TWIST Training With Stakeholders
Applying EU Addiction Research

Alcohol

Antoni Gual

Pablo Barrio

Wednesday 25th October 2017

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- **New technologies** Pablo
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  - mHealth
  - New biomarkers
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- **New definitions**
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  - New treatment goals Toni
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  - MoE Toni
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  - Different models of governance in addictions Toni
- **Conclusion** Pablo

Alcohol: the Problem

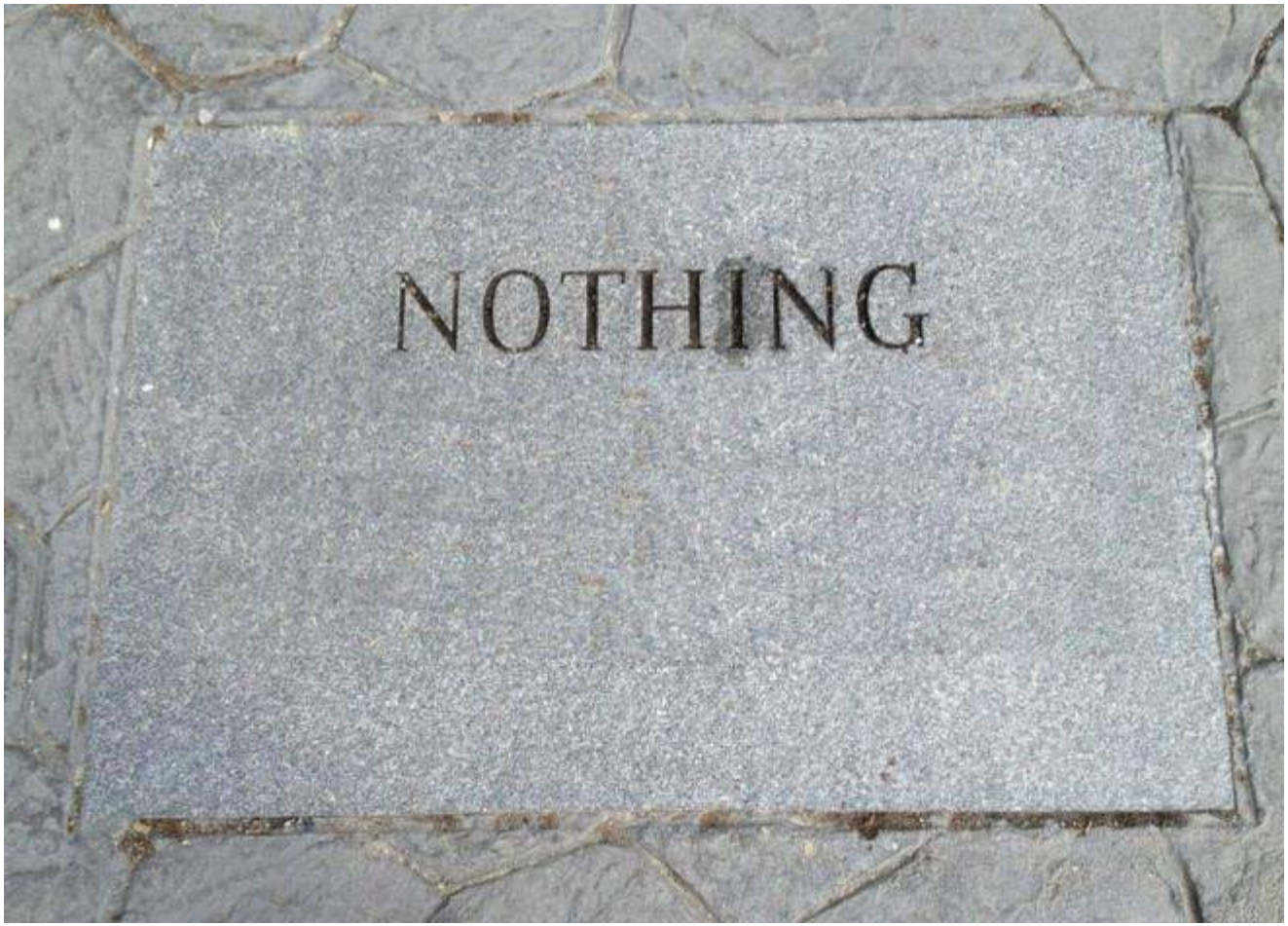
Question!

- Stigma?
- Social perceptions?
- Treatment gap?
- Low treatment efficacy?
- Social costs?

Alcohol: the solutions' Index

- New technologies
- New models in PHC
- New definitions
- New policies

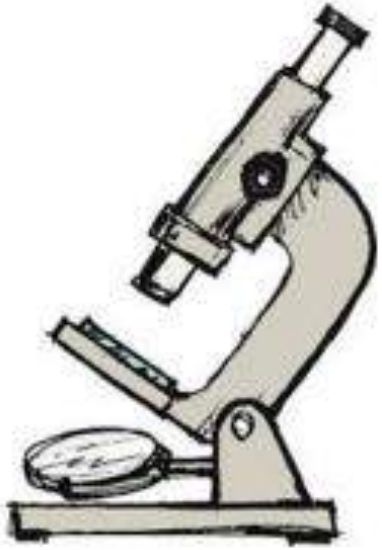
Alcohol: the Solutions

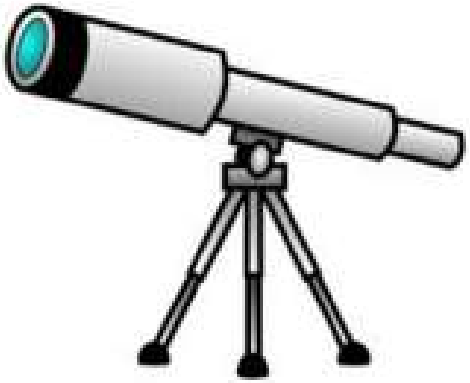


New technologies

- Apps
- Biomarkers
- Wearables

“New directions in science are launched by new tools much more often than new concepts”





Apps and more

- SMS
- Computerized interventions
- Internet interventions
- Mobile applications
- Internet 2.0.
- ....Technological acceleration!!

Is there a window of opportunity?

- High prevalence → Easy access
- Treatment GAP → Wide coverage
- Health costs → Cheap
- Stigma associated → Privacy & Confidentiality
- Length of treatments → Monitoring strenghts

New technologies — New models in PHC — New definitions — New policies

User Centred Design (UCD)

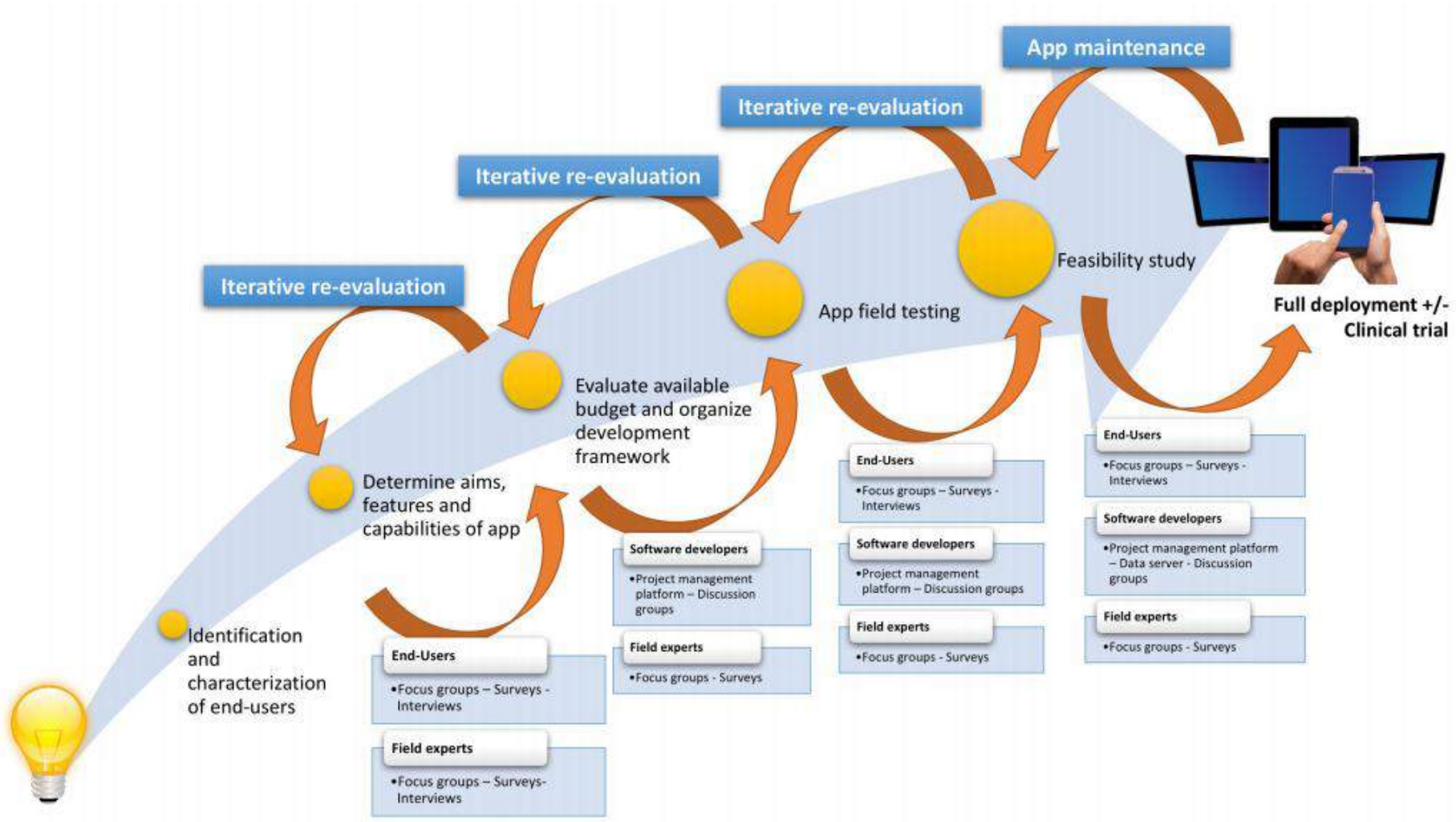


Figure 1 User-centred development pathway for the SIMPLe study.

Ecological momentary assessment: what it is and why it is a method of the future in clinical psychopharmacology

Debbie S. Moskowitz, PhD; Simon N. Young, PhD (2006)

Moskowitz — Department of Psychology; Young — Department of Psychiatry, McGill University, Montréal, Que.

OPEN ACCESS Freely available online

PLOS ONE

A Smartphone Ecological Momentary Assessment/ Intervention "App" for Collecting Real-Time Data and Promoting Self-Awareness (2013)

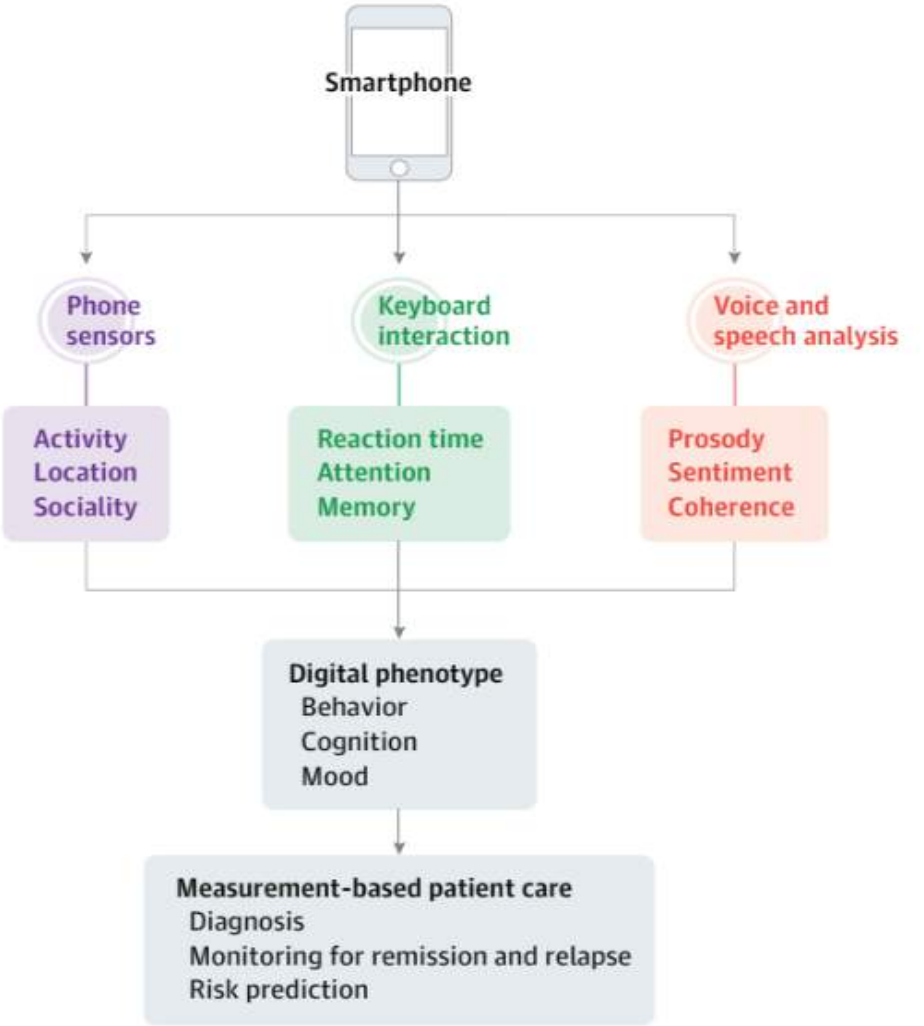
Jason D. Runyan[1]*, Timothy A. Steenbergh[1], Charles Bainbridge[1], Douglas A. Daugherty[1], Lorne Oke[2], Brian N. Fry[1]

1 Behavioral Science Division, Indiana Wesleyan University, Marion, Indiana, United States of America, 2 The Center for Learning and Innovation, Indiana Wesleyan University, Marion, Indiana, United States of America

New technologies — New models in PHC — New definitions — New policies

Ubiquitous Computing and Digital Phenotyping

Figure. The Process of Digital Phenotyping



Digital phenotyping involves collecting sensor, keyboard, and voice and speech data from smartphones to measure behavior, cognition, and mood.

Better data

Better care

New technologies — New models in PHC — New definitions — New policies

New technologies | New models in PHC | New definitions | New policies

chronic illness

Editorial

Chronic Illness
7(3) 176–180

DOI: 10.1177/1742395311403013
chi.sagepub.com
SAGE

Getting inside the black box of health promotion programmes using Intervention Mapping

Gerjo Kok[1] and Ilse Mesters[2]

New technologies — New models in PHC — New definitions — New policies

Question!

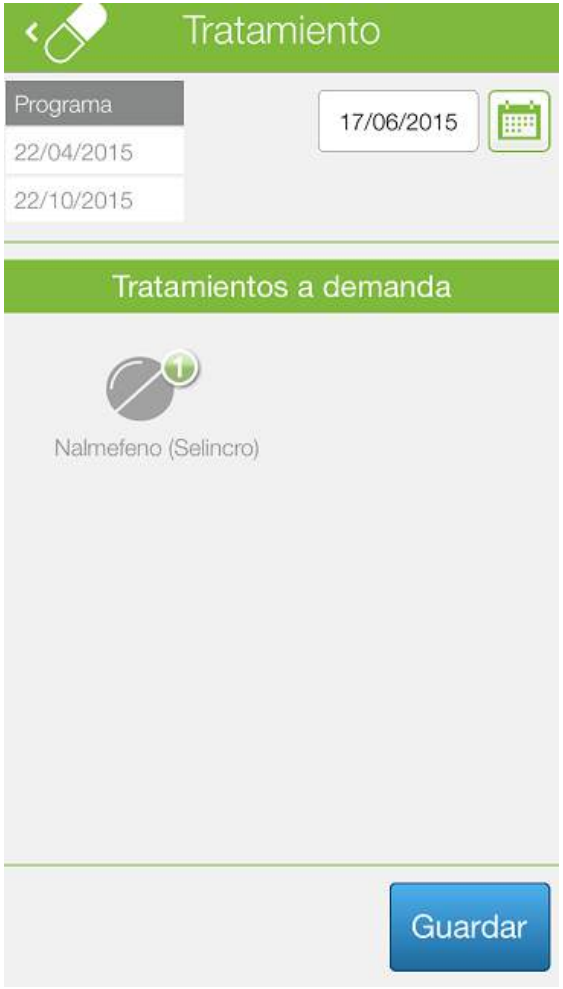
Most pressing issues in the development of mhealth interventions? Please Rank!

- Safety and privacy issues
- Development of evidence based interventions
- Providing rapid and sound efficacy data
- Role of the industry in developing and distributing the intervention
- Implementation and sustainability of the intervention

Recommendations

- Be as inclusive as possible with partners (industry, healthcare agencies, universities,etc)
- Take into account economic analysis and business plan
- Consider up front intellectual property issues
- Involve service users and other intened end-users in the design (UCD)
- Explore alternatives to RCT for evidence provision


Programa de Autoayuda


Tratamiento
Programa
22/04/2015
22/10/2015
17/06/2015
Tratamientos a demanda
Nalmefeno (Selincro)
Guardar


Añadir
Programa
22/04/2015
22/10/2015
17/06/2015
Hoy no he consumido
Cervezas
Vinos, cavas y espumosos
Total consumiciones:
0
Total UBE's:
0,0
Máx. UBE's diarias
5,0
Guardar

Lundbeck

PULMSO ediciones

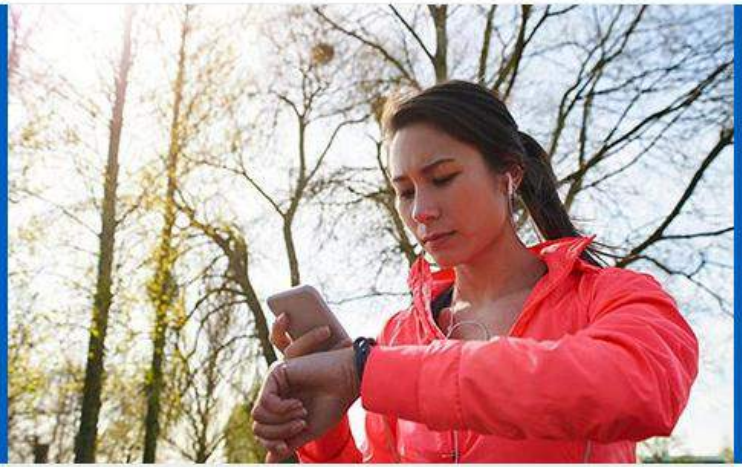
CLÍNIC
BARCELONA
Hospital Universitari

CatSalut
Servei Català
de la Salut

NHS

Find digital tools to help you manage and improve your health

Find out more



FILTER BY CATEGORY

- All
- Cancer
- COPD
- Dementia
- Dental
- Diabetes
- Healthy Living
- Learning Disabilities
- Mental Health
- Online Community
- Other

myCOPD

✓ NHS Approved

myCOPD helps people with COPD to better manage their condition.

COPD

Cove

Being Tested in the NHS

Create music to capture your mood and express how you feel with the Cove app.

MENTAL HEALTH

Chill Panda

Being Tested in the NHS

Learn to relax, manage your worries and improve your wellbeing with Chill Panda.

Evergreen Life

Evergreen Life is a personal health record app that stores your health information in one place.

Nationally Comissioned Online Treatment Services

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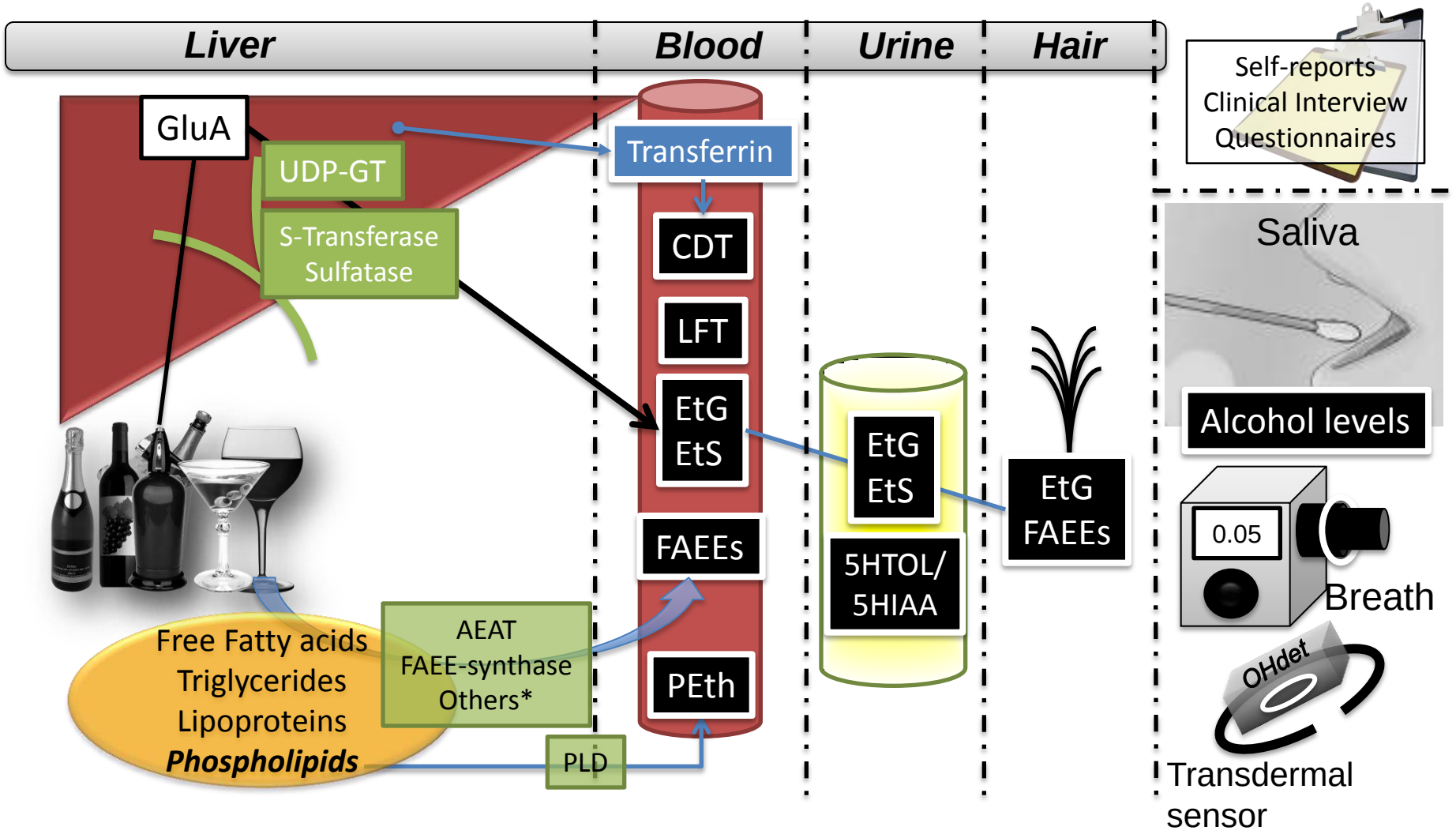
Biomarkers


Liver
Blood
Urine
Hair
GluA
UDP-GT
S-Transferase
Sulfatase
Transferrin
CDT
LFT
EtG
EtS
FAEEs
PEth
EtG
EtS
5HTOL/
5HIAA
EtG
FAEEs
Free Fatty acids
Triglycerides
Lipoproteins
Phospholipids
AEAT
FAEE-synthase
Others*
PLD
Self-reports
Clinical Interview
Questionnaires
Saliva
Alcohol levels
0.05
Breath
OHdet
Transdermal
sensor

Question!

Most important feature of a biomarker?

- Long detection window
- High sensitivity and specificity
- Price-affordable
- Easily obtained from patients
- Evidence shows it has an impact on patient outcomes

Ethylglucuronide: research gaps

- Lack of effectiveness evidence for alcohol screening
- What are the implications of screening positive?

Drug and Alcohol Dependence 136 (2014) 11–20

Contents lists available at ScienceDirect

Drug and Alcohol Dependence

journal homepage: www.elsevier.com/locate/drugalcdep

Review

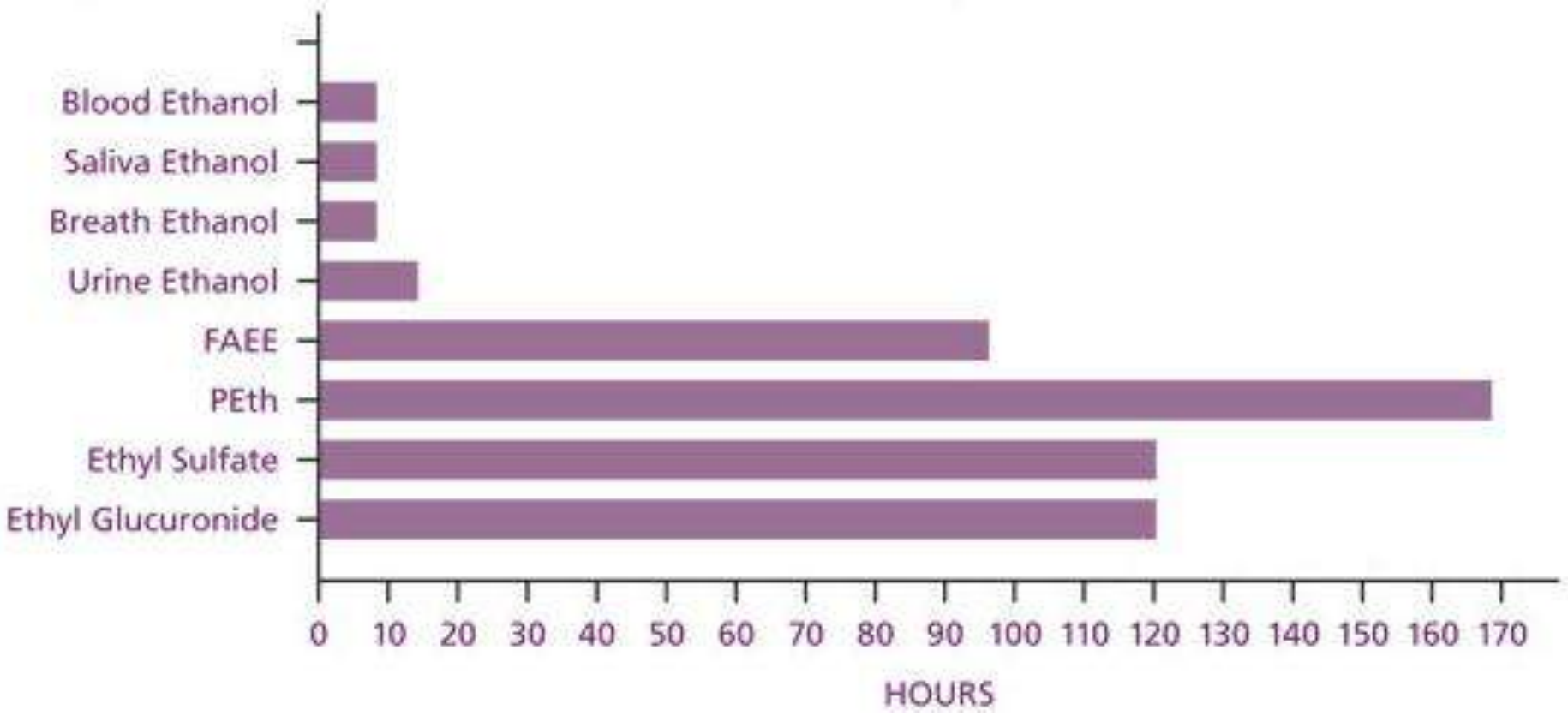
Does urine drug abuse screening help for managing patients? A systematic review☆

Julie Dupouy[a,b,*], Vincent Mémier[b], Hélène Catala[b], Michel Lavit[c], Stéphane Oustric[a], Maryse Lapeyre-Mestre[b]

"Few studies, with poor quality, have assessed the value of UDS in managing patients using psychoactive substances; though with insufficiency to demonstrate the interest of carrying out UDS. Therefore, pragmatic intervention studies are necessary"

Main Starrings

- EtG
- Peth
- Transdermal Sensors



New technologies — New models in PHC — New definitions — New policies

European Addiction Research

Research Report

Eur Addict Res 2016;22:243–248
DOI: 10.1159/000445741

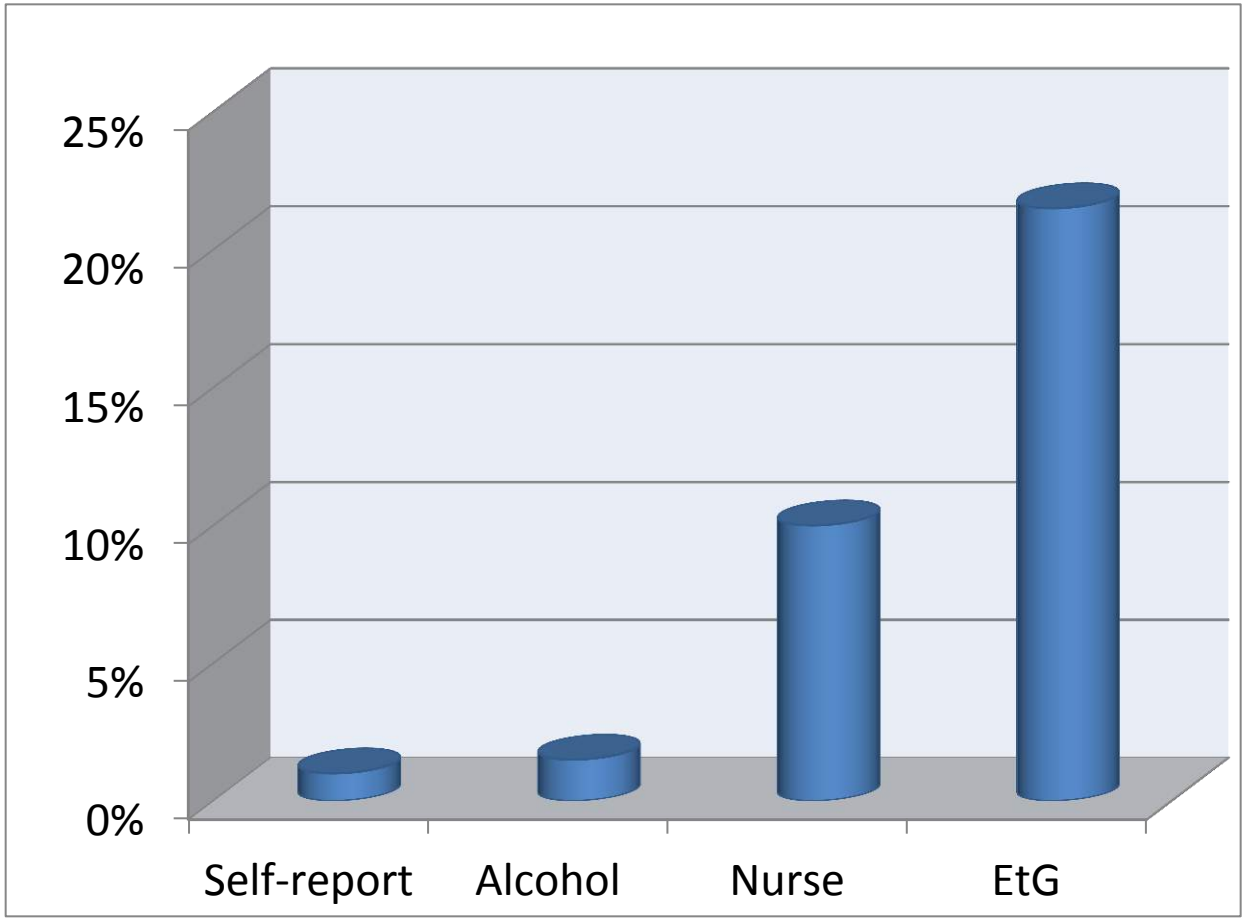
Received: December 14, 2015
Accepted: March 23, 2016
Published online: May 26, 2016

Urine Ethyl Glucuronide Unraveling the Reality of Abstinence Monitoring in a Routine Outpatient Setting: A Cross-Sectional Comparison with Ethanol, Self Report and Clinical Judgment

Pablo Barrio[a,c] Lidia Teixidor[a] Naira Rico[b] Pol Bruguera[a] Lluisa Ortega[a]
José Luis Bedini[b] Antoni Gual[a,c]

- 188 patients included
- 613 samples collected

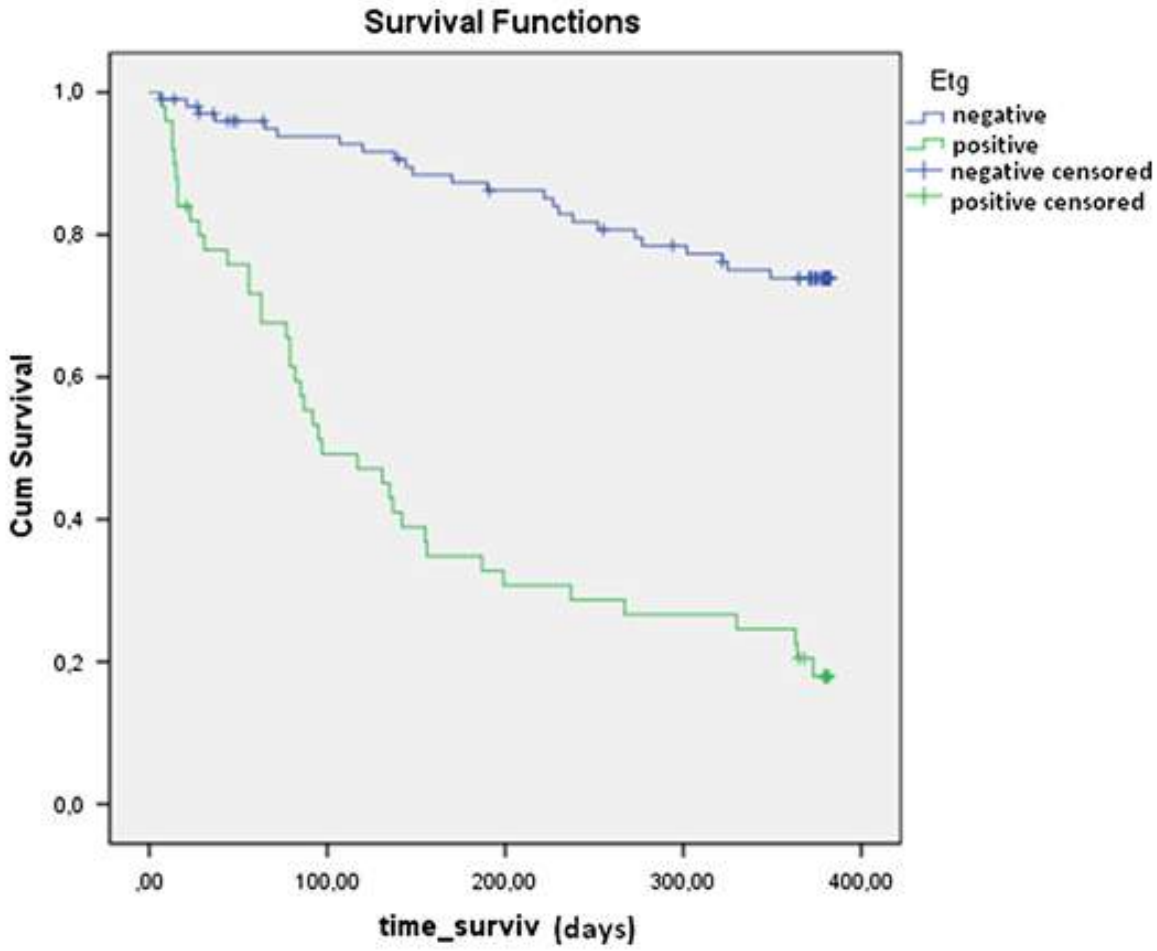
% of positive samples detected by each method

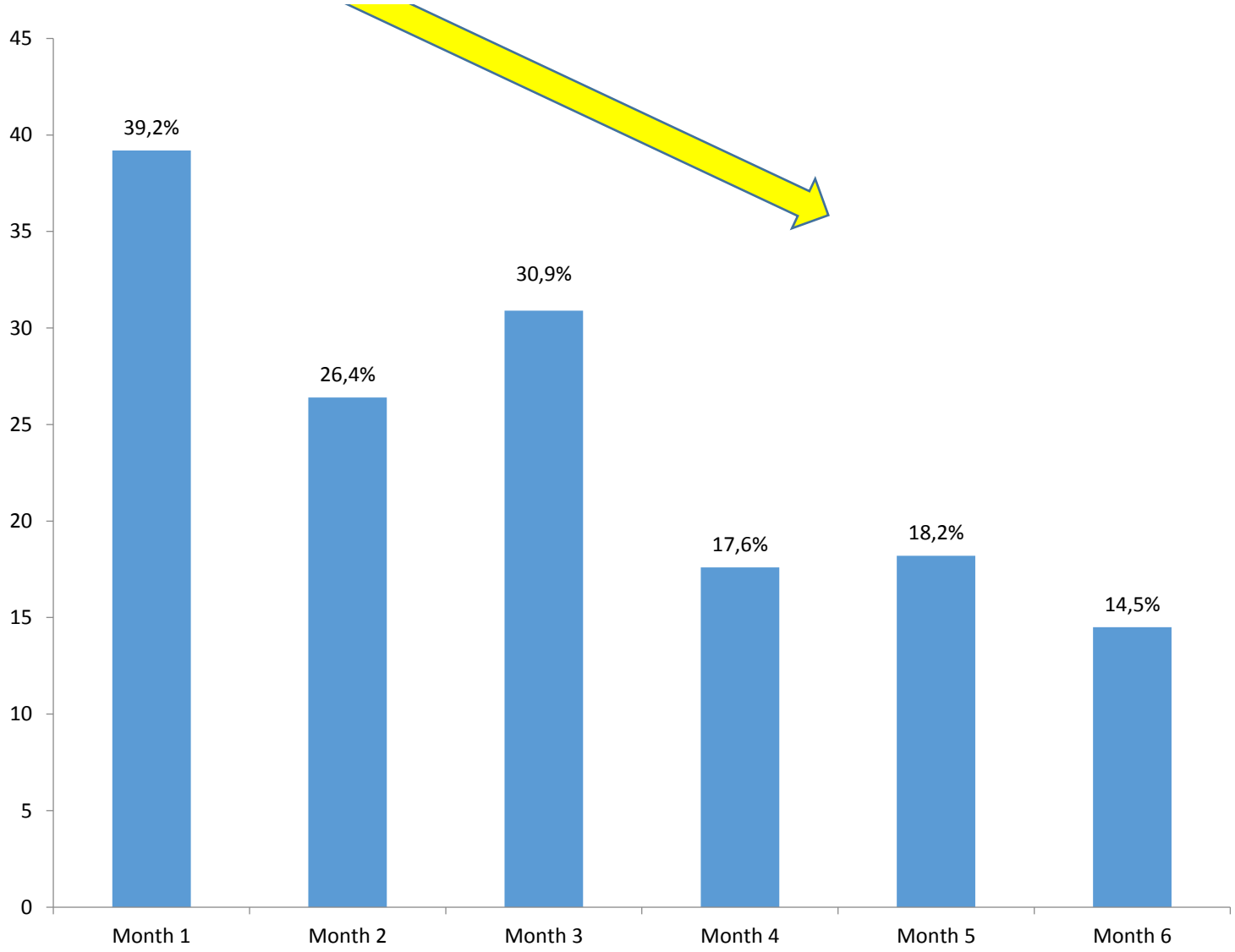


Article

One Year Clinical Correlates of EtG Positive Urine Screening in Alcohol-Dependent Patients: A Survival Analysis

Pablo Barrio [1,2,3,*], Silvia Mondon[1], Lídia Teixidor[1], Lluisa Ortega[1], Eduard Vieta[2,4,5], and Antoni Gual[1,2,3]




45
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35
30
25
20
15
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5
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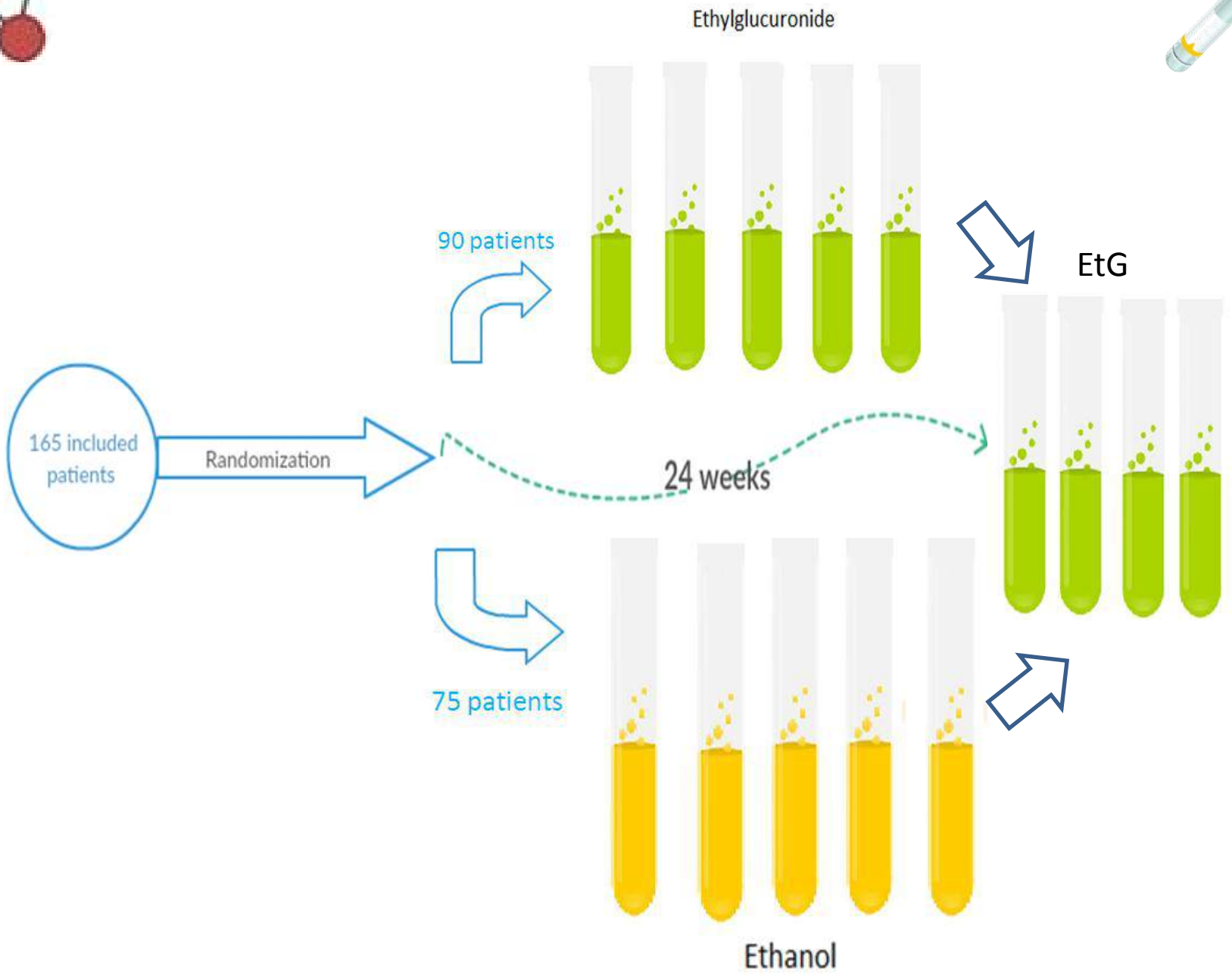
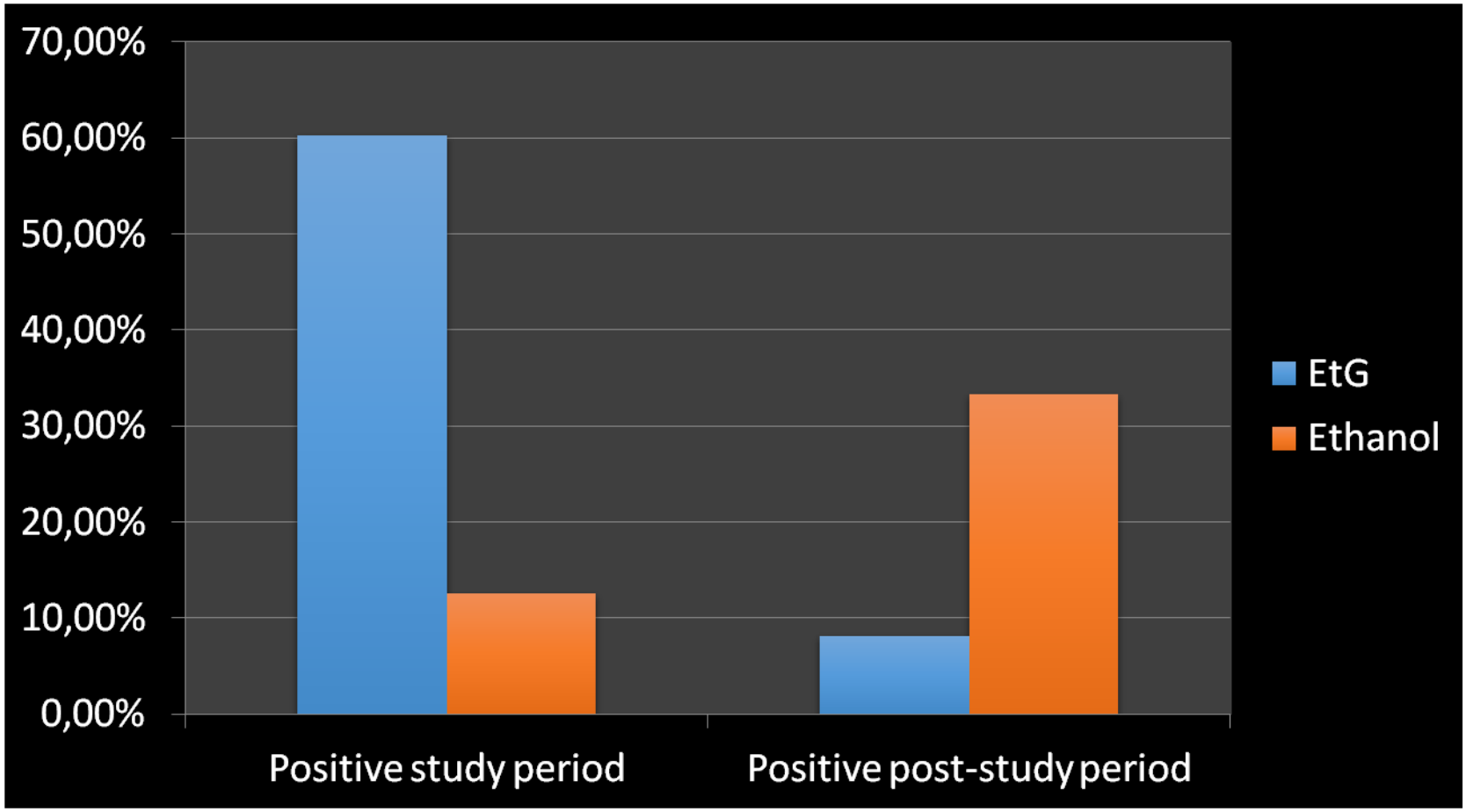
39,2%
26,4%
30,9%
17,6%
18,2%
14,5%
Month 1
Month 2
Month 3
Month 4
Month 5
Month 6


Ethylglucuronide
90 patients
EtG
165 included patients
Randomization
24 weeks
75 patients
Ethanol


70,00%
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
Positive study period
Positive post-study period
EtG
Ethanol

Question!

Why would a more sensitive biomarker improve patient outcomes?

- Increased coercion
- Increased feedback

Evaluate Performance Improvement

Discover Issues

Self-Discovery

Assisted Discovery

Effective Feedback Cycle

Analyse Causes & Consequences

Create Options & Solutions

Commit to Action

New technologies

New models in PHC

New definitions

New policies

Question!

True or false? If a biomarker is sensitive and specific enough, and has a long detection window, its results can fully substitute patients' self reports.

- True
- False

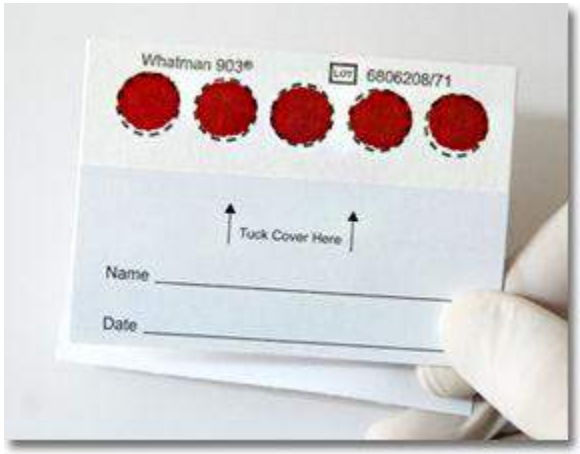
PeTH

Alcohol and Alcoholism, 2016, 51(3) 275–280
doi: 10.1093/alcalc/agv120
Advance Access Publication Date: 29 October 2015
Article

OXFORD

Article

Stability of Phosphatidylethanol in Dry Blood Spot Cards



ALCOHOLISM
CLINICAL & EXPERIMENTAL RESEARCH
ISBRA
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Immunological Detection of in Vitro Formed Phosphatidylethanol—An Alcohol Biomarker—With Monoclonal Antibodies

Wearables

ALCOHOLISM
CLINICAL & EXPERIMENTAL RESEARCH
ISBRA
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Original Article

Continuous Objective Monitoring of Alcohol Use: Twenty-First Century Measurement Us Transdermal Sensors

Thad R. Leffingwell ✉, Nathaniel J. Cooney, James G. Murphy, Susan Luczak, Gary Rosen, Donald M. Dougherty, Nancy P. Barnett

First published: 23 July 2012 Full publication history

DOI: 10.1111/j.1530-0277.2012.01869.x View/save citation

Cited by (CrossRef): 25 articles Check for updates | Citation tools

Fig. 1. Secure Continuous Remote Alcohol Monitor (SCRAM) bracelet device.

Fig. 2. WrisTAS device.

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ADDICTION

SSA SOCIETY FOR THE STUDY OF ADDICTION

Explore this journal >

Research Report

A preliminary randomized controlled trial of contingency management for alcohol use reduction using a transdermal alcohol sensor

Nancy P. Barnett ✉, Mark A. Celio, Jennifer W. Tidey, James G. Murphy, Suzanne M. Colby, Robert M. Swift

First published: 22 February 2017 Full publication history

DOI: 10.1111/add.13767 View/save citation

View issue TOC
Volume 112, Issue 6
June 2017
Pages 1025–1035

New technologies — New models in PHC — New definitions — New policies

Question!

What problems might appear when "prescribing" a transdermal alcohol sensor to your patients?

- Rejection due to feeling continuosly controlled
- Rejection due to feeling stigmatized
- Rejection due to feeling physically uncomfortable

Drug and Alcohol Dependence

Volume 178, 1 September 2017, Pages 417-424

Full length article

Experiences with SCRAMx alcohol monitoring technology in 100 alcohol treatment outpatients

Sheila M. Alessi [a], Nancy P. Barnett [b], Nancy M. Petry [a]

Show more

https://doi.org/10.1016/j.drugalcdep.2017.05.031

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- High adherence to de device
- Minimal side effects
- Majority of patients agree monitoring helped them reduce drinking
- Overall it seems feasible and acceptable

New technologies | New models in PHC | New definitions | New policies

SCIENTIFIC REPORTS

OPEN

Received: 01 December 2015
Accepted: 29 February 2016
Published: 21 March 2016

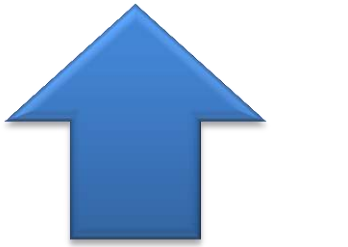
A wearable biochemical sensor for monitoring alcohol consumption lifestyle through Ethyl glucuronide (EtG) detection in human sweat

Anjan Panneer Selvam[1,2], Sriram Muthukumar[2], Vikramshankar Kamakoti[1] & Shalini Prasad[1]

New technologies — New models in PHC — New definitions — New policies

New Models in Primary Care

- Self-management
- Medical management
- Rethinking the PHC approach to alcohol



Pros?

Cons?

Self management

("one cannot not manage")

How does one manage?

- First mention in 1967 (children with asthma)
- Rather than cure, help to maintain a wellness in the foreground perspective of patients
- Problems based on patients' perspectives
- Tasks related to
  - Medical management
  - Formation of new meaningful behaviors
  - Emotional management

Core Skills

- Problem solving (definition, search for solutions and suggestions, implementation, evaluation)
- Decision making
- Resource utilization
- Partnership formation
- Taking action (action plan: specific, doable)

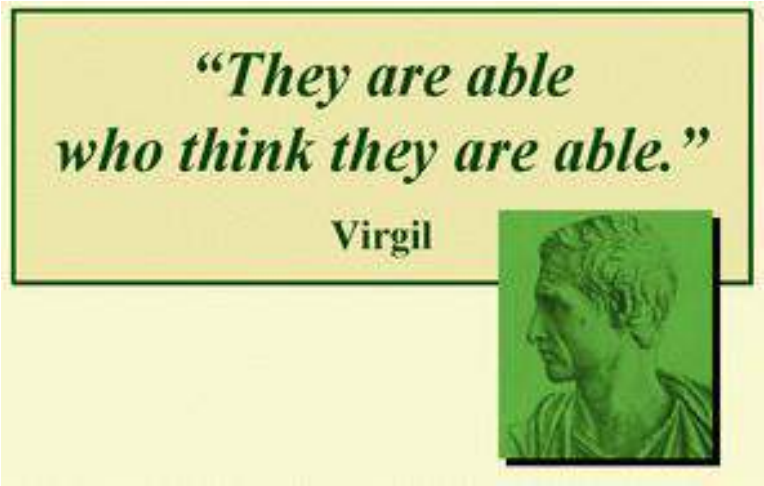
- Self tailoring (as opposed to traditional tailoring)

Question!

Self-management: Why does it work?

- Better formulation of problems
- Increased time spent finding solutions to problems
- Increased self-efficacy
- Increased efficiency in medical management

Self Management: Why does it work?



Alcohol Examples

Research

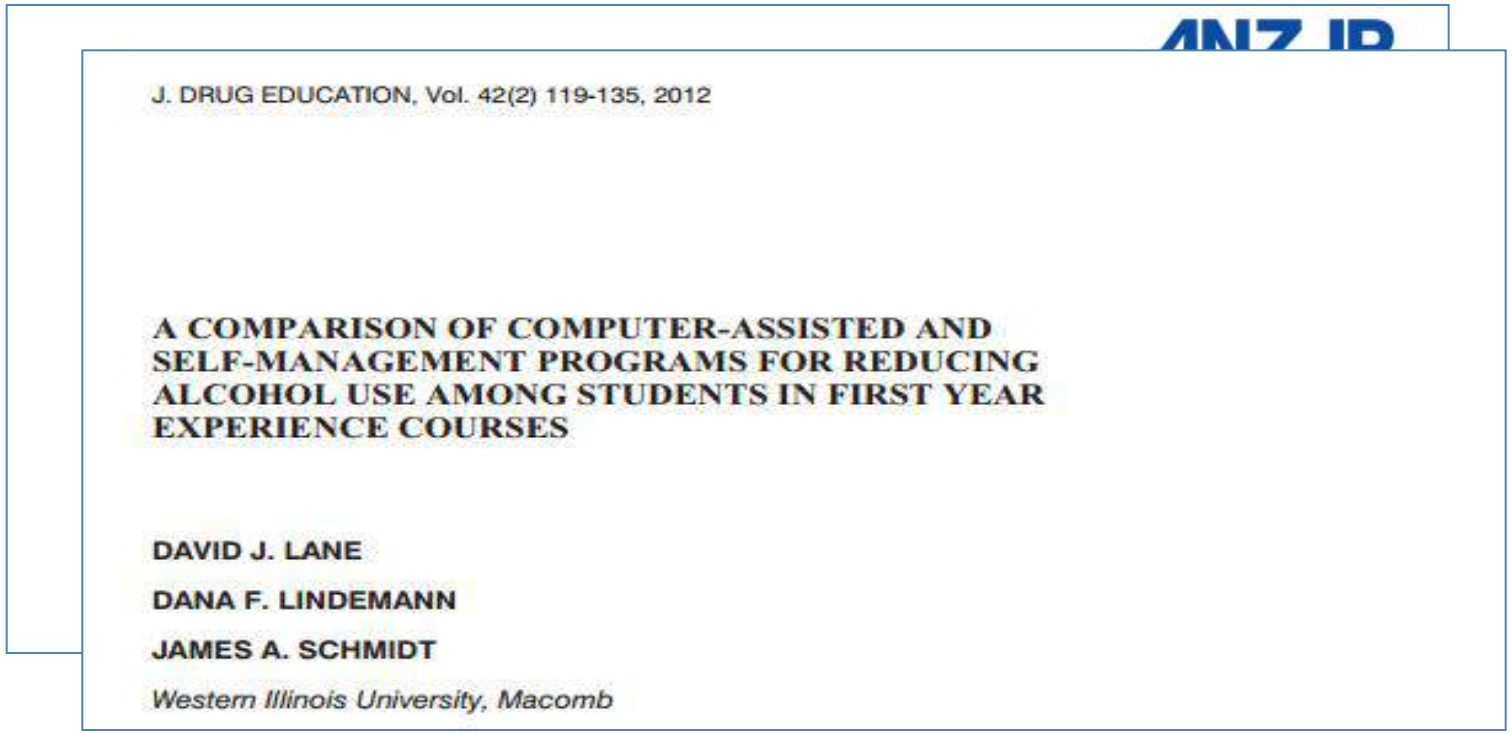
ANZJP

Australian & New Zealand Journal of Psychiatry
47(5) 451–462
DOI: 10.1177/0004867412471977

A randomised controlled trial of the Flinders Program™ of chronic condition management in Vietnam veterans with co-morbid alcohol misuse, and psychiatric and medical conditions

Malcolm W Battersby[1], Jill Beattie[2], Rene G Pols[1], David P Smith[1], John Condon[1] and Sarah Blunden[3]

Alcohol Examples



J. DRUG EDUCATION, Vol. 42(2) 119-135, 2012

A COMPARISON OF COMPUTER-ASSISTED AND SELF-MANAGEMENT PROGRAMS FOR REDUCING ALCOHOL USE AMONG STUDENTS IN FIRST YEAR EXPERIENCE COURSES

DAVID J. LANE

DANA F. LINDEMANN

JAMES A. SCHMIDT

Western Illinois University, Macomb

Alcohol Examples

ANZJP

J. DRUG EDUCATION, Vol. 42(2) 119-135, 2012

JAN

Informing Practice and Policy Worldwide through Research and Scholarship

ORIGINAL RESEARCH: EMPIRICAL RESEARCH – QUANTITATIVE

Patients with alcohol-related liver disease – beliefs about their illness and factors that influence their self-management

Margaret Lau-Walker, Jonathan Presky, Ian Webzell, Trevor Murrells & Nigel Heaton

Alcohol Examples

New technologies | New models in PHC | New definitions | New policies

- Institute for Healthcare Improvement
- Improving Chronic Illness care Web site

http://www.improvingchroniccare.org/index.php?p=Critical_Tools&s=162

http://www.ihi.org/resources/Pages/Changes/SelfManagement.aspx

Key elements in the Medical management of Alcohol Use Disorders

- Patient centered care
- Motivational approach
- Monitoring
- Shared decision making

EDITORIAL

Editorials represent the opinions of the authors and *JAMA* and not those of the American Medical Association.

Bringing Patient-Centered Care to Patients With Alcohol Use Disorders

Katharine A. Bradley, MD, MPH; Daniel R. Kivlahan, PhD

jama.com

JAMA May 14, 2014 Volume 311, Number 18

Clinicians and patients should discuss:

- ambivalence toward change;
- patient goals (eg, abstinence vs decreasing drinking vs no change);
- preference for group based or individual psychosocial treatment
- differences in the privacy and cost of the various options
- medication treatments

Motivational approach

- Ambivalence as a core concept
- Overcoming social dominance
- Empathic listening
- External confrontation as a technique vs. internal confrontation as a goal
- Work in partnership: shared decision making
- Communication style: guidance

Monitoring

- Standard biological parameters: MCV, GGT, ASAT and ALAT
- Fluctuations in CDT values
- Breathalyzers
- Ethylglucuronide (up to 72h)
- Apps

Shared decision making

Regular Article

Psychotherapy and Psychosomatics

Psychother Psychosom 2009;78:245–253
DOI: 10.1159/000219524

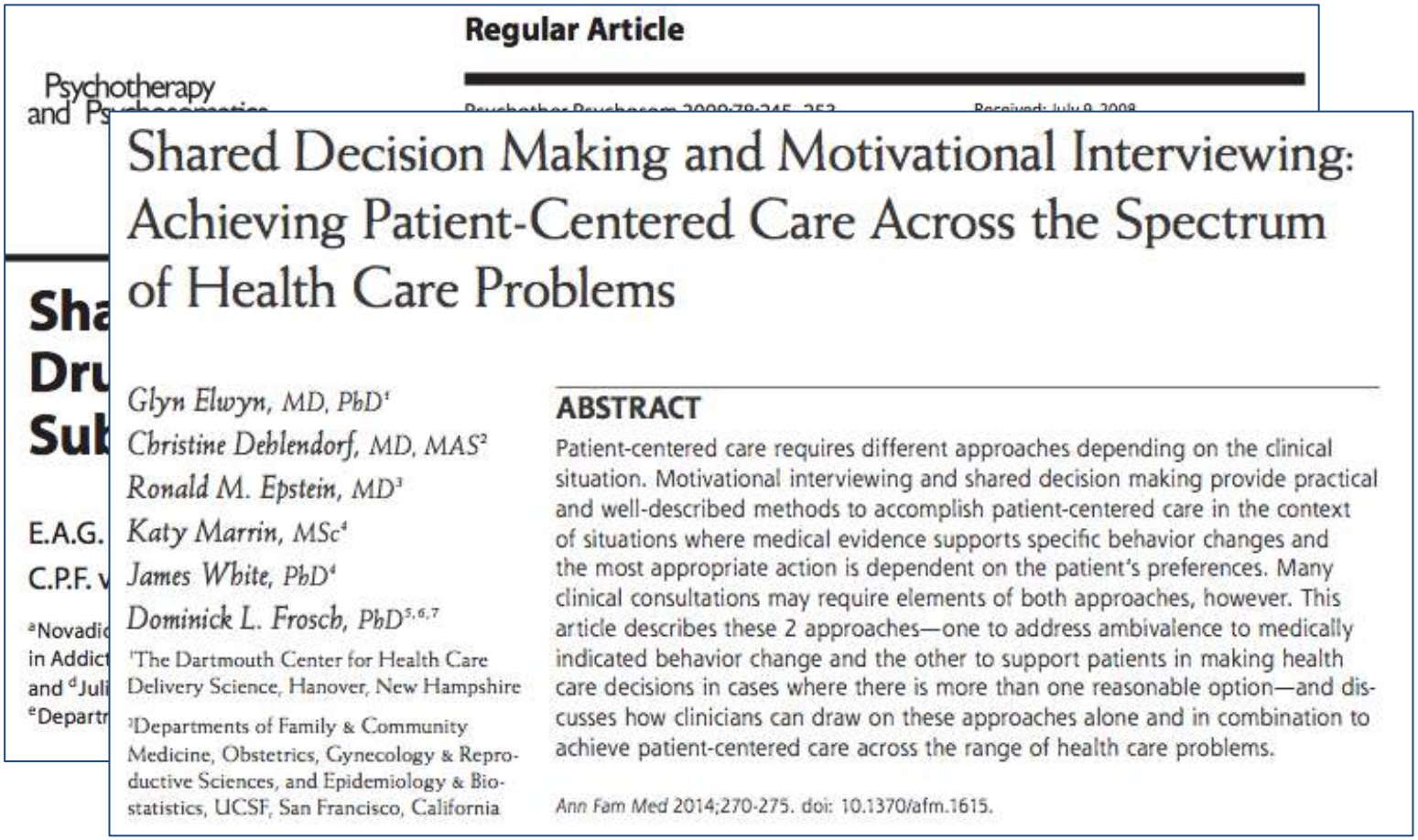
Received: July 9, 2008
Accepted after revision: September 29, 2008
Published online: May 21, 2009

Shared Decision-Making Reduces Drug Use and Psychiatric Severity in Substance-Dependent Patients

E.A.G. Joosten[a, b] C.A.J. de Jong[a, b] G.H. de Weert-van Oene[d] T. Sensky[e]
C.P.F. van der Staak[c]

[a]Novadic-Kentron, Network for Addiction Treatment Services, Vught, [b]Nijmegen Institute for Scientist-Practitioners in Addiction (NISPA), [c]Academic Centre for Social Sciences, Radboud University Nijmegen, Nijmegen, and [d]Julius Center for Health Sciences and Primary Health Care, UMC Utrecht, Utrecht, The Netherlands; [e]Department of Psychological Medicine, Imperial College London, London, United Kingdom

Shared decision making



Regular Article

Psychotherapy and Psychosomatics

Shared Decision Making and Motivational Interviewing: Achieving Patient-Centered Care Across the Spectrum of Health Care Problems

Glyn Elwyn, MD, PhD[1]
Christine Dehlendorf, MD, MAS[2]
Ronald M. Epstein, MD[3]
Katy Marrin, MSc[4]
James White, PhD[4]
Dominick L. Frosch, PhD[5,6,7]

[1]The Dartmouth Center for Health Care Delivery Science, Hanover, New Hampshire

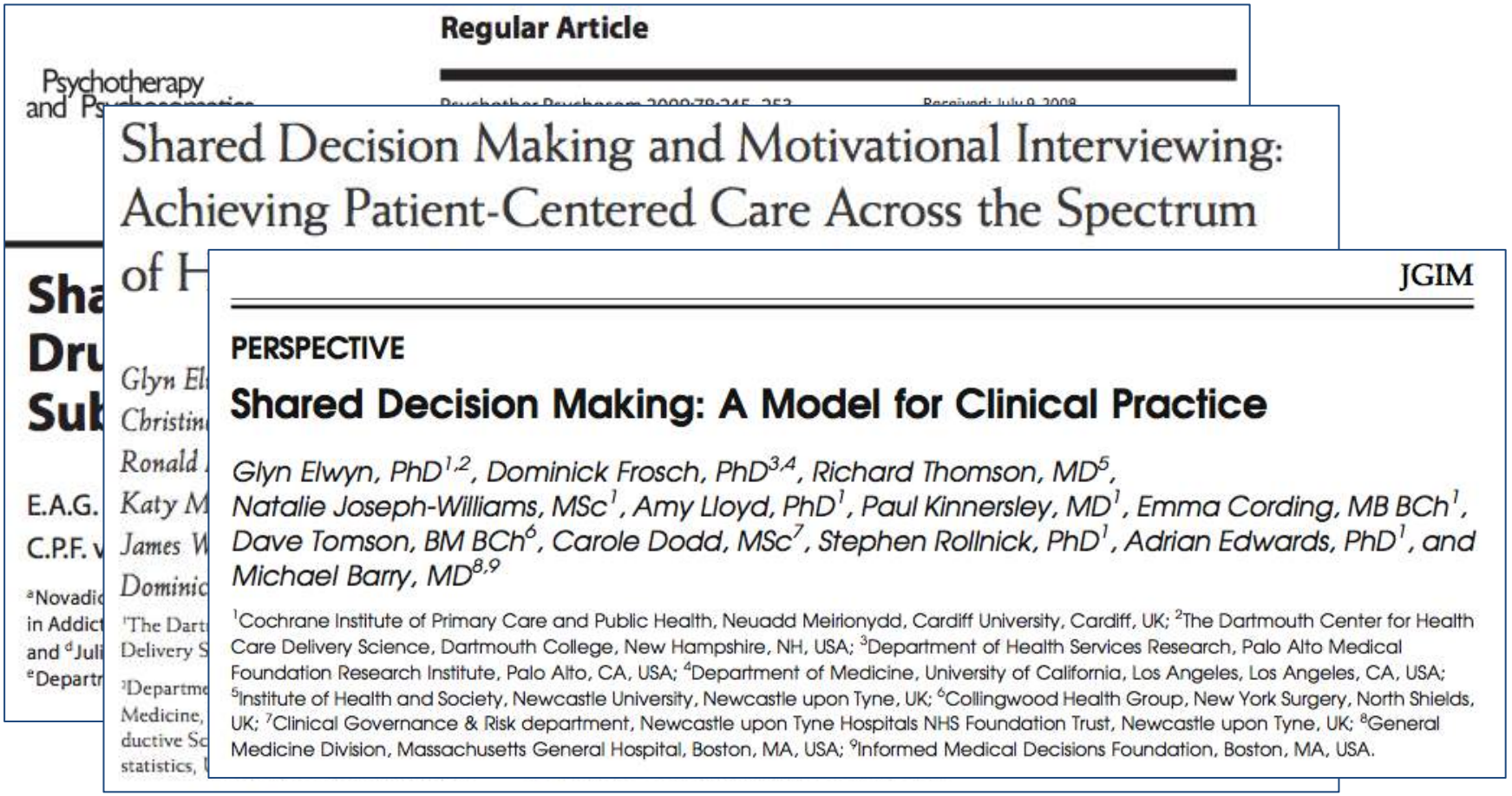
[2]Departments of Family & Community Medicine, Obstetrics, Gynecology & Reproductive Sciences, and Epidemiology & Biostatistics, UCSF, San Francisco, California

ABSTRACT

Patient-centered care requires different approaches depending on the clinical situation. Motivational interviewing and shared decision making provide practical and well-described methods to accomplish patient-centered care in the context of situations where medical evidence supports specific behavior changes and the most appropriate action is dependent on the patient's preferences. Many clinical consultations may require elements of both approaches, however. This article describes these 2 approaches—one to address ambivalence to medically indicated behavior change and the other to support patients in making health care decisions in cases where there is more than one reasonable option—and discusses how clinicians can draw on these approaches alone and in combination to achieve patient-centered care across the range of health care problems.

Ann Fam Med 2014;270-275. doi: 10.1370/afm.1615.

Shared decision making



Regular Article

Psychotherapy and Psychosomatics

Shared Decision Making and Motivational Interviewing: Achieving Patient-Centered Care Across the Spectrum of H

Glyn El
Christin
Ronald
Katy M
James W
Dominic

JGIM

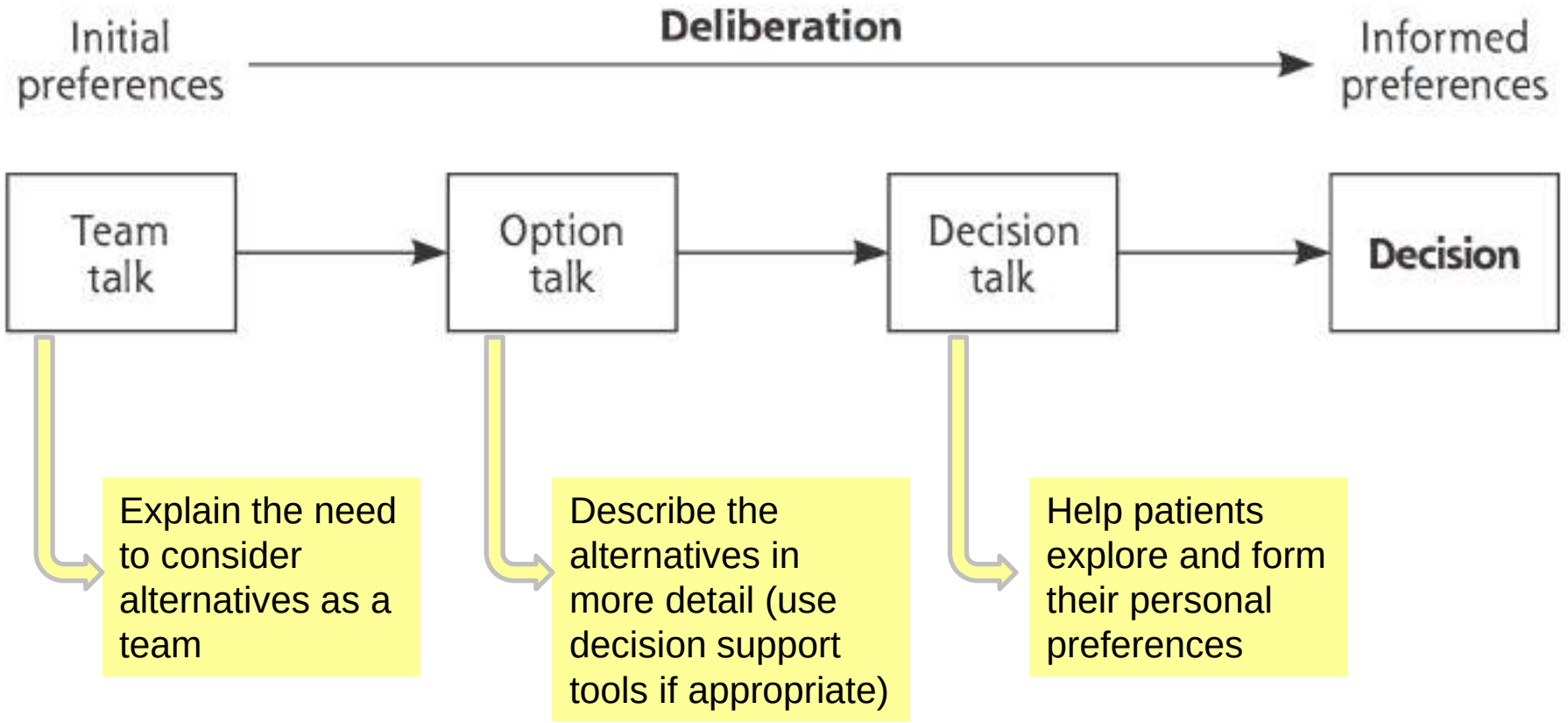
PERSPECTIVE

Shared Decision Making: A Model for Clinical Practice

Glyn Elwyn, PhD[1,2], Dominick Frosch, PhD[3,4], Richard Thomson, MD[5], Natalie Joseph-Williams, MSc[1], Amy Lloyd, PhD[1], Paul Kinnersley, MD[1], Emma Cording, MB BCh[1], Dave Tomson, BM BCh[6], Carole Dodd, MSc[7], Stephen Rollnick, PhD[1], Adrian Edwards, PhD[1], and Michael Barry, MD[8,9]

[1]Cochrane Institute of Primary Care and Public Health, Neuadd Meirionydd, Cardiff University, Cardiff, UK; [2]The Dartmouth Center for Health Care Delivery Science, Dartmouth College, New Hampshire, NH, USA; [3]Department of Health Services Research, Palo Alto Medical Foundation Research Institute, Palo Alto, CA, USA; [4]Department of Medicine, University of California, Los Angeles, Los Angeles, CA, USA; [5]Institute of Health and Society, Newcastle University, Newcastle upon Tyne, UK; [6]Collingwood Health Group, New York Surgery, North Shields, UK; [7]Clinical Governance & Risk department, Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, UK; [8]General Medicine Division, Massachusetts General Hospital, Boston, MA, USA; [9]Informed Medical Decisions Foundation, Boston, MA, USA.

Figure 1. Shared decision making.



This strategy fits well with an integrated care approach

Elwyn et al, 2014

Rethinking the PHC approach to alcohol

thebmj

BMJ 2017;356:j116 doi: 10.1136/bmj.j116 (Published 2017-01-19 2017-01-19 2017-01-19)

ANALYSIS

Check for updates

Rethinking brief interventions for alcohol in general practice

Jim McCambridge and **Richard Saitz** question the effectiveness of brief advice and counselling in primary care to prevent harm from heavy alcohol use and call for a more strategic approach

Jim McCambridge *professor of addictive behaviours and public health*[1], Richard Saitz *professor of community health sciences*[2]

Rethinking the PHC approach to alcohol

thebmj

BMJ 2017;356:j116 doi: 10.1136/bmj.j116 (Published 2017-01-19 2017-01-19 2017-01-19) Page 1 of 4

Glass et al. Addict Sci Clin Pract (2017) 12:14
DOI 10.1186/s13722-017-0079-8

Addiction Science & Clinical Practice

MEETING REPORT Open Access

CrossMark

Rethinking alcohol interventions in health care: a thematic meeting of the International Network on Brief Interventions for Alcohol & Other Drugs (INEBRIA)

Joseph E. Glass[1*], Sven Andréasson[2], Katharine A. Bradley[1,3,4], Sara Wallhed Finn[2], Emily C. Williams[3,4], Ann-Sofie Bakshi[5], Antoni Gual[6], Nick Heather[7], Marcela Tiburcio Sainz[8], Vivek Benegal[9] and Richard Saitz[10,11]

Rethinking the PHC approach to alcohol

thebmj

BMJ 2017;356:j116 doi: 10.1136/bmj.j116 (Published 2017-01-19 2017-01-19 2017-01-19) Page 1 of 4

Glass *et al. Addict Sci Clin Pract (2017) 12:14*
DOI 10.1186/s13722-017-0079-8

Addiction Science & Clinical Practice

Alcohol and Alcoholism, 2016, 51(4) 422–427
doi: 10.1093/alcalc/agv127
Advance Access Publication Date: 15 November 2015
Article

OXFORD

Article

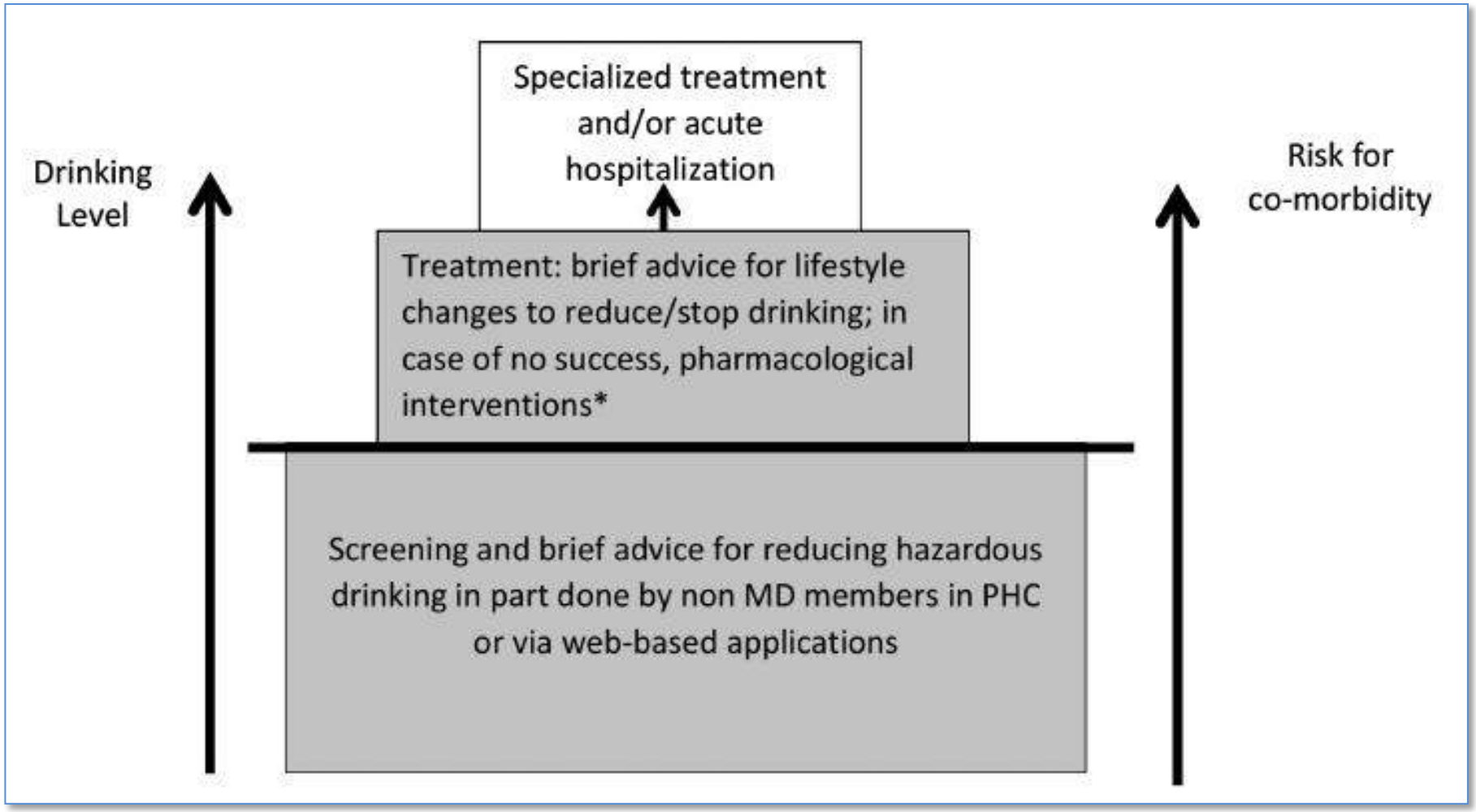
Alcohol Use Disorders in Primary Health Care: What Do We Know and Where Do We Go?

Jürgen Rehm[1,2,3,4,5,6,*], Peter Anderson[7,8], Jakob Manthey[4], Kevin D. Shield[1,3], Pierluigi Struzzo[9,10], Marcin Wojnar[11,12], and Antoni Gual[13,14,15]

New strategies in PHC

- Rather than asking primary health care physicians to conduct interventions which are not typical for medical doctors, we recommend treatment initiation for AUD at the primary health care level.
- AUD should be treated like hypertension, i.e. with regular checks for alcohol consumption, advice for behavioral interventions in case of consumption exceeding thresholds, and pharmaceutical assistance in case the behavioral interventions were not successful.
- Minimally, alcohol consumption should be screened for in all situations where there is a co-morbidity with alcohol being a potential cause (such as hypertension, insomnia, depression or anxiety disorders).

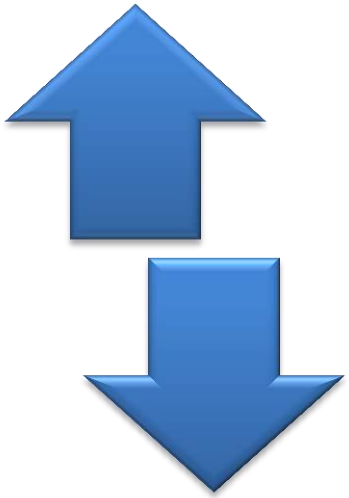
New strategies in PHC



Alchol and Alcoholism, 2016, Vol. 51, No. 4

New Definitions

- Heavy use over time
- New treatment goals



Pros?

Cons?

Overcoming ICD-10 & DSM 5

Both definitions are based on the same methodology:

- using multiple criteria describing consequences of heavy consumption
- minimal thresholds for the number of criteria present at the same time

But the concepts used differ:

- dependence, harmful use (ICD 10)
- substance use disorders (DSM 5)

Limitations of ICD 10 & DSM 5

- the interpretation of consequences is in part culture-dependent: assessments across countries involve substantial measurement errors
- loss of control has negative connotations in some countries, and relatively positive connotations in others
- many of the consequences chosen as criteria are relatively broad and unspecific (e.g., role failure)

Substance use as a continuum and “heavy use over time” as construct for public health

The Tangible Common Denominator of Substance Use Disorders: A Reply to Commentaries to Rehm *et al.* (2013a)

J. Rehm[1,2,3,4,5,*], P. Anderson[6,7], A. Gual[8], L. Kraus[9,10], S. Marmet[11], D.J. Nutt[12], R. Room[10,13,14], A. V. Samokhvalov[2,5], E. Scafato[15], K.D. Shield[2,3], M. Trapencieris[16], R.W. Wiers[17] and G. Gmel[2,11,18,19]

doi: 10.1093/alcalc/agt171
Advance Access publication 12 November 2013

Rehm, J. & Room, R. (2015). Cultural specificity in measurement and in clinical responses to alcohol use disorders. The Lancet dx.doi.org/10.1016/S0140-6736(15)00123-3

Alcohol and Alcoholism Vol. 48, No. 6, pp. 633–640, 2013
Advance Access Publication 7 August 2013

doi: 10.1093/alcalc/agt127

FOR DEBATE

Defining Substance Use Disorders: Do We Really Need More Than Heavy Use?

J. Rehm[1,2,3,4,5,*], S. Marmet[6], P. Anderson[7,8], A. Gual[9], L. Kraus[10,11], D.J. Nutt[12], R. Room[11,13,14], A.V. Samokhvalov[2,5], E. Scafato[15], M. Trapencieris[16], R.W. Wiers[17] and G. Gmel[2,6,18,19]

Heavy use over time as a new definition

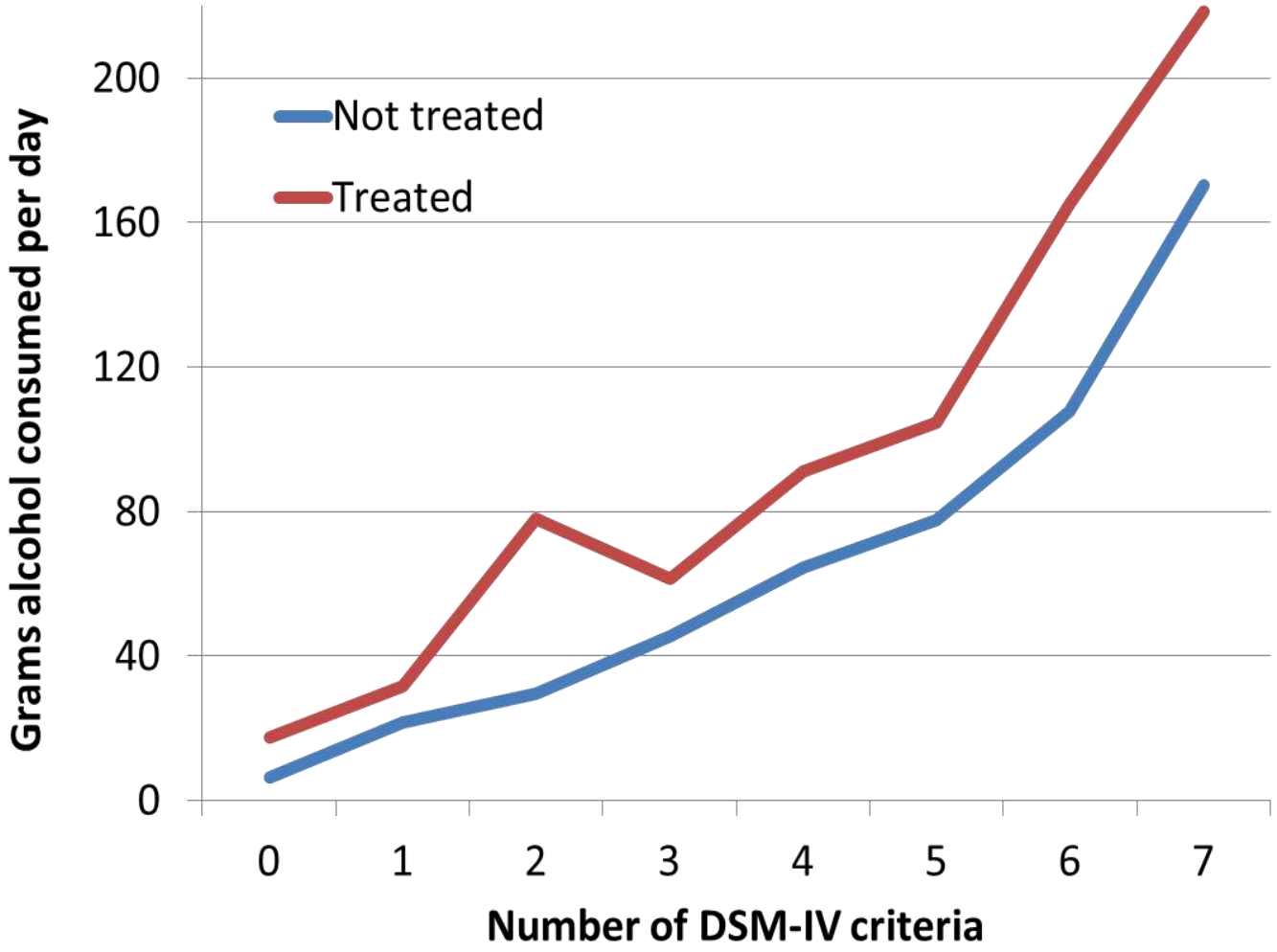
Different types of criteria used in the definitions of addiction:

- Physiological criteria (tolerance, withdrawal);
- Criteria linked to (bio)psychological consequences (e.g., craving via brain processes);
- Criteria linked to social and behavioural consequences, such as “giving up important social, occupational, or recreational activities”;
- Criteria linked to health or physical consequences

In fact, all criteria listed in current definitions have ”heavy use over time” as the major underlying risk factor

Why use HUOT ?

- HUOT is responsible for the changes in the brain and other physiological characteristics of SUD
- HUOT is responsible for intoxication and for the withdrawal and tolerance phenomena regarded as central to current definitions of SUD
- HUOT is responsible for the main social consequences of SUD, such as problems in fulfilling social roles
- HUOT is responsible for the majority of the substance-attributable burden of disease and mortality
- HUOT fits better the empirical data, may diminish stigmatization and avoids pointing attention away from highest-risk categories
- There is a high correlation between HUOT and number of diagnostic criteria met



DSM-IV and grams of alcohol per day (NESARC data)

Source: Rehm et al 2013

Implications for preventive and clinical interventions

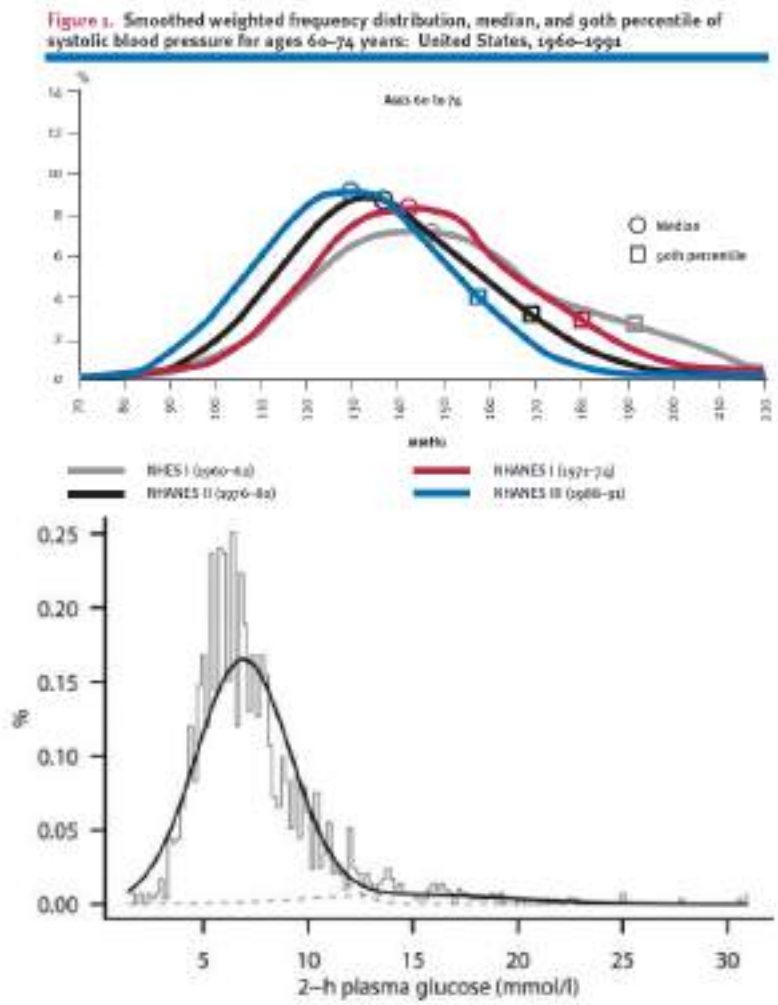
- Can be easily measured in many settings
- Administered either by a professional or through automated systems
- Can be fed back with very little time lag and investment
- Substance use can be monitored as other chronic conditions (i.e. Hypertension, diabetes)

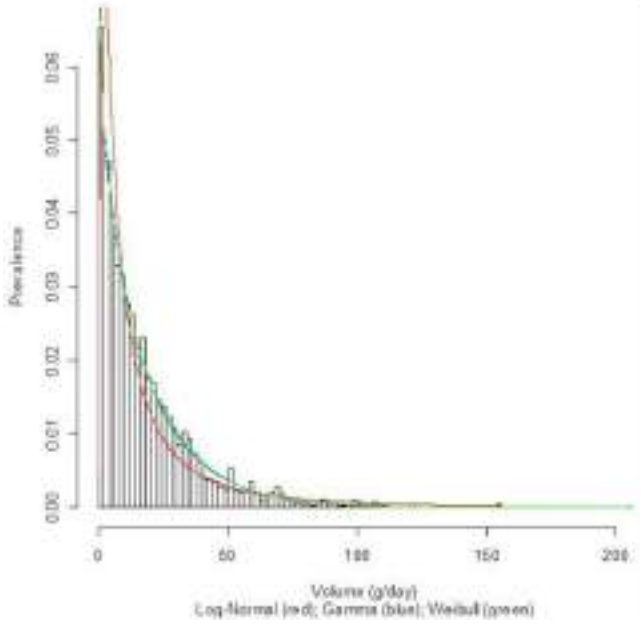
Blood pressure, fasting plasma glucose (sugar), alcohol: major causes of disability adjusted life years and major risk factors for cardiovascular disease, liver disease, diabetes and cognitive decline

Anderson, P. 2016

2013 leading risks	Mean rank (95% UI)	All age median % change	Age-standardised median % change
1 High blood pressure	1·0 (1–1)	20% (15 to 26)	–13% (–16 to –9)
2 Smoking	2·6 (2–4)	5% (–1 to 11)	–23% (–28 to –19)
3 High body-mass index	2·8 (2–5)	26% (22 to 31)	–7% (–11 to –5)
4 Childhood undernutrition	4·2 (3–6)	–45% (–51 to –39)	–50% (–55 to –44)
5 High fasting plasma glucose	4·6 (3–6)	31% (25 to 36)	–4% (–8 to 0)
6 Alcohol use	6·9 (5–9)	6% (2 to 11)	–17% (–20 to –13)
7 Household air pollution	9·1 (8–12)	–10% (–21 to 2)	–28% (–38 to –18)
8 Unsafe water	10·4 (8–14)	–37% (–44 to –30)	–43% (–49 to –37)
9 Unsafe sex	10·8 (8–13)	–3% (–11 to 7)	–20% (–26 to –11)
10 Low fruit	10·8 (7–16)	7% (1 to 14)	–22% (–26 to –16)
11 High sodium	11·4 (5–20)	15% (7 to 24)	–16% (–22 to –10)

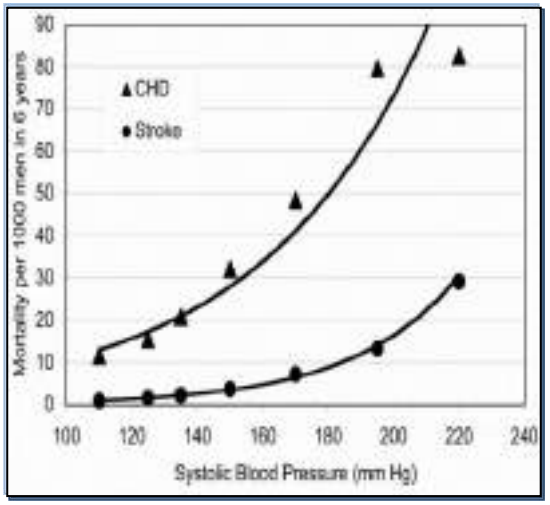
Blood pressure, alcohol and plasma glucose: are continuously distributed in populations. There is no natural cut-point above which "hypertension, diabetes or AUD" definitively exist.

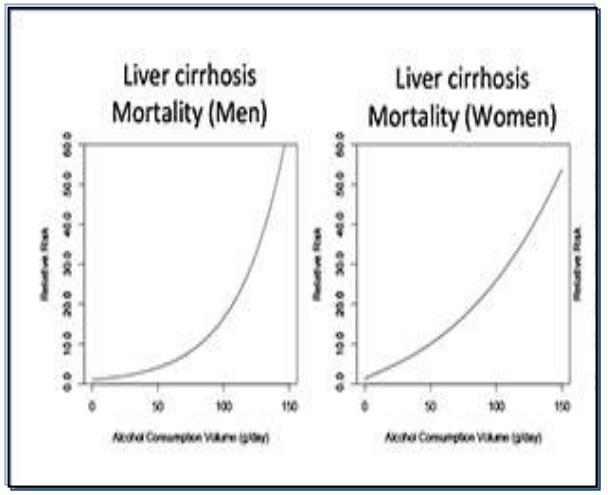


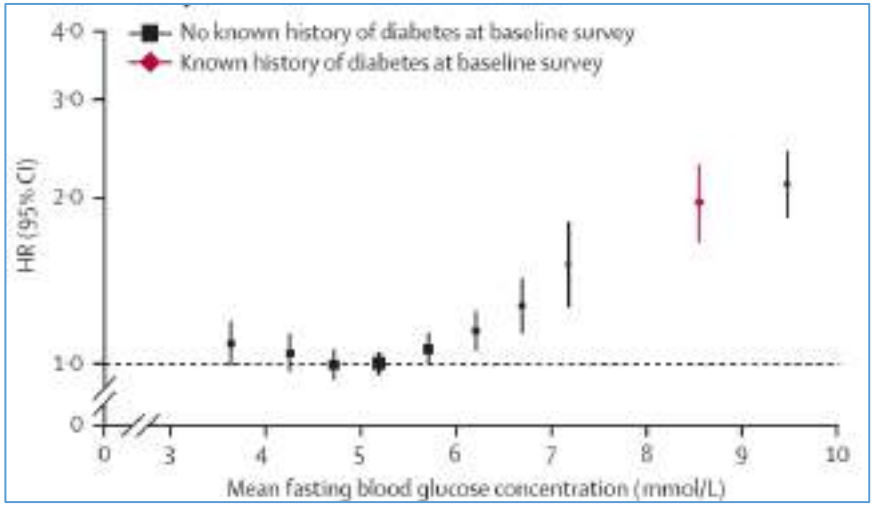


Anderson, P. 2016

In all 3 cases disease risk is a continuous (exponential) relationship







Hopkins & Hunt, 2013
Shield, Parry & Rehm, 2013
Anderson, P. 2016

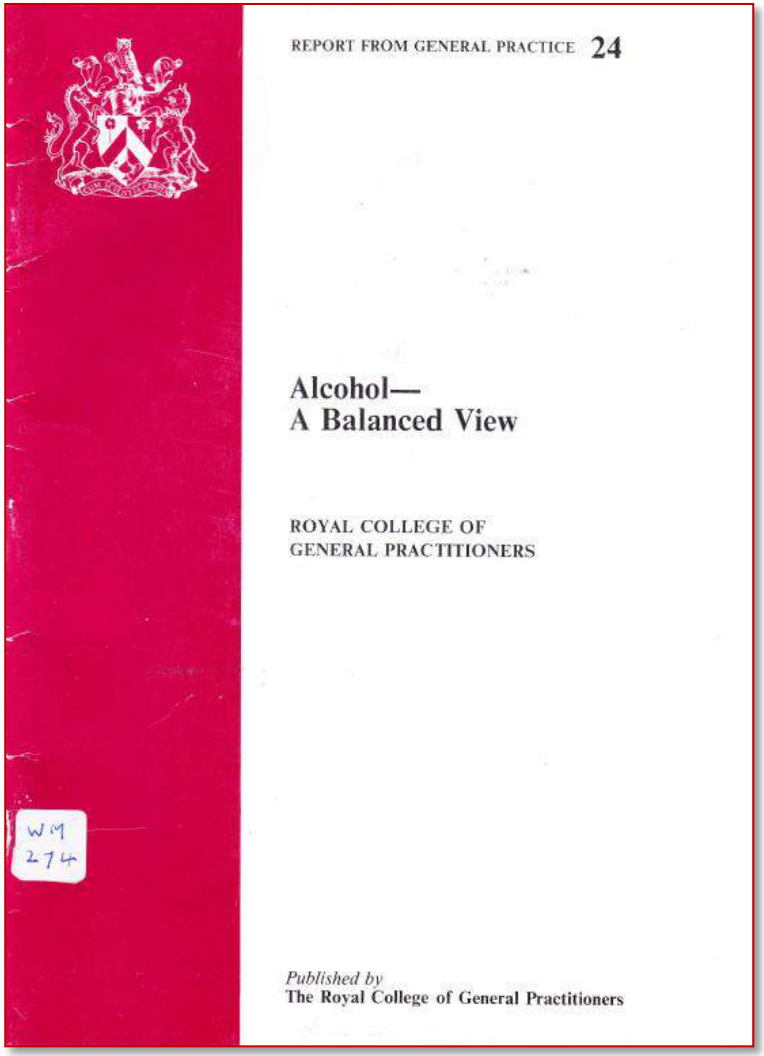
Blood pressure	Sugar	Alcohol
High blood pressure is associated with a further progressive rise in blood pressure, often culminating in a treatment resistant state due to associated vascular and renal damage.	High blood sugar levels are associated with hippocampal damage, often culminating in increased sugar intake.	Unmanaged heavy drinking can be associated with even further heavy drinking, often culminating in a more difficult to manage state due to associated brain atrophy.
The vascular and renal damage are a consequence of the high blood pressure.	The hippocampal damage is a consequence of the high blood sugar level.	The brain atrophy is a consequence of the heavy drinking.

Blood pressure, sugar and alcohol

- There is no natural cut-point above which ”the disease" definitively exists and below which, it does not.
- Disease risk is a continuous (exponential) relationship
- The signs and symptoms that have been attributed to “the disease” are actually the consequences of high levels of the underlying factor (alcohol, sugar or blood pressure)
- Thus, the term “alcohol dependence” is redundant and the term “heavy use over time” is all that is needed.

Alcohol. A Balanced View

Royal College of General Practitioners. London. 1986.



Alcohol. A Balanced View

Royal College of General Practitioners. London. 1986.

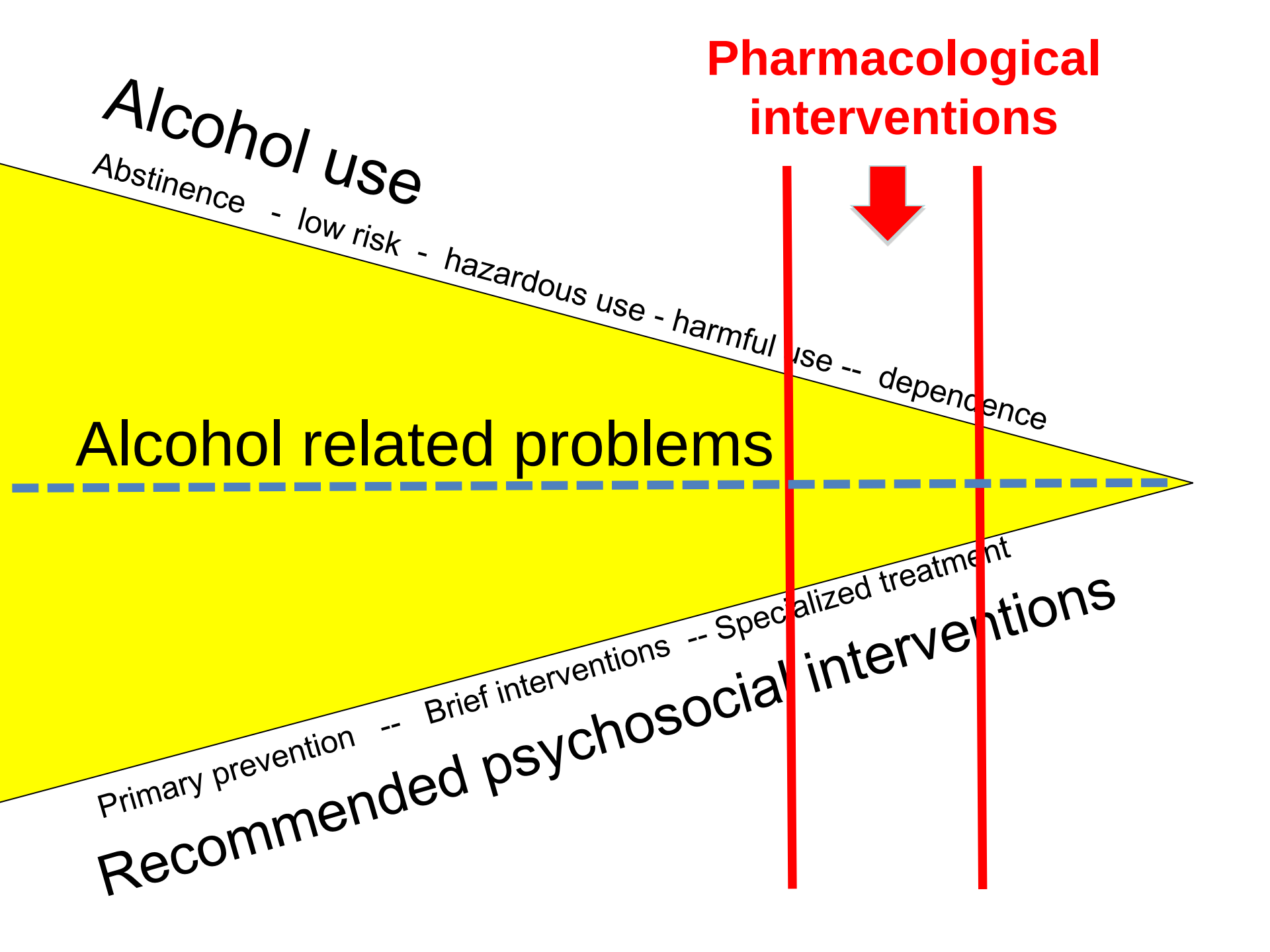
alcohol is similar both to blood pressure and to serum cholesterol, which both exist within continua and are risk factors for disease. The higher the level of blood pressure, the greater the risk of cerebrovascular disease and the higher the serum cholesterol level, the greater the risk of coronary heart disease.

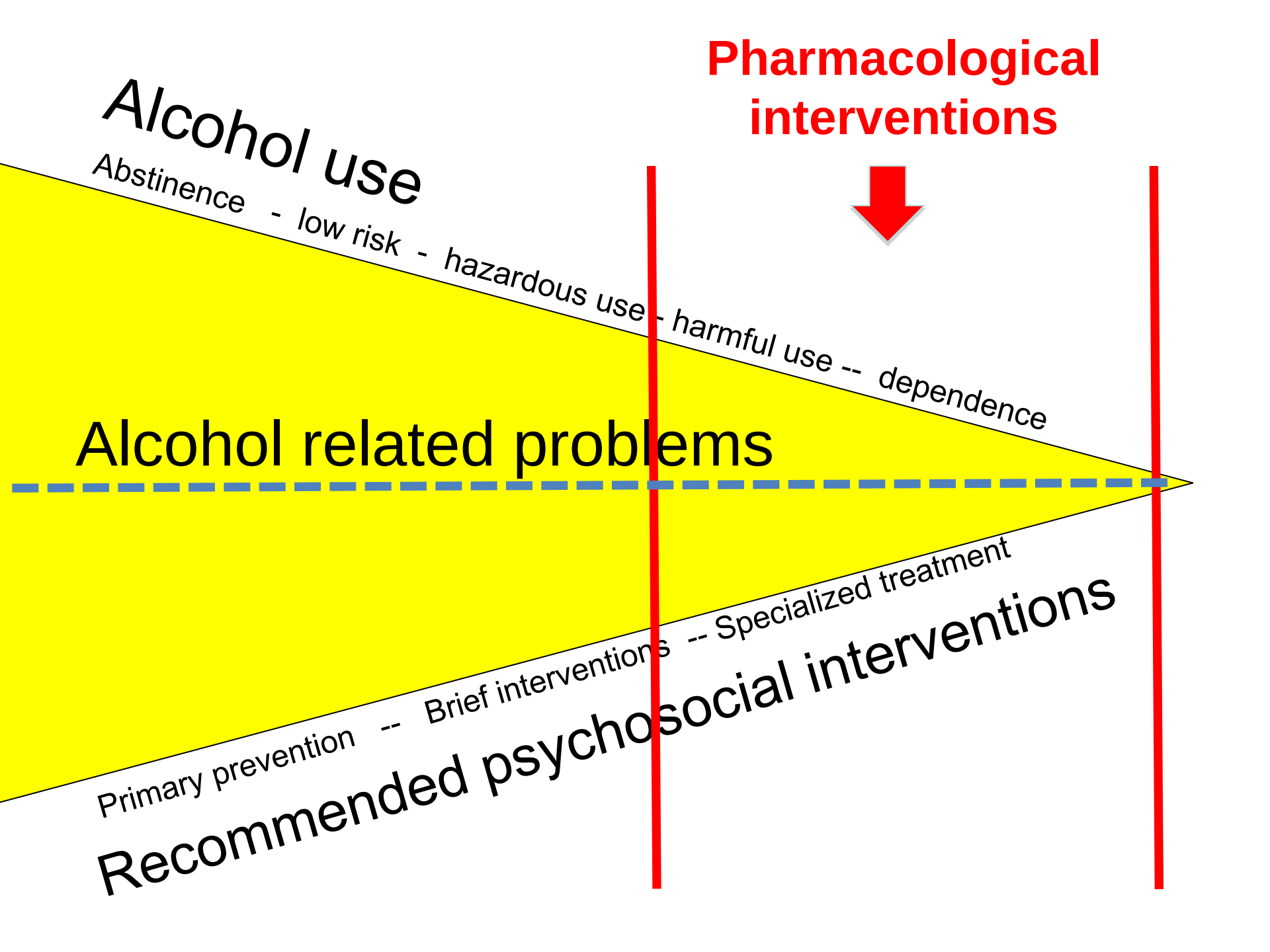
Alcohol. A Balanced View

Royal College of General Practitioners. London. 1986.

That the Royal College of General Practitioners accept that a practical, preventive approach will entail the abandonment of the concept of 'alcoholism and the alcoholic' as the core of the problem and that concepts of addiction and dependence furnish few clues to the solution of the problem.

New treatment goals


Pharmacological interventions
Alcohol use
Abstinence - low risk - hazardous use - harmful use -- dependence
Alcohol related problems
Primary prevention -- Brief interventions -- Specialized treatment
Recommended psychosocial interventions


Pharmacological interventions
Alcohol use
Abstinence - low risk - hazardous use - harmful use -- dependence
Alcohol related problems
Primary prevention -- Brief interventions -- Specialized treatment
Recommended psychosocial interventions

Widening the scope of pharmacological treatments

- Classical approach: Abstinence oriented (disulfiram*, acamprosate*, naltrexone*, topiramate)
- Substitution therapy: BZD, sodium oxibate, baclofen
- Reduction approach: nalmefene*, naltrexone, topiramate, gabapentine.

* Registered indication

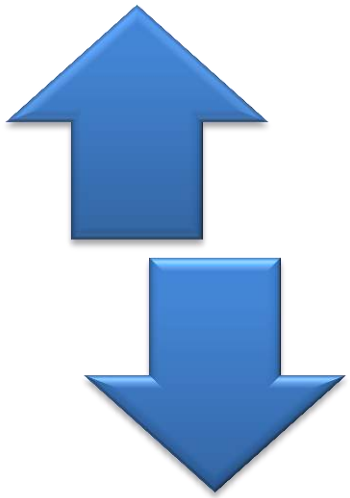
Reduction as a treatment goal

It is accepted by:

- NIAAA
- EMA
- NICE Guidelines
- The majority of European national guidelines

New Policy Approaches

- Marketing and the industry
- MoE
- The health footprint
- Different models of governance in addictions



Pros?

Cons?

Marketing

ADDICTION

Addiction

FREE

Supplement: The Regulation of Alcohol Marketing: From Research to Public Health Policy

January 2017

Volume 112, Issue Supplement S1
Pages 1–127

Issue edited by: Thomas F. Babor, David Jernigan, Chris Brookes

Previous Issue | Next Issue

Question!

True or false: The more exposed we are to alcohol marketing, the more prone we are to start or increase our drinking. That, however, does not apply to Young people.

- True
- False

ADDICTION

SSA SOCIETY FOR THE STUDY OF ADDICTION

Explore this journal >

Review

Alcohol marketing and youth alcohol consumption: a systematic review of longitudinal studies published since 2008

David Jernigan ✉, Jonathan Noel, Jane Landon, Nicole Thornton, Tim Lobstein

Conclusions

Young people who have greater exposure to alcohol marketing appear to be more likely subsequently to initiate alcohol use and engage in binge and hazardous drinking.

Industry self-regulation code

ADDICTION SSA SOCIETY FOR THE STUDY OF ADDICTION
Explore this journal >

Review

Industry self-regulation of alcohol marketing: a systematic review of content and exposure research

Jonathan K. Noel, Thomas F. Babor ✉, Katherine Robaina

ADDICTION SSA SOCIETY FOR THE STUDY OF ADDICTION
Explore this journal >

Review

Does industry self-regulation protect young people from exposure to alcohol marketing? A review of compliance and complaint studies

Jonathan K. Noel, Thomas F. Babor ✉

Conclusions

Violations of the content guidelines within self-regulated alcohol marketing codes are highly prevalent in certain media. Exposure to alcohol marketing, particularly among youth, is also prevalent. Taken together, the findings suggest that the current self-regulatory systems that govern alcohol marketing practices are not meeting their intended goal of protecting vulnerable populations.

Conclusions

The current alcohol industry marketing complaint process used in a wide variety of countries may be ineffective at removing potentially harmful content from the market-place. The process of determining the validity of complaints employed by most industry groups appears to suffer from serious conflict of interest and procedural weaknesses that could compromise objective adjudication of even well-documented complaints. In our opinion the current system of self-regulation needs major modifications if it is to serve public health objectives, and more systematic evaluations of the complaint process are needed.

Conclusions

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It does not work!!!!

New technologies — New models in PHC — New definitions — New policies

International Alliance for Responsible Drinking (IARD)

IARD
INTERNATIONAL ALLIANCE FOR RESPONSIBLE DRINKING

Type	Non-for-profit Organization
Industry	Health
Founded	January 2015
Headquarters	Washington D.C., Geneva
Website	www.iard.org

About IARD

The International Alliance for Responsible Drinking (IARD) is a not-for-profit organization dedicated to addressing harmful drinking and promoting responsible drinking. Harmful drinking is a priority in its own right, as reflected in the Sustainable Development Goal target 3.5 and WHO's Global Strategy to Reduce the Harmful Use of Alcohol. Governments also have addressed harmful drinking as one of the risk factors for non-communicable diseases (NCDs) through instruments such as the WHO Global Action Plan on NCDs and the UN Political Declaration on the Prevention and Control of NCDs.

We partner with public, civil society, and private stakeholders to advance our mission of contributing to the reduction of harmful drinking and promoting responsible drinking worldwide. We support the target in the WHO NCD Global Monitoring Framework of "at least 10% relative reduction in the harmful use of alcohol" by 2025.

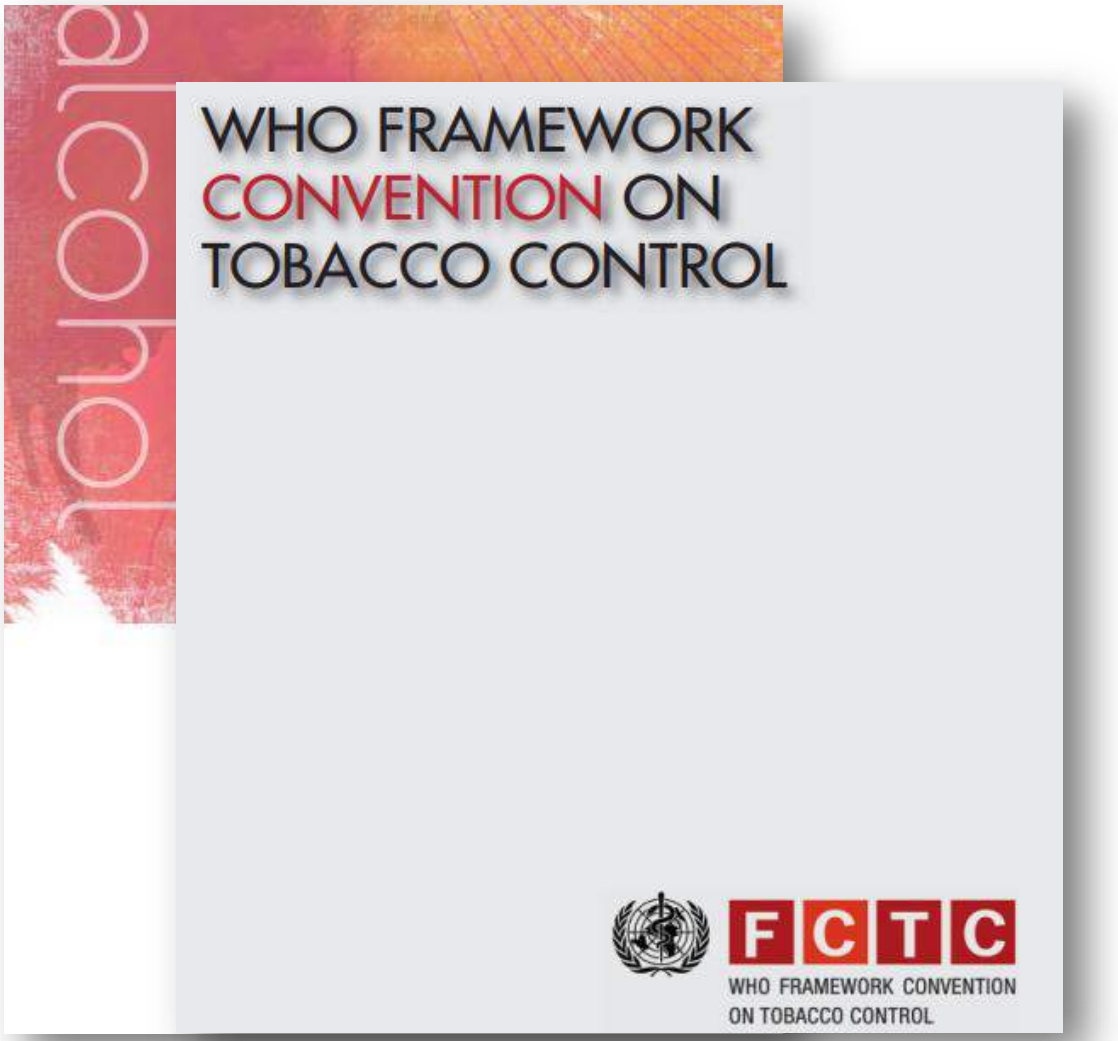
IARD is supported by its Member Companies from all sectors of the alcohol industry – beer, wine, and spirits – in their common purpose of being part of the solution to the harmful use of alcohol.

Alcohol Policy Network in Europe

Alcohol Marketing: posible solutions

- Comprehensive ban on alcohol advertising, promotion and sponsorship
- Regulation of alcohol advertising and promotion should be statutory (as opposed to self-regulation codes). Do not forget new media channels
- Regulation independent of alcohol industry
- Global agreement necessary (global trade agreements should not compromise governments' regulation and restriction of alcohol marketing)
- Collaboration with similar population-level efforts aimed at other substances (tobacco, sugary beverages)

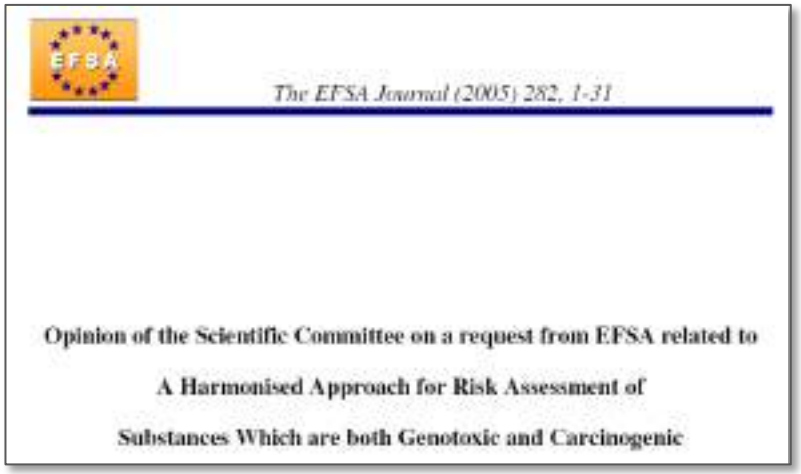
The way forward is….



New technologies | New models in PHC | New definitions | New policies

Margin of exposure

In our daily life, we are exposed to a whole range of chemicals that are potentially toxic or carcinogenic – through what we eat, drink, inhale, or place on our skin.
Toxicology is the science and practice to advise on exposure levels that are not too risky.



Margin of Exposure (**MoE**) is the tool that is used.

$$\text{MoE} = \frac{\textbf{Benchmark (toxic) dose}\ \text{(10\% incidence of Health effect)}}{\textbf{Exposure}\ \text{(amount taken or used)}}$$

A MOE of 100 means that one is consuming or exposed to 1/100th of the toxic benchmark dose (commonly the lowest dose which is 95% certain to cause no more than a 10% incidence of a negative health outcome in animals or humans).

A MOE of 1 means that one is consuming or exposed to the toxic benchmark dose.

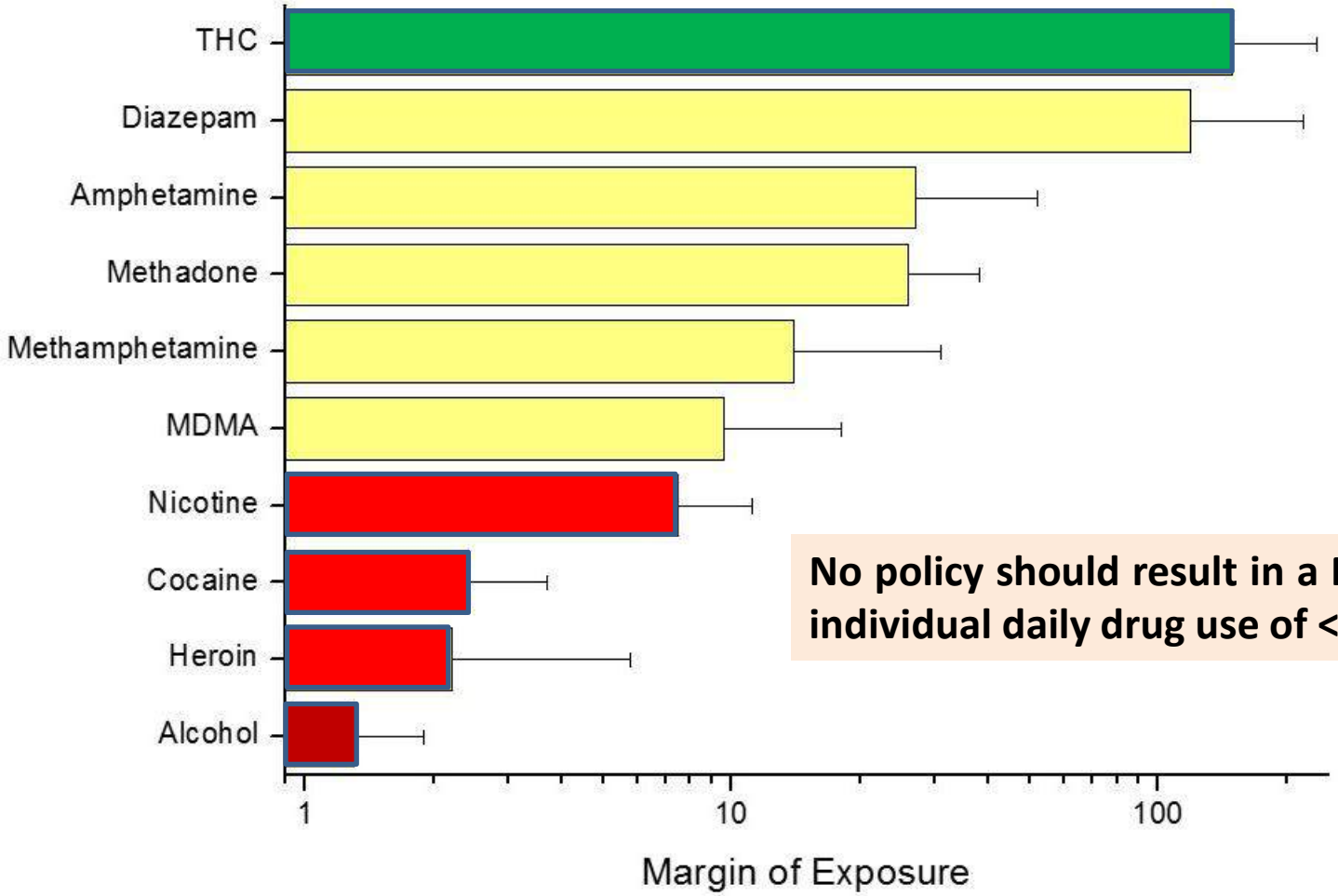
MOE < 1 Extreme Risk

MOE < 10 High Risk

MOE < 100 Risk

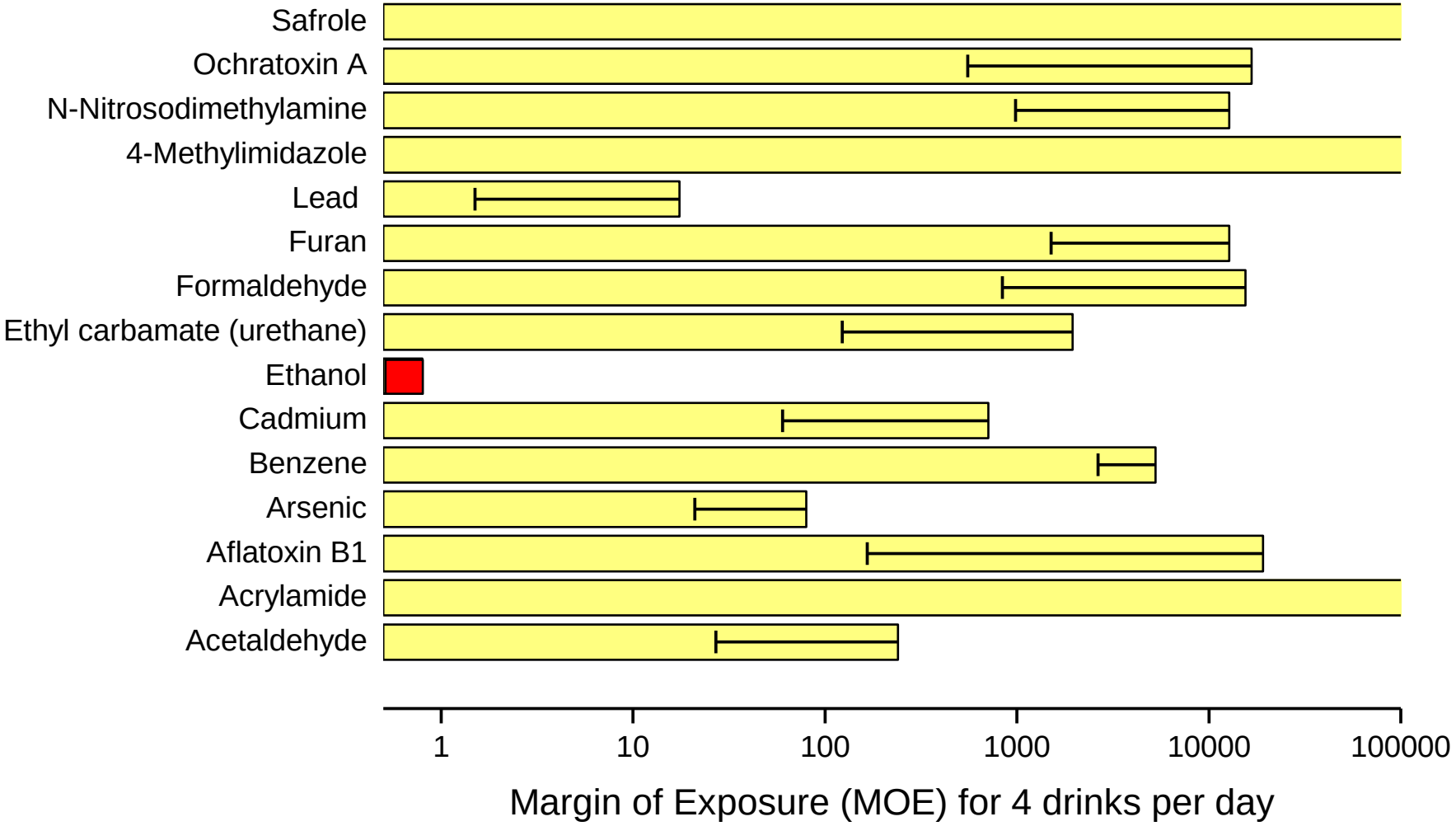
MOE > 100 Low Risk for Non-Carcinogens

MOE > 10,000 Low Risk for Carcinogens

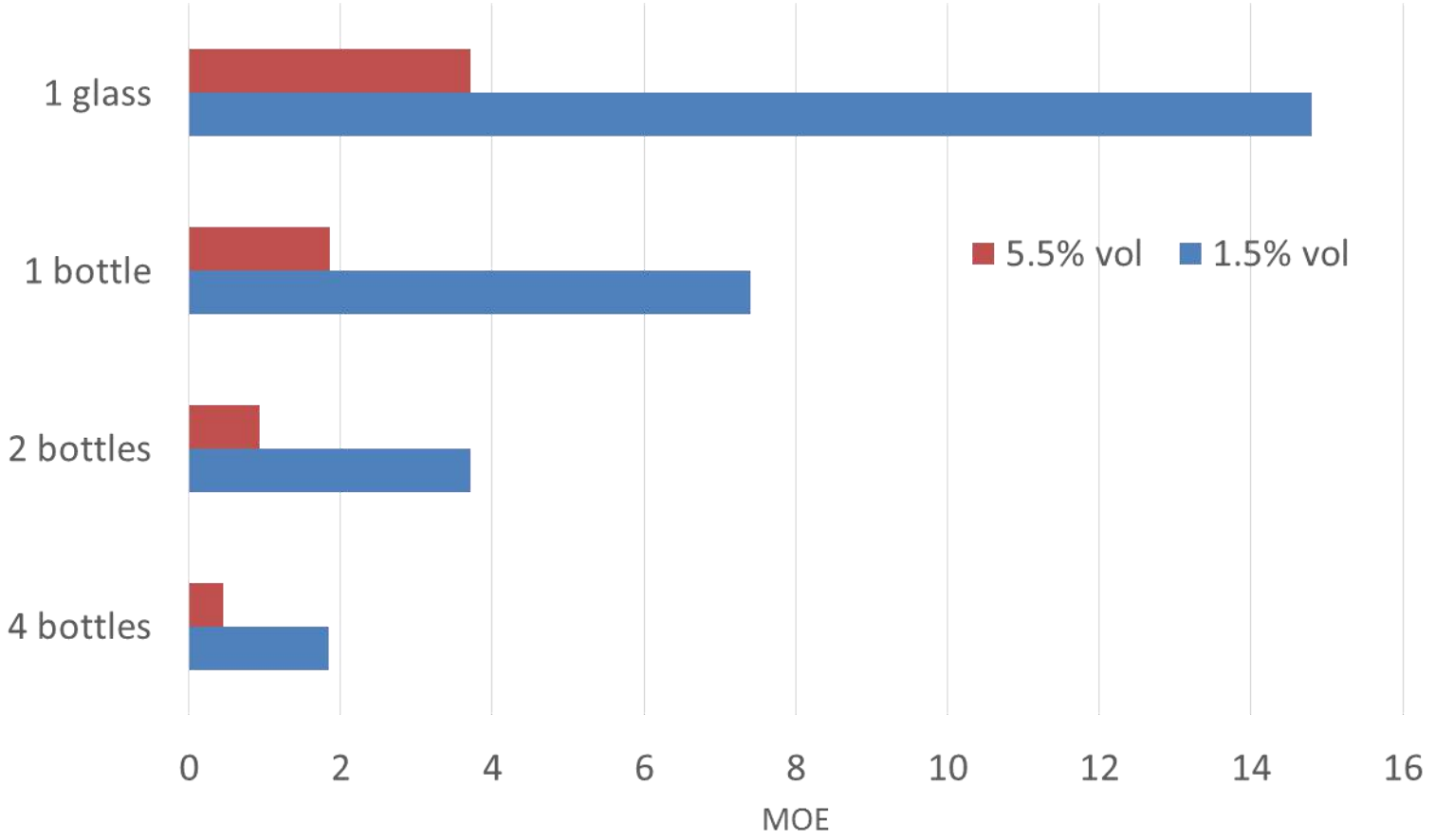


No policy should result in a MOE for individual daily drug use of <10

Compounds in Alcoholic Beverages



New technologies New models in PHC New definitions New policies



Beer with 1.5% alcohol is more than 4 times less risky to health than beer with 5.5% alcohol

Source: Lachenmeier 2015

Health footprint

A tool for addictions governance

Modelled on a carbon footprint, a drug-related health footprint is proposed as a measure of drug-related disability adjusted life years (DALYs) produced by actions of an entity.

Disability-adjusted life years (DALYs)

We are all used to DALYs to:

1. Rank risk factors and conditions
2. Rank countries (more contentious)
3. Rank impact of policy approaches (from impact and cost-effectiveness perspectives)

Disability-adjusted life years (DALYs)

But, this is a missed opportunity, because DALYs can also be used to:

1. Apportion responsibility for DALYs by drivers of harm
2. Apportion responsibility for DALYs by public and private sectors
3. Use DALYs as a metric for accountability that drives change and reduces harm

Disability-adjusted life years (DALYs)

We call this additional use (reframing) of DALYs a health footprint, and we propose it as part of a redesign of health governance.

It is similar to a carbon footprint.

A tool for climate change management

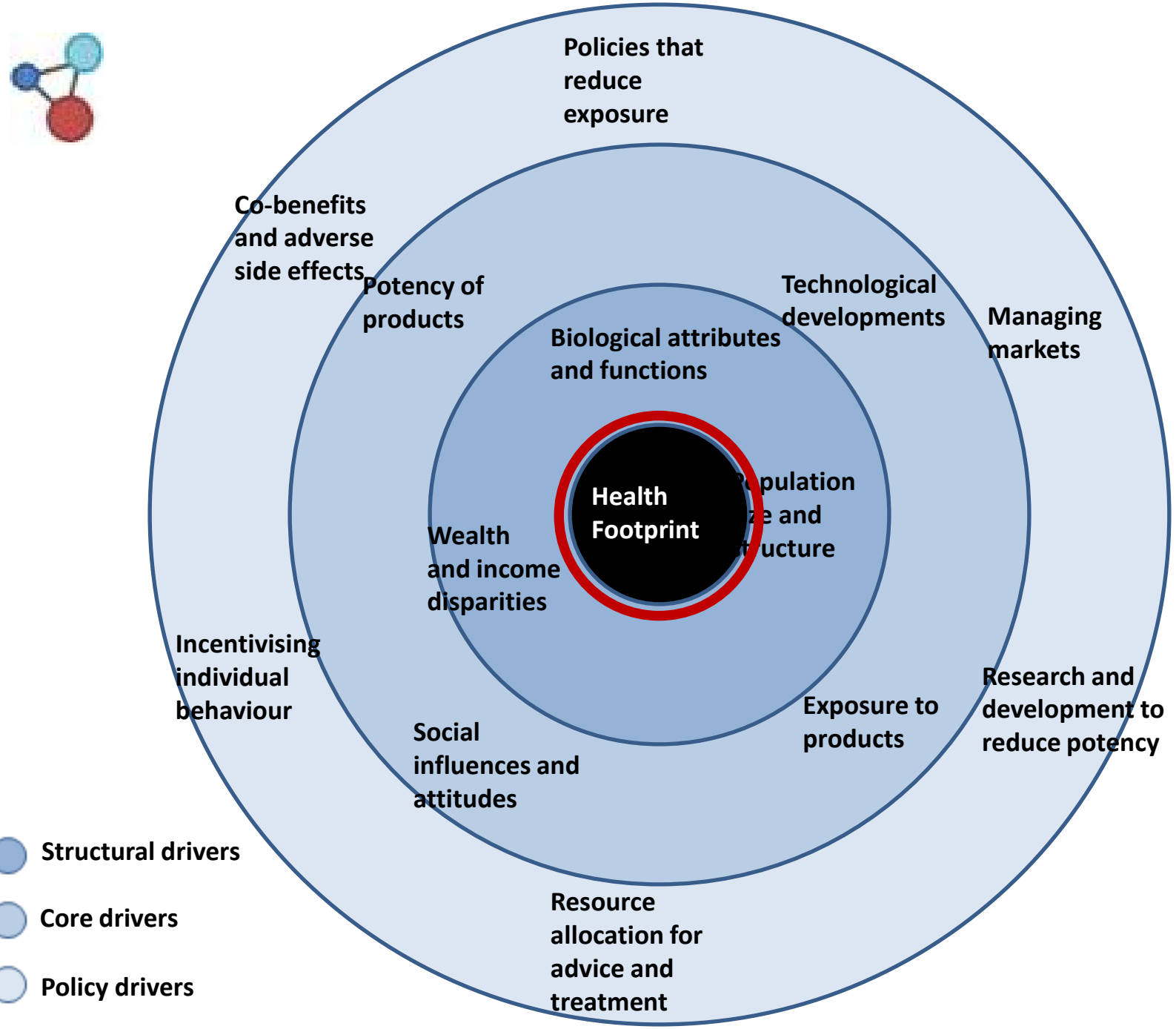
A **carbon footprint** is a measure of green house gas emissions, [specifically carbon dioxide and methane, calibrated for $C0_2$ equivalent], produced by actions of an entity.

The central reason for measuring a carbon footprint is to reduce world temperature increases through **apportioning responsibility** for emissions across drivers and **enabling targeted and effective reductions of emissions of greenhouse gasses.**

A tool for health change management

A **health footprint** is proposed as a measure of risk-factor related disability adjusted life years (DALYs) produced by actions of an entity.

The central reason for measuring a health footprint is to improve health through **apportioning responsibility for DALYs** across drivers and **enabling targeted and effective reductions of DALYs**, and thus health improvement.


Policies that reduce exposure
Co-benefits and adverse side effects
Potency of products
Technological developments
Managing markets
Biological attributes and functions
Health Footprint
Wealth and income disparities
Incentivising individual behaviour
Social influences and attitudes
Exposure to products
Research and development to reduce potency
Resource allocation for advice and treatment
Structural drivers
Core drivers
Policy drivers

A tool for:

Climate change management:

Carbon footprint

Health change management:

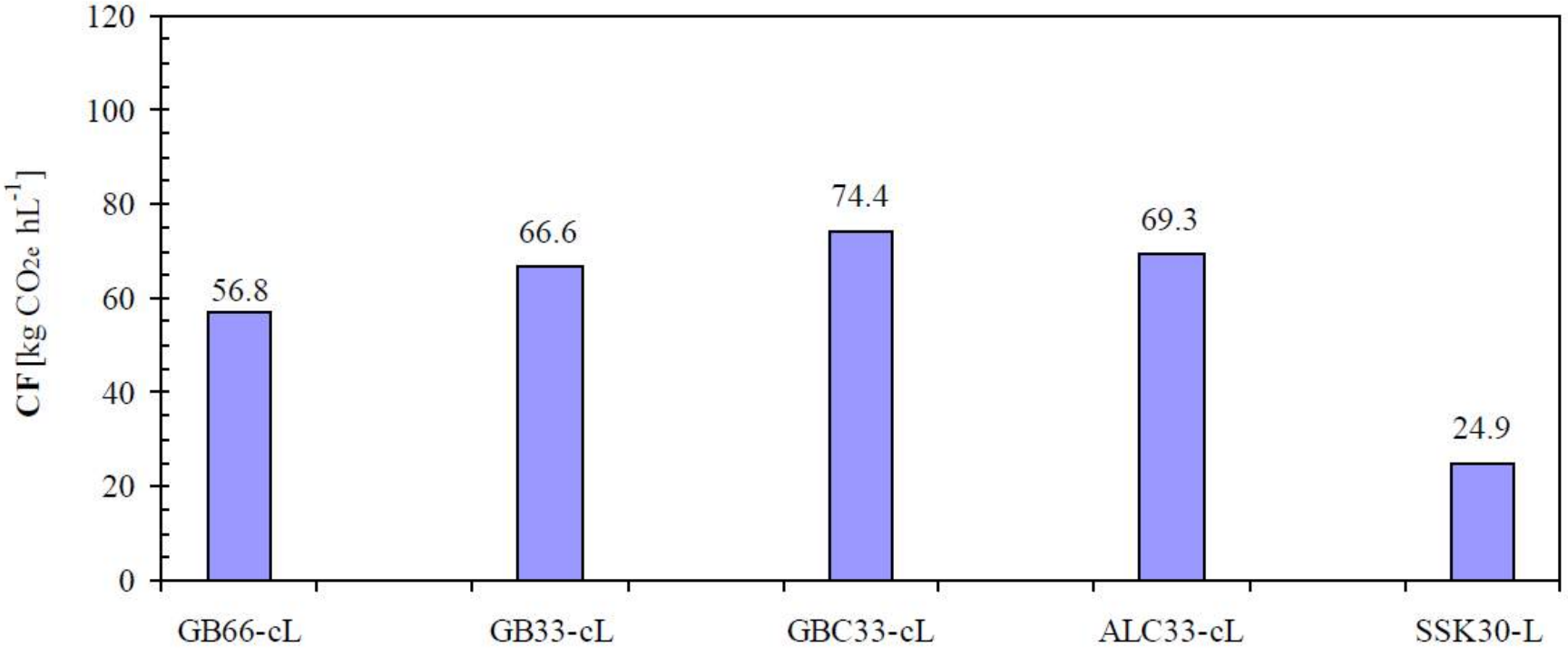
Health footprint

Measurable at different levels:

- Nations, regions and cities
- Sectors and organizations
- Products and services
- Individuals

New technologies — New models in PHC — New definitions — New policies

Carbon footprint of pale lager per hectoLitre by packing format



Health footprint of a global brewer

Regions	Production in 2012 in thousand hectolitres	attributable DALYs
North America	125,129	749,338
Latin America North	126,189	1,645,115
Latin America South	34,292	428,060
Western Europe	2,931	15,113
Central and Eastern Europe	2,278	48,776
Asia Pacific	57,667	411,601
Global export and holding	7,030	41,869
Global beer company	402,631	3,339,873
		0.13 % of all DALYs 3.4% of all alcohol-attributable DALYs

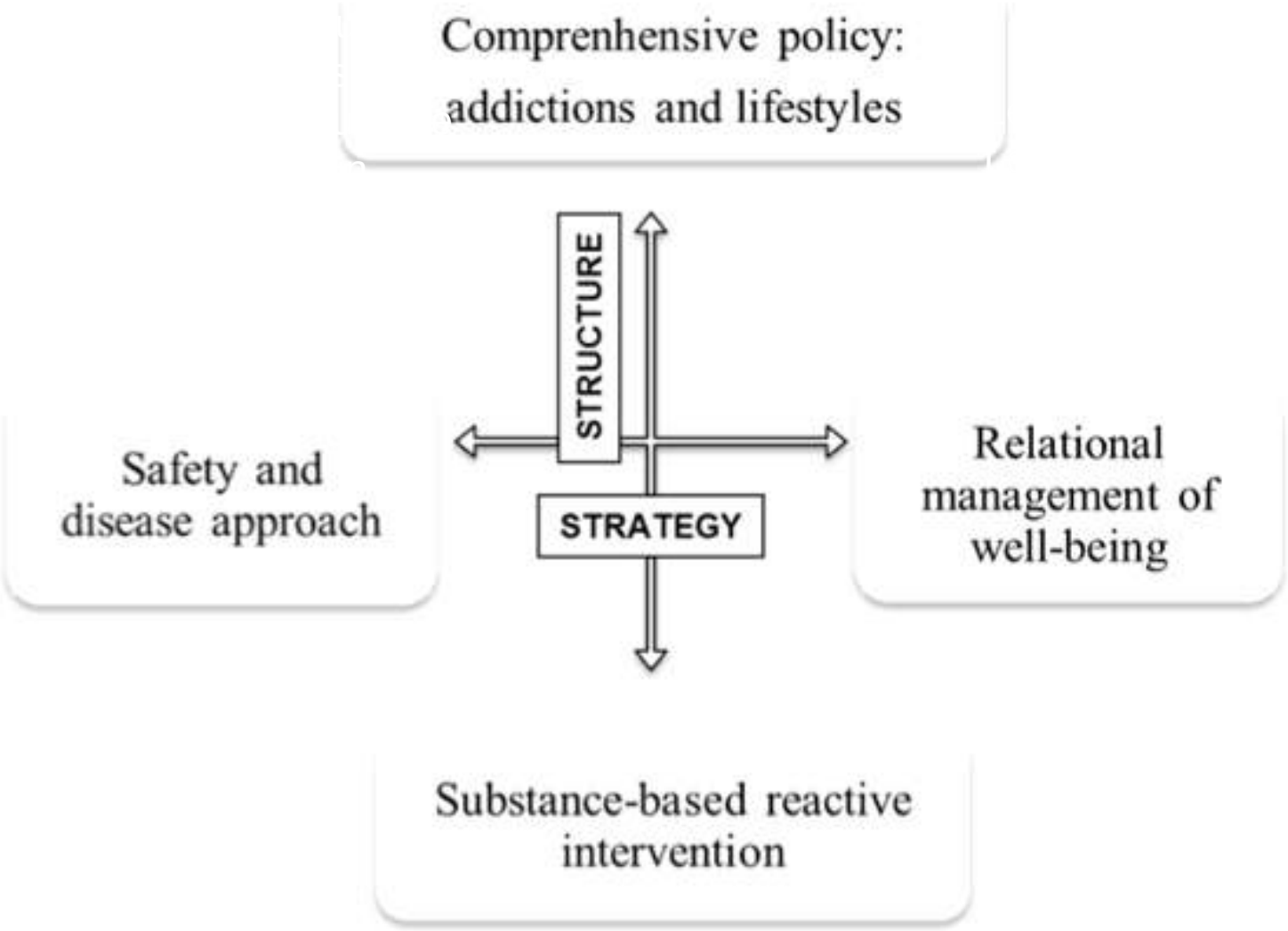
New technologies New models in PHC New definitions New policies

A tool for addictions governance

1. Whilst we have been **quite good** at using DALYs to identify risk factors, rank countries (at per capita level) and **model potential impact** of government policies, as has also been done with carbon footprint,
2. We have not gone to the next step to apportion DALYS across actors and actions as a **tool of accountability** for public and private sectors, or **drive DALYs down** to municipal or individual level, as has been done with the carbon footprint;
3. We call the next step a re-framing of DALYs a **health footprint**, and we propose it as part of a **redesign of health governance**.

Models of governance

Strategy and structure in addictions policy



Strategy and structure in addictions policy

Focus on the individual
Ministry of Interior as main body
Criminalization of drug use
Reactive policy-making
Public security approach

Legal & Illicit substances together
Long experience
Complex and multilevel structures
Stakeholders involved

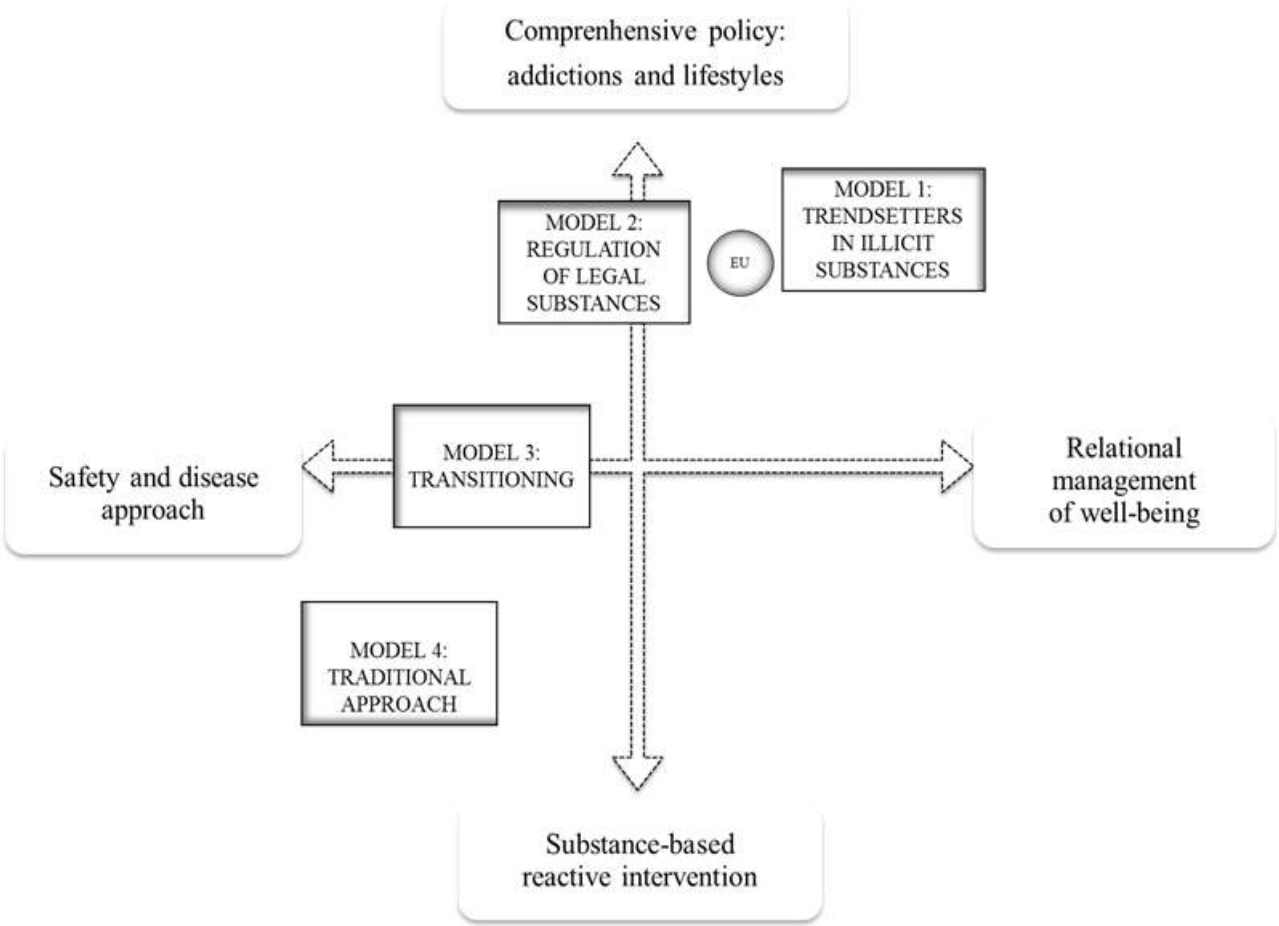
Safety and disease approach

Relational management of well-being

Split policies regarding substances
Little experience & lack of continuity
Structures simple and centralized
Stakeholders excluded

Focus on society
Ministry of Health as main body
Harm reduction. Decriminalization
Proactive policy-making
Health oriented approach

Governance of addictions: European models and visions



T Ysa, J Colom, A Albareda, A Ramon, M Carrión, & Lidia Segura. 2014. Governance of Addictions: European Public Policies. Oxford University Press

Models of governance of addictions in Europe

Model	Characteristics	Countries
Trend-setters in illicit substances	Combine a well-being and relational management strategy with a comprehensive structure. Focus on illicit substances through harm reduction. Low rankers on legal policy scales.	Belgium, Czech Republic, Germany, Italy, Luxemburg, Netherlands, Portugal, and Spain
Regulation of legal substances	Combine a well-being and relational management strategy with a comprehensive structure. Focus on legal substances (tobacco and alcohol). No decriminalization of possession.	Finland, France, Ireland, Norway, Sweden, and the United Kingdom
Transitioning model	Countries transitioning, mostly from the traditional model to a more comprehensive one, but still with a substance separation approach. Do not decriminalize possession.	Austria, Bulgaria, Cyprus, Denmark, Poland, and Slovenia
Traditional approach	These countries embrace an individualistic and safety and disease based approach, combined with an organizational structure based on approaching substances separately.	Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Romania, and Slovakia

Source: Ysa *et al.* (2014)

Conclusions

Final Questions!

If you implemented all the strategies reviewed in this session (mhealth solutions, new biomarkers, research-driven policies, self-management and patient-centered approaches,etc), how much do you think both drinking and drinking-related harm would be reduced during the next 5 to 10 years?

As the leading person in reshaping the global approach to alcohol, what would be your priority?

Thank you!

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The TWIST project is co-funded by grant Nº 759685 under the European Union's Justice Programme – Drugs Initiatives. The content of this presentation represents the views of the author only and is his/her sole responsibility. The European Commission does not accept any responsibility for use that may be made of the information it contains.