NIHR | Applied Research Collaboration South London

KING'S College LONDON

Alcohol Interventions: Do the Best Things Come in Small Packages?

Colin Drummond

National Addiction Centre

Institute of Psychology, Psychiatry and Neuroscience

King's College London

Society for the Study of Addiction Annual Lecture, 2019

Addiction (1997) 92(4), 375–379

WHAT I WOULD MOST LIKE TO KNOW

Alcohol interventions: do the best things come in small packages?

D. COLIN DRUMMOND

Department of Addictive Behaviour, St George's Hospital Medical School, London, UK

Abstract

Several extensive reviews have highlighted the effectiveness of brief alcohol interventions. The same reviews were pessimistic about the role of more intensive, specialist treatments. It is argued here that the research evidence should be interpreted with caution. There are problems of generalizability of the research, and studies focusing on brief interventions in the primary health care field are largely not comparable with clinical trials conducted in the specialist setting. The efficacy of brief interventions as a routine mass intervention approach has been exaggerated. Even after extensive research, little is known of the effective ingredients and the most effective methods of delivery. Reviews of brief interventions have been overly selective, and meta analysis in

”

- Several extensive reviews have highlighted the effectiveness of brief alcohol interventions
- The same reviews were pessimistic about the role of more intensive, specialist treatments
- The research evidence should be interpreted with caution
- The efficacy of BI as a routine mass intervention approach has been exaggerated
- Excessive drinking is a complex and heterogeneous phenomenon
- The is an important distinction between alcohol dependent ’treatment seeking’ populations and those excessive drinkers identified by screening (Heather)

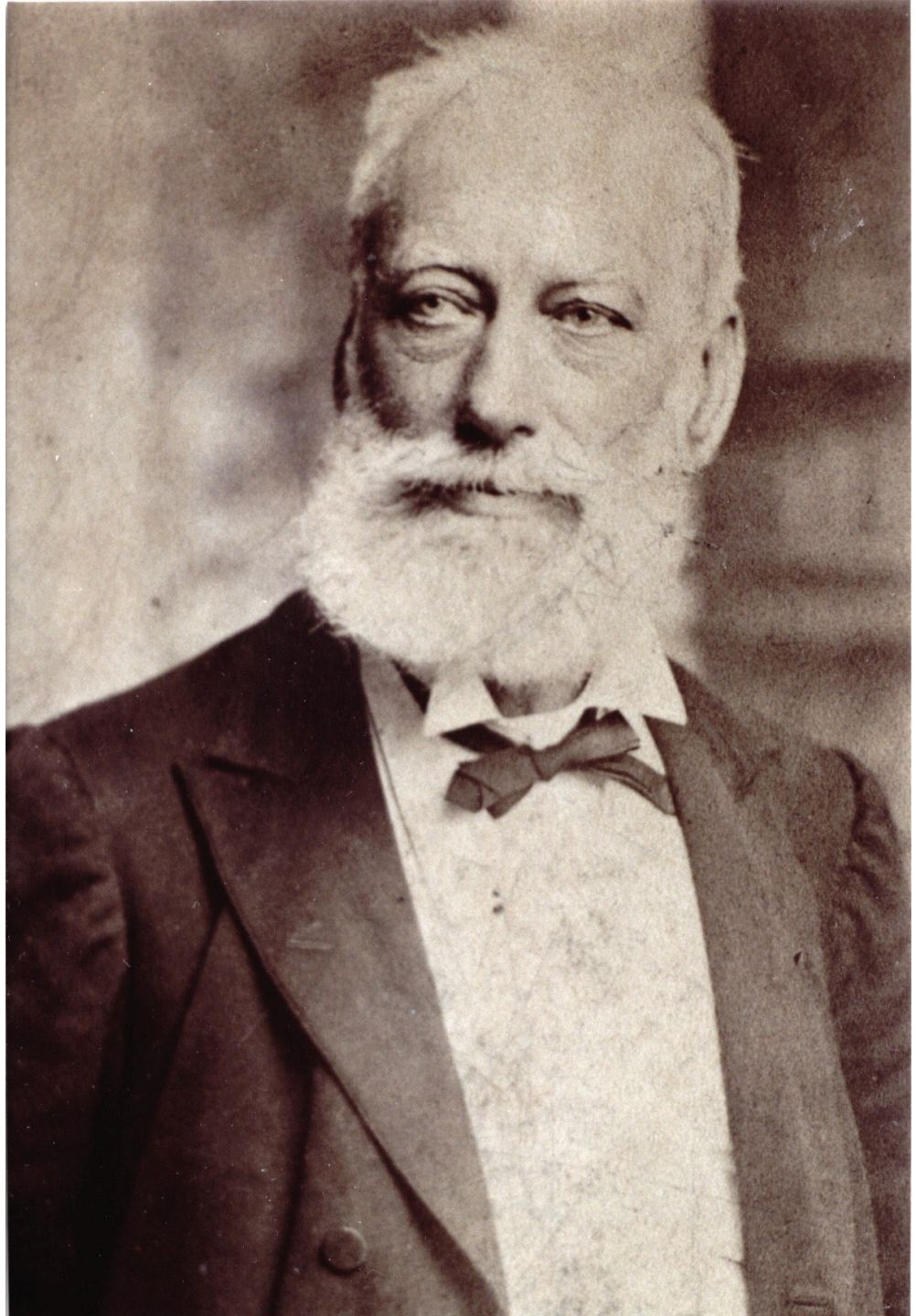
”

”

- In ’broadening the base of treatment for alcohol problems’, a laudable exercise, policy makers and purchasers of health care need to be careful at the same time not to ’narrow the apex’ to the point of extinction in their attempts to balance the books of healthcare costs.
- Those excluded from, or who fail to respond to brief intervention, are likely to continue to incur significant health service and other costs. Those costs need to be studied in greater detail.
- A more appropriate question to answer is: what type of intervention, delivered by whom, to which excessive drinker, is effective?

”

The rise and fall of specialist treatment

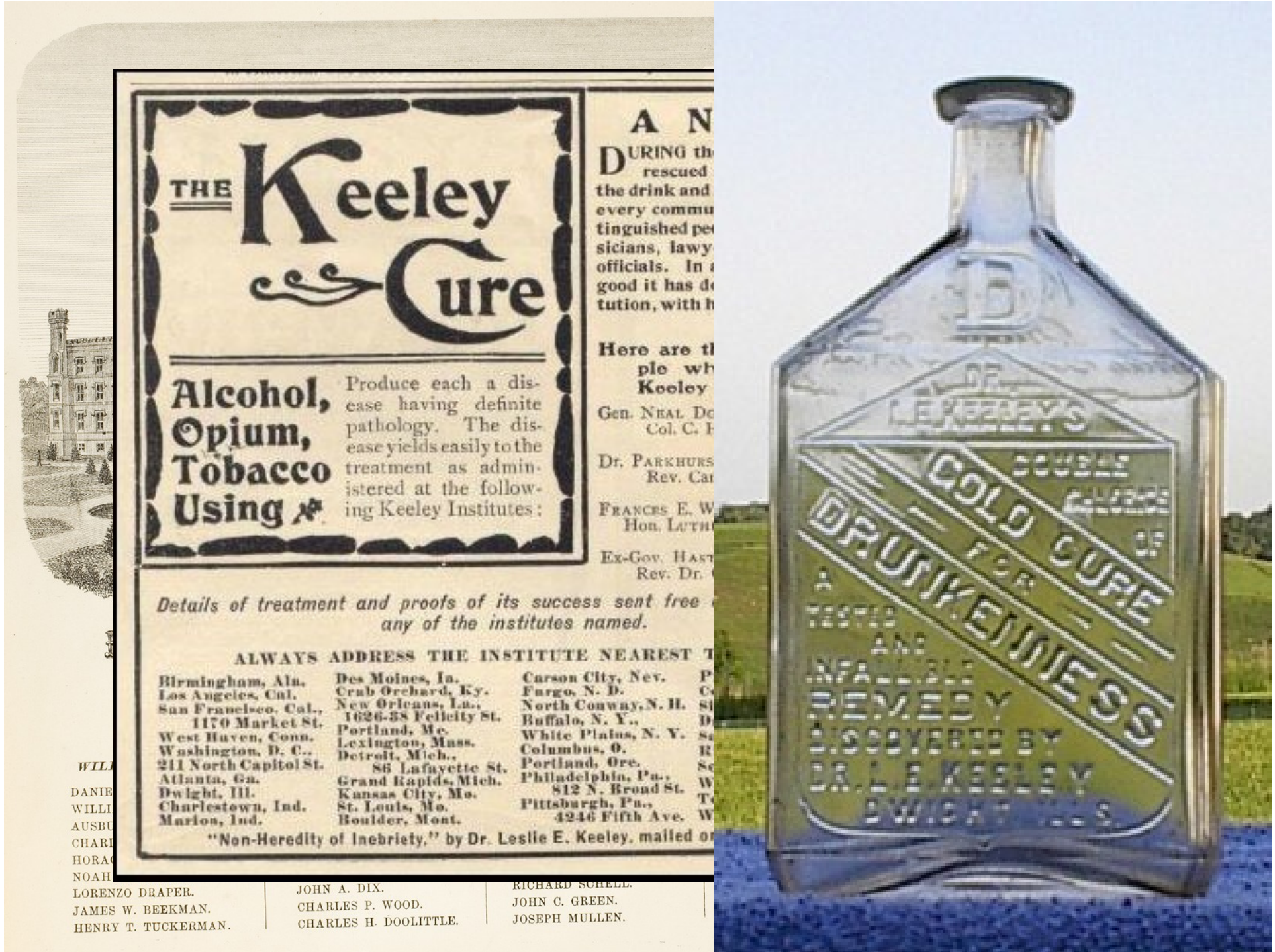


Dr Norman Shanks Kerr
1834-1899

"To avoid confusion and prevent misapprehension, let me define inebriety as a constitutional disease of the nervous system, characterized by a very strong morbid impulse to, or crave for, intoxication."

"In alcoholism, as in all other diseases, prevention is, indeed, better than cure."

"Having acquired a knowledge of ….inebriety, besides having seen the impotence of nostrums and of defective treatment, we are in an advantageous position to discern the principles of sound treatment, and the methods of cure best adapted to secure the greatest amount of success."


THE Keeley Cure
Alcohol, Opium, Tobacco Using
Produce each a disease having definite pathology. The disease yields easily to the treatment as administered at the following Keeley Institutes:
Details of treatment and proofs of its success sent free
any of the institutes named.
ALWAYS ADDRESS THE INSTITUTE NEAREST
Birmingham, Ala.
Los Angeles, Cal.
San Francisco, Cal., 1170 Market St.
West Haven, Conn.
Washington, D. C., 211 North Capitol St.
Atlanta, Ga.
Dwight, Ill.
Charlestown, Ind.
Marion, Ind.
Des Moines, Ia.
Crab Orchard, Ky.
New Orleans, La., 1626-38 Felicity St.
Portland, Me.
Lexington, Mass.
Detroit, Mich., 86 Lafayette St.
Grand Rapids, Mich.
Kansas City, Mo.
St. Louis, Mo.
Boulder, Mont.
Carson City, Nev.
Fargo, N. D.
North Conway, N. H.
Buffalo, N. Y.,
White Plains, N. Y.
Columbus, O.
Portland, Ore.
Philadelphia, Pa., 812 N. Broad St.
Pittsburgh, Pa., 4246 Fifth Ave.
"Non-Heredity of Inebriety," by Dr. Leslie E. Keeley, mailed on
DURING th
rescued
the drink and
every commu
tinguished pe
sicians, lawy
officials. In
good it has d
tution, with h
Here are t
ple wh
Keeley
Gen. NEAL D
Col. C.
Dr. PARKHURS
Rev. Ca
FRANCES E. W
Hon. LUTH
Ex-GOV. HAST
Rev. Dr.
LORENZO DRAPER.
JAMES W. BEEKMAN.
HENRY T. TUCKERMAN.
JOHN A. DIX.
CHARLES P. WOOD.
CHARLES H. DOOLITTLE.
RICHARD SCHELL.
JOHN C. GREEN.
JOSEPH MULLEN.
DR. LESLIE E. KEELEY'S
DOUBLE CHLORIDE
GOLD CURE
FOR
DRUNKENNESS
REMEDY
DISCOVERED BY
DR. L. E. KEELEY

ON

ALCOHOLISM

ITS CLINICAL ASPECTS AND TREATMENT

BY

FRANCIS HARE, M.D.

MEDICAL SUPERINTENDENT OF THE NORWOOD SANATORIUM, BECKENHAM

LONDON

J. & A. CHURCHILL

7, GREAT MARLBOROUGH STREET

1912

Addiction
SUPPLEMENT ARTICLE
SSA SOCIETY FOR THE STUDY OF ADDICTION
doi:10.1111/add.12902

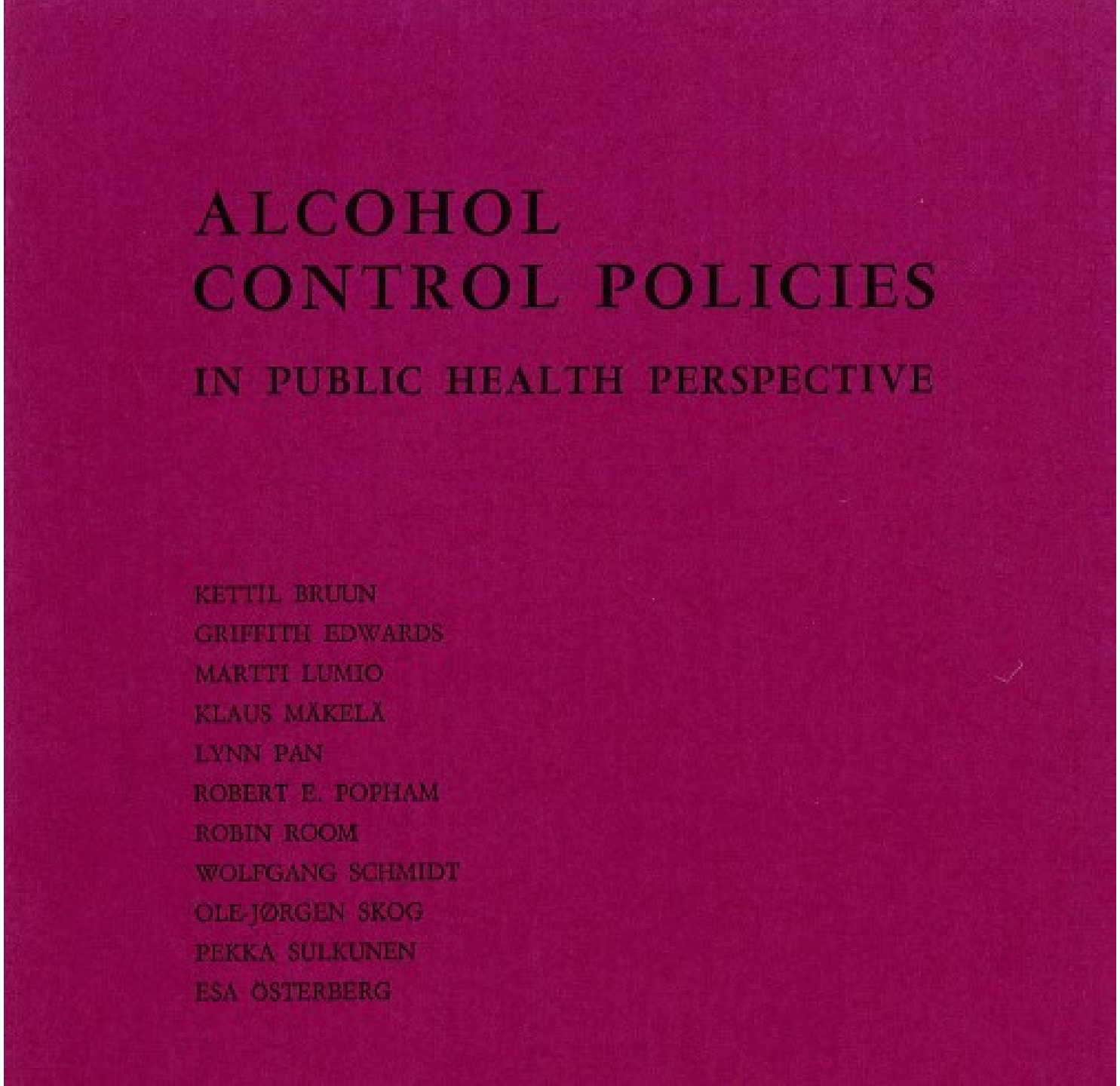
Ahead of its time: 40 years after the advice versus treatment family study

CLINICAL PRACTICE

Specialist versus general practitioner treatment of problem drinkers

D. COLIN DRUMMOND BETSY THOM CHERYL BROWN
GRIFFITH EDWARDS MICHAEL J. MULLAN

The rise of public health


ALCOHOL
CONTROL POLICIES
IN PUBLIC HEALTH PERSPECTIVE
KETTIL BRUUN
GRIFFITH EDWARDS
MARTTI LUMIO
KLAUS MÄKELÄ
LYNN PAN
ROBERT E. POPHAM
ROBIN ROOM
WOLFGANG SCHMIDT
OLE-JØRGEN SKOG
PEKKA SULKUNEN
ESA ÖSTERBERG

Sick individuals and sick populations FREE

Geoffrey Rose

International Journal of Epidemiology, Volume 30, Issue 3, 1 June 2001, Pages 427–432,
https://doi.org/10.1093/ije/30.3.427
Published: 01 June 2001

Abstract

Rose G (Department of Epidemiology, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, UK). Sick individuals and sick populations. *International Journal of Epidemiology*

British Journal of Addiction (1986) 81, 353–363

Alcohol Consumption and the Preventive Paradox*

NORMAN KREITMAN, M.D., F.R.C.P., F.R.C.Psych.

MRC Unit for Epidemiological Studies in Psychiatry, University Department of Psychiatry, Royal Edinburgh Hospital, Morningside Park, Edinburgh EH10 5HF, U.K.

Sick individuals and sick populations (Rose, 1985)

High risk strategy

- Advantages
  - Intervention approaches appropriate to the individual
  - Subject motivation
  - Physician motivation
  - Cost-effective use of resources
  - Benefit: risk ratio favourable
- Disadvantages
  - Difficulties and costs of screening
  - Palliative and temporary
  - Limited potential for individual and population
  - Behaviourally inappropriate

Population strategy

- Advantages
  - Radical
  - Large potential for population
  - Behaviourally appropriate
- Disadvantages
  - Small benefit to individual ('Prevention Paradox')
  - Poor motivation of subject
  - Poor motivation of physician
  - Benefit: risk ratio worrisome

Alcohol strategy options

Babor et al. (2003) Alcohol: No ordinary commodity

- High impact
  - Taxation & pricing
  - Restricting availability
  - Limiting density of outlets
  - Lower BAC limits
  - Graduated driving licences
- Medium impact
  - Brief interventions
  - Treatment
  - Safer drinking environment
  - Heavier enforcement
- Low impact
  - Unit labelling
  - "Sensible" drinking campaigns
  - Public education
  - School based education
  - Voluntary advertising restrictions

ALCOHOL HARM REDUCTION STRATEGY FOR ENGLAND (AHRSE) 2004

Sheffield Alcohol Po

3)

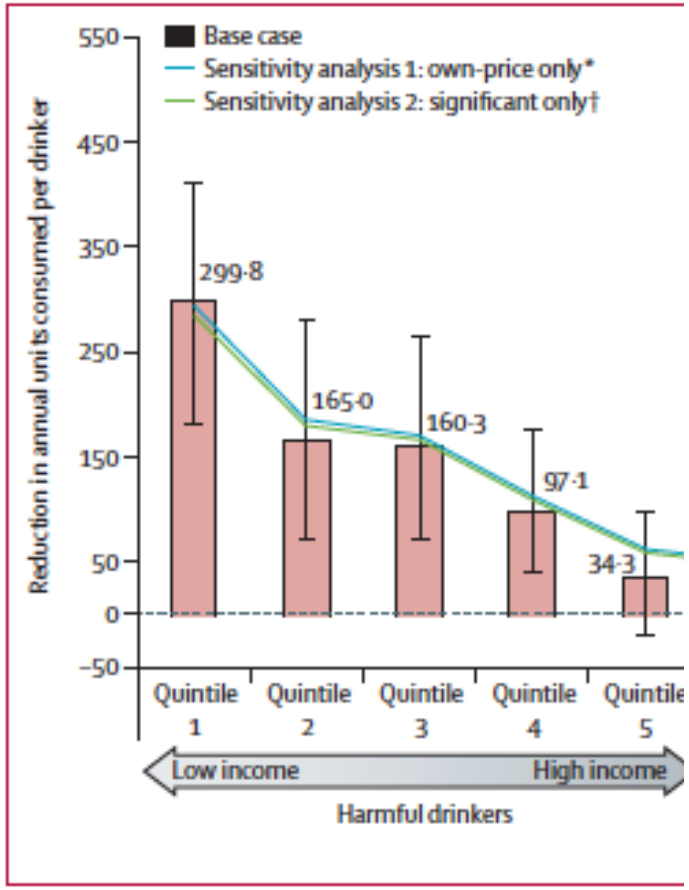
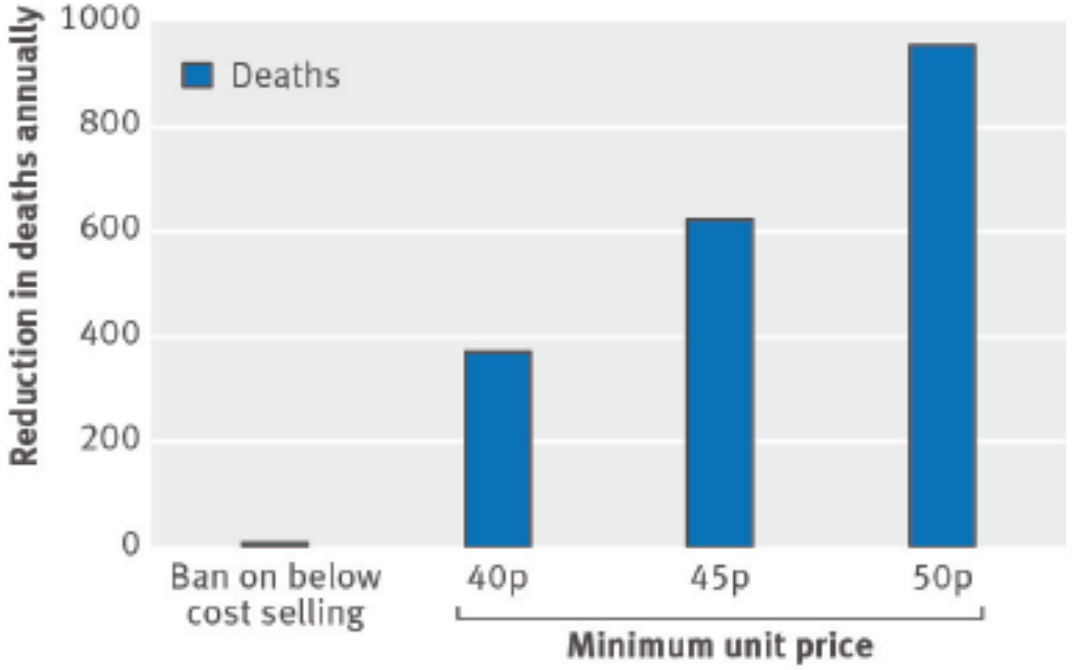
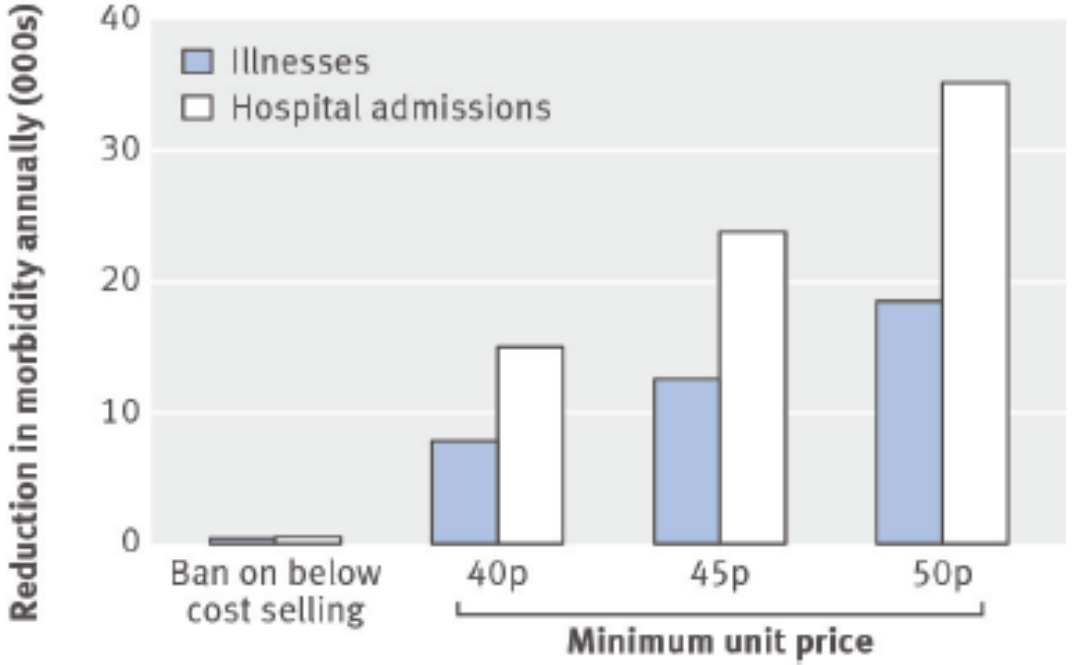


Figure 2: Estimated reductions in annual units consumed
sensitivity analyses





Effective HEALTH CARE

Brief Interventions and Alcohol Use

Are brief interventions effective in reducing harm associated with alcohol consumption?

November 1993 Number 7

- Alcohol use is associated with raised morbidity and mortality. The overall risk of alcohol related problems increases continuously with rising consumption.
- 28% of men and 11% of women drink more than the levels contained in the Health of the Nation.
- Simple screening instruments are available for the routine detection of people above these levels, which can easily be applied opportunistically in both primary and secondary health care settings.
- Brief interventions consisting of assessment of intake, and provision of information and advice, are effective in reducing alcohol consumption by over 20% in the large group of people with raised alcohol consumption. However it is not clear how this translates into changes in health status.
- The direct cost per brief intervention delivered to a person who consumes above the limits is less than £20.
- Evidence from clinical trials suggests that brief interventions are as effective as more expensive specialist treatments.
- Health commissioners should consider the routine opportunistic detection and brief treatment of patients in primary care and hospital settings. This will require planning, coordination and adequate support. Combined screening and treatment programmes should be thoroughly evaluated.
- Taxation, advertising control and other national and local measures such as drink-driving campaigns are also cost effective strategies which should be considered alongside treatment strategies.

A BULLETIN ON THE EFFECTIVENESS OF HEALTH SERVICE INTERVENTIONS FOR DECISION-MAKERS

Nuffield Institute for Health, University of Leeds. Centre for Health Economics, University of York. Research Unit, Royal College of Physicians.

It is funded by the Department of Health. The views expressed are those of the authors and not necessarily those of the DoH.

"Evidence from clinical trials suggests that brief interventions are as effective as more expensive specialist treatments"

"Health commissioners should consider the routine opportunistic detection and brief treatment of patients in primary care and hospital settings."

Research Recommendation: "An accurate epidemiologically based health policy model which estimates the health impact of reductions in alcohol consumption in different population groups"

NHS
National Institute for
Health and Clinical Excellence

Issue date: February 2011

Alcohol-use disorders

Diagnosis, assessment and management of harmful drinking and alcohol dependence

NICE clinical guideline 115
Developed by the National Collaborating Centre for Mental Health

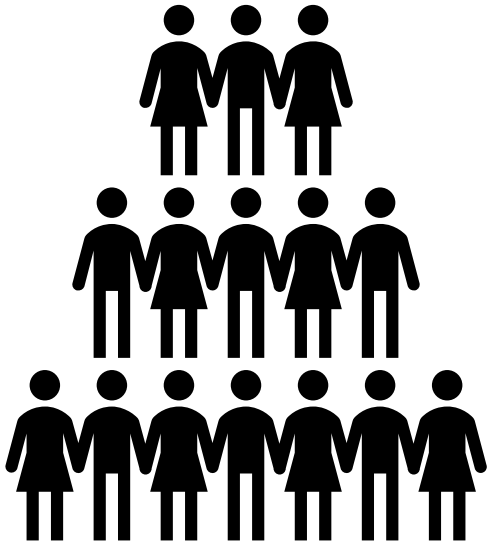
NICE National Institute for Health and Care Excellence

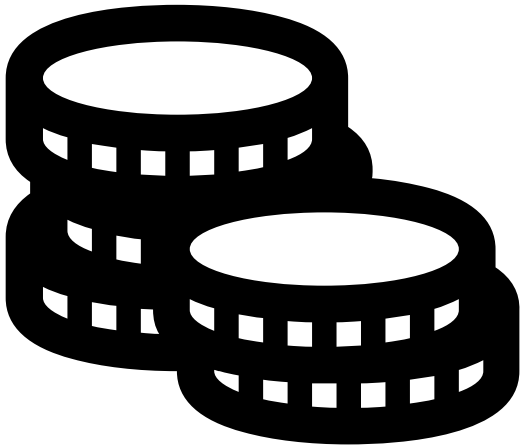
Alcohol-use disorders: preventing harmful drinking

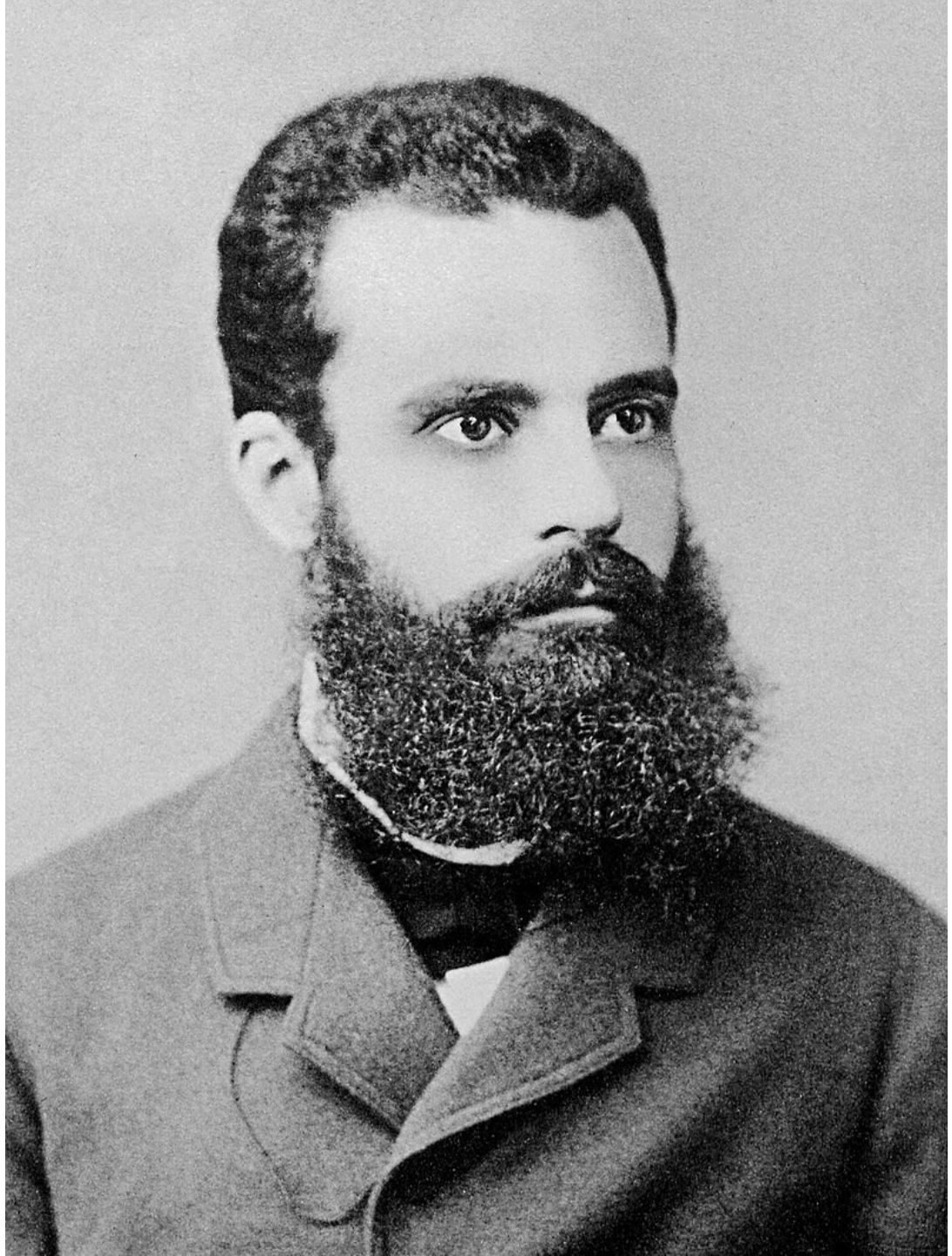
Issued: June 2010

NICE public health guidance 24
guidance.nice.org.uk/ph24

The Pareto principle & the alcohol harm paradox







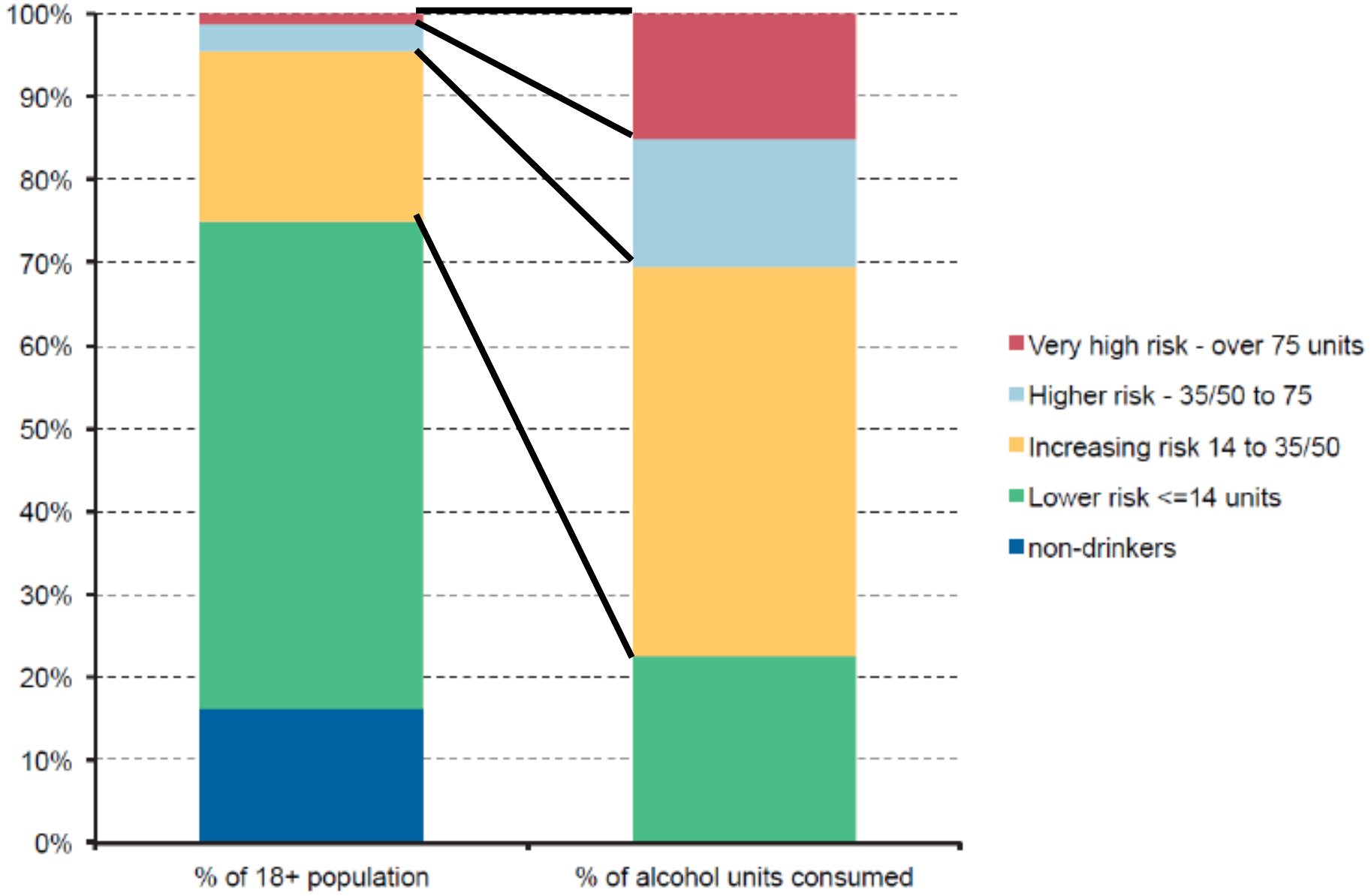
Vilfredo Pareto, 1896

The Pareto Principle

(The 80/20 rule)

80% of effects come from 20% of causes

Figure 10: The distribution of drinkers by risk group and the amount of alcohol consumed, years 2012 to 2014 combined (45)



The alcohol harm paradox

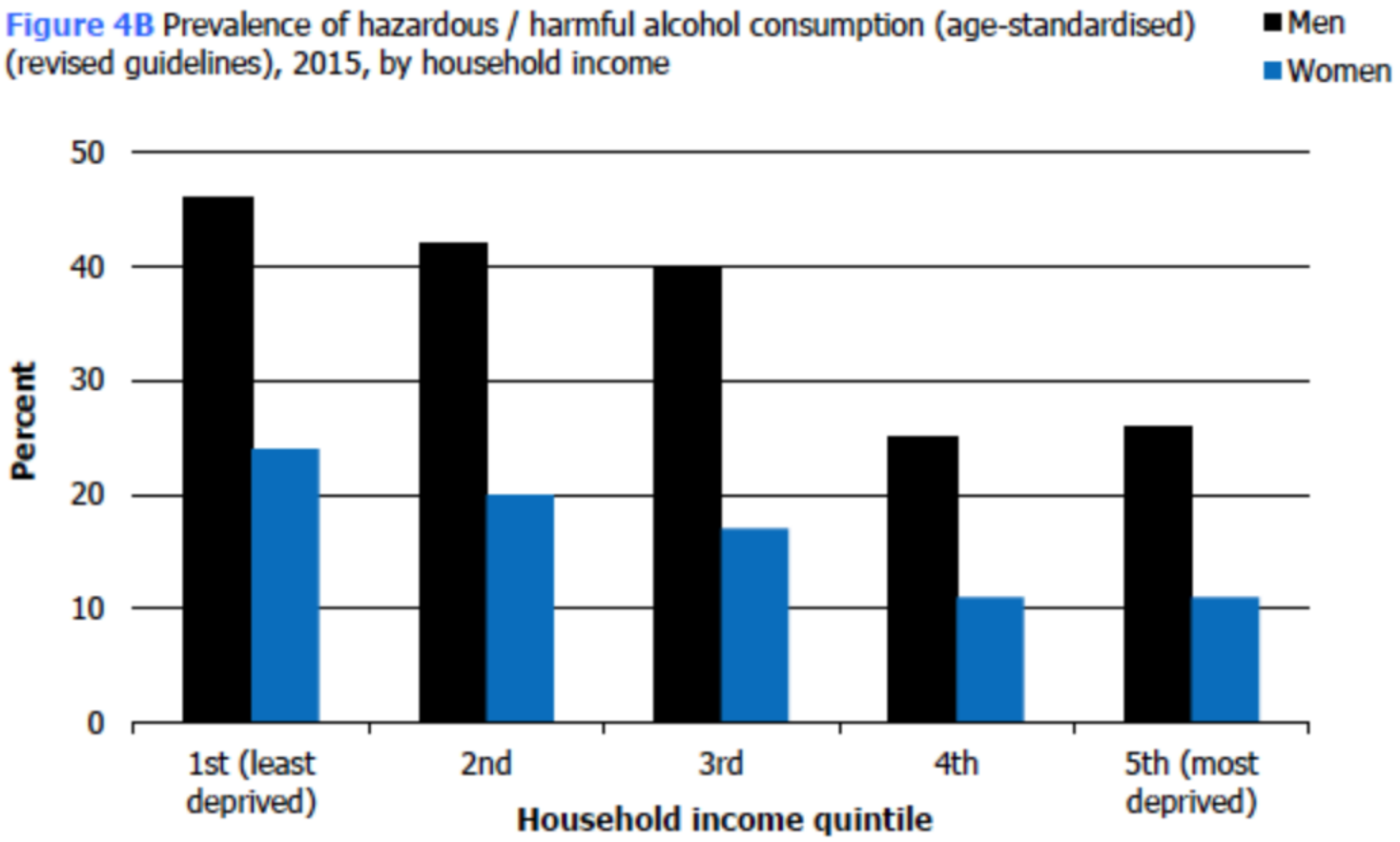
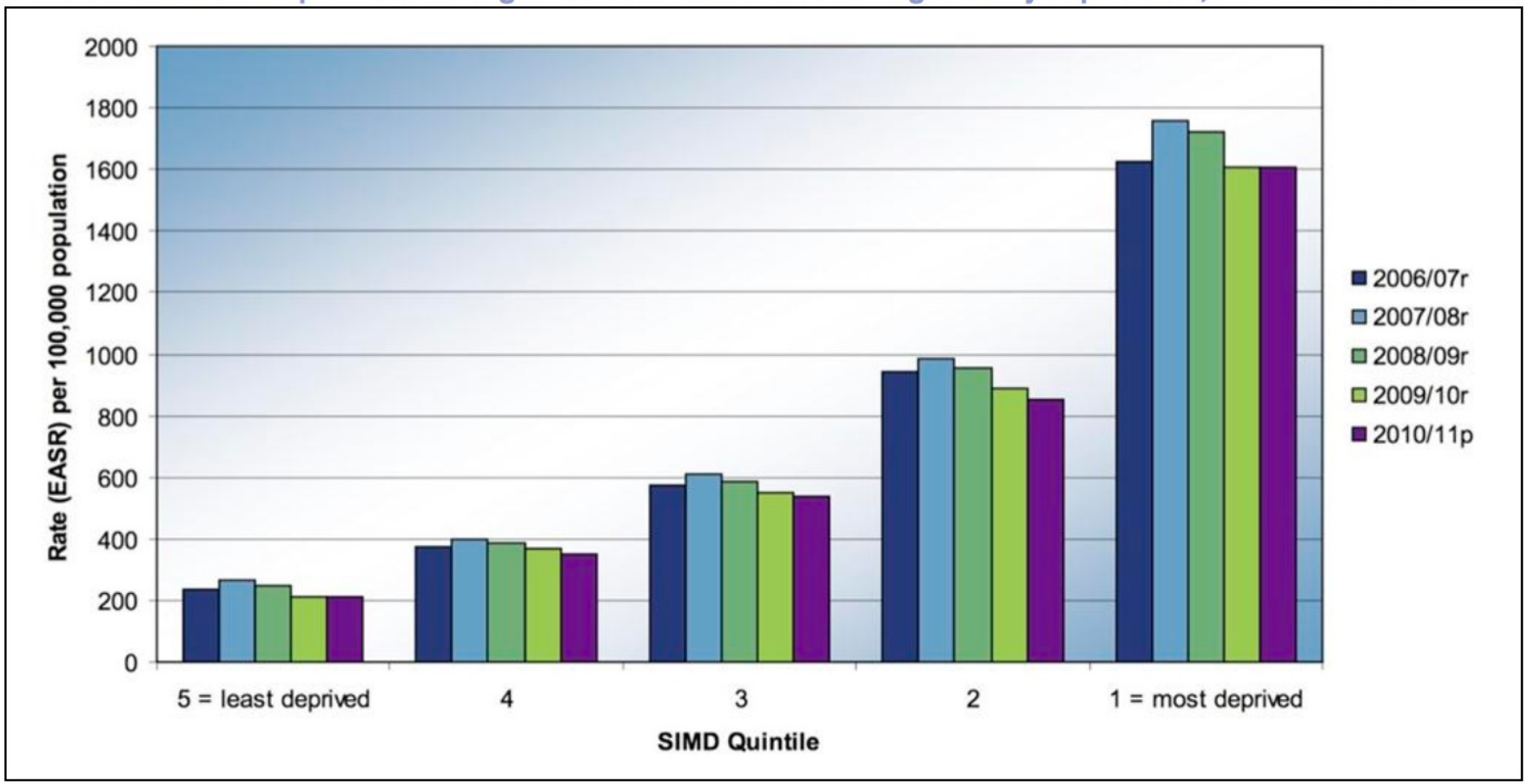
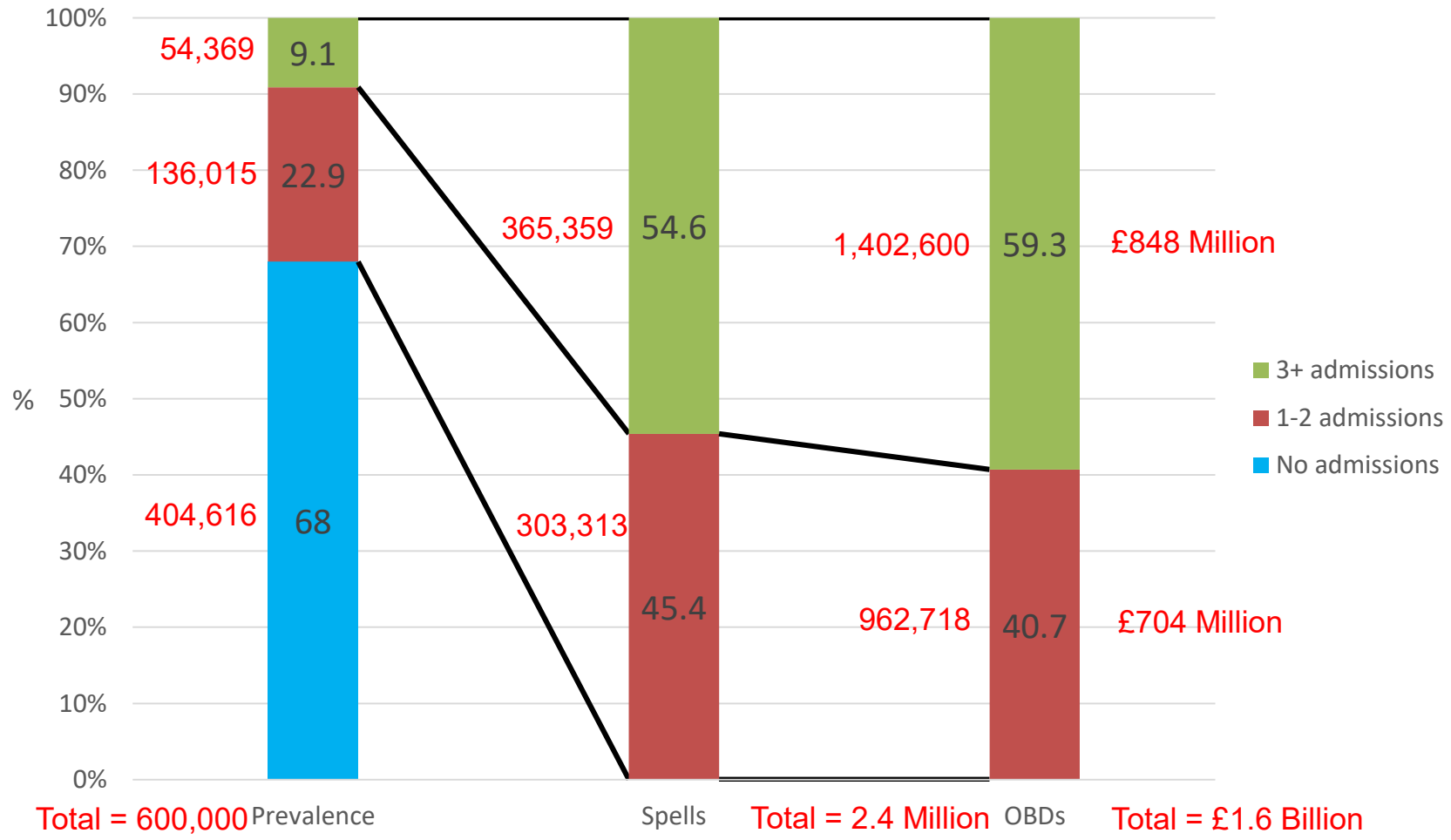


Figure 8: General acute inpatient discharges with an alcohol-related diagnosis by deprivation; 2006/07–2010/11[**]



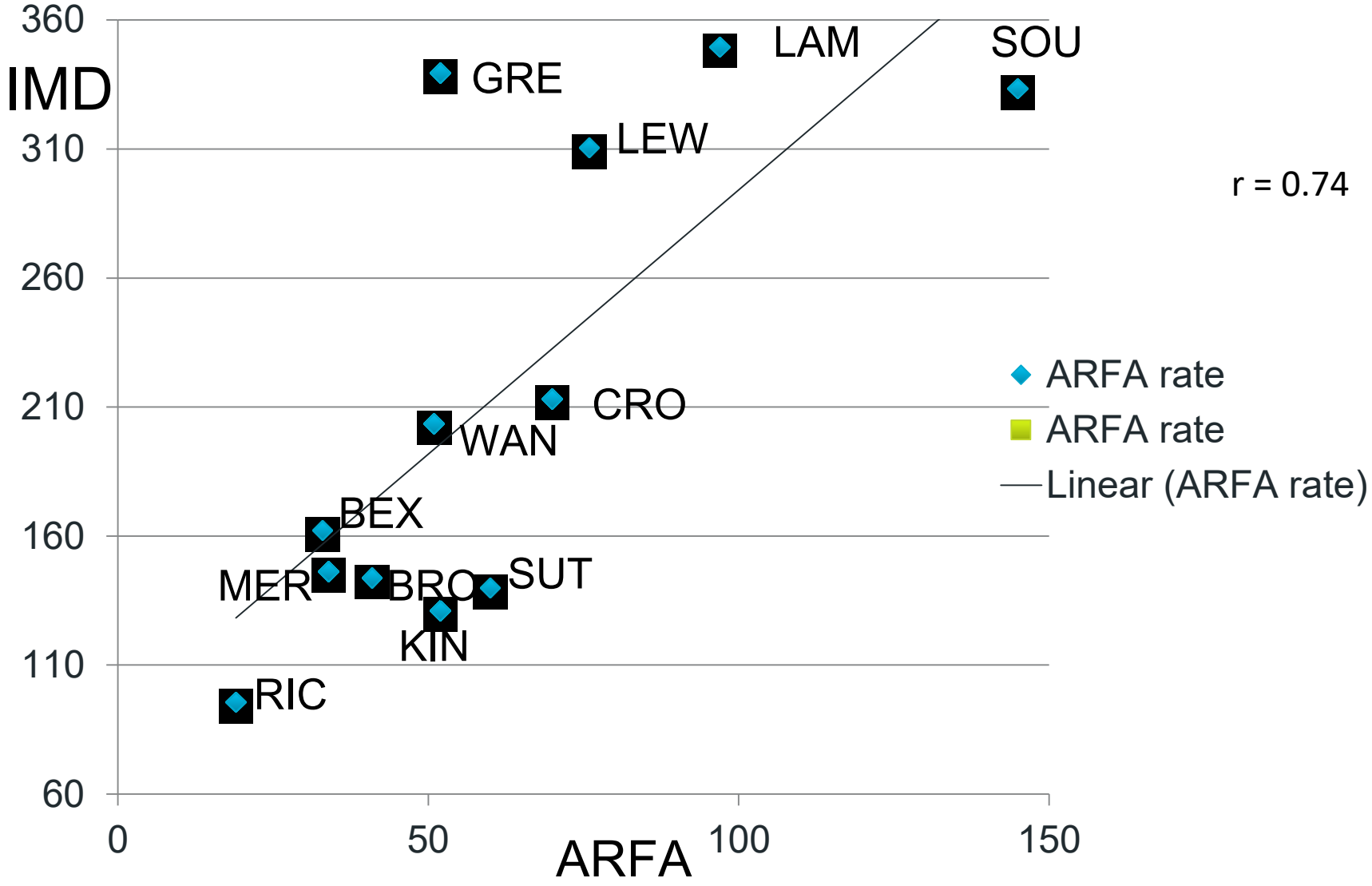
Source: Information Services Division (ISD) Scotland (May 2012), 'Alcohol-related Hospital Statistics Scotland 2012', ONS, p. 7

Distribution of alcohol admissions in people with alcohol dependence

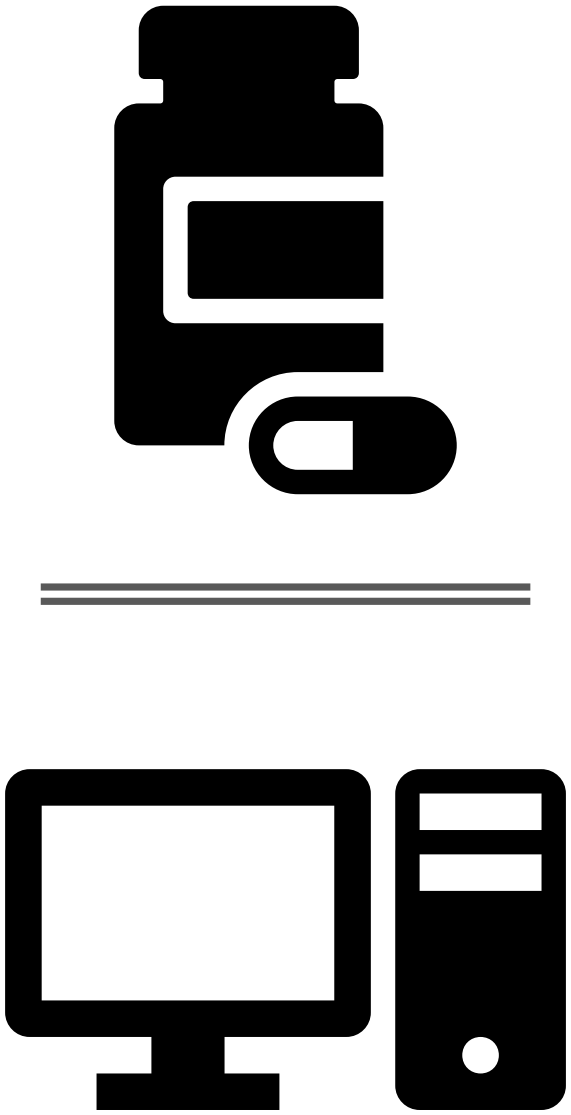


Alcohol Frequent attenders per 100,000 and Index of Multiple Deprivation x10 South London

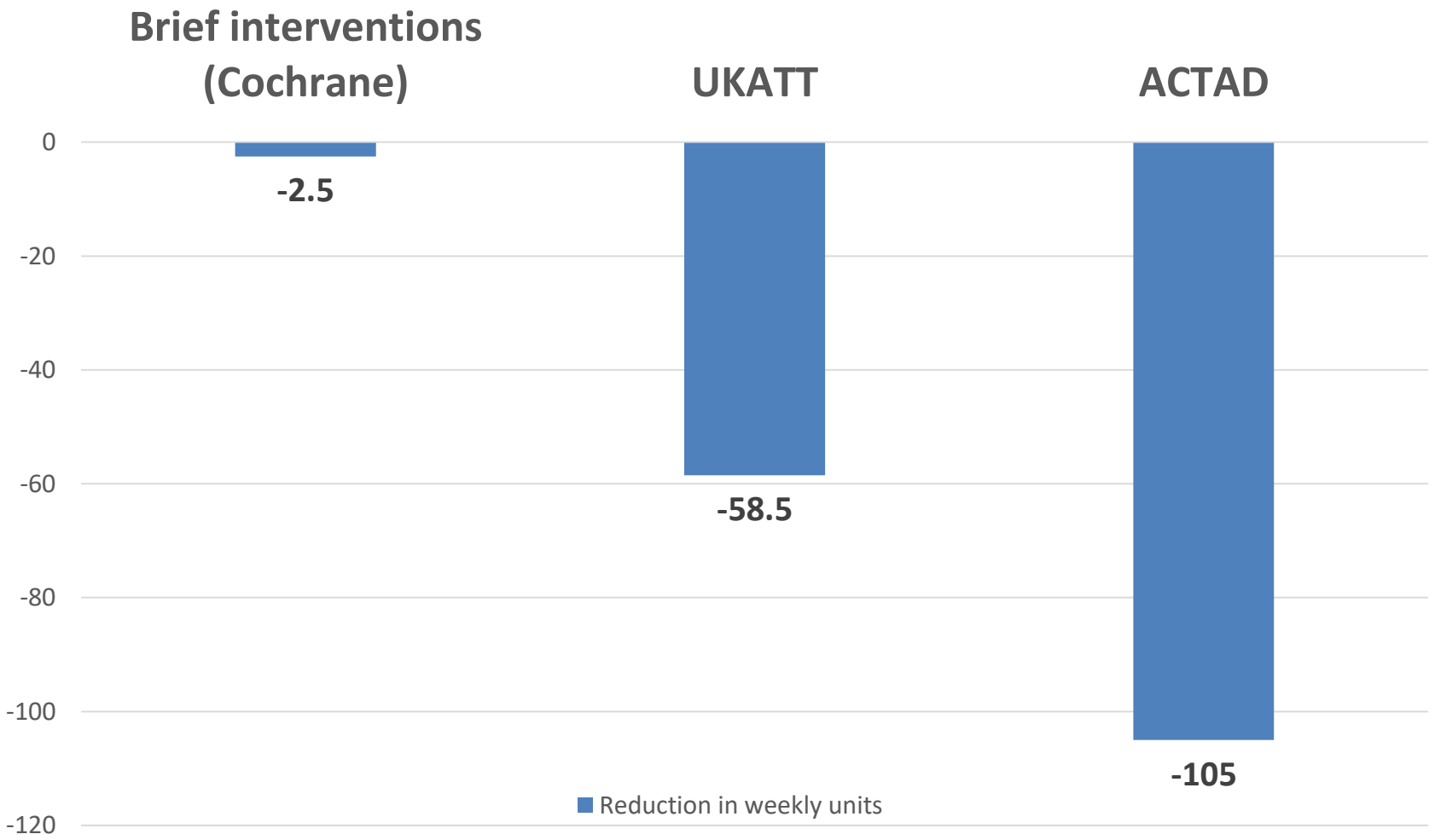
Health inequalities and the alcohol harm paradox



What can we learn from clinical trials?



Changes in alcohol consumption 12 months post-intervention (units per week)



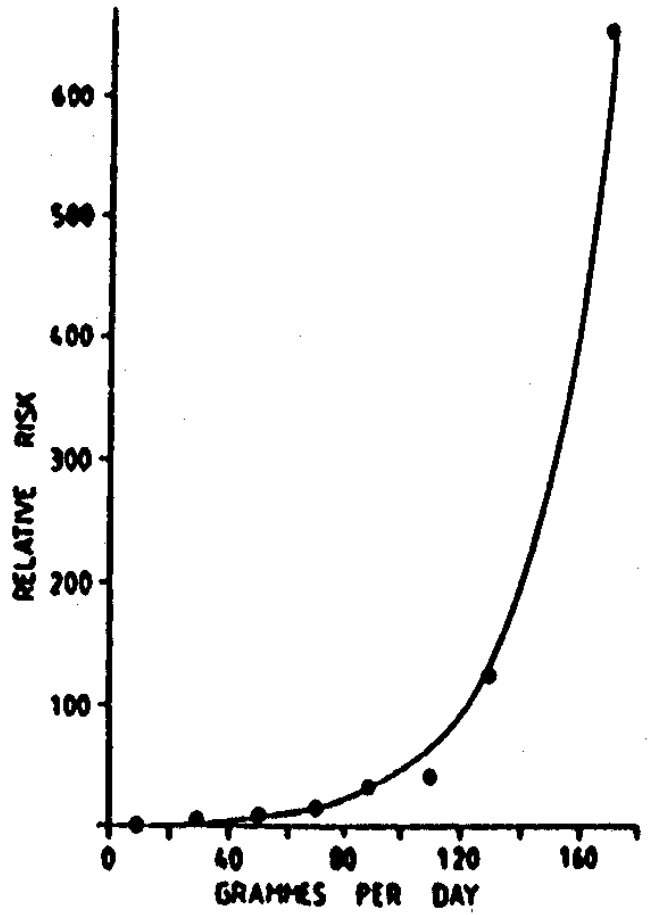
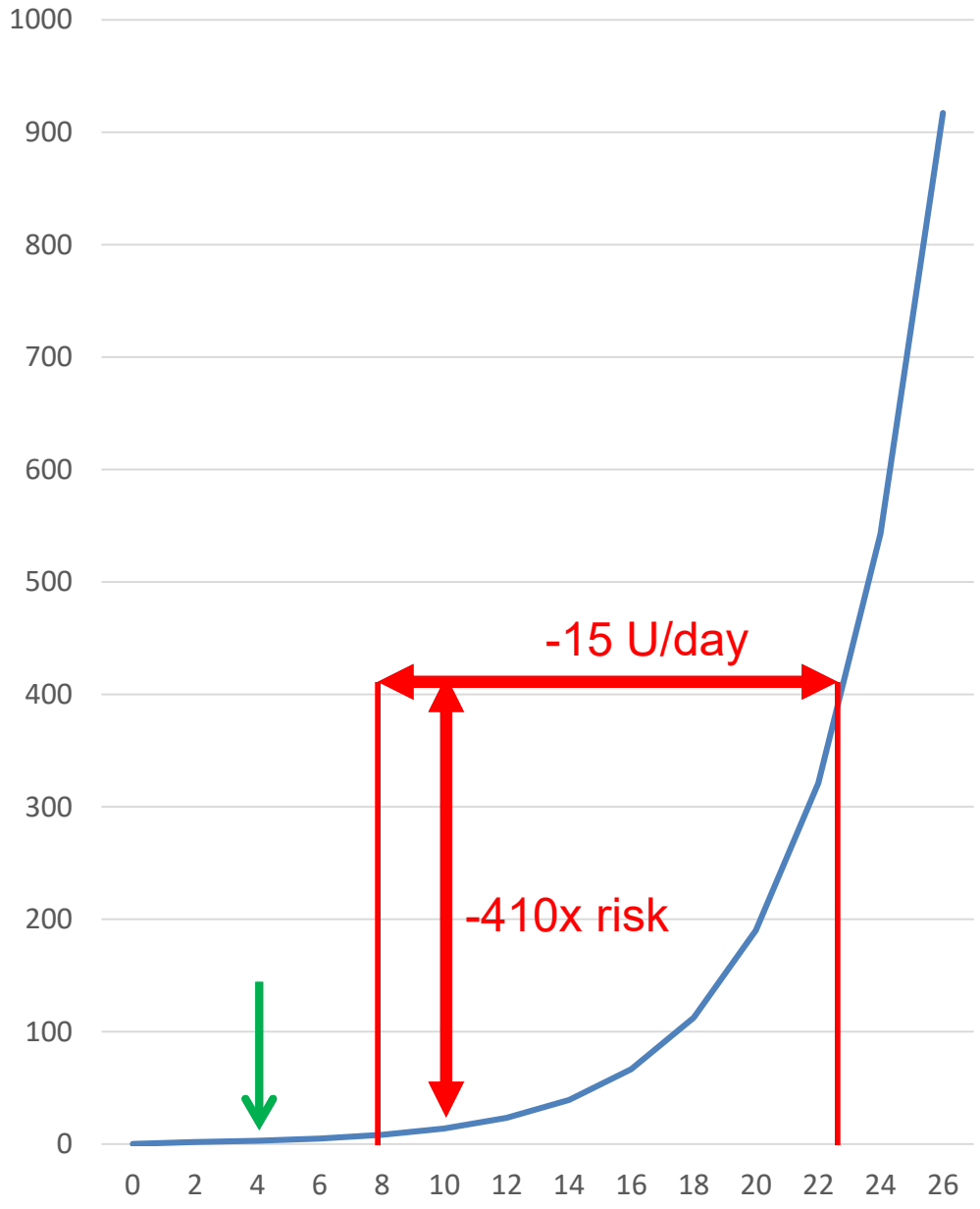


Figure 5.1: *Relative risk for ascitic cirrhosis in groups with different consumption levels. The solid curve is an exponential regression curve, fitted by the maximum likelihood method, while the points are empirically determined. (Data from Pequignot et al. 1978)*

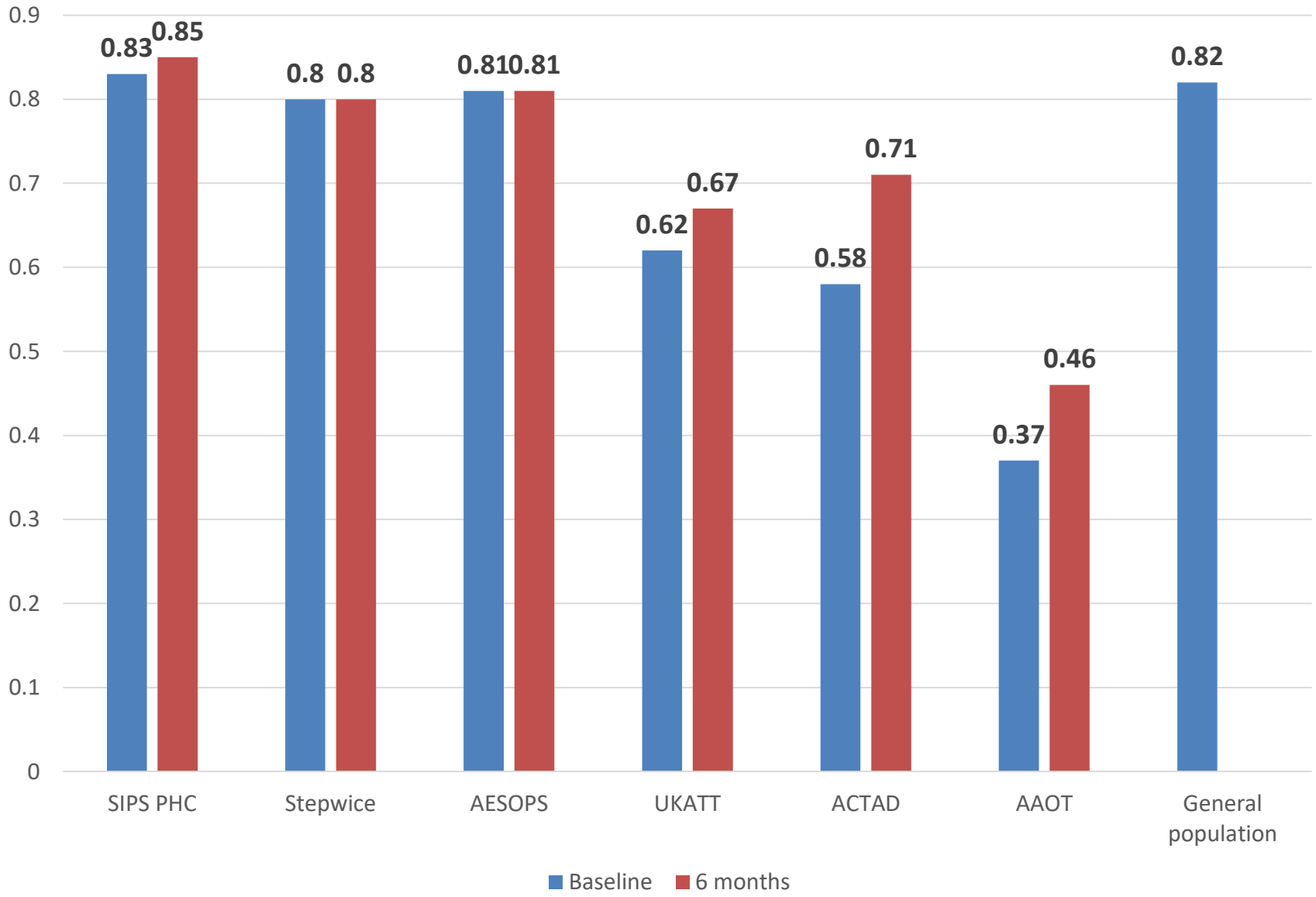
Changes in risk related to changes in consumption: SBI versus AOT



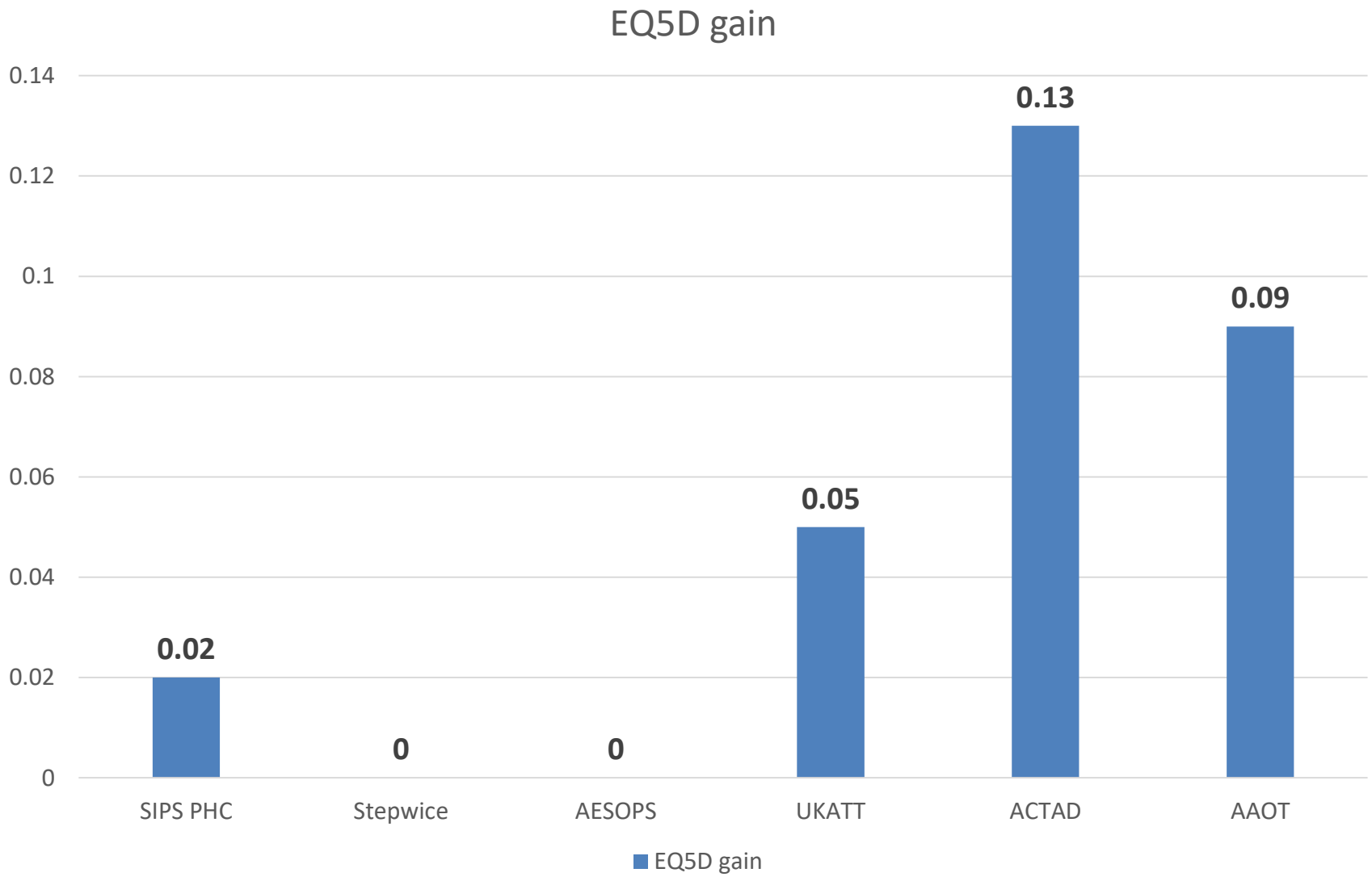
Dependence (ACTAD)
Reduction 23→8 units/day
Risk reduction 418→8.2x
= -410

Hazardous/Harmful (Cochrane)
Reduction 4.4→4 units/day
Risk reduction 2.9→2.6x
= -0.3

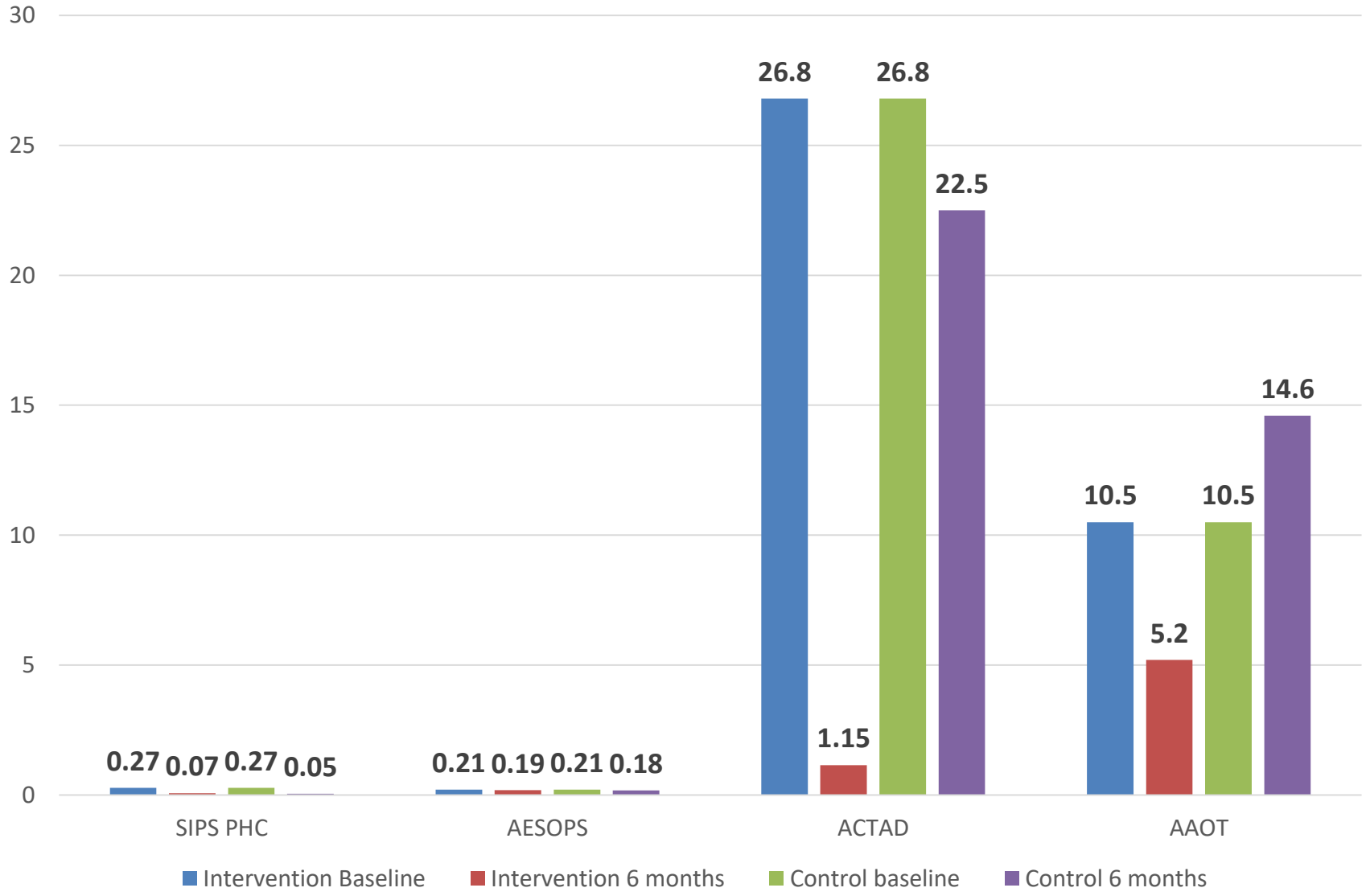
Mean quality of Life changes pre-post intervention



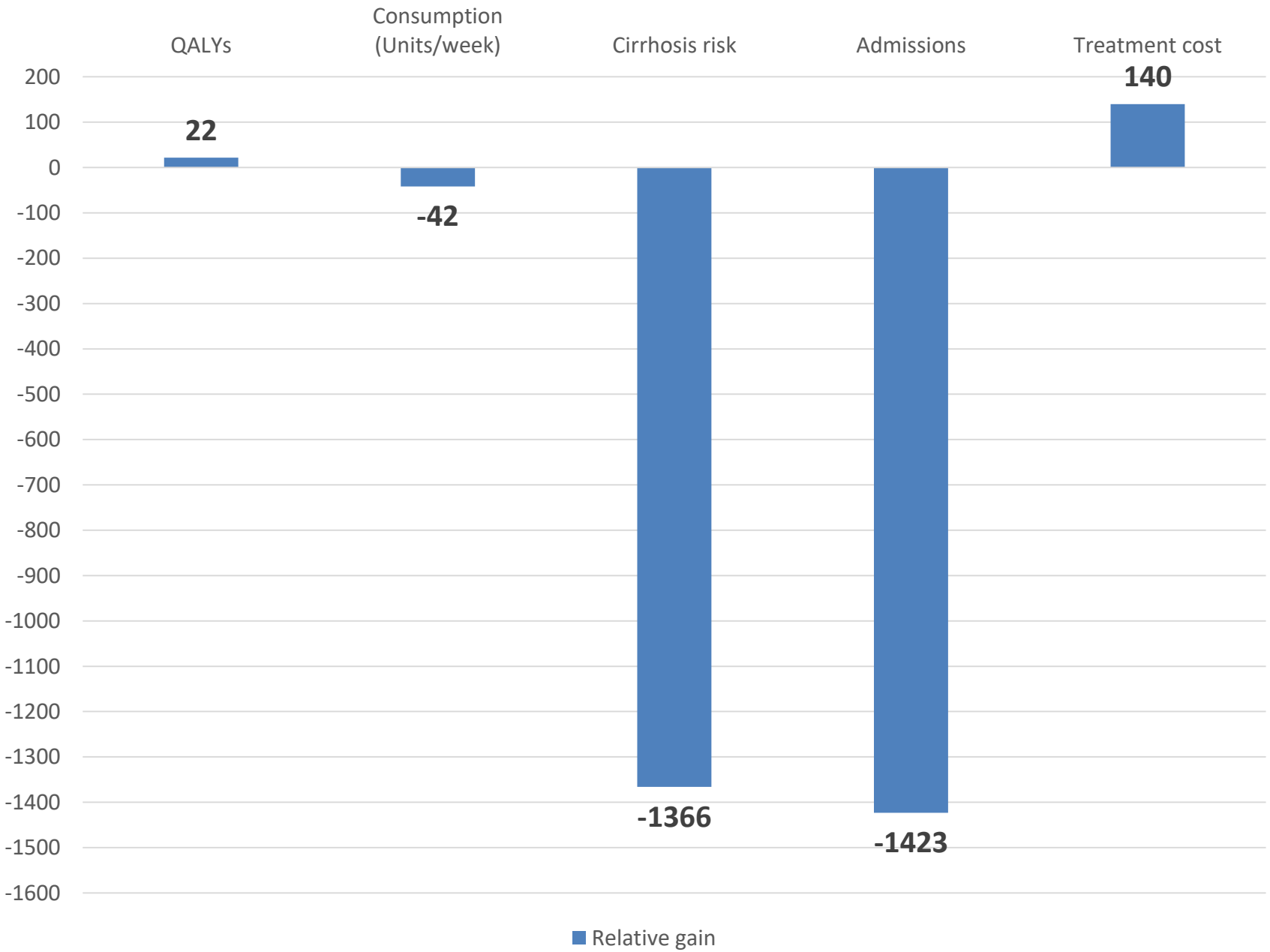
Change in QOL pre-post intervention



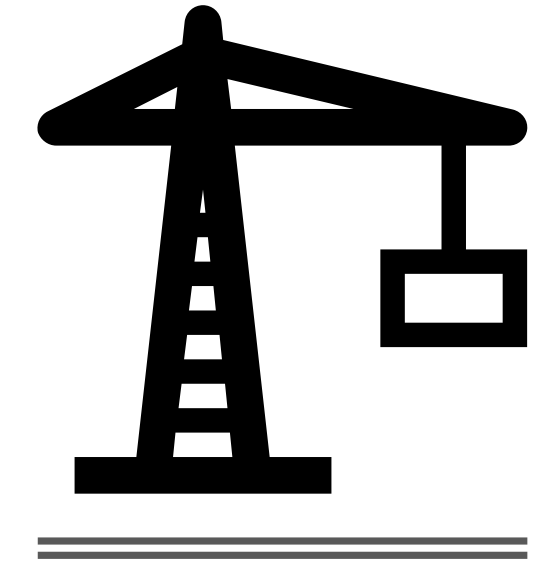
Mean inpatient nights pre-post intervention

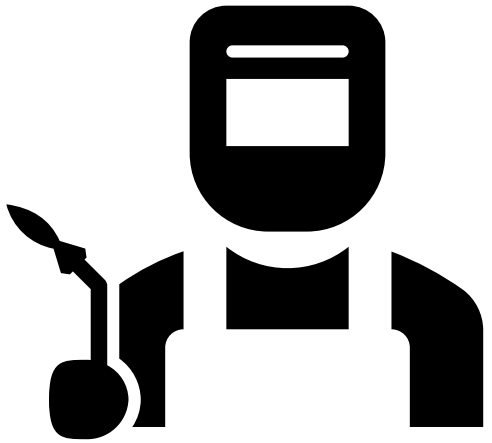


Ratio of relative gains and treatment costs comparing SBI and AOT



What about implementation in the real world?





Proportion of smokers and excessive drinkers offered SBI by PHC last year

(Alcohol Toolkit Survey – Brown et al., 2016, BJGP)

(n=15,252)

- 20% smokers (n=3,043)
- 62% visited GP last yr
- 52% of smokers received BI for smoking
- (30% of all smokers)
- Older, female, less education, disability, higher dependence, more quit attempts

- 12.4% excessive drinkers (n=1,894)
- 59% visited GP last yr
- 6.8% of XSD received BI for alcohol
- (4% of all XSD)
- Older, smokers, higher dependence, male

BMJ

BMJ 2013;346:e8501 doi: 10.1136/bmj.e8501 (Published 9 January 2013) Page 1 of 14

RESEARCH

Alcohol and Alcoholism pp. 1–9, 2014 doi: 10.1093/alcalc/agu046

Alcohol Screening and Brief Interventions for Offenders in the Probation Setting (SIPS Trial): a Pragmatic Multicentre Cluster Randomized Controlled Trial

Dorothy Newbury-Birch[1,*], Simon Coulton[2], Martin Bland[3], Paul Cassidy[4], Veronica Dale[3], Paolo Deluca[5], Eilish Gilvarry[6], Christi

[1]Institute of
of Kent, T
YO10 5DD,
Windsor Wa
Court, Carliol
NE1 8ST, UK
of Populatio

*Corresp

OPEN ACCESS Freely available online

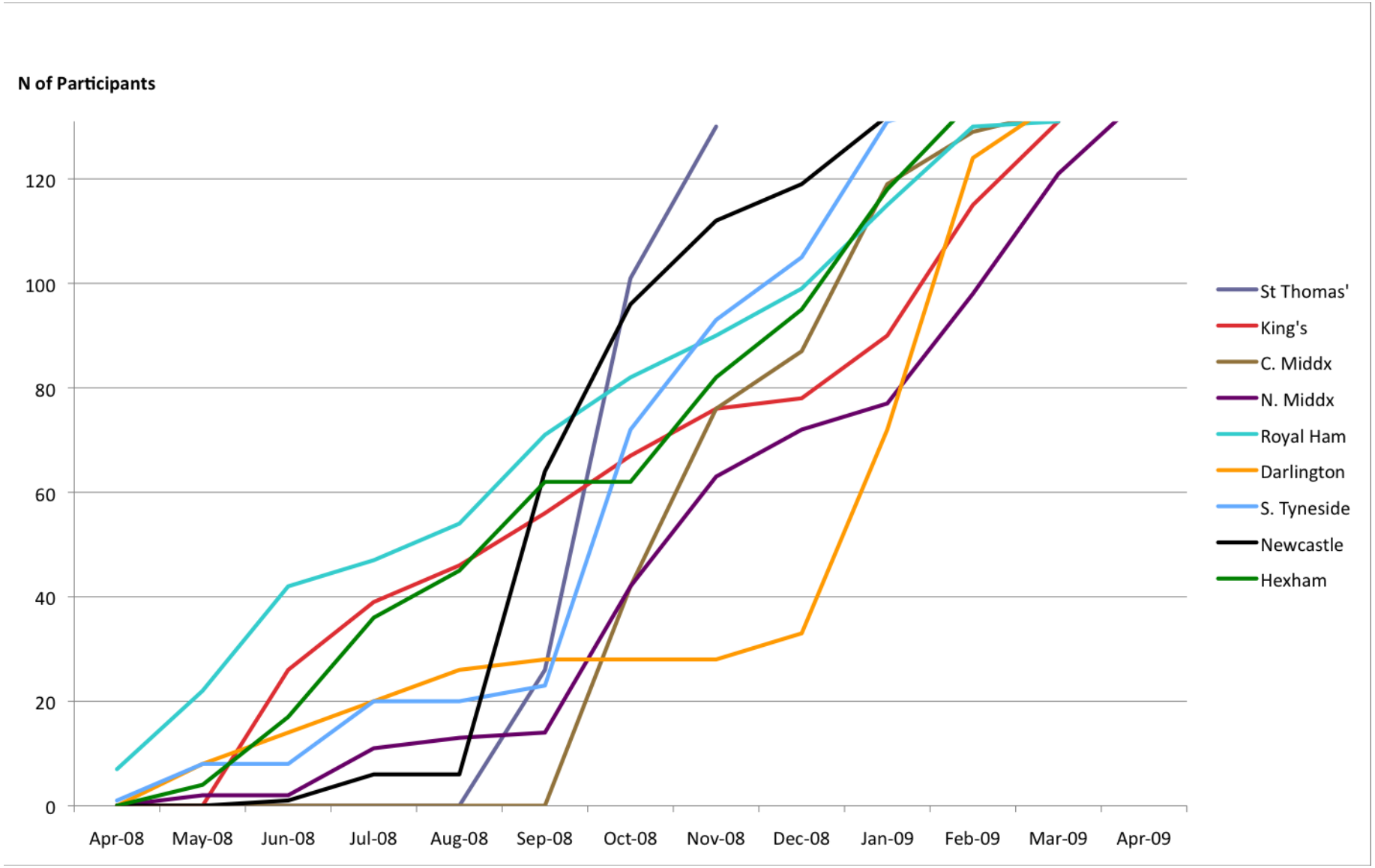
PLOS | ONE

The Effectiveness of Alcohol Screening and Brief Intervention in Emergency Departments: A Multicentre Pragmatic Cluster Randomized Controlled Trial

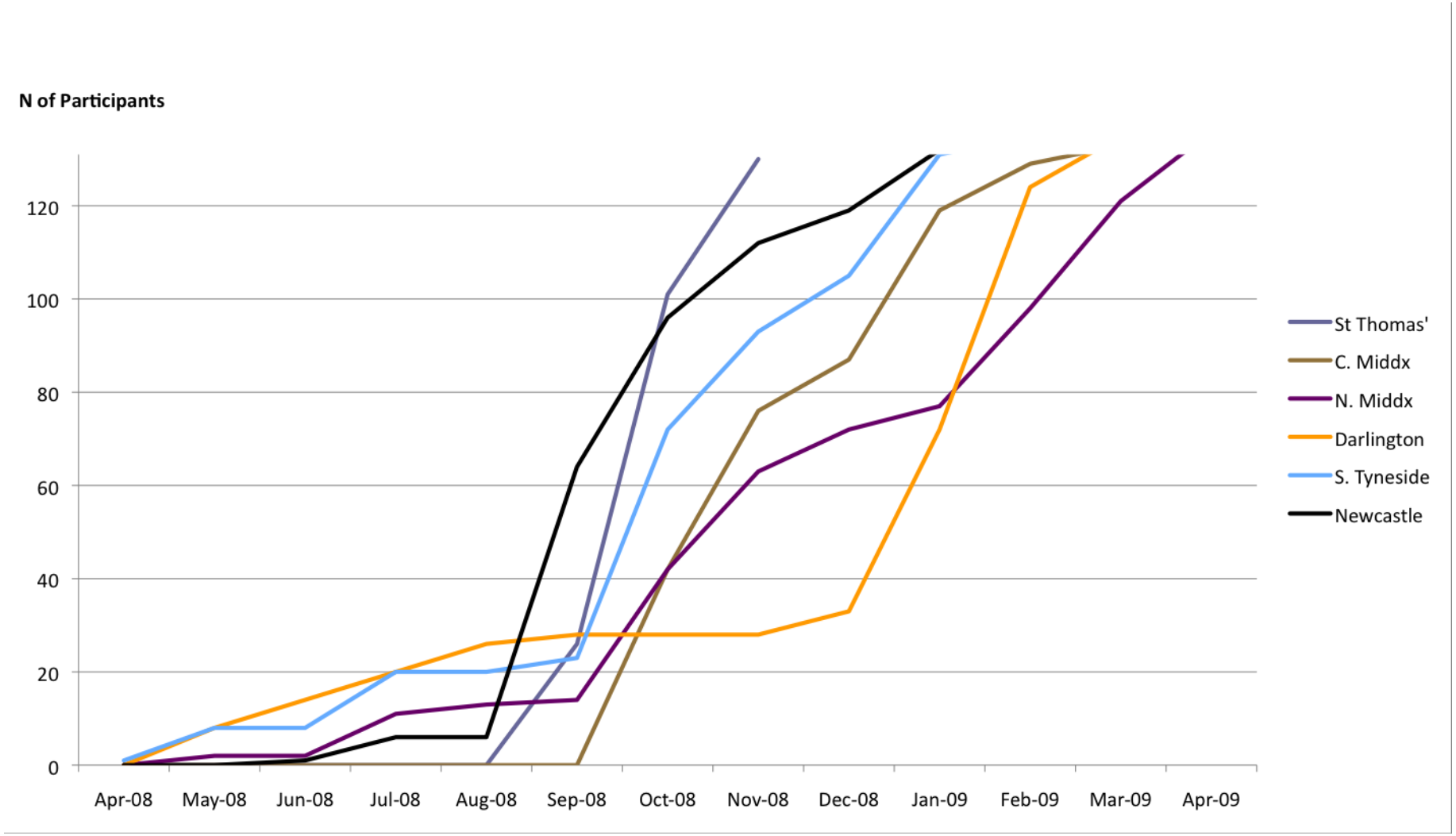
Colin Drummond[1¶], Paolo Deluca[1*¶], Simon Coulton[2], Martin Bland[3], Paul Cassidy[4], Mike Crawford[5], Veronica Dale[3], Eilish Gilvarry[6,7], Christine Godfrey[3], Nick Heather[8], Ruth McGovern[6], Judy Myles[1], Dorothy Newbury-Birch[6], Adenekan Oyefeso[9,10], Steve Parrott[3], Robert Patton[1], Katherine Perryman[1], Tom Phillips[1,11], Jonathan Shepherd[12], Robin Touquet[13], Eileen Kaner[6]

1 Addictions Department, Institute of Psychiatry, King's College London, London, United Kingdom, **2** Centre for Health Service Studies, University of Kent, Canterbury, United Kingdom, **3** Department of Health Sciences, University of York, York, United Kingdom, **4** Teams Family Practice, Gateshead, United Kingdom, **5** Department of Psychological Medicine, Imperial College, London, United Kingdom, **6** Institute of Health and Society, Newcastle University, Newcastle, United Kingdom, **7** Northern Regional Drug and Alcohol Services, Newcastle, United Kingdom, **8** Faculty of Health and Life Sciences, Northumbria University, Newcastle, United Kingdom, **9** Division of Population Health Sciences and Education, St George's, University of London, London, United Kingdom, **10** Jeesal Cawston Park Hospital, Norfolk, United Kingdom, **11** Humber NHS Foundation Trust, Willerby, United Kingdom, **12** Violence Research Group, Cardiff University, Cardiff, United Kingdom, **13** Emergency Department, Kingston Hospital, Kingston upon Thames, London, United Kingdom

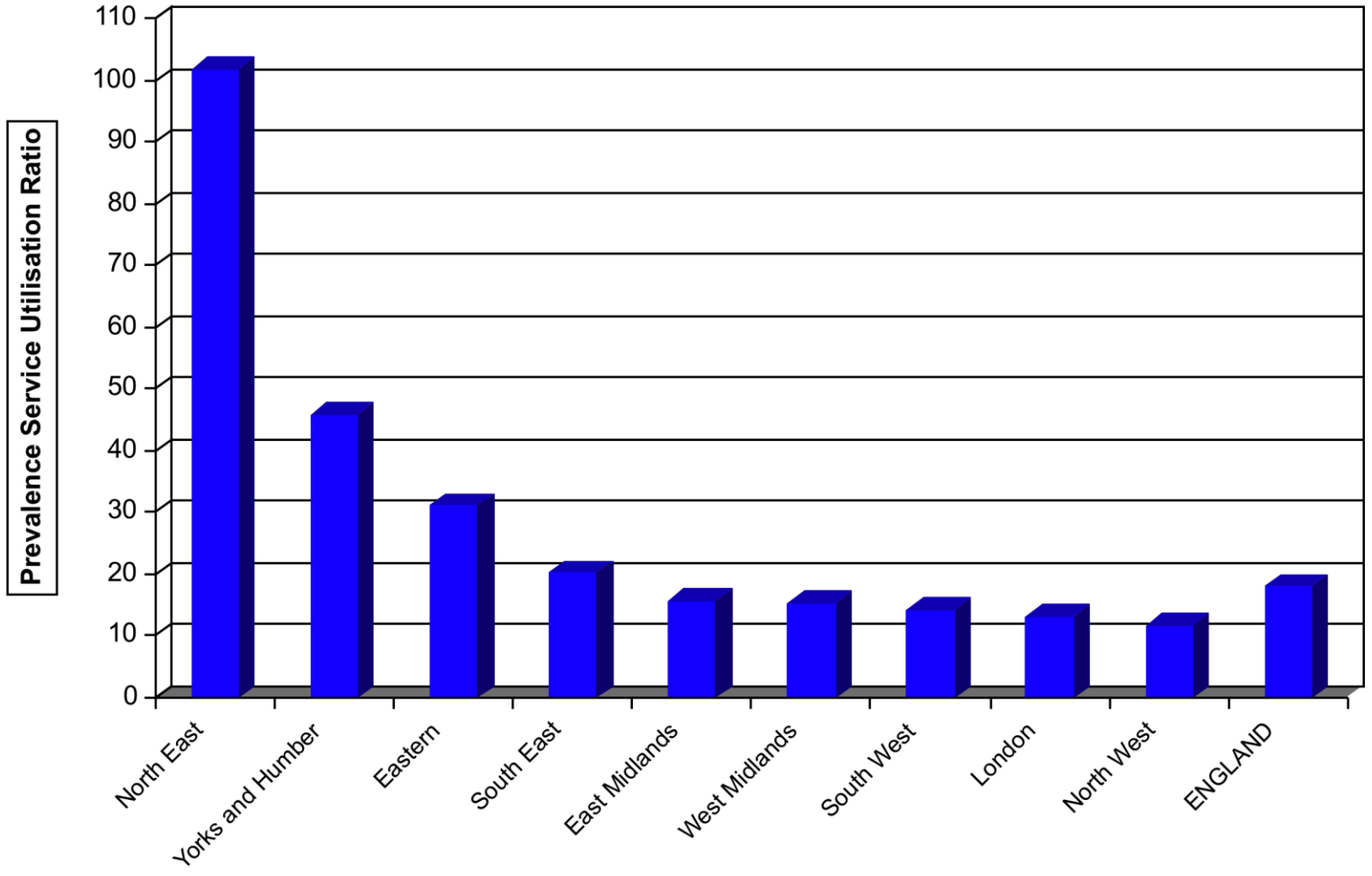
Recruitment by month for each A&E



Recruitment by month for each A&E



Gap between need and access to alcohol treatment (PSUR)



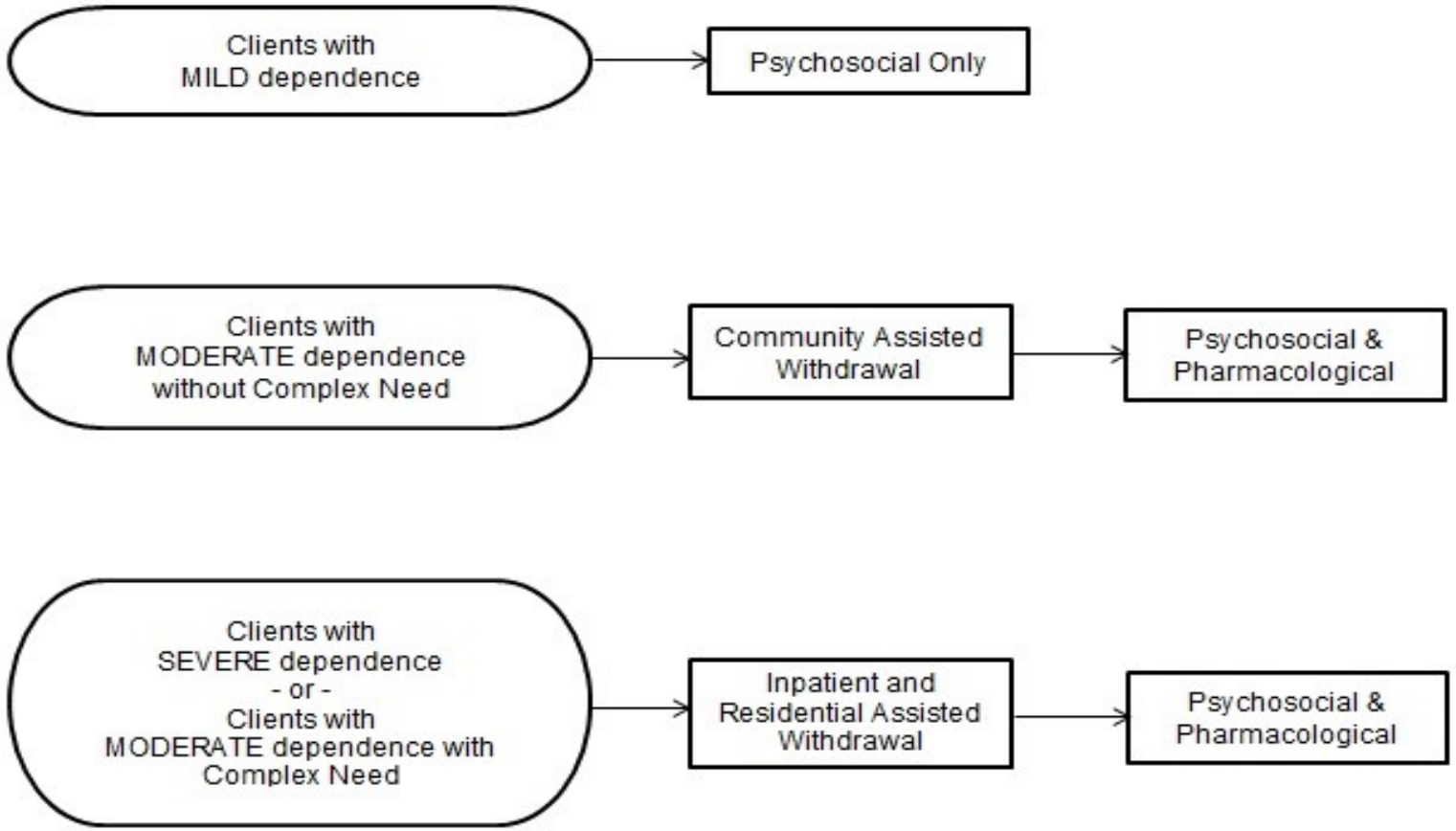
Drummond et al. (2005) Alcohol Needs Assessment Research Project (ANARP). Department of Health

Prevalence-Service Utilisation Ratio Scotland

- 2008
  - Estimated budget £61M per annum
  - Prevalence Alcohol Dependence 206,000
  - Number entering treatment 17,000
  - PSUR 8% (England 6%)
    - Prevalence: AUDIT 16+ SHeS 2003
    - Service utilisation: SANA survey 2008
- 2014
  - Funding for alcohol services increased by £28M (50%) from £61M to £89M
  - Prevalence Alcohol Dependence 220,000 (5%)
  - Number entering treatment 31,796
  - PSUR 14.5% (England 5%)
    - Prevalence AUDIT 16+ SHeS 2012
    - Service utilisation: Health Scotland survey 2012

Drummond et al. (2008) Scottish Alcohol Needs Assessment. King's College London

Recommended treatment pathways (CG115; 2011) according to severity of dependence and complex needs (Brennan et al., 2017)

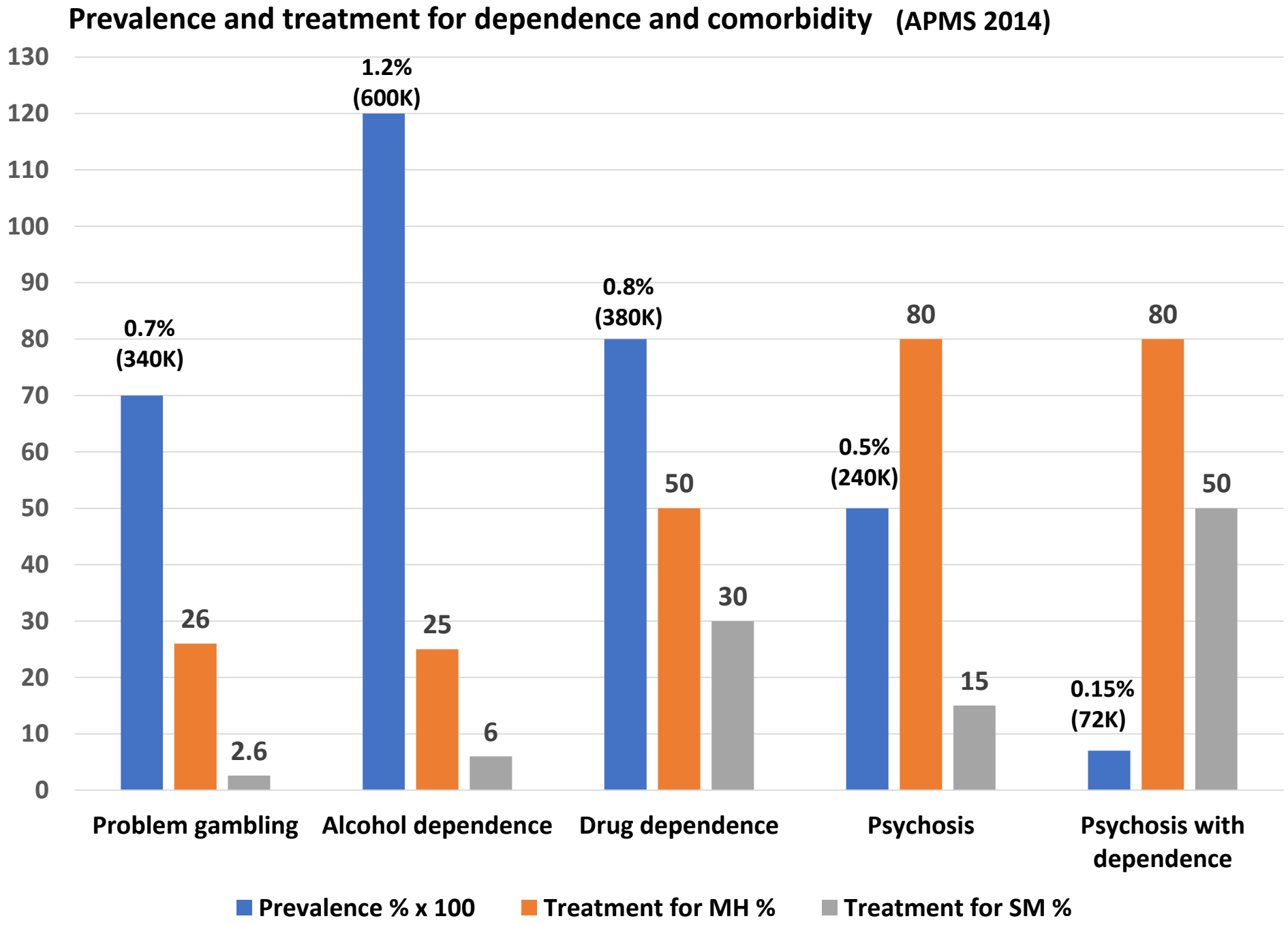


Most recent treatment journey ended in 2013-2014 by NDTMS-estimated Alcohol Dependence Severity Group and treatment pathway (Brennan et al., 2017)

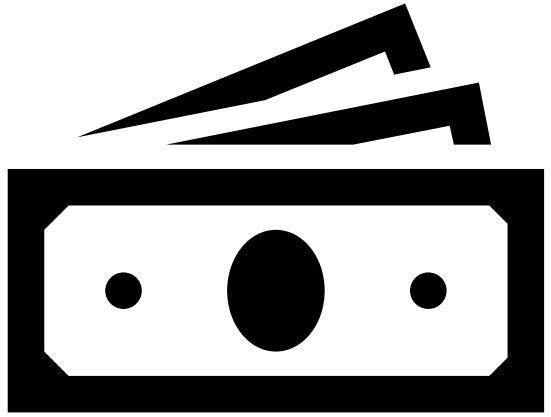
Pathway	Mild	Moderate	Severe	Complex	Total
Community psychosocial only	85%	74%	68%	76%	77% N 46,945
Community psychosocial + Pharma	10%	16%	16%	12%	14% N 8,316
Inpatient	4%	8%	13%	9%	8% N 4,518
Residential	1%	2%	3%	3%	2% N 1,168
% Total N	36% 22,147	33% 19,907	15% 9,083	14% 8,388	100% 60,947

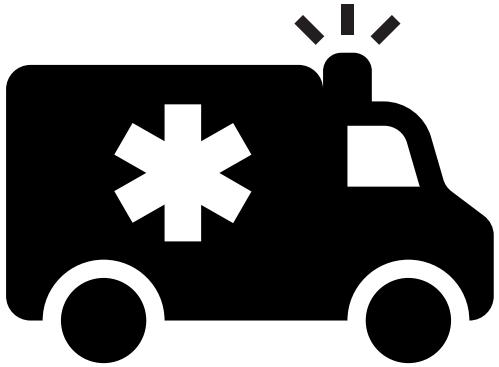
Challenge of multimorbidity

- Chronic multimorbidity increasing with ageing population
- Increasingly focused in socially excluded populations
- High Need, High Cost patients: 9% of people have 60% of admissions – alcohol-related frequent attenders
- High co-prevalence of substance misuse and mental illness
- Few in contact with services
- Need for change:
  - Shift from acute care to disease management model
  - Shift from silo care to integrated care
  - More assertive engagement/outreach
  - Challenge stigma
- Mental health and addiction specialists need to work across organisational boundaries


Prevalence and treatment for dependence and comorbidity (APMS 2014)
130
120
110
100
90
80
70
60
50
40
30
20
10
0
0.7%
(340K)
26
2.6
1.2%
(600K)
25
6
0.8%
(380K)
50
30
0.5%
(240K)
80
15
0.15%
(72K)
80
50
Problem gambling
Alcohol dependence
Drug dependence
Psychosis
Psychosis with dependence
Prevalence % x 100
Treatment for MH %
Treatment for SM %

Value based healthcare





thebmj

BMJ 2017;356:j437 doi: 10.1136/bmj.j437 (Published 2017 January 27)

EDITORIALS

Value based healthcare

Reducing unwarranted variation to maximise the value of healthcare for populations

Muir Gray *visiting professor*

Nuffield Department of Primary Care Health Sciences, Oxford, UK

How can the gap between need and demand on the one hand and resources on the other be closed or even narrowed? Since the global financial collapse most countries have reduced or reversed annual increases in the resources invested in health services, creating a big problem for those who pay for or manage health services, many of whom are also clinicians.

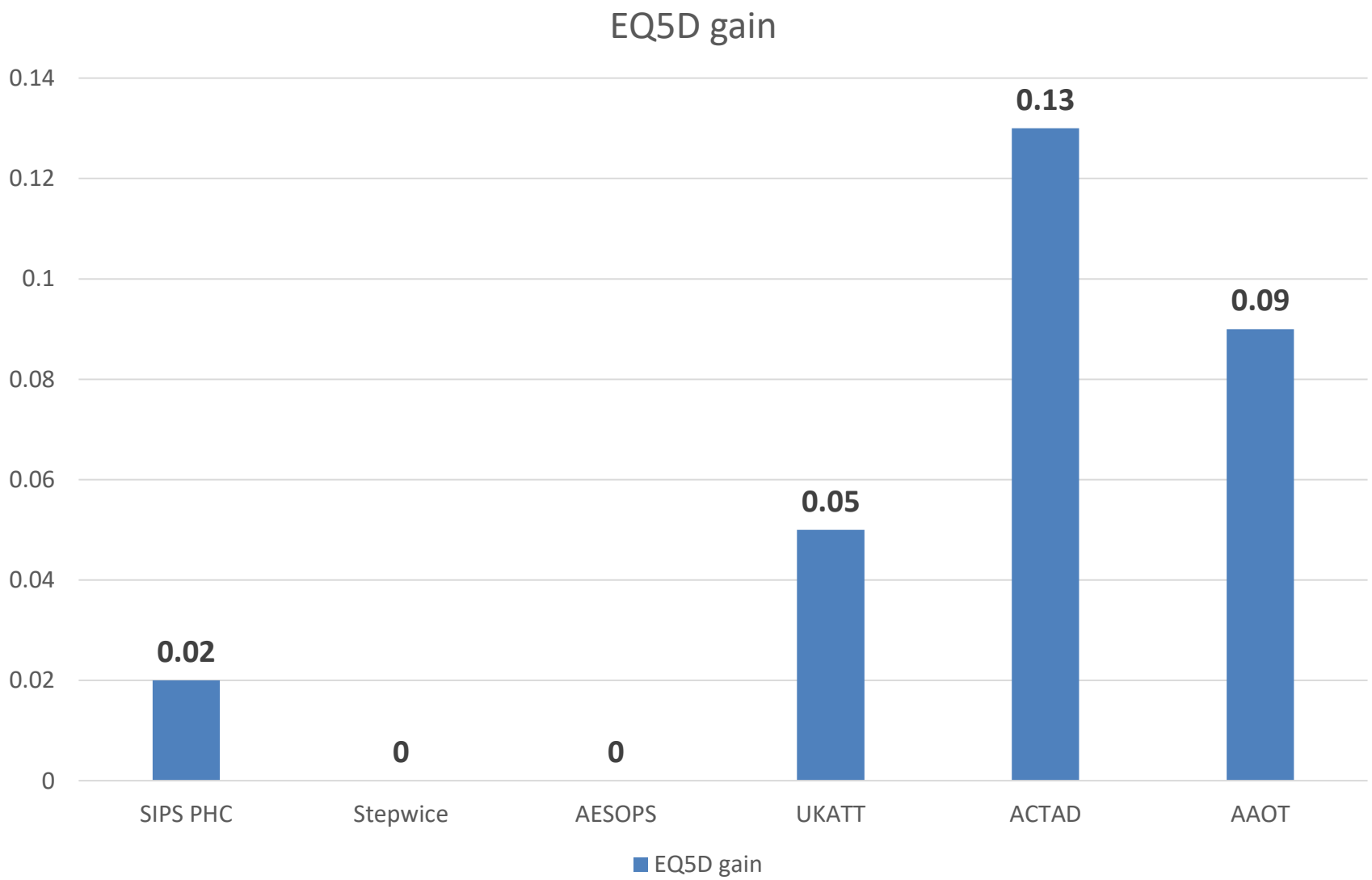
The techniques that have been developed over the past 20 years

Value has two dimensions when considering populations. The first is allocative value—how well the resources available for the whole population have been allocated to different groups, such as people with cancer or people with mental health problems. Financial allocation to both these groups varies 1.9-fold across different commissioners, and there is no evidence that this is the result of deliberative decision making or related

Value based healthcare (Gray, 2017)

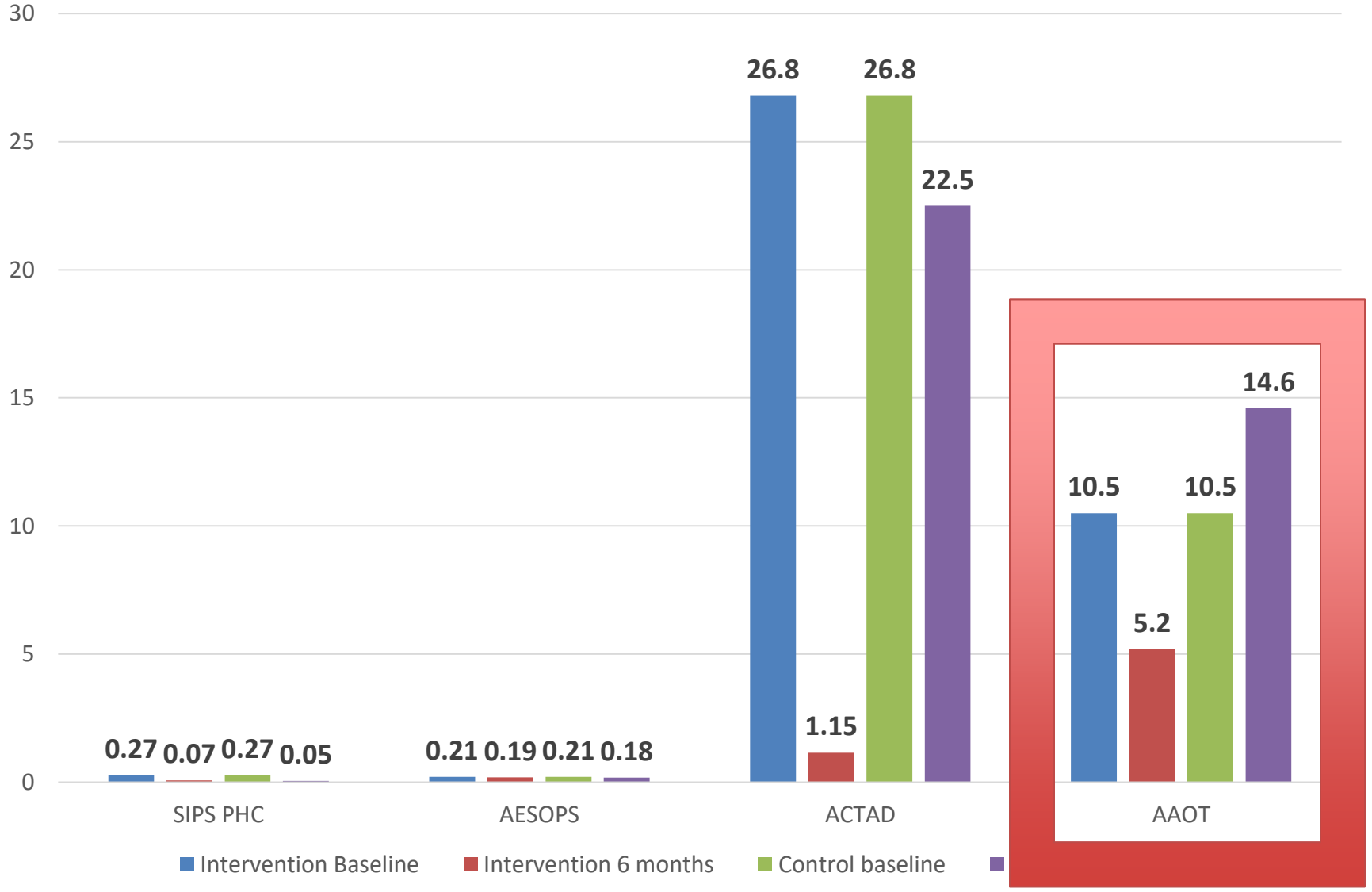
- Benefit to patients (e.g. improved quality of life)
- Reduced healthcare costs (e.g. cost savings in reduced admissions)
- Improved population health (e.g. reduced prevalence of ill health)

Value for patients



Value for healthcare costs

Mean inpatient nights pre-post intervention



Extrapolation from AAOT trial to national ARFA data

- England 54,369 ARFAs
- OBDs 1,402,600
- Cost £848M
- Saving AOT compared to CAU = £13,819/case = £751M
- AOT treatment cost = £2,979/case = £161M
- Net saving = £10,840/case = £590M
- For every £1 spent, net cost saved = £3.66
- So potential cost saving overall = £590M in England

Alcohol CQUIN – expected impact

Smoking

~1.6M smokers should receive very brief advice due to PIHCQUIN; of whom **~486K** can be expected to take up a referral; and we could expect **110K** may quit.

Alcohol

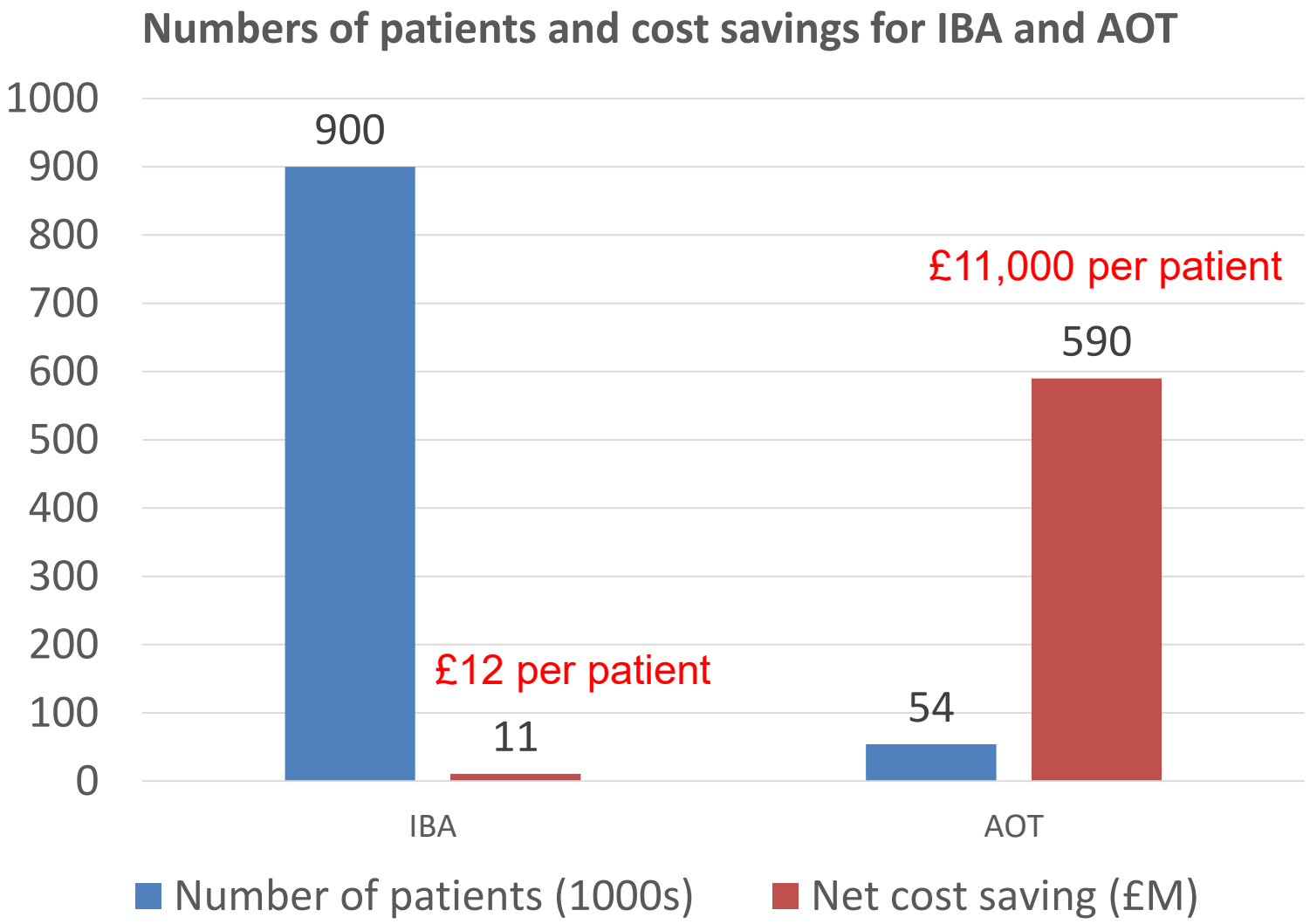
Even if only half of patients get screened.

~896K of patients drinking above the low-risk guidelines will get IBA & **~64K** will be referred to treatment in the community.

The NHS could save **>£20M** per year from reductions in ill-health caused by drinking.

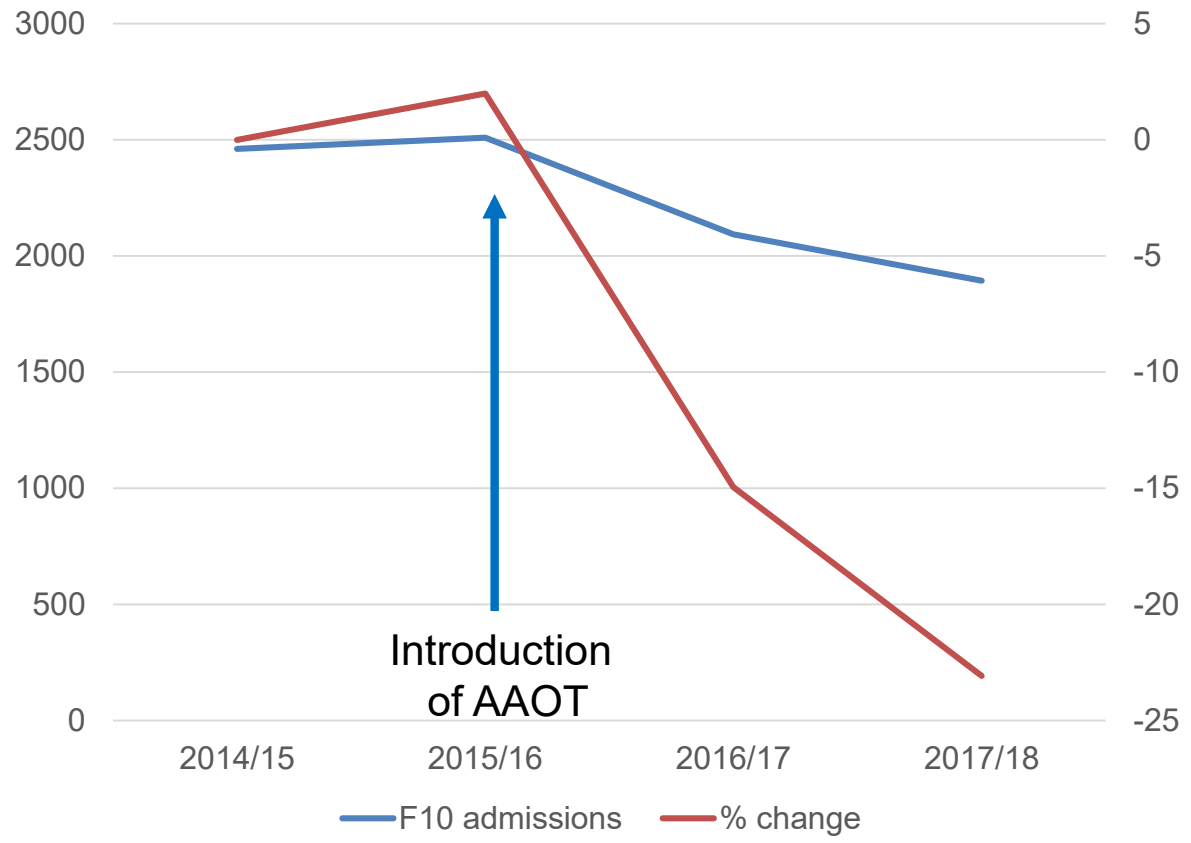
Cost of implementation: BA £10 per case (SIPS ED) = £10 x 900,000 = **£9M**
Net saving = **£11M**

Value for healthcare costs



Value at a population level

Change in alcohol admissions via Emergency Department in King's College Hospital



Summary

	Whole population alcohol pricing	Alcohol SBI	Specialist treatment
For	• Large impact • Cheap to do • Highly cost effective • MUP targeted • Prevention better than cure	• Medium impact • Politics easier • Prevention • Referral to treatment • Done by generalists or electronic SBI	• Individual, population and cost impact high • Low natural remission • Politics medium • More effective with HNHC • Costs of doing nothing
Against	• Politics difficult • Regressive • Therefore hard to implement	• Costly at scale if clinician delivered • Individual impact small • Implementation difficult • High natural remission • Inequality paradox	• Intervention at late stage • Individual care costly • Requires specialists • Intensive and extensive

So, do the best things come in small packages?

- SBI versus specialist treatment – a zero sum game
  - Should be both/and, rather than either/or
  - But I wouldn't bet the family silver on SBI alone
- Whole population measures (price, availability, marketing)
  - Highly cost effective
  - More faithful to the 'prevention paradox'
  - But, politically challenging to implement
  - SBI and treatment are different levels of 'high risk' strategy
- Value based healthcare
  - Most of the harm and costs are concentrated in a relatively small number of high need, high cost individuals
  - Scarce resources need to be focused on High Value interventions
  - What type of intervention, delivered by whom, to which excessive drinker, ~~is effective~~ ***delivers the greatest value***?


Alcohol treatment:
It’s prevention Jim,
but not as we know it.

Without whom……

- IOPPN
  - Paolo Deluca
  - Tom Phillips -P
  - Hilary Little
  - Amy Wolstenholme -P
  - Kath Perryman
  - Abi Rose
  - Catherine Elzerbi
  - Zoe Davey -P
  - Helen Gilburt
  - Bob Patton
  - Kim Donoghue
  - Sally Marlow -P
  - Ashley Brewer -P
  - Michael Lynskey
  - Jo Neale
  - Hannah Rose -P
  - Ros Blackwood -P
  - Zarnie Khadjesari
  - Jo Millward -P
  - Stephanie Fincham-Campbell -P
  - Tom Parkman
  - Emmert Roberts -P
- St George ‘s
  - Nek Oyefeso
  - Judy Myles
  - Filippo Passetti
- Kent
  - Simon Coulton
- Birmingham
  - Ed Day
  - Alex Copello
- York
  - Christine Godfrey
  - Steve Parrott
- Newcastle
  - Eileen Kaner
  - Dorothy Newbury-Birch
  - Eilish Gilvarry
- Oxford
  - Tom Burns
- Imperial College
  - Mike Crawford
  - Anne Lingford-Hughes
  - Robin Touquet
- Southampton University
  - Julia Sinclair
- Swansea
  - Darren James
  - Ian Russell
  - Ceri Phillips
- Catalonia
  - Peter Anderson
  - Toni Gual
- Sheffield
  - Alan Brennan et al
- Scotland
  - Peter Rice
- Funding
  - MRC, DH, NIHR, WHO, EC, ESRC, ARUK, SSA