*, **7**, 527–529.

Petticrew, M. and Roberts, H. (2005) *Systematic Reviews in the Social Sciences. A Practical Guide*. Blackwell Publishing, Oxford.

Pope, C. and Mays, N. (eds) (2006) *Qualitative Research in Health Care*, Third edition. BMJ Books, London.

Quigley, R., den Broeder, L., Furu, P., Bond, A., Cave, B. and Bos, R. (2006) *Health Impact Assessment International Best Practice Principles*. Special Publication Series No. 5. International Association for Impact Assessment, Fargo, USA.

Redmond, C., Spoth, R., Shin, C., Schainker, L., Greenberg, M. and Feinberg, M. (2009) Long-term protective factor outcomes of evidence based interventions implemented by community teams through a community-university partnership. *The Journal of Primary Prevention*, **30**, 513–530.

Rose, D., Thornicroft, G. and Slade, M. (2006) Who decides what evidence is? Developing a multiple perspectives paradigm in mental health. *Acta Psychiatrica Scandinavica*, **113** (Suppl. 429), 109–114.

Rothwell, P. M. (2005) External validity of randomised controlled trials: 'To whom do the results of this study apply?' *Lancet*, **365**, 82–93.

Rychetnik, L., Frommer, M., Hawe, P. and Shiell, A. (2002) Criteria for evaluating evidence on public health interventions. *Journal of Epidemiology and Community Health*, **56**, 119–127.

Sackett, D. L., Rosenberg, W. M., Gray, J. A., Haynes, B. and Richardson, S. (1996) Evidence-based medicine: what it is and what it isn't. *British Medical Journal*, **312**, 71–72.

Stewart-Brown, S. L. and Schrader-McMillan, A. (2011) Parenting for mental health: what does the evidence say we need to do? *Health Promotion International*, **26**, i10–i28.

Wahlbeck, K. and Mäkinen, M. (eds) (2008) *Prevention of Depression and Suicide*. Consensus Paper. European Communities, Luxembourg.

Weare, K. and Nind, M. (2011) Mental health promotion and problem prevention in schools: what does the evidence say and what are the messages for Europe? *Health Promotion International*, **26**, i29–i69.

World Health Organization (2004a) Prevention of mental disorders: Effective interventions and policy options. Summary Report. World Health Organization, Geneva. http://www.who.int/mental_health/evidence/en/prevention_of_mental_disorders_sr.pdf.

World Health Organization (2004b) Promoting mental health: concepts, emerging evidence, practice. Summary Report. World Health Organization, Geneva. http://www.who.int/mental_health/evidence/en/promoting_mhh.pdf.

World Health Organization (2005) *Mental Health Action Plan for Europe*. Copenhagen, Denmark.