Children first!

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Children’s Mental Health Center New
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Distribution of cost of illness in Norway 2013

Coronary heart disease
- 70% of total cost: 15 billions €
- 13% of total cost: 2% of total cost: 4%

Cancers
- 82% of total cost: 15 billions €
- 1% of total cost: 11%

Mental disorders
- 52% of total cost: 22 billions €
- 13% of total cost: 15%

Legend:
- LOST LIFYEARS
- LOSS OF QUALITY OF LIFE
- HEALTHCARE COSTS
- SICKNESS ABSENCE
- DISABILITY
Clinical treatment

- For the individual and next-off-kins – great value
- For the society in terms of destigmatization of mental health problems: positive
- For the society in terms of reduced disease burden – limited value
Limitations to clinical treatment

- Limited effectiveness
- Costly
- Reaches relatively few children
- Tend to overlook minorities
- Little effect on burden of disease in high and middle income countries
- Even with optimal distribution of today's evidence treatment methods we would only be able to avert 30% of the burden from common mental disorders
Mental health promotion and mental illness prevention: The economic case

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Report published by the Department of Health, London
12 economically assessed evidence based prevention initiatives, relevant to children and adolescents

1. Health visiting to reduce postnatal depression
2. Parenting interventions for persistent conduct disorders among children
3. School based social and emotional learning programmes to prevent conduct problems in childhood
4. School based interventions to reduce bullying
5. Early detection for psychosis
6. Early intervention for psychosis
Evidence based prevention initiatives

7. Screening and brief intervention in primary care for alcohol misuse
8. Workplace screening for depression and anxiety disorders
9. Promoting wellbeing in the workplace
10. Debt reduction aid to families
11. Population level suicide awareness training and intervention
12. Bridge safety measures for suicide prevention
1. Health visiting for postnatal depression
A big head dragging around with a little body
Outside of the head: Face
Inside of the head: an immature brain
Max visual accuracy: 30 cm
Preference for faces, movement and contrast
Smile
Cry: Highly varied and complicated sound pattern
Baby gurgle releases parent high pitch tone of voice
Enough is enough
Inside of the head: an immature brain
1. Health visiting for postnatal depression
Health visiting for postnatal depression: The problem

- Moderate to severe postnatal depression affects around one in eight women in the early months following childbirth.
- The condition has an adverse impact on a woman’s quality of life and the mother-infant relationship.
- The infant of a depressed mother is at risk for developing insecure attachment, negative affect and dysregulated attention and arousal.
- Toddlers and preschoolers of depressed mothers are at risk for developing poor self-control, internalizing and externalizing problems, and difficulties in cognitive functioning and in social interactions with parents and peers.
Health visiting for postnatal depression: The problem

• The National Institute for Health and Clinical Excellence (NICE) recommends the screening of postnatal depression as part of routine care, and the use of psychosocial interventions and psychological therapy (interpersonal or CBT) for women depending on the severity of depressive symptoms.

• However, research suggests that in practice a significant proportion of women with postnatal depression are missed in primary care.
Health visiting for postnatal depression: The problem

- The economic costs of postnatal depression are conservatively estimated at £45 millions for England and Wales.
- This includes additional health and social care costs.
- It does not include indirect costs to society, such as lost productivity due to a mother’s reduced ability to return to work or to work at full capacity.
- Neither does it include costs of adverse effects on children.
Health visiting for postnatal depression: Intervention

- Health visitors are well placed to identify mothers suffering from postnatal depression and to provide preventative screening and early interventions.
- A range of UK trials with interventions provided by health visitors have been positive: women were more likely to recover fully after 3 months.
- Targeted antenatal intervention with high risk groups was shown to reduce the average time mothers spent in a depressed state.
- A combination of screening and psychologically informed sessions with health visitors was clinically effective 6, 12 and 18 months after childbirth.
The biggest direct costs of such interventions are associated with training (estimated at £1,400 per health visitor), plus the additional time spent by health visitors with mothers for screening and counselling.
Depression among newly become mothers

- LSE modelled a universal health visiting intervention compared with routine care after child birth.
- The intervention consists of postnatal screening during home visits using a standardised tool (e.g. EPDS).
- The model assumes all women are screened and those with postnatal depression that does not resolve in the short term receive psychologically informed sessions from their health visitors.
- If this intervention does not lead to improved mental health then the current routine treatment is provided.
Depression among newly become mothers

• The model provides a conservative estimate of the cost impact of the health visitor intervention.
• On a one year time horizon there are no cost savings when considering the impact on mothers (not including the wider impact on fathers and infants), as lower treatment costs and a reduced productivity loss are outweighed by increased training and higher staff costs for providing the interventions.
Depression among newly become mothers

• However, if it is assumed that depressive symptoms persist after one year, it is likely that cost savings could be achieved in the medium term as treatment costs and productivity loss would be further reduced.

• **Longer term, it would be important to include in any evaluation the economic costs of negative behavioural, emotional and cognitive consequences for the children of mothers who suffered from post-natal depression.**

• When quality of life benefits to women are incorporated, the health visiting intervention provides a positive net benefit with an incremental cost-effectiveness ratio (ICER) of around £4,500 per quality-adjusted life year (QALY).
Depression among newly become mothers

Summary

• On a one year horizon, health visiting interventions to reduce postnatal depression do not reduce net costs, but do increase productivity for those who return to work.
• The intervention may produce cost savings in the medium and long term but this possibility remains to be evaluated.
• Effects on the children have not been assessed.
• Further details: Annette Bauer (a.bauer@lse.ac.uk)
Depression among newly become mothers

References


Depression among newly become mothers

References


Depression among newly become mothers

References

2. Parenting interventions for the prevention of persistent conduct disorders
Parenting interventions for the prevention of persistent conduct disorders: The problem

- Conduct disorders are the most common childhood psychiatric disorders, with a UK prevalence of 4.9% for children aged 5–10 years.
- The condition leads on to adulthood antisocial personality disorder in about 50% of cases.
- It is associated with a wide range of adverse long-term outcomes, particularly delinquency and criminality.
- The costs to society are high, with average potential savings from early intervention estimated at £150,000 per case.
Parenting interventions for the prevention of persistent conduct disorders: The problem

- Costs falling on the public sector are distributed across many agencies and are around ten times higher than for children with no conduct problems.
- The cost of conduct disorder-related crime in England may be as high as £22.5 billions a year.
- … and £1.1–1.9 millions over the lifetime of a single prolific offender.
Parenting interventions for the prevention of persistent conduct disorders: Intervention

- Parenting programmes can be targeted at parents of children with, or at risk of, developing conduct disorder, and are designed to improve parenting styles and parent-child relationships.
- Reviews have found parent training to have positive effects on children’s behaviour, and that benefits remain one year later.
- Longer term studies show sustained effects but lack control groups; cost-effectiveness data are limited, but health and social services costs have been found to reduce over time.
- Without intervention, conduct disorder will persist in about 50% of children.
Parenting interventions for the prevention of persistent conduct disorders: Intervention

• The median cost of an 8–12 week group based parenting programme is estimated at £952 per family, while that of individual interventions is £2,078.

• Assuming 80% of people receive group based interventions and 20% individual interventions, in line with NICE guidance, the average cost of the intervention works out at £1,177 per family.

• An important ingredient of success in the design and implementation of these programmes is maximising the engagement of at-risk-families, as there is evidence that some services suffer from low rates of take-up and high rates of dropout.
The model looks at the costs/savings for 5 year old children with conduct disorder whose parents attend a parenting programme, and estimates the impact to age 30 compared to no intervention.

It is assumed that the intervention decreases the chance that early onset conduct disorder will persist into adulthood, thus avoiding high costs to society.

Among those whose parents complete the programme, 33% of children improve to ‘no problems’, and 5% improve to moderate conduct problems.

However, behaviour changes are not sustained beyond one year for 50% of children who initially improve.
Gross savings over 25 years amount to £9,288 per child and thus exceed the average cost of the intervention by a factor of around 8 to 1.

Savings to the public sector come to £3,368 per child, including £1,278 accruing to the national health system.

Under the assumptions made, the intervention will provide a positive return to the public sector in year 8, and to the national health system in year 14, after the intervention.
No benefits are assumed from a range of other potential wider impacts such as improved employment prospects, reduced adult mental health issues, and improved outcomes for the child’s family and peers.

These are likely to be substantial, making the intervention an even better investment.
Cost-effectiveness of early intervention for conduct disorders
Parenting interventions for the prevention of persistent conduct disorders: Summary

- Parenting programmes are cost-saving to the public sector, and to the health system alone, over the long term.
- The main benefits accruing to the national health system and criminal justice system.
- When the wider costs of crime are included, total gross savings over 25 years exceed the average cost of the intervention by a factor of around 8 to 1.

Further details: EvaMaria Bonin (e.bonin@lse.ac.uk)
Parenting interventions for the prevention of persistent conduct disorders: References

Parenting interventions for the prevention of persistent conduct disorders: References


Parenting interventions for the prevention of persistent conduct disorders: References

3. School based social and emotional learning programmes to prevent conduct problems
Conduct problems in childhood cover a range of oppositional or antisocial forms of behaviour such as disobedience, lying, fighting and stealing.

Such problems are very common: 6% of children aged 5–10 years have severe conduct problems (SCP) and 19% have mild conduct problems (MCP), rising to 9% and 29% respectively in adolescence.

Conduct problems are associated with a range of poor outcomes including increased risk of criminal activity, fewer school qualifications, parenthood at a young age, unemployment, divorce or separation, substance abuse, and mental disorders – many of which lead to increased costs across several agencies.
Potential savings (including intangibles) from each case prevented through early intervention have been estimated at £150,000 for severe cases and £75,000 for mild cases.

Crime accounts for about two thirds of these longterm costs.

The other main contributors are costs of mental illness in adulthood and lower lifetime earnings.

The annual cost of crime in England attributable to people who had early conduct problems (either severe or mild) may be as high as £60 billions.
School based social and emotional learning programmes to prevent conduct problems in childhood: Intervention

• School based Social and Emotional Learning (SEL) programmes help children and young people to recognise and manage emotions, set and achieve positive goals, appreciate the perspectives of others, establish and maintain positive relationships, make responsible decisions and handle interpersonal situations constructively.

• International evidence shows that SEL participants demonstrate significantly improved social and emotional skills, attitudes, behaviour, and academic performance.

• The costs of a representative intervention, including teacher training, programme coordinator and materials are estimated as £132 per child per year (2009 prices).
School based social and emotional learning programmes to prevent conduct problems in childhood: Impact

- The model looks at the cost savings from school based SEL programmes through their impact on conduct problems.
- It is assumed that the intervention occurs at age 10 years and that a child starts in one of three different conduct ‘health states’: no conduct problems, mild conduct problems or severe conduct problems.
- International data is used to approximate the probability of transition between these three states between childhood, adolescence and adulthood.
For each health state, the model incorporates estimates of the related costs incurred by various public sector agencies, the voluntary sector, and from the wider impact of crime (including the psychological impact on victims).

Costs/savings for other outcomes, such as improved academic performance, have not been included.

Nor have those relating to parents, siblings or other peers.
School based social and emotional learning programmes to prevent conduct problems in childhood: Impact

- Without SEL, approximately 46% of children have few conduct problems throughout their life course; 24% have conduct problems in childhood that do not persist; 20% develop conduct problems in adolescence; and approximately 11% have life course persistent conduct problems.

- Based on the evidence, the model conservatively assumes that school based SEL programmes achieve a 9% reduction in transition between conduct ‘health states’.
The results show that the SEL intervention is cost saving overall after the first year, while education recoups its costs in five years.

A key driver of net savings is the crime related impacts of conduct problems that can be avoided.

Reducing the assumption about the impact of SEL to 3% (down from 9%) produces cost savings to the national health system after four years.

Assuming an impact of just 1% across the ‘health states’, the model is cost saving to the public sector after five years.
Cost-effectiveness of school based social & emotional learning programmes to prevent conduct disorders

One £

Prev of cd through social & emotional learning programmes
There is a strong case that school based SEL programmes are cost saving for the public sector.

The key drivers of net savings are the crime and national health system related impacts of the intervention.

Education services are likely to recoup the cost of the intervention in five years.

There are substantial wider benefits stemming from this intervention.

Further details: Jennifer Beecham (j.beecham@lse.ac.uk)
School based social and emotional learning programmes to prevent conduct problems in childhood: References


4. School based interventions to reduce bullying
Bullying in schools is a common problem with potentially long-lasting consequences for victims.

According to a recent Ofsted survey (UK), 39% of children report being bullied in the previous 12 months.

However, estimates of prevalence vary widely between studies, mainly because of differences in definition.

Being bullied at school has adverse effects on both psychological well-being and educational attainment.

There is evidence from longitudinal data that this has a negative long-term impact on employability and earnings.

On average, lifetime earnings of a victim of bullying are reduced by around £50,000.
School based interventions to reduce bullying: Intervention

- Anti-bullying programmes in schools show mixed results, depending on the design of the intervention and its implementation.
- That said, there is a consensus in the literature that whole school programmes with a range of components operating at different levels within the school are more effective in reducing the prevalence of bullying than curriculum based programmes.
- One high-quality evaluation of a school-based antibullying intervention found a 21–22% reduction in the proportion of children victimised.
School based interventions to reduce bullying: Intervention

- Benefits include improvements in the emotional, physical and social health of victims, school attendance and educational attainment, all of which are associated with better longterm employment and earnings outcomes.

- However, the available evidence about anti-bullying interventions uses relatively short follow-up periods, and little is known about the longerterm impact on prevalence.

- Information is limited on the cost of anti-bullying programmes, but one study estimates this at £15.50 per pupil, per year.
School based interventions to reduce bullying: Intervention

- LSE made use of a model developed for the National Institute for Health and Clinical Excellence (NICE) which explores the link between being bullied at school and subsequent earnings.
- The NICE model incorporates recent analysis of data from the longitudinal National Child Development Survey (NCDS), covering a large sample of children born in 1958.
- It takes into account variables such as family background, health problems and educational aptitude.
School based interventions to reduce bullying: Intervention

- Based on NCDS data, the prevalence of bullying in the NICE model is put at 24%.
- The school based programme includes peer mediators and a classroom intervention, and it is assumed that the anti-bullying intervention achieves a sustained reduction in bullying of 15%.
The results estimate that, averaged across all children whether bullied or not, the benefit of intervention is £1,080 per school pupil.

Given that the cost of the intervention is just £15.50 per pupil per year, it offers good value for money even if repeated annually.

The economic case is even stronger if allowance is made for other benefits of reduced bullying, such as improved psychological wellbeing, which are not included in the NICE model.
School based interventions to reduce bullying: Intervention

- The quantified benefits are longterm in nature and accrue mainly to individuals in the form of higher incomes.
- There will also be benefits from increased tax revenues and savings in social security expenditure.
Cost-effectiveness of school-based interventions to reduce bullying

![Bar chart comparing cost-effectiveness between One £ and school-based interventions to reduce bullying.]
School based interventions to reduce bullying: Summary

• On the limited evidence available, inexpensive anti-bullying interventions appear to offer good value for money on a long term perspective, based on improved future earnings.

• Further evidence is needed about which interventions are most effective, and whether their impact is sustained over the longer term.

• Further details: Michael Parsonage (Michael.parsonage@centreformentalhealth.org.uk)
School based interventions to reduce bullying: References


5. Early detection for psychosis
Early detection for psychosis: The problem

- The first symptoms of psychosis typically present in the late teenage and early adult years.
- It is estimated that each year in England 15,763 people exhibit early (prodromal) symptoms before the onset of full psychosis.
- However, early detection services are not routinely provided and provision is currently very limited.
Progression of the disease is associated with higher costs to public services (including health, social care, and criminal justice), lost employment, and greatly diminished quality of life for the patient and their family.

A 2008 analysis estimated the average annual direct costs per average patient with schizophrenia at £10,605, and total costs (including lost employment) at £19,078.

The corresponding costs for bipolar disorder and related conditions were £1,424 and £4,568.

Total costs for these conditions combined were estimated at £3.9 billions for services and £9.2 billions for services and lost employment.
Early detection services aim to identify the early symptoms of psychosis, reduce the risk of transition to full psychosis and shorten the duration of untreated psychosis for those who do develop it.

Such services include the provision of sessions of cognitive behavioural therapy, psychototropic medication, and contact with psychologists/psychiatrists.

This contrasts with treatment as usual which typically consists of GP and counsellor contacts.

There is some evidence that such services can reduce the rate of transition to full psychosis.
Early detection for psychosis: Intervention

- One year of early detection intervention has been estimated to cost £2,948 (2008/9 prices) per patient, compared with £743 for standard care.
- The costs of community mental health care and inpatient admissions (formal and informal) included.
Early detection for psychosis: Impact

- The model looks at whether investments in specialist early detection services can be cost-saving in terms of health care services, criminal justice services, suicide, homicide and lost employment for a one year cohort of patients.
- It is based on one specific implementation of early detection services that is provided by Outreach and Support in South London (OASIS).
- The target group is young people aged 15 to 35 years old in the general population with prodromal symptoms of psychosis.
Early detection for psychosis: Impact

- The model assumes that transition from prodromal symptoms to full psychosis occurs for 20% of patients compared to 35% under standard care.
- It estimates the impact on annual costs/savings of full coverage by early detection services, compared to standard care.
- Savings from year 3 onwards are assumed to be due to 2,364 avoided cases of psychosis estimated from the model.
Early detection for psychosis: Impact

- It is also assumed that patients with avoided psychosis would otherwise have been treated either by an early intervention team (67%) or a standard care team (33%).
- The impact on costs from reductions in the suicide and homicide rates is assumed to appear from year 4 onwards.
- The savings associated with early detection are, in the model, entirely driven by reduced numbers of people making a transition to psychosis.
Early detection for psychosis: Impact

- The assumed ‘success rate’ in the model is 15 percentage points (20% compared to 35%) which is similar to the impact reported by others.
- If the difference was only 5 percentage points, the annual saving in years 2–5 would fall to around £16 millions.
- If the success rate were 25 percentage points, it would increase to around £79 millions.
- Using these two extreme scenarios, the annual savings over years 6–10 are approximately £14 millions and £68 millions, respectively.
Cost-effectiveness of early detection of psychosis
Early detection services for patients with prodromal symptoms of schizophrenia are cost saving overall.

It is also cost saving from the perspective of the national health system from year 2.

Further evidence is needed on the impact of different models of early detection services.

Further details: Paul McCrone (paul.mccrone@kcl.ac.uk)
Early detection for psychosis: References


Early detection for psychosis: Summary


6. Early intervention for psychosis
Early intervention teams aim to reduce relapse and readmission rates for patients who have suffered a first episode of psychosis, and to improve their chances of returning to employment, education or training, and more generally their future quality of life.

Such intervention involves a multidisciplinary team that could include a range of professionals (psychiatrists, psychologists, occupational therapists, community support workers, social workers, vocational workers).
Early intervention for psychosis: Intervention

- The emphasis is on an assertive approach to maintaining contact with the patient and on encouraging a return to normal vocational pursuits.
- In the UK evidence has shown that early intervention can reduce relapse and readmission to hospital and to improve quality of life.
Early intervention for psychosis: Intervention

• The annual direct cost per patient of this type of service in terms of input from an early intervention team plus other community psychiatric services and inpatient care has been estimated at £10,927 at 2008/09 prices, considerably less than that of standard care at £16,704.

• The reduction in overall service costs is primarily due to the lower demand for inpatient care when specialist early intervention is provided.

• The first year of the actual early intervention team’s input (including contacts with psychiatrists, social workers and community mental health nurses) is estimated to cost £2,282 per patient, which is higher than the £1,284 for standard care.
Early intervention for psychosis: Impact

• The model looks at whether investments in specialist early intervention services can be cost-saving in terms of use of health care services, criminal justice services, suicide, homicide and lost employment.

• The target group is young people aged 15 to 35 years old in the general population experiencing a first episode of psychosis.

• The annual costs/savings of full coverage by early intervention services of a one year cohort of patients, compared to standard care is estimated.
Savings are reduced after three years (when discharge to standard care is assumed to occur) because it is conservatively assumed that, from then on, the inpatient admission rates for early intervention services are the same as for standard care.
Cost-effectiveness of early intervention for in psychoses
The expansion of the coverage of early intervention services to all patients experiencing a first episode of psychosis is cost saving overall.

It is also cost saving from the perspective of the national health system alone, from year 1.

Savings are estimated to decrease over time because there is no current evidence to suggest that reductions in inpatient stays are maintained when patients are discharged from the early intervention team.

Further details: Paul McCrone (paul.mccrone@kcl.ac.uk)
Early intervention for psychosis: References


Cost-effectiveness of 12 preventive initiatives

- Health visitors interv. to reduce postnatal dep
- Early diagnosis and treatment of depression at work
- Early intervention for conduct disorders
- Workplace health promotion programmes
- Early detection of psychosis
- Screening for alcohol misuse
- School-based interventions to reduce bullying
- Suicide prevention courses provided to all GPs
- Suicide prevention through bridge safety barriers
- Prev of cd through social & emotional learning...

Adapted after Knapp et al., 2011
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7. Screening and brief intervention in primary care for alcohol misuse
Screening and brief intervention in primary care for alcohol misuse: The problem

- It is estimated that 6.6 million adults in England currently consume alcohol at hazardous levels and 2.3 million at harmful levels.
- Hazardous drinking is defined as weekly alcohol consumption of 21–50 and 14–35 units for men and women, respectively, and harmful drinking as above 50 and 35 units.
- The total costs of alcohol misuse in England, based on inflation-adjusted Department of Health data, can be estimated in 2009/10 prices at around £23.1 billion, comprising: £3.0 billion in health system costs, £7.2 billion in output losses and £12.9 billion from the costs of crime.
• In practice, these figures understate the costs falling on the national health system as more than £1 billion allocated to crime covers medical treatment for injuries suffered by the victims of alcohol related violence.

• Harmful alcohol misuse is disproportionately costly: analysis for the LSE study estimates that the overall average annual costs of a harmful drinker are around 3.4 times that of a hazardous drinker.
Screening and brief intervention in primary care for alcohol misuse: Intervention

- Effective strategies to reduce alcohol related harm require a combination of measures, covering both population level approaches (such as price increases and advertising controls) and interventions aimed at individuals.

- In the latter category, evidence indicates that brief interventions in primary care settings achieve an average 12.3% reduction in alcohol consumption per individual.
Screening and brief intervention in primary care for alcohol misuse: Intervention

• However, this is a short-term effect and evidence about its duration is less clear cut.
• An inexpensive intervention in primary care combines universal screening by GPs of all patients, followed by a 5-minute advice session for those who screen positive.
• The total cost of the intervention averaged over all those screened is £17.41 per head in 2009/10 prices.
The model analyses the costs and benefits of GPs using the Alcohol Use Disorders Identification Test (AUDIT) to screen a representative sample of 1,000 adults attending their next GP consultation, followed by 5 minutes of advice for those identified as hazardous or harmful drinkers.

Based on national prevalence data (UK), the numbers per 1,000 in these two categories are estimated at 224 and 78 respectively,
It is assumed that around 20% of relevant individuals are missed in the screening.

In line with other studies, the effectiveness of the intervention is assumed to decline linearly to zero in seven years.

To avoid any exaggeration of benefits, no allowance is made in the analysis for any savings associated with alcohol related premature mortality.
Screening and brief intervention in primary care for alcohol misuse: Impact

- Given the £17.41 cost of the intervention, the results demonstrate that savings after seven years exceed costs by a factor of nearly 12 to 1.
- Purely in terms of public expenditure, the intervention offers good value for money over the same period as combined savings in the health services and criminal justice system exceed the costs of the intervention by a factor of more than 3 to 1.
- Estimated savings in the health services alone exceed costs by more than 2 to 1.
Cost-effectiveness of screening for alcohol abuse
Screening and brief intervention in primary care for alcohol misuse: Summary

• There is a robust economic case: low cost interventions in primary care offer good value for money in reducing alcohol related harm.

• The main constraint on national implementation is one of scale; options to consider include targeted approaches (e.g. focusing on young males), screening people only when they change GP rather than at next consultation, or using practice nurses rather than GPs to provide the screening and/or follow up advice.

• Further details: Michael Parsonage (michael.parsonage@centreformentalhealth.org.uk)
Screening and brief intervention in primary care for alcohol misuse: References

8. Workplace screening for depression and anxiety
Workplace screening for depression and anxiety disorders: The problem

- Substantial potential economic costs arise for employers from productivity losses due to depression and anxiety in the workforce.
- The main costs occur due to staff absenteeism and presenteeism (lost productivity while at work).
- From the perspective of the public purse, failure to intervene also risks higher future health and social care costs.
- Labour Force Survey data suggest that 11.4 million working days were lost in Britain in 2008/09 due to workrelated stress, depression or anxiety. This equates to 27.3 days lost per affected worker.
Workplace screening for depression and anxiety disorders: The problem

- It is estimated that the average annual cost of lost employment in England attributable to an employee with depression is £7,230, and £6,850 for anxiety (2005/06 prices).
- If these conditions are not treated, additional costs are also likely to arise from related physical health problems.
- In the longer term, wider costs may also be incurred, such as from acute care, the impact on family members and premature death.
- There may also be additional recruitment and training costs for employers if their employees permanently withdraw from the workforce.
Workplace screening for depression and anxiety disorders: Intervention

- Workplace based enhanced depression care consists of completion by employees of a screening questionnaire, followed by care management for those found to be suffering from, or at risk of developing, depression and/or anxiety disorders.

- Those identified as being at risk of depression or anxiety disorders are offered a course of cognitive behavioural therapy (CBT) delivered in six sessions over 12 weeks.

- This intervention has been shown in a number of studies to be effective in tackling depression and reducing productivity losses in various workplaces.
Workplace screening for depression and anxiety disorders: Intervention

- It is estimated that £30.90 (at 2009 prices) covers the cost of facilitating the completion of the screening questionnaire, follow-up assessment to confirm depression, and care management costs.
- For those identified as being at risk, the cost of six sessions of face-to-face CBT is £240.
- Computerised CBT courses are cheaper, and may be less stigmatising to individual workers, but less is known about their longer-term effectiveness.
Workplace screening for depression and anxiety disorders: Impact

- The model assesses the cost-effectiveness of a workplace-based intervention for depression and anxiety disorders, and whether it reduces sickness, absenteeism and presenteeism, compared with no intervention.
- The target population is a hypothetical cohort of working age individuals in a white collar enterprise with 500 full time equivalent employees, all of whom are screened.
Workplace screening for depression and anxiety disorders: Impact

- The cost/savings impact is addressed from the perspective of the health system (including personal social services) and business, with the enterprise bearing the total costs of the intervention.
- The model assumes that only two thirds of employees offered CBT as a result of screening will make use of this treatment.
- It is estimated that the reduction in presenteeism as a result of successful intervention is equivalent to an extra 2.6 hours of work per week.
• In year 1 it is assumed that this benefit is seen only in the 36 weeks after the completion of the CBT course.
• If depression and anxiety orders are averted, then 27.3 days of absenteeism per annum associated with these disorders will be avoided.
• Conservatively, the model assumes that health and personal social services costs relating to depression and anxiety only occur in year 2.
• The results show that from a business perspective the intervention appears costsaving, despite the cost of screening all employees.
Workplace screening for depression and anxiety disorders: Impact

• Benefits are gained through both a reduction in the level of absenteeism and improved levels of workplace productivity through a reduction in presenteeism.

• However, the impact may differ across industries; the case may be less strong where staff turnover is high and skill requirements low.

• From a health and personal social services perspective the model is costsaving, assuming the costs of the programme are indeed borne by the enterprise.
Cost-effectiveness of early diagnosis and treatment of depression at work
Workplace screening for depression and anxiety disorders: Summary

• The intervention is costsaving from the perspectives of both business and the health system, on the assumption that all costs are borne by business.
• The costs of the intervention are more than outweighed by gains to business due to a reduction in both presenteeism and levels of absenteeism.
• Public sector employers also have the potential to benefit from investing in universal workplace depression and anxiety screening interventions.

• Further details: David McDaid (d.mcdaid@lse.ac.uk)
Workplace screening for depression and anxiety disorders: References

9. Promoting wellbeing in the workplace
Promoting wellbeing in the workplace: The problem

• The workplace provides a convenient location for addressing the physical and mental health of a large proportion of the adult population.

• Problems inside and beyond work can be identified and tackled, and there is also scope for general health promotion. Aside from the potential benefits to public health, this type of wellbeing intervention can improve an organisation’s productivity, image and workplace safety.

• It may also reduce the vulnerability of employees to work-related mental health problems.
Deteriorating wellbeing in the workplace is potentially costly for businesses as it may increase absenteeism and presenteeism (lost productivity while at work),

In the longer term it potentially leads to premature withdrawal from the labour market.

Estimates of the costs of depression and anxiety in the labour force are given in the report on workplace screening for depression and anxiety disorders (see previous model).

From a health system perspective, improved wellbeing potentially will help avoid the use of services for some mental and physical health problems.
Promoting wellbeing in the workplace: Intervention

- There are a wide range of approaches to mental health promotion in the workplace.
- These include flexible working arrangements; career progression opportunities; ergonomics and environment; stress audits; and improved recognition of risk factors for poor mental health by line managers.
- Other measures targeted at general wellbeing can include access to gyms, exercise and sports opportunities and changes to the canteen food.
  - One study found that Scottish health care workers who were helped to adopt more active commuting habits showed significantly improved mental health.
A multicomponent health promotion intervention of the sort modelled in the current study consists of personalised health and wellbeing information and advice:

- a health risk appraisal questionnaire;
- access to a tailored health improvement web portal;
- wellness literature;
- seminars and workshops focused on identified wellness issues.
A quasiexperimental evaluation of this type of programme has reported significantly reduced stress levels, reduced absenteeism and reduced presenteeism, compared with a control group.

Promotion of long-term mental wellbeing may be associated with reduced long-term risk of poor mental health, although the evidence for this remains weak.

The cost of a multicomponent intervention is estimated at £80 per employee per year.
Promoting wellbeing in the workplace: Impact

• The model assesses the impact of a workplace-based health promotion and wellbeing programme in a white collar enterprise with 500 employees, all of whom are covered by the intervention.
• The costs/savings are addressed from the perspective of the business, which is assumed to bear costs of the intervention.
• Estimates of the effectiveness, uptake of the intervention (43% of all employees) and impact on absenteeism and presenteeism (lost productivity while at work) are taken from a study undertaken in the UK offices of a large multinational company.
From a business perspective the model appears cost saving compared to taking no action.

In year 1, the initial costs of £40,000 for the programme are outweighed by gains arising from reduced presenteeism and absenteeism of £387,722.

This represents a substantial annual return on investment of more than 9 to 1.

In addition there are likely to be benefits to the health system from reduced physical and mental health problems as a result of the intervention, but these are not quantified here.
Cost-effectiveness of workplace health promotion programs
A strong case can be made to businesses that workplace wellbeing interventions can be significantly cost-saving in the short term.

Some smaller companies may need public support to implement such schemes.

The public sector, including the health services, can also benefit as an employer from improved investment in workplace wellbeing programmes.

Further details: David McDaid (d.mcdaid@lse.ac.uk)
Promoting wellbeing in the workplace: References

10. Debt and mental health
Even before the current global financial crisis, it was estimated that 8% of the population had serious financial problems and another 9% showed signs of financial stress (UK). These problems have wide-ranging implications.

Research has demonstrated a link between debt and mental health; individuals who initially have no mental health problems but find themselves having unmanageable debts within a 12 month period have a 33% higher risk of developing depression and anxiety related problems compared to the general population who do not experience financial problems.
The vast majority of these mental health problems take the form of depression and anxiety related disorders.

These conditions are associated with significant costs arising from health service use, legal fees, debt recovery and lost productivity.

On average, the lost employment costs of each case of poor mental health are £11,432 per annum, while the annual costs of health and social service use are £1,508.
Debt and mental health: The problem

• Only about half of all people with debt problems seek advice
• Without intervention almost two thirds of people with unmanageable debt problems will still face such problems 12 months later.
The current evidence suggests that there is potential for debt advice interventions to alleviate financial debt, and hence reduce mental health problems resulting from debt.

For the general population, contact with face-to-face advice services is associated with a 56% likelihood of debt becoming manageable, while telephone services achieve 47%.

In comparison, around one third of problem debt may be resolved without any intervention.
Debt and mental health: Intervention

- The costs of this type of intervention vary significantly, depending on whether it is through face-to-face, telephone or internet based services. The Department for Business, Innovation and Skills suggests expenditure of £250 per client for face-to-face debt advice; telephone and internet based services are cheaper.

- Funding for debt advice comes from a range of sources including government, national health services, charities and creditors.
Debt and mental health: Impact

• The model explores the cost-effectiveness of different types of debt advice services targeted at working age adults without mental health problems.

• It follows a hypothetical cohort of people at risk of unmanageable debt over a 24 month period, and looks at the impact of subsequent debt related mental health problems (depression and anxiety) on costs to the health, social care and legal systems, and from lost productivity due to reduced employment.

• Legal and debt advice costs are assumed to fall in year 1, while other costs fall mostly in year 2.
A range of scenarios have been explored in models. Even under conservative assumptions, investment in debt advice services can both lower expected costs and reduce the risk of developing mental health problems. The intervention appears to be cost-effective from most societal and public expenditure perspectives. However, face-to-face services will only be the most cost-effective option if a high proportion of the costs of providing the service is recovered from creditors.
Debt and mental health: Impact

• This is feasible: one major not-for-profit debt advice service covers more than 90% of its costs in this way.
• In other scenarios, where cost recovery is lower, either telephone or web-delivered services will be most cost-effective.
• LSE has calculated the impact on costs/savings of face-to-face intervention for a hypothetical population of 100,000, compared with no intervention.
• The model assumes that one third of the cost of the debt advice is borne by the national health system, with the rest paid for by creditors.
In practice, this type of intervention could be targeted at specific groups who may be particularly vulnerable to financial debt and mental health problems, for example low-income communities.
Cost-effectiveness of dept advice services to families

- One £
- Debt advice services
In nearly all modelled scenarios, at least one type of debt management intervention has better outcomes and lower costs over a two year period compared to no action.

For greatest cost-effectiveness, careful consideration needs to be given to models of financing and to the mix between face-to-face, telephone and web-based provision.

Further details: Martin Knapp (m.knapp@lse.ac.uk)
Debt and mental health: References

11. Population level suicide awareness training and intervention
The economic impacts of suicide are profound, although comparatively few studies have sought to quantify these costs.

It is estimated that the average cost per completed suicide for those of working age only in England is £1.67 million (at 2009 prices).

This includes intangible costs (loss of life to the individual and the pain and suffering of relatives), as well as lost output (both waged and unwaged), police time and funerals.
Population level suicide awareness training and intervention: The problem

- There are also costs to the public purse from recurrent nonfatal suicide events; these are more difficult to estimate, and will vary by means of suicide attempt.
- One English study indicates that only 14% of costs are associated with A&E attendance and medical or surgical care.
- More than 70% of costs are incurred through follow up psychiatric inpatient and outpatient care.
- This is in part because a proportion of individuals who survive suicide attempts are likely to make further attempts, in some cases fatal.
Population level suicide awareness training and intervention: The problem

- There are nevertheless economic benefits from delaying completed suicide as the number of lost years of productive activity will be reduced.
- Overall it is estimated that costs are averted of £66,797 per year per person of working age where suicide is delayed.
Population level suicide awareness training and intervention: Intervention

- Around 81% of working age adults in England come into contact with a GP at least once a year.
- There is evidence that suicide prevention education for GPs can have an impact as a population level intervention to prevent suicide.
- This has the potential to be cost-effective if it leads to adequate subsequent treatment.
Population level suicide awareness training and intervention: Intervention

- With greater identification of those at risk, individuals can receive cognitive behavioural therapy (CBT), followed by ongoing pharmaceutical and psychological support to help manage underlying depressive disorders.
- Evidence from the US suggests that CBT can help reduce the risk of future suicidal events by up to 50%.
The cost of this type of intervention has several components.

A course of ten sessions of CBT in the first year is around £400 per person.

Further ongoing pharmaceutical and psychological therapy is estimated to cost £1,182 a year (2009 prices).

The cost of suicide prevention training for GPs, based on the Applied Suicide Intervention Skills Training (ASIST) course, is £200 which would mean a total cost of around £8m if delivered to all GPs in England.
Population level suicide awareness training and intervention: Impact

- The model looks at the economic case over 10 years for investing in GP suicide prevention education aimed at reducing suicide among the cohort of working age adults.
- It is assumed that, without any action, 20% of individuals experiencing suicidal thoughts are at risk of completing suicide within a one year period.
- The risk of serious non-fatal events in the year following a nonfatal suicide attempt falls from 41.6% to 24.1% as a result of the intervention.
• The model does not assume any decrease in the risk of suicide in the 10 years after the first self-harm event other than that initially achieved, and that individuals identified as being at risk will continue to receive a combination of therapies to help maintain reduced risk.

• Based on an earlier study, GPs who go on the suicide prevention training course will have a 20% greater chance of identifying those at risk of suicidal behaviour in the year following training.

• The model indicates that 603, 706 or 669 suicides would be avoided over the 1, 5 and 10 year time horizons, respectively
Population level suicide awareness training and intervention: Impact

- The analysis of costs/savings includes expenditure on health care, police/coroner activities, funerals, productivity and intangible costs.
- The additional treatment and support costs for individuals who do not complete suicide are to some extent offset by a reduction in the costs to the health care system of completed suicides and serious self harm events, but the intervention has significant net costs to the health care system of up to £19m over 10 years.
However, if the reductions in productivity losses are also included then the intervention is cost-saving by a very large margin.

It remains so even if the estimated impact on productivity is reduced to just 5% of the baseline case.

Overall, net savings of £1.27 billions arise over 10 years if intangible costs are also included.

All results are sensitive to assumptions about the future risk of suicide.
Population level suicide awareness training and intervention: Summary

• Investment in GP suicide prevention training is cost-saving overall from year 1 even if only very modest reductions in productivity losses are factored in.
• The intervention appears highly costeffective from a health system perspective alone.

• Further details: David McDaid (d.mcdaid@lse.ac.uk)
Cost-effectiveness of suicide prevention courses for GPs

- One £
- Suicide prevention courses provided to all GPs
Population level suicide awareness training and intervention: References


Population level suicide awareness training and intervention: References

12. Bridge safety measures for suicide prevention
Bridge safety measures for suicide prevention: The problem

- In England alone, there were 12,479 suicides and an estimated 121,634 non-fatal suicide attempts in the three years from 2006 to 2008.
- The costs of suicide to society are high, in both human and financial terms; on average, for the whole population, these are estimated at £1.45 million (at 2009 prices), including intangible costs (loss of life to the individual and the pain and suffering of relatives) as well as lost output (both waged and unwaged) and police time.
Bridge safety measures for suicide prevention: The problem

- Jumping from a height accounts for around 3% of completed suicides. Given high fatality rates of over 50%, the lifetime costs of completed and attempted suicides by jumping account for more than £176 millions per year.
Bridge safety measures for suicide prevention: Interventions

- Bridges provide obvious jumping sites, and the construction of safety barriers has been shown successfully to reduce suicides on particular bridges.
- It appears that these averted suicides are not simply displaced to other, unsecured jumping sites, but whether suicide occurs by another method is difficult to analyse.
- The Clifton Suspension Bridge in Bristol is one such suicide ‘hot spot’. Following the installation of a safety barrier in 1998, at a cost of £300,000 (in 2009 prices), the number of suicides reduced from an average of 8.2 per annum in the five years before the barrier, to 4 per annum in the five years after it was installed.
Using the Clifton Suspension Bridge as a case study, the model estimates the savings (both tangible and intangible) to society of installing a safety barrier.

It assumes that the barrier prevents around half of suicide attempts, but also considers the impact if these individuals instead attempt suicide using other methods.

This displacement can still lead to a lower number of suicides, as the mortality of those who jump from this bridge is 95%, compared with around 9% for other suicide methods combined. The model includes the probability of subsequent attempted and fatal suicides.
Bridge safety measures for suicide prevention: Impact

- The cost savings are calculated first for a 1 year cohort of those attempting suicide from the bridge in a single year, and follows this group over a 10 year period.
- It then looks at aggregated savings from ten consecutive cohorts, assuming that the pattern of suicides would have recurred every year.
- The savings do not include the costs of bereavement support, or the impact on children losing a parent. It is assumed that barrier construction costs are incurred in the first year.
The results show that investment to prevent individuals from attempting suicide using high-fatality methods are likely to be cost saving, even if all the averted attempts are diverted to other suicide methods.
Cost-effectiveness of suicide prevention through bridge safety barriers.
• Investment in a barrier to prevent suicide jumping from a particular bridge can generate substantial financial benefits, even if suicides are displaced to other, less lethal, methods.

• Such savings would potentially also apply to other suicide “hot spots”, including alternative jumping sites, and other high fatality suicide methods.

• Further details: Eva Maria Bonin (e.bonin@lse.ac.uk)
Bridge safety measures for suicide prevention: References
