

Costing program implementation using systematic review:

Programs to prevent adolescent depression

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Background

- Evidence on 'what works' informs decisions
- Decision-makers face constrained budgets, so need to consider costs
- Implementation cost of concern to 'front-line' decision-makers



Reviewer's point of view

- I want my SR to influence practice
- I recognise implementation cost is important
- I can't find any economic evaluations and none of my intervention studies contain resource use or cost data
- What can I do?



Review of economics in C2 reviews

- *Evidence & Policy* (In press)
- Included studies describe program characteristics (implementation data)
- Relates to types and amounts of resource inputs



Example: After-school program

- Program duration: 5 weeks
- 5 sessions per week
- Each session 2 hours
- $5 \times 5 \times 2 = 50$ hours
- 2 school teachers deliver each session
- $50 \times 2 = 100$ hours of teacher time



Costing program implementation

- *Description* of resource inputs
- *Measurement* of amounts of each resource in natural units
- *Valuation* using local pay and prices



Costing program implementation

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SR of programs to prevent adolescent depression

- P:** Children or adolescents aged 8 to 19 years
- I:** Any psycho-educational program
- C:** Treatment as usual or any alternative program
- O:** Primary - depression scale score
Secondary - various



SR of programs to prevent adolescent depression

- 35 intervention studies
- 45 pairwise comparisons
- 66% universal program (23 of 35)
- 34% selective program (12 of 35)



Coding tool

1. Program delivery
2. Personnel
3. Training and supervision
4. Equipment
5. Overheads
6. Service user and family resources



Data extraction and analysis

- Data extracted from 35 studies
- Data cleaned and additional variables post-coded – 215 variables
- Analysis using SPSS v14.0 – frequencies and descriptive statistics



Results: Universal prevention programs

1. Program delivery

<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>StDev</i>	<i>Median</i>	<i>Min</i>	<i>Max</i>
Duration of intervention period (wks)	20	10.03	4.21	10	0.6	23

<i>Variable</i>	<i>N</i>	<i>% Provided (N)</i>	<i>% Not provided (N)</i>
Adolescent small-group sessions	23	100% (23)	0% (0)
Adolescent one-to-one sessions	23	9% (2)	91% (21)
Parent small-group sessions	23	9% (2)	91% (21)



Results: Universal prevention programs

1. Program delivery: adolescent small group sessions

<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>StDev</i>	<i>Median</i>	<i>Min</i>	<i>Max</i>
Total number of sessions	23	9.17	2.81	10	3	12
Duration of each session (mins)	22	75.91	26.07	85	40	120
Number of sessions per week	20	1.12	0.51	1	0.5	3
Group size	14	14.07	4.36	14	9	24



Results: Universal prevention programs

1. Program delivery: adolescent small group sessions

<i>Variable</i>	<i>N</i>	<i>% During school time (N)</i>	<i>% Immediately after school (N)</i>
Timing	20	75% (15)	25% (5)

<i>Variable</i>	<i>N</i>	<i>% School premises (N)</i>	<i>% Other setting (N)</i>
Setting	17	100% (17)	0% (0)



Results: Universal prevention programs

2. Personnel: adolescent small group sessions

Variable	N	% Involved in delivery (N)	% Not involved in delivery (N)
Clinical psychology student(s)	21	67% (14)	33% (7)
School teacher(s) if clinical psychology student(s)	14	71% (10)	29% (4)

Variable	N	Mean	StDev	Median	Min	Max
Total number of personnel	15	2.20	1.47	2	1	6



Results: Universal prevention programs

3. Training and supervision: program-specific training

Variable: Total hours	N	Mean	StDev	Median	Min	Max
Education sector personnel	10	21.75	18.32	15.75	2	50
Research sector personnel	7	31.71	15.46	30.00	7	50
Health sector personnel	0	-	-	-	-	-



Results: Universal prevention programs

3. Training and supervision: ongoing supervision

<i>Variable:</i> Hours per week	<i>N</i>	<i>Mean</i>	<i>StDev</i>	<i>Median</i>	<i>Min</i>	<i>Max</i>
Education sector personnel	3	1.67	0.57	2	1	2
Research sector personnel	6	1.58	0.38	1.5	1	2
Health sector personnel	0	-	-	-	-	-



Results: Universal prevention programs

4. Equipment

No data

5. Overheads

No data

6. Service user and family resources

No data



Coding tool

1. **Program delivery**
2. **Personnel**
3. **Training and supervision**
4. **Equipment**
5. **Overheads**
6. **Service user and family resources**



Costing program implementation

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Discussion: Apply unit costs


- International or national/sub-national audience
- Sources of unit cost data
 - Health and social care (UK)
<http://www.pssru.ac.uk/uc/uc2008contents.htm>
 - Children's services – inc. education (UK)
<http://www.lboro.ac.uk/research/ccfr/>
 - Crime and justice (UK)
<http://www.pssru.ac.uk>



Discussion: Next steps

- Online survey of study authors
- Universal versus selective programs
- Incremental analysis
- Cost-effectiveness analysis
- Generic version of coding tool





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