How can economics inform prevention and promotion initiatives?

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Plan

- Why economics is relevant
- Questions asked
- Examples
    1. Childhood to adulthood
    2. Depression treatment
    3. Suicide prevention
- Some concluding thoughts

Relevance

Our main concerns?

- **To prevent the emergence of mental health problems …**
- **To reduce the suffering of people who have mental health needs.**
- **So why is economics relevant?**

E.g. interventions for depression …

Interventions

Antidepressant medication

CBT

Primary care counselling

Interpersonal psychotherapy

Couple therapy

… lead to improved outcomes

Interventions

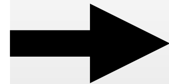
Antidepressant medication

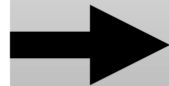
CBT

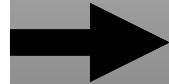
Primary care counselling

Interpersonal psychotherapy

Couple therapy







Outcomes

Symptom alleviation

Interpersonal functioning

Social functioning

Employment

Quality of life

… and lower long-term costs

Interventions		Outcomes		...gs
Antidepressant medication	→	Symptom... all...		
CBT				...al
Primary... co...				...ces
In... psy...		...ployment	→	Fewer out-of-pocket expenses
				Greater economic productivity
Coup...	→	Quality of life	→	Higher income

So where does economics come in?

Pertinent economic questions

Interventions

Antidep t medicat

CBT

care elling

Interpersonal psychotherapy

Couple therapy

1. Costs ?

→

Outcomes

Symptom alleviation

Interpersonal functioning

Social functioning

Employment

Quality of life

→

Cost savings

Lower use of health and social care services

Fewer out-of-pocket expenses

Greater economic productivity

Higher income

Pertinent economic questions

Interventions

Antidep… t medica…

CB…

… care …elling

Interpersonal psychotherapy

Couple thera…

Outcomes

Symptom alleviation

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Cost savings

Lower use of health and social care services

Fewer out-of-poc… …penses

…omic …ity

Higher income

1. Costs ?

2. Cost-offsets ?

Pertinent economic questions

Interventions

Antidep... t
medicat...

CBT

... care
...elling

Interp...
psych... y

Couple therap...

Outcomes

Sympto...
alleviati...

...ing

...ocial
functioning

Emplo...

Cost savings

Lower use of
health and social
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poc... penses

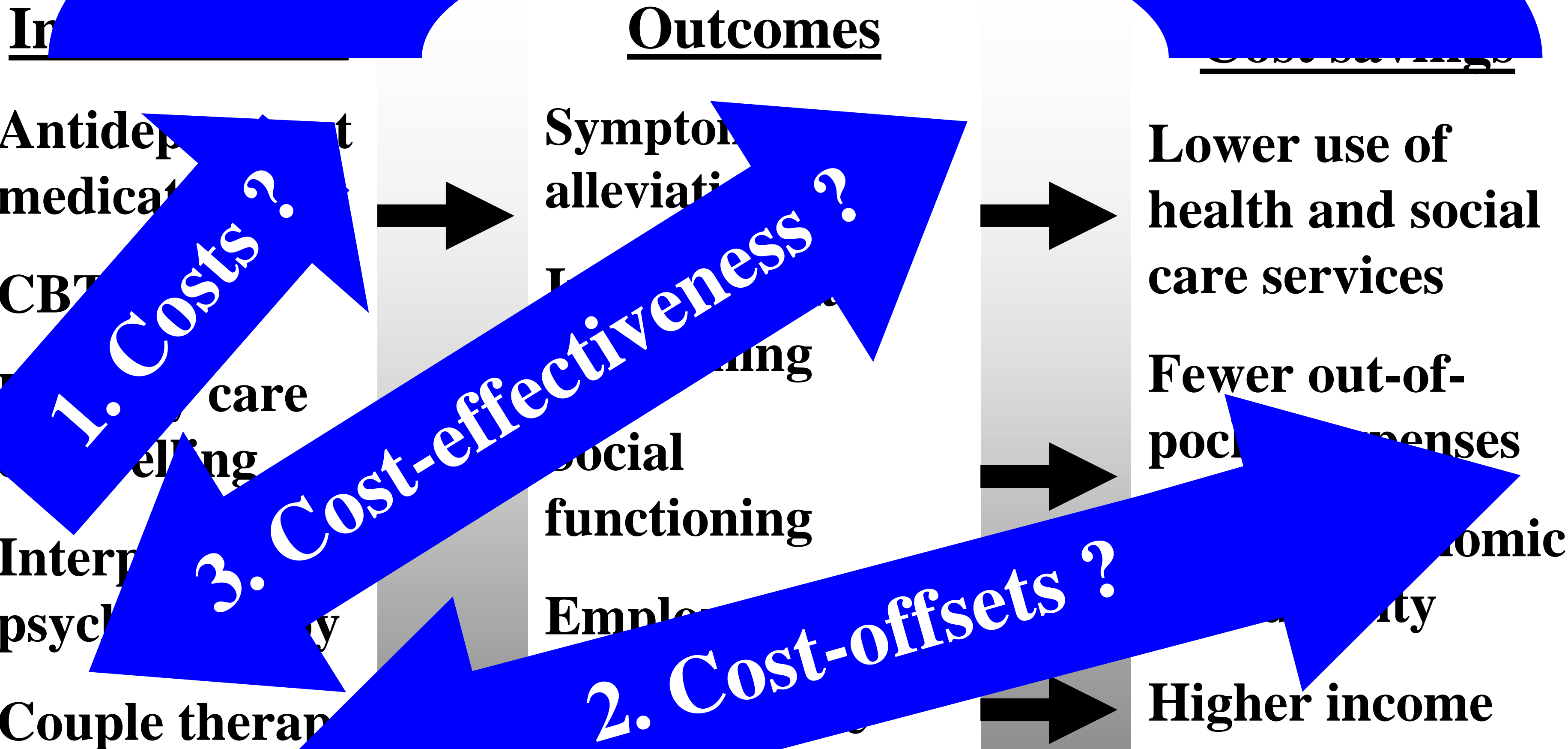
...omic
...ity

Higher income

1. Costs ?

2. Cost-offsets ?

3. Cost-effectiveness ?


4. Incentives ?
Outcomes
Lower use of
health and social
care services
Higher income
social
functioning
1. Costs ?
3. Cost-effectiveness ?
2. Cost-offsets ?

But why?

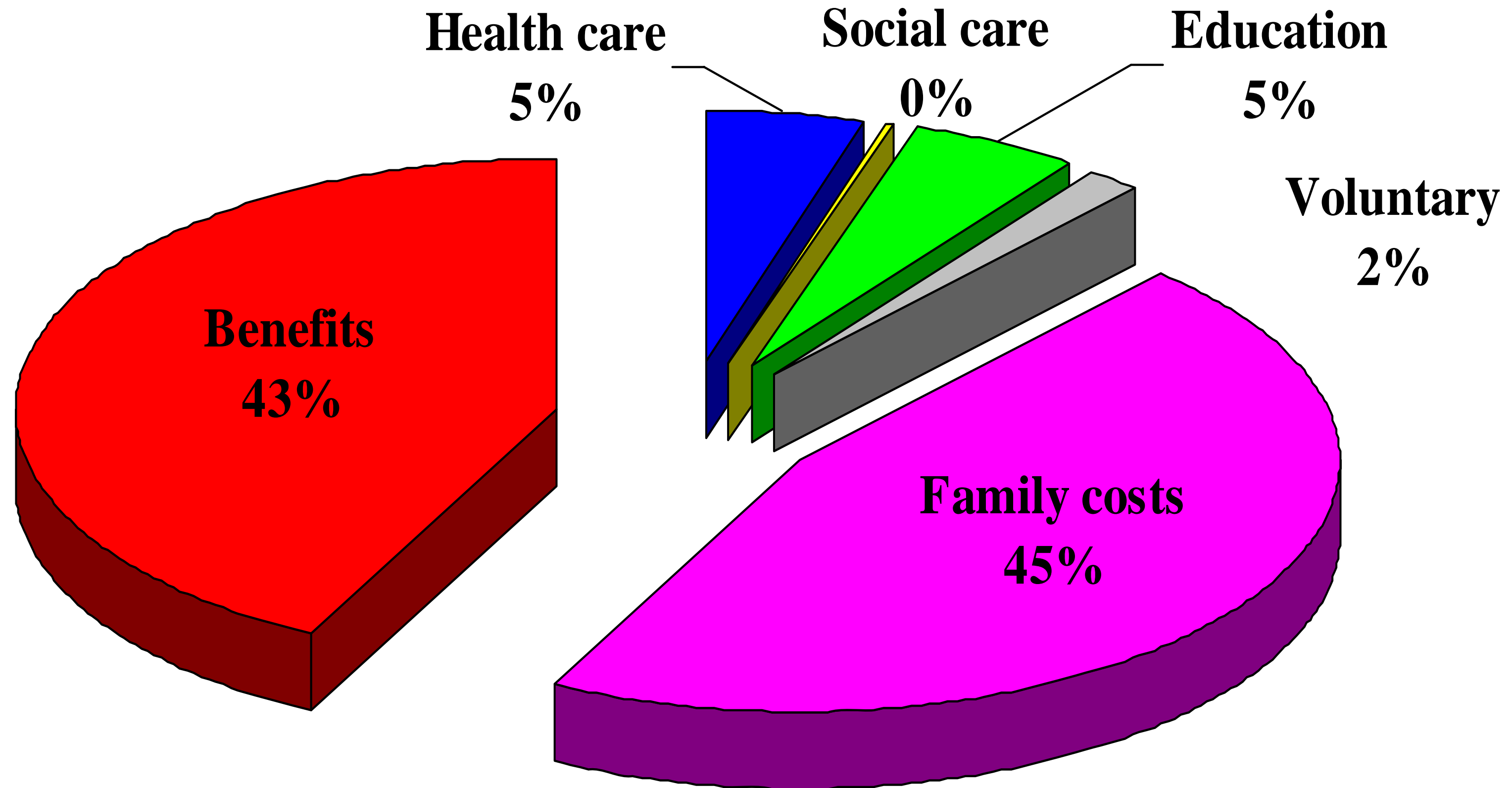
Scarcity

Not enough resources to meet all of society's needs or wants

Costs

- Delivering services requires staff and other resources …
- These have to be paid for …
- So what do they cost?

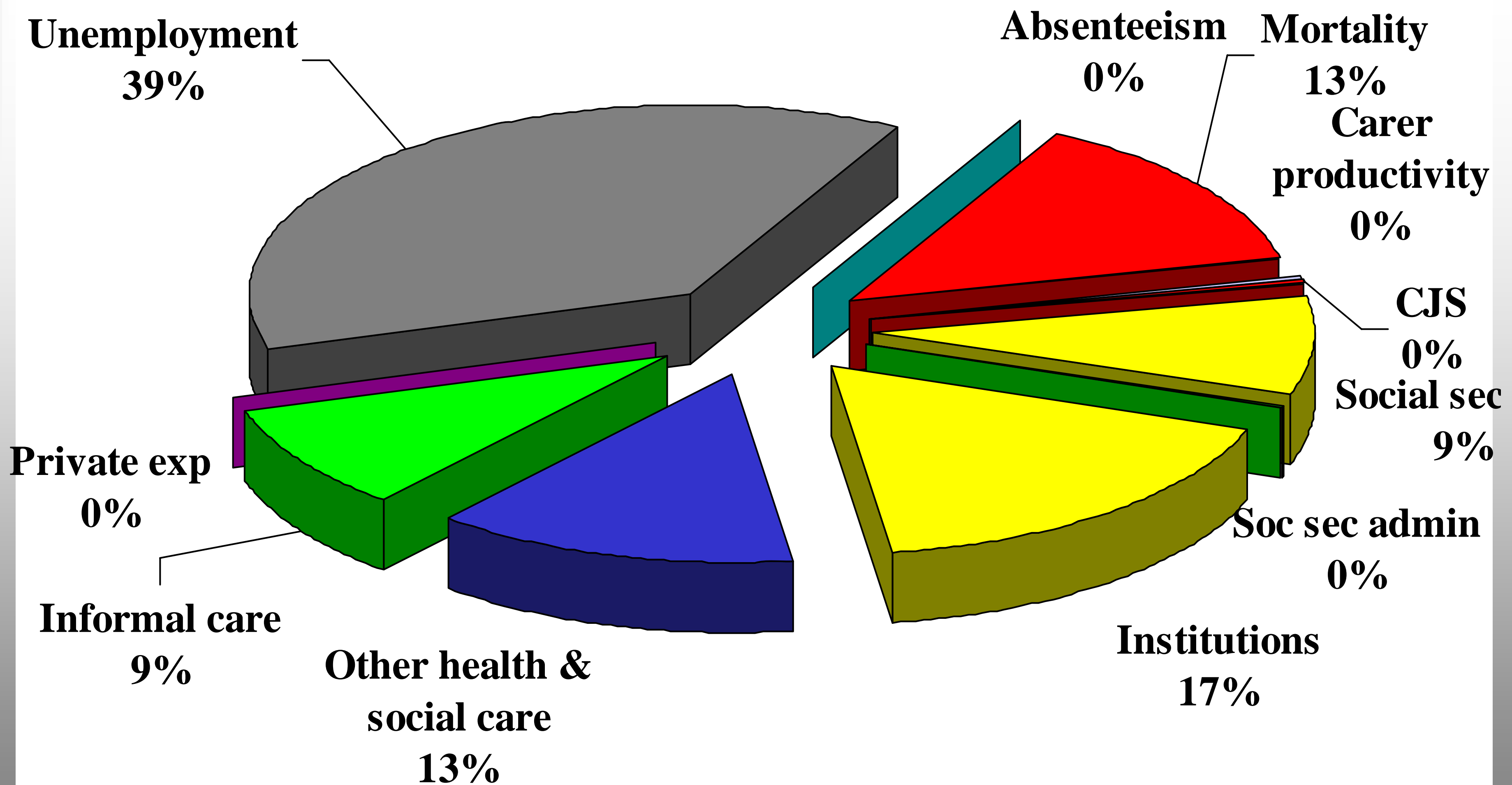
Societal costs of children with persistent antisocial behaviour



Total cost *excluding* benefits averaged £5960 per child per year, at 2000/01 prices (benefits = £4307)

Romeo, Knapp & Scott, *Brit J Psychiatry*, 2006

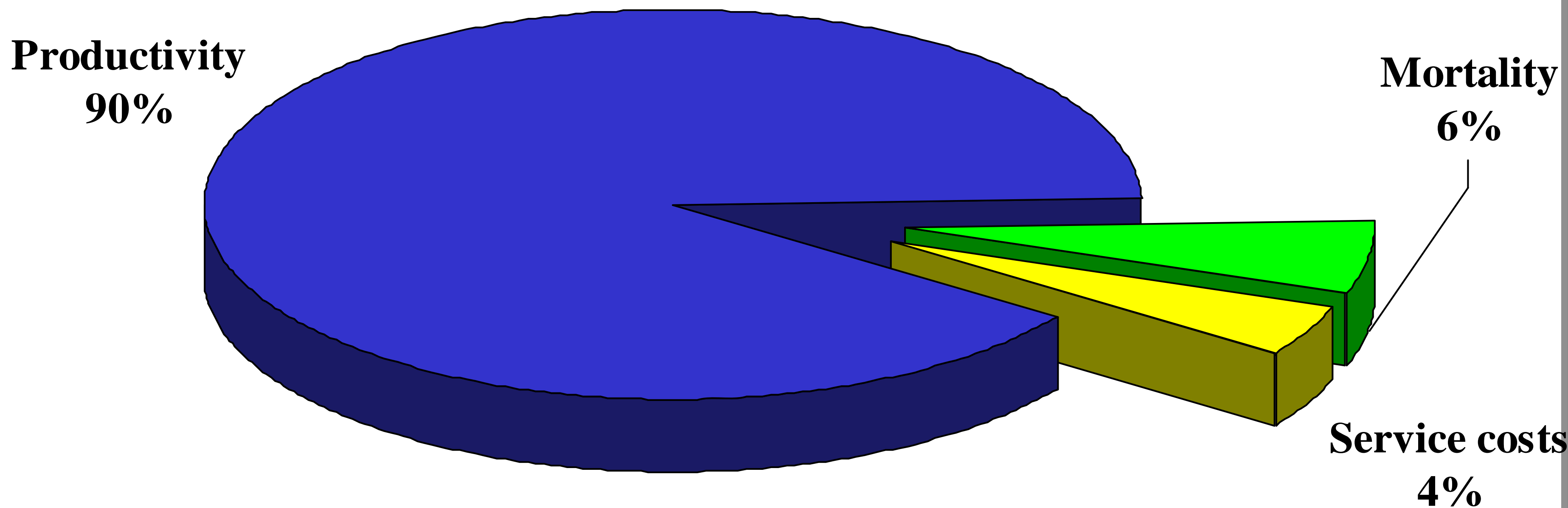
Schizophrenia costs, England 2005



Average cost = £54596 per person year (XXXX prices).
Source: Mangalore & Knapp *JMHPE* forthcoming

Costs of depression (adults) in England, 2000

Total cost = £9 bn



Thomas & Morris *BJP* 2003

Costs - take-home messages

- ❑ Costs are high
- ❑ Costs range widely - over many service areas
- ❑ Family costs (some of them hidden and currently unmeasured) are substantial
- ❑ There are clear implications for efficiency and equity (fairness) – for prevention and promotion initiatives

Cost offset

Most interventions are expensive … so …

Do they lead to cost savings? … Do they ‘pay for themselves’?

Examples

What are the *economic* consequences in adulthood of (untreated?) mental illness in childhood or adolescence?

UK studies presented (and others)

1. **ILLS**: Inner London Longitudinal Study – conduct problems and conduct disorder – to age 27
2. **BCS70**: Birth Cohort Study 1970 – to age 30
3. **CSDD**: Cambridge Study of Delinquency Development – to age 32
4. **Maudsley** Study of depression and conduct disorder – to various ages. Completed but not presented
5. **IoW**: Isle of Wight Cohort – to age 45. To be reanalysed
6. **Maudsley Twins Study** – to various ages. Not completed
7. **MRC 1946 Birth Cohort** – to age 52. Not started
8. **Autism (BCS70)** – to age 30. Underway; complete early 2007

All studies are being undertaken at LSE or IoP, led by Martin Knapp

Example 1
ILLS

Inner London Longitudinal Study – follow small sample from 10 to 28

Inner London Longitudinal Study (ILLS)

- 1689 10-year olds in 1970
- Excludes children with non-UK parents
- Teacher ratings, child questionnaires
- Intensive study of 50% of those with psychological problems and random 8% of the total population
- Followed up at age 26-28 (*BUT not with an economics study in mind*)
- Study initiated by Michael Rutter; followed up by MR and Barbara Maughan; costs work jointly undertaken with Stephen Scott (IOP)

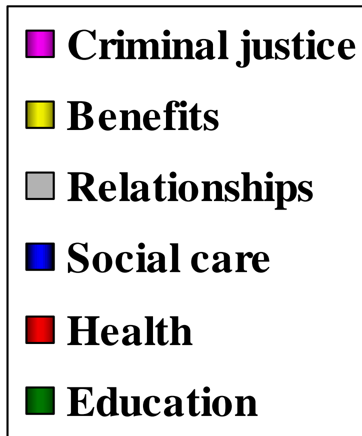
Scott, Knapp, Henderson, Maughan, *Brit Med J,* July 2001

ILLS: sub-samples

- No problems at school and no clinical diagnosis (n=65)
- Emotional problems at school, only (32)
- Emotional disorder (8)
- Antisocial problems at school, only (61)
- Conduct disorder (16)

ILLS: Conduct disorder costs into early adulthood

Costs (£) from ages 10 to 28



60000
40000
20000
0

No problems
Conduct problems
Conduct disorder

Scott et al, *BMJ*, 2001

Example 2
BCS70

1970 Birth Cohort Study – national, large sample, followed from 10 to 30

1970 British Birth Cohort (BCS70)

- All 17,198 children born in UK over a 1-week period in April 1970
- Subsequent data collections at ages 5, 10, 16, 26, 30
- 11,261 followed up at age 30
- Analyses in PSSRU by Andrew Healey (part of PhD thesis but currently unpublished):
- used data from age 10 – antisocial conduct, attention deficit problems, anxiety
- and data from age 30 – occupational status, weekly, earnings

BCS70: Age 10 factors predicting earnings at age 30 (MALES)

Factor	Effect
Antisocial conduct	+ve
Attention deficit problems	-ve
Anxiety	-ve
Mother’s formal qualifications	+ve
Family income	+ve
Live in disadvantaged neighbourhood	-ve
Locus of control	+ve
Self-esteem	+ve
Cognitive attainment	+ve
Taken into care	-ve

BCS70: links from age 10 to age 30

Age 10	Age 30
Anxiety and coordination problems	Low income household
Attention deficit	Low income household; lower economic activity; lower earnings
Antisocial conduct	Lower economic activity; higher earnings if employed

Healey, unpublished results, LSE, 2005

Example 3
CSDD

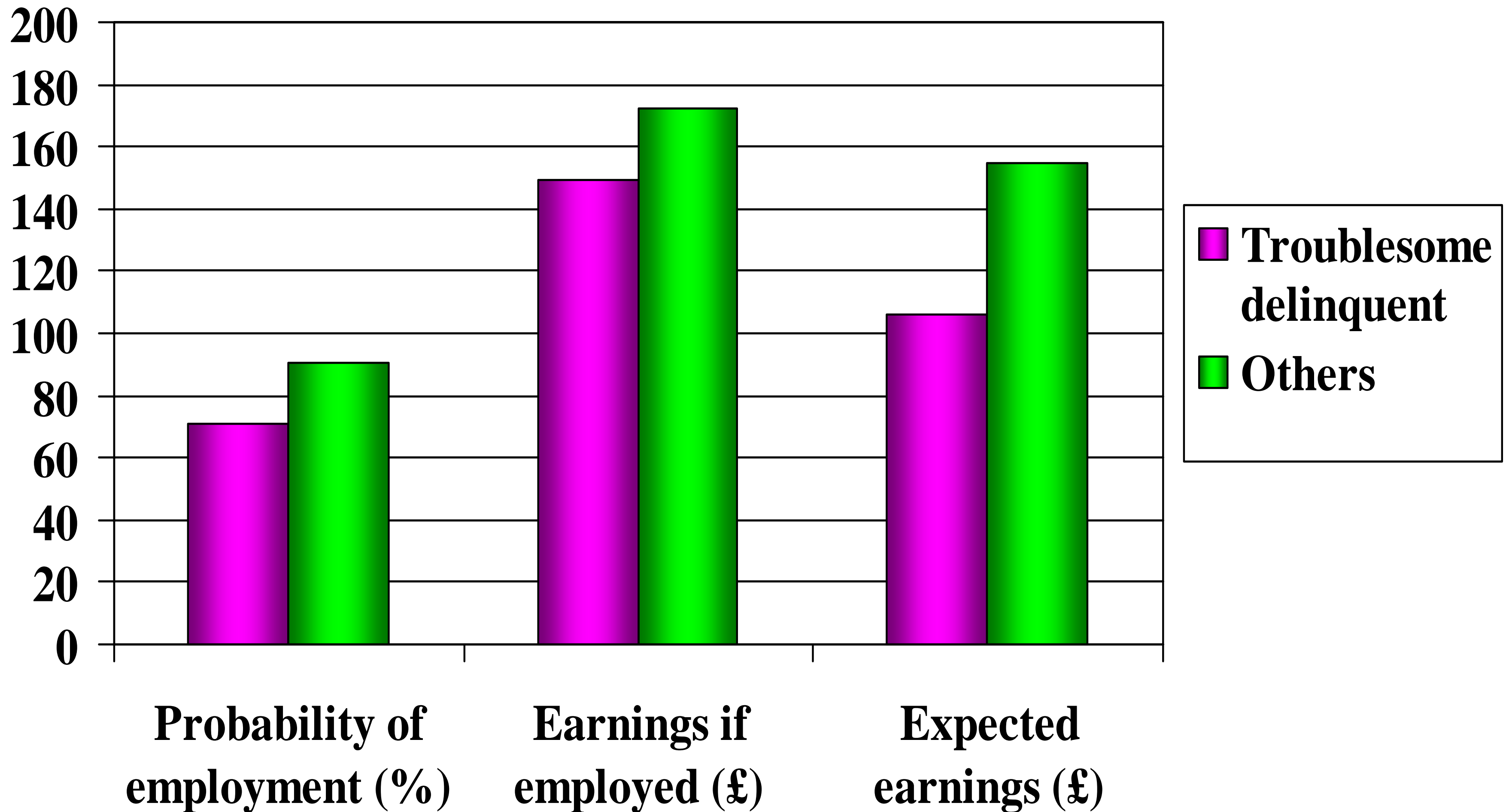
Cambridge Study in Delinquent Development – small sample of boys, followed from 8 to 48

Cambridge Study in Delinquent Development (CSDD)

- 411 boys in working class area of South London
- Studied since age 8-10 in 1961/62; followed up to age 48 recently; here focus mainly on ages 18-19, 32 and (tentatively) 48
- Attending primary schools within 1-mile radius of research office (n=399) + 12 boys from school for children with LD
- Teacher, child and parent ratings, interviews
- Identified 'troublesome' boys (serious antisocial tendencies) at age 8-10 who were also convicted between ages 10 and 16
- CSDD coordinated by David Farrington (previously Donald West)

Healey, Knapp, Farrington, *Applied Economics, 2004*

CSDD: Expected weekly earnings at age 32



CSDD: new results at age 48

- Group with highest risk of LT unemployment = non-troublesome at age 8-10 and delinquent between ages 10-16; other combinations have lower risks
- No link between troublesome or delinquent behaviour and service use or their costs at age 48
- But ‘neurotic’ individuals (age 8-10) have slightly significantly higher health & social care costs at 48 (esp contacts with GP, psychiatry, social work) – though the amount is modest (£64 p.a.)
- And severe social handicap (= social exclusion) is also significantly associated with higher service costs (£94 p.a.)

Take-home messages

Adjusting for other factors … persistent antisocial behaviour in childhood/adolescence is associated with:

- Higher costs for health care, social care, special education, and especially criminal justice by age 28 …
- **…but maybe not by age 48**
- Lower employment rate at age 32
- **… and probably still at 48**
- Lower earnings at age 32
- **… and probably still at 48**

AND neuroses at age 8-10, and social exclusion, are associated with higher service use at age 48

Cost-effectiveness

The core <u>clinical</u> question is:

Does this intervention work?

The core <u>economic</u> question is:

Is it worth it?

Example 1: CAMHS

From Dretzke et al (HTA report 2005), estimated costs for parent training/ education programmes for children with conduct disorder:

- £633-£944 for group community-based programmes
- £444-£660 for group clinic-based programmes
- £4030 for individual home-based programmes

Childhood → adulthood

Stacking up the costs for antisocial behaviour (conduct disorder?)

ILSS suggests higher service use costs to age 28

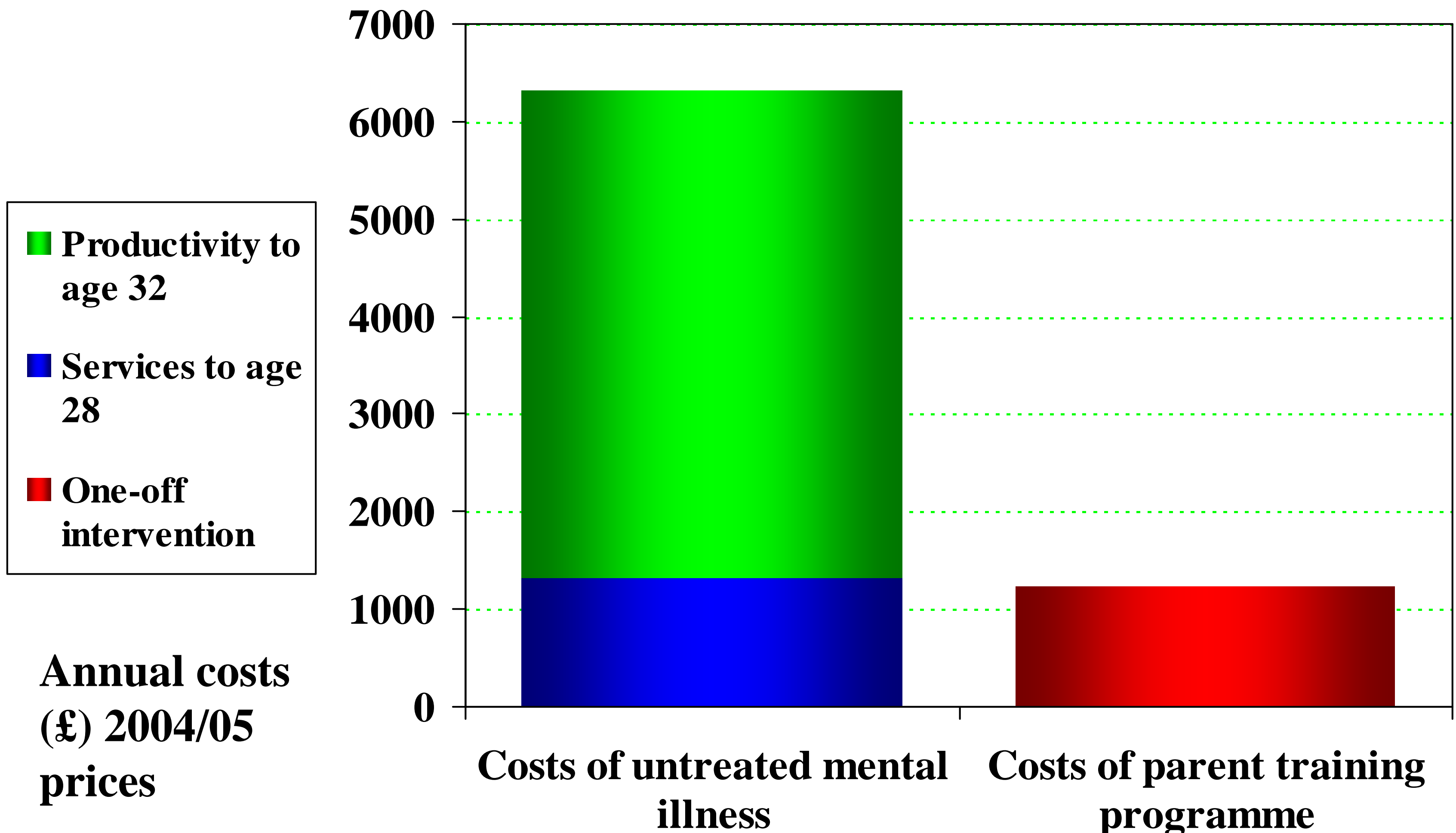
Assume that effective treatment reduced costs for CD group to those for CP group – saving of £24,000 over 18 yrs

CSDD suggests differential earnings (also productivity) of £96 per week at age 32 …

… though maybe not persisting to 48

Assume parent training intervention cost of £1000 per person (upper end of range)

Simple costs and benefits: intervening for conduct disorder



PSSRU

Simple costs and benefits: intervening for conduct disorder

7000
6000
5000
4000
3000
2000
1000
0

- Productivity to age 32
- Services to age 28
- One-off intervention

Annual costs (£) 2004/05 prices

Costs of un... illness

...programme

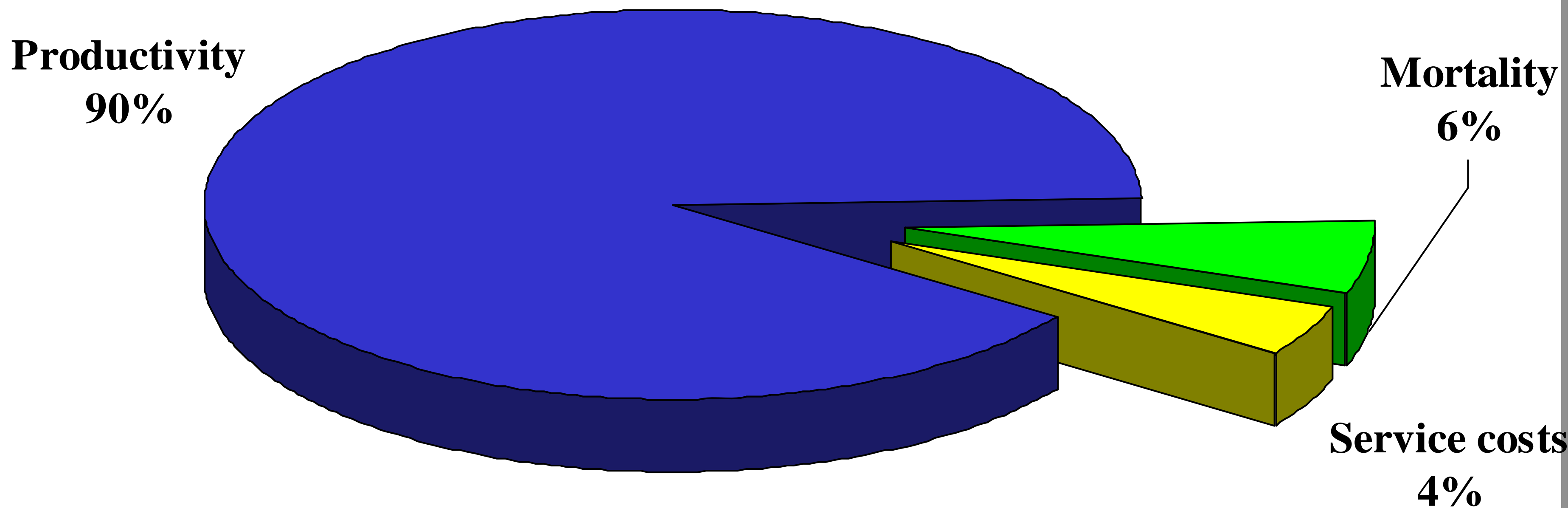
- If effectiveness means dropping service costs to those with conduct problems …
- … and if parent training is effective for only 1 child in 5 …
- … and rate of time preference is not ridiculously high …
- then the interventions would still pay themselves

Example 2: Depression

- Huge numbers of people with depression or anxiety do not have their needs recognised or treated
- This has been know for a long time …
- But the impacts on employment and public expenditure have not been fully appreciated

Costs of depression (adults) in England, 2000

Total cost = £9 bn



Thomas & Morris *BJP* 2003

What is the chain of argument?

1. Many mental health problems are **untreated**
2. The costs are high – but mainly in terms of **lost productivity and social security payments** by the state …>1,000,000 people receiving Incapacity Benefit because of mental health problems
3. There are **evidence-based interventions** …
4. But **shortages of therapists** make it very difficult to deliver (eg) CBT
5. Build a simple '**economic model**' to make the case for greater investment in recognition and therapies
6. Show it to influential people in the **media** to raise the profile (including free distribution with a Sunday newspaper)
7. Show it to various officials and ministers in **government** – not just in health but employment, social security …
8. And build up a **momentum for change – economics was key!**

Example 3: Suicide

What do we know about the cost-effectiveness of suicide prevention initiatives?

… very little

A recent systematic review of international literature by David McDaid (LSE) found …

- Lots of studies that calculate the cost of suicide …
- … or explore links between macroeconomic factors and suicide rates
- But very few proper economic evaluations
- So, even for an outcome of mental health problems that is so devastating, and that has such a high public profile … we still know very little about the affordability or 'value for money' of prevention programmes.
- Isn't that rather worrying?

Concluding thoughts

1. **Economics is unavoidable …**
2. **… because scarcity is unavoidable.**
3. **But we must not focus narrowly on cost …**
4. **… but on cost-effectiveness**
5. **There is still very little evidence**
6. **So … please include economic arguments in your policy discussions, studies etc**