

# ACE–PREVENTION PAMPHLETS

## GENERAL POPULATION RESULTS PAMPHLET 6

### COST-EFFECTIVENESS OF PREVENTIVE INTERVENTIONS FOR CHILDHOOD/ADOLESCENT DEPRESSION AND CHILDHOOD ANXIETY

#### 1. MAIN MESSAGES

- Screening and psychological therapy for children/adolescents displaying some signs of depression to try and prevent a major depression developing is a very cost-effective strategy
- Brief bibliotherapy for the prevention of childhood/adolescent depression has the potential to be extremely cost-effective though further evidence of effectiveness is required possibly using electronic means of dissemination (e.g. internet)
- Screening preschool children for inhibition and the provision of a parenting intervention to their caregivers is excellent value for money though further evidence of effectiveness under routine service delivery conditions is required.

#### 2. BACKGROUND

The occurrence of depression and anxiety disorders in childhood and adolescence can negatively influence the development, school and work performance as well as substantially increase the risk of substance abuse and suicide. Furthermore the presence of depression and anxiety problems in childhood and adolescence is correlated with the risk of depression and other mental disorders during adulthood. It is therefore unsurprising that the prevention of depression and anxiety in children/adolescents is receiving considerable attention in the published literature.

#### 3. INTERVENTIONS

We reviewed the literature to identify a range of interventions aiming to prevent major depression and anxiety disorders, in children/adolescents (aged up to 18), which would be suitable for implementation in Australia. It was also important that the interventions had evidence of efficacy/effectiveness in terms of reduction in the onset of Major Depressive Disorder as well as anxiety disorders to support the analyses. From the review process, we selected three interventions for cost-effectiveness analysis, two for the prevention of depression (1&2) and one for the prevention of anxiety (3):

1. **Psychological Intervention:** Children/adolescents aged between 11 to 17 are screened for symptoms of depression within a school setting; a state-based coordinating unit administers and scores the screening forms and sends letters of referral to parents for further assessment; a psychologist then conducts further screening to determine if the child/adolescent meets the criteria for the intervention; if the child/adolescent meets the criteria they then receive the intervention which consists of 12 visits to the psychologist to undertake a cognitive-behavioural type of intervention.
2. **Bibliotherapy Intervention:** people are screened similarly to the psychological intervention except that eligible participants are offered a self-help manual only. Note that this intervention has limited evidence of effectiveness and has been included more as a "pilot" type of intervention rather than a candidate for routine health care implementation.
3. **Parenting Intervention:** preschool children are screened for an "inhibited" (i.e. shy-like) temperament in a preschool setting. Children who score above the threshold cut-off are then offered a 6 session group-based parenting intervention run by a psychologist.

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PROJECT LEADERS

PROF THEO VOS (UQ)

PROF ROB CARTER (DEAKIN)

PAMPHLET AUTHOR

CATHY MIHALOPOULOS

FOR FURTHER INFORMATION

[WWW.SPH.UQ.EDU.AU/BODCE-](http://WWW.SPH.UQ.EDU.AU/BODCE-)

ACE-PREVENTION

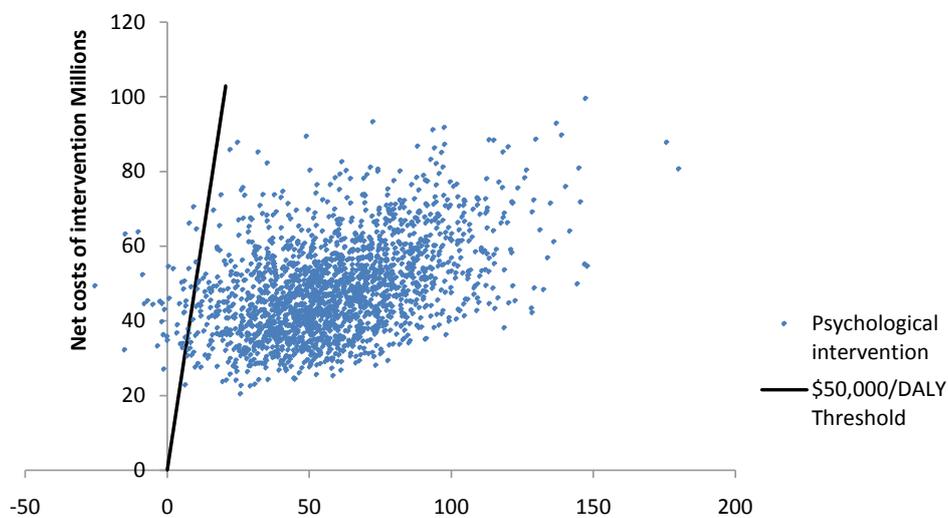
#### 4. CHOICE OF COMPARATOR

The comparator to the interventions is current practice. The exclusion criteria to all the interventions include currently receiving mental-health care, so the interventions are modelled as “add-ons” to the current mix- of health care services.

#### 5. INTERVENTION COST-EFFECTIVENESS

The results for the psychological intervention designed to prevent childhood/adolescent depression predominately fall in the north-east corner ('health gain at a cost') of the cost-effectiveness plane (Figure 1). It has a very high probability of being cost-effective when uncertainty simulations are taken into account. The median ICER is \$5,400/DALY averted (uncertainty interval is \$1,400-\$32,000) with a 98% chance of the uncertainty iterations being below \$50,000/DALY.

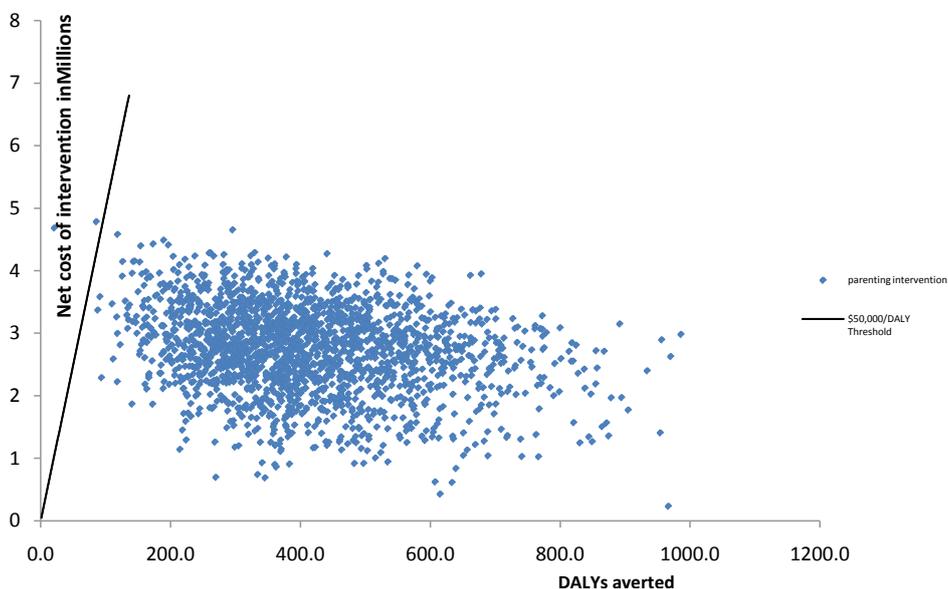
Figure 1: Cost-effectiveness of the psychological interventions designed to prevent childhood/adolescent depression illustrated on a cost-effectiveness plane with \$50,000 per DALY threshold line



The brief bibliotherapy intervention is of course also very cost-effective with a median ICER of \$180/DALY averted.

The results for the parenting intervention designed to prevent childhood anxiety disorders predominately fall in the north-east corner ('health gain at a cost') of the cost-effectiveness plane (Figure 2). The median ICER is \$6,900 per DALY with a 99.9% chance that the uncertainty iterations will fall below the threshold value of \$50,000/DALY.

Figure 2: Cost-effectiveness of the parenting interventions designed to prevent childhood anxiety illustrated on a cost-effectiveness plane with \$50,000 per DALY threshold line



## 6. CONCLUSIONS

The psychological intervention for the prevention of depression in children and adolescents represents excellent value for money. The bibliotherapeutic intervention also represents excellent value for money but has very limited evidence of effectiveness which needs to be replicated in an appropriately powered study (the use of a web-based medium for such an intervention also deserves consideration). The current results compare favourably to the one other economic evaluation of an intervention designed to prevent adolescent depression (Lynch, Hornbrook et al. 2005).

The parenting intervention designed to prevent anxiety disorders in children also provides excellent value for money. It should also be noted that most children in this study had a “diagnosable” anxiety disorder at the time of study entry, though the merit of actually diagnosing children this young is certainly debatable in the published literature.

There are issues with respect to acceptability of such intervention to schools, preschools, psychologists as well as the end-users of the intervention (children with elevated symptoms of depression and inhibition and their parents). There are also substantial work-force issues since these interventions are ideally delivered by psychologists who are already quite stretched within the current health care system (particularly since the introduction of a Medicare rebate for treatment of depression and anxiety).

Finally, this analysis presents a “partial” picture of the benefit associated with screening for symptoms of depression and anxiety as inevitably untreated cases of full MDD will also be detected and potentially referred for treatment. The benefit to the parents of such children/adolescents has not been included in this study – therefore the health benefits have been underestimated.

## 7. REFERENCES

Lynch, F. L., M. Hornbrook, et al. (2005). “Cost-effectiveness of an intervention to prevent depression in at-risk teens.” *Archives of General Psychiatry* 62(11): 1241-1248.

For more information on this topic area, please visit website [www.sph.uq.edu.au/bodce-ace-prevention](http://www.sph.uq.edu.au/bodce-ace-prevention)

# ACE–PREVENTION PAMPHLETS

## 8. ABOUT ACE-PREVENTION

To aid priority setting in prevention, the Assessing Cost-Effectiveness in Prevention Project (ACE-Prevention) applies standardised evaluation methods to assess the cost-effectiveness of 100 to 150 preventive interventions, taking a health sector perspective. This information is intended to help decision-makers move resources from less efficient current practices to more efficient preventive action resulting in greater health gain for the same outlay.

### PAMPHLETS IN THIS SERIES

#### Methods:

- A. The ACE-Prevention project
- B. ACE approach to priority setting
- C. Key assumptions underlying the economic analysis
- D. Interpretation of ACE-Prevention cost-effectiveness results
- E. Indigenous Health Service Delivery

#### Overall results

1. League table
2. Combined effects

#### General population results

1. Adult depression
2. Alcohol
3. Blood pressure and cholesterol lowering
4. Cannabis
5. Cervical cancer screening, Sunsmart and PSA screening
6. Childhood mental disorders
7. Fruit and vegetables
8. HIV
9. Obesity
10. Osteoporosis
11. Physical activity
12. Pre diabetes screening
13. Psychosis
14. Renal replacement therapy, screening and early treatment of chronic kidney disease
15. Salt
16. Suicide prevention
17. Tobacco

#### Indigenous population results

1. Cardiovascular disease prevention
2. Diabetes prevention
3. Screening and early treatment of chronic kidney disease