The Economics Of Youth Mental Health

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What does economics do?

Economics addresses the fundamental issue of **allocating scarce resources between competing demands**

Demand for health care services is growing rapidly, and exceeds available resources

How do we maximise “welfare/health gain” with the available resources?

- **Important question is what do we want from our mental health services so we can decide how to allocate resources?**
  - Is it better (more valuable) to invest in youth mental health or elsewhere?
- Can’t judge value for money until we understand what is meant by “value”
Economists carry out 4 separate but interrelated tasks:

- **Description**
  - Describe – current activities, health status, resource use
  - **Current burden of disease and costs**

- **Prediction**
  - Predict – future activities, health status, resource use
  - **Future burden of disease and costs**

- **Explanation**
  - Explain – health status and trends; determine key economic influences
  - **Less well developed MH literature – causation difficult**

- **Evaluation**
  - Evaluate – benefit of an intervention relative to its cost
  - **Only task which can answer the question of “value for money”**
Description & Prediction

• Well established that mental disorders have a very large disease burden as measured by DALYs
  • 3rd behind cardiovascular disease and cancer
  • Majority of this burden is due to morbidity effects
  • Prediction of first GBD study really put mental disorders on the international agenda.

• DALYs attributable to young people (10-24) account for 35% of the mental disorder burden
  • burden is slightly larger in females than males, but in 15-24 year olds the burden is slightly higher in males than females

• However mental illness accounts for 50% of the total burden in young people aged 16-24
Costs of youth mental illness

- OYH commissioned ACCESS economics to determine the costs of mental illness in young people in 2009
- Headlines from this report stated that the “financial” costs of mental illness was 10.6 billion dollars
  - 70% of these costs are attributable to “productivity effects” (using human capital method)
  - 15.5% due to welfare payments and forgone tax
  - 13.4% was direct health expenditure

Costs of obesity in Australia is $21 billion in direct health care costs alone (Colagiuri et al, 2010, MJA) and predicted to increase substantially
- ABS estimates total annual costs of mental illness in Australia for 2008 is $20 billion

Staggering numbers
- So where should our health care dollars go?
Prediction

- “Of the six health conditions identified, a mental health or nervous condition, when averted, has the largest positive impact on labour force participation.” (Summary, Productivity Commission, Effects of Health and Education on Labour Force Participation, 2006)
  - Others conditions = cancer, cardiovascular disease, major injury, diabetes and arthritis
  - Impacts on young people are driving these numbers
Role of cost-of-illness studies

• **Focus on the size of the problem** and estimate the burden (current or future) in monetary terms.

• **Purposes** (Rice 1994):
  – Justify budgets – *advocacy tool* to get more funding
  – Help set funding priorities
  – Underpin intervention programs

• **But criticised** (Roux and Donaldson 2004, Byford et al. 2000):
  – High costs of a disease does not necessarily = inefficiency, waste, or more necessary spending
  – Cost savings of preventing a disease sometimes overstated
  – Add little to the debate about where to invest limited health (and mental health $$)

• **Just because something costs a lot does not mean you should buy it or that it is more “valuable” than something which costs less.**

• **Key issue is whether investing in the problem will return benefits “worth” that investment compared to investing in another problem.**
Economic Evaluation

- Most economists agree that the fight against the challenges of mental health problems requires a ‘solutions-based’ rather than a ‘problem-focused’ approach

- Investment in mental health is recently increasing, but many funding decisions not underpinned by evidence, let alone cost-effectiveness credentials

- Limited information on what works and what offers ‘value-for-money’ *in our Australian context*

- **Economic evaluation offers the most valuable contribution**

- Need high quality evaluations of interventions aimed at youth so policymakers know ‘what works’ and what offers ‘value-for-money’, relative to alternative uses for that money
**What is an economic evaluation?**

Are both costs and consequences of the alternatives examined?

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**What difference is intervention likely to make to the disease burden and what is the net cost of doing it?**
Implementation: Ready to step up?
Guest editor: Professor Caroline Finch

bjsm.bmj.com
Economic Evaluations of interventions aimed at youth with mental health problems

• NHS Economic Evaluation database
  – http://www.crd.york.ac.uk/CRDWeb/AboutNHSEED.asp

• Quick search netted 47 studies

• Most are cost-effectiveness analyses

• For example, Byford S, et al. *Economic evaluation of a randomised controlled trial for anorexia nervosa in adolescents*. British Journal of Psychiatry 2007; 191: 436-440, found:
  – No statistical differences in change in Morgan-Russell Average Outcome Scale between the three interventions
  – Specialist outpatient care less costly than inpatient and general outpatient care (not SS)
  – Probabilistic analysis found that in 78% of the iterations the specialist out-patient option was less costly and more effective

• “On the basis of cost effectiveness, these results support the provision of specialist out-patient services for adolescents with anorexia nervosa.” (pg. 436)
  – If results had been significant – you would expect the probability to be over 95%.
Early Intervention in Psychosis

- **Controversial topic**
- Australian studies have found that EPPIC is cost-saving with some clinical benefits (Mihalopoulos et al, 1999, 2009)
  - Statistically significant with almost all (over 99%) of iterations showing less costs and more benefits for EPPIC vs TAU
- International studies have more mixed results
- Some showing advantage, others not, particularly at medium term follow-up (e.g. Bertelsen et al, 2008)
  - Has led some commentators to question the merits of early intervention
- Important to appreciate that costs are very context specific
  - Tremendous variations found across the different settings – and that’s just in Europe!
Economic Evaluation: Cost-effectiveness

- More commonly, interventions tend to cost more and have some advantage over comparators. So there is a net cost per unit of effect.
- For example, in a recent study investigating the prevention of panic disorders, Smit et al (2009) found an incremental cost-effectiveness ratio of €6,198 per PD-free survival gained, *(CERA, 7: 8, online journal).*
- *Is this a value-for-money intervention?*
Economic Evaluation: Priority-setting

- The decision-context is usually to decide amongst multiple interventions, often across different clinical areas.

- Cost-effectiveness analysis of single, stand-alone interventions not enough to make an effective contribution to policy decisions about strategic directions.

- Economic priority-setting techniques are gaining momentum as a rigorous approach to this issue.

- The Assessing Cost-Effectiveness (ACE) approach developed in Australia (Carter et al, 2009) is an approach to the priority-setting problem with a focus on:
  - Reduction of methodological confounding
  - Stakeholder involvement
  - Modelling – from trials/studies to population level cost-effectiveness

- The most recent ACE study, ACE-Prevention, evaluated a number of preventive interventions for mental disorders (along with many other areas).

- Other approaches, such as WHO-Choice are not dramatically different.
ACE-Prevention: Youth relevant mental health interventions

• Screening and psychological therapy for children/adolescents at risk of developing depression (Mihalopoulos et al, 2012, Pediatrics)
  – $5,400/DALY averted (cost $43M government, $4M private)
    • just 2% of iterations are higher than threshold value for money cut-off of $50,000/DALY

• Screening and a “brief” bibliotherapy intervention for the prevention of adult depression (Mihalopoulos et al, 2011, ANZJP)
  – $8,600/DALY averted
    • 18% of iterations not cost-effective

• Screening and a psychological therapy for the prevention of adult depression
  – $20,000/DALY averted
    • 4% of iterations are not cost-effective

• Interventions for youth at ultra-high risk of psychosis who seek help
  – Dominant (save more than what they cost)
    • 96.4% of iterations are cost-effective

• Use of ACE inhibitors to reduce blood pressure and cholesterol in those with >5% risk
  – $17,000/DALY
Interventions with most potential are less conducive to economic evaluation methods

- E.g. health promotion, headspace etc

Why?
- complex and multi-faceted
- community-based rather than individual-based
- more organic, not a standardised intervention
- inter-sectoral rather than restricted to health sector
- Sometimes policy in nature
- Not included in priority setting studies due to absence of effectiveness credentials

→ more difficult in terms of
  - study design – not so amenable to RCTs
  - outcome measurement – often include non-health outcomes
  - resource use measurement – because of organic nature, multiple players, settings – issues of data tractability
  - cost apportionment
Future challenges

• Packaging interventions into effective strategies in the context of budgetary constraints
  • Need to also consider how existing resources can be better used (e.g. Tolkien II study by Andrews et al, 2007, ACE-MH by Vos et al, 2005)

• More sophisticated modelling around the consideration of joint costs, benefits and changing costs/benefits
  • E.g. Welfare agencies and mental health agencies

• Inclusion of multiple outcome measures and longer term epidemiology
  • E.g. Productivity impacts, impacts in other sectors, family impacts

• Problem of “silo” budgeting

• Disaggregation of intervention effectiveness and costs into particular demographic groups to better target interventions
Conclusions

• Most economic work centers around description and prediction of disease & cost burden. This type of work alone does not fully address the youth mental health issue – unless integrated with more complex tasks of explanation and evaluation

• **Economic evaluation – offers best prospects for finding solutions, but also the most challenges.**

• There are youth mental health interventions, evaluated for the Australian context, which are cost-effective, but still not routinely implemented

• Interventions offering the most potential are sometimes the most challenging to evaluate – but need adequate research $$
  • e.g. Headspace

• Cost-effectiveness analysis of single interventions not enough

• Need more work around packaging interventions, in a meaningful way, into coordinated strategies within given budget constraints
  • To do this also need a better handle on what is really constituting current practice

• **Economics has played an important role in advancing the youth mental policy agenda – but can do a lot more**