IQ Scientific Institute for Quality of Healthcare

Effective implementation *of EIBI/SBI*

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19-20 September 2013

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IQ healthcare is
a scientific centre for
research and education
on quality and safety of
healthcare

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Why we need implementation research?

http://www.youtube.com/watch?v=Np0AB32VQGs&feature=youtu.be

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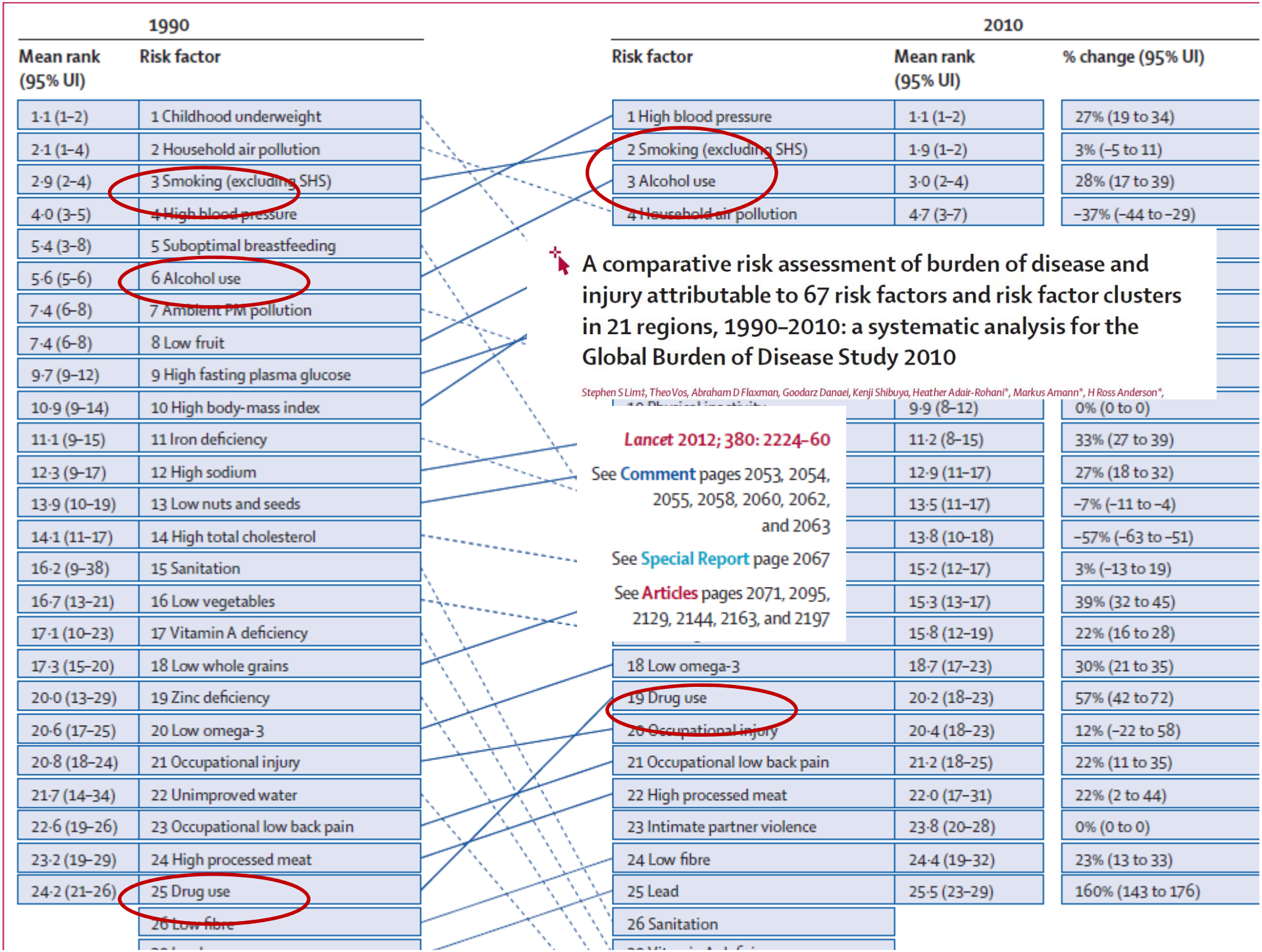

A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010

Stephen S Lim‡, Theo Vos, Abraham D Flaxman, Goodarz Danaei, Kenji Shibuya, Heather Adair-Rohani*, Markus Amann*, H Ross Anderson*,

Lancet 2012; 380: 2224–60

See **Comment** pages 2053, 2054, 2055, 2058, 2060, 2062, and 2063

See **Special Report** page 2067

See **Articles** pages 2071, 2095, 2129, 2144, 2163, and 2197

Outline

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Implementation Science

Examples and evidendence EIBI/SBI

What can we learn from other areas?

Take home message

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Important distinction to be made in implementation science

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AUDIT-C Questions:	Scoring system 0	1	2	3	4	Your score:
How often do you have a drink containing alcohol?	Never	Monthly or less	2 - 4 times per month	2 - 3 times per week	4+ times per week	
How many units of alcohol do you drink on a typical day when you are drinking?	1 -2	3 - 4	5 - 6	7 – 9	10+	
How often do you have 6 or more units on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
Scoring: A total of **5+** for men and **4+** for women indicates increased or higher risk drinking and is therefore AUDIT-C positive.						

- **Clinical intervention:** treatment, diagnostic procedure, preventive procedure, counseling technique, device for patients

- **Implementation intervention:** educational, organisational, financial, or technological activities - applied to health professionals, healthcare organisations, or health systems

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Implementation: when?

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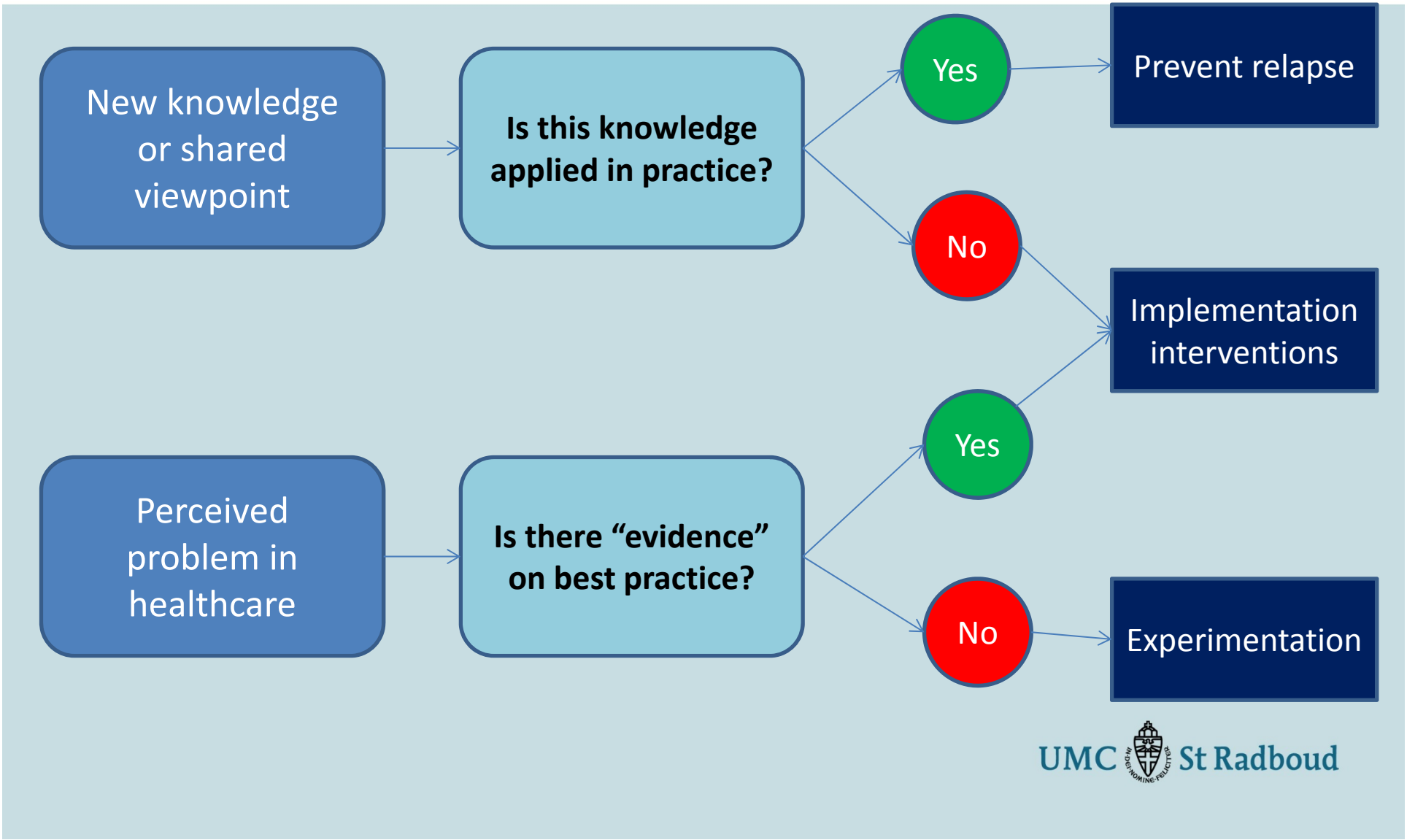

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Knowledge implementation

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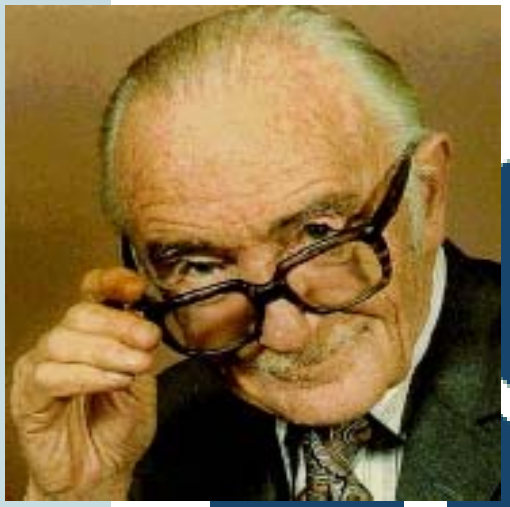

Archie Cochrane

Michel Wensing

Richard Grol

The Implementation of Change Model (Grol & Wensing)

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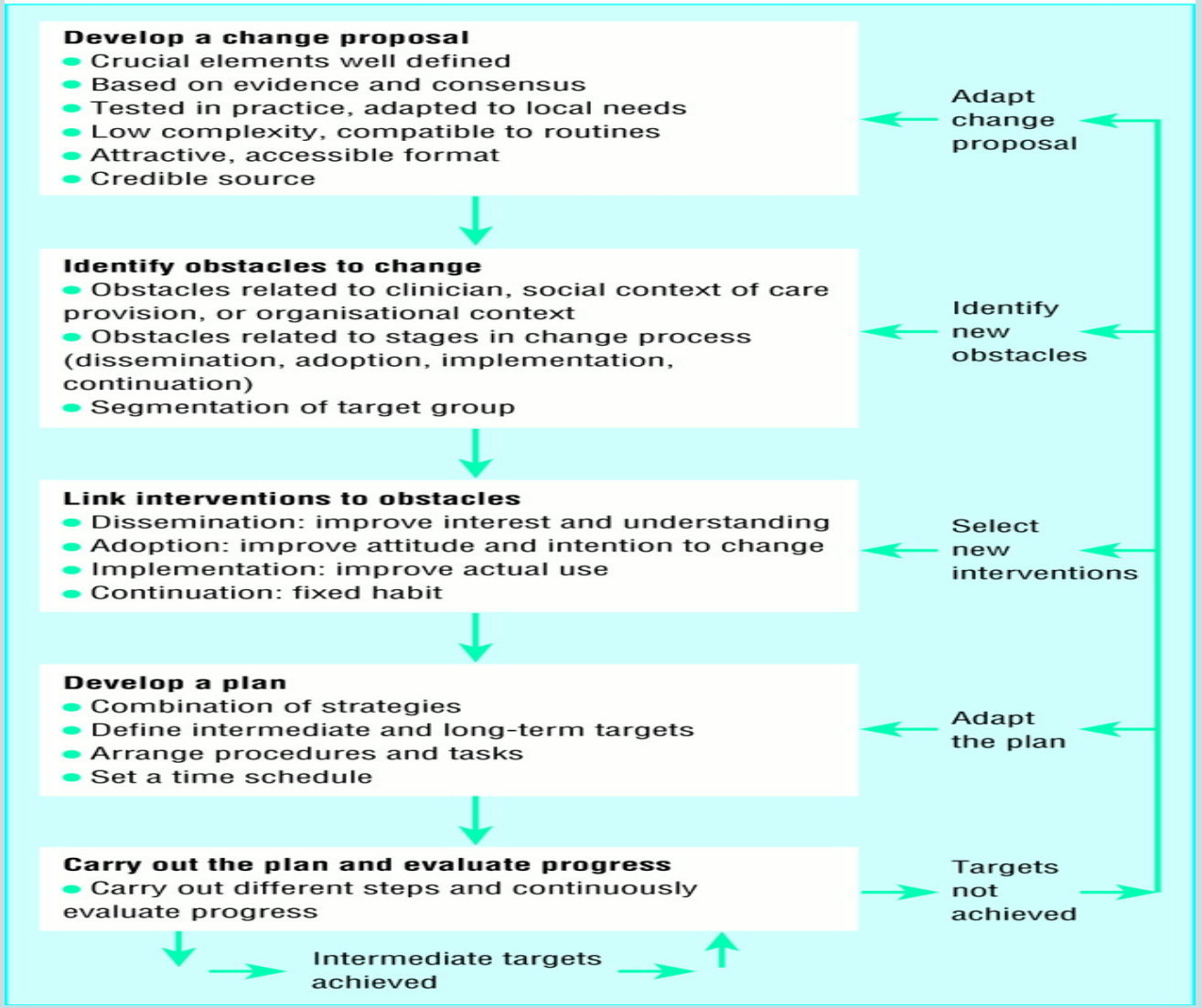

Based upon: Grol R, Wensing M, Eccles M, Davis D (2013). Improving Patiënt Care. The implementation of change in health care. UK: John Wiley & Sons.

Implementation interventions

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Based upon: Effective Practice and Organization of Care Group. Cochrane Collaboration, Grimshaw et al 2004; Thorsen and Mäkelä, 1999)

Professional interventions:

e.g. distribution educational materials, educational meetings, local opinion leaders.

Financial interventions:

provider: e.g. fee-for-service, prepaid services, pay for performance

patiënt: e.g. co-payment, rewards, penalties

Organizational interventions:

provider: e.g. revision of roles, multi-disciplinary teams

patient: e.g. mail order pharmacies, consumer participation healthcare

structural: e.g. changes of setting/site of services, physical facilities, ICT, electornic medical records

Regulatory interventions:

e.g. changes medical liability, managment patiënt complaints, licensure, accreditation

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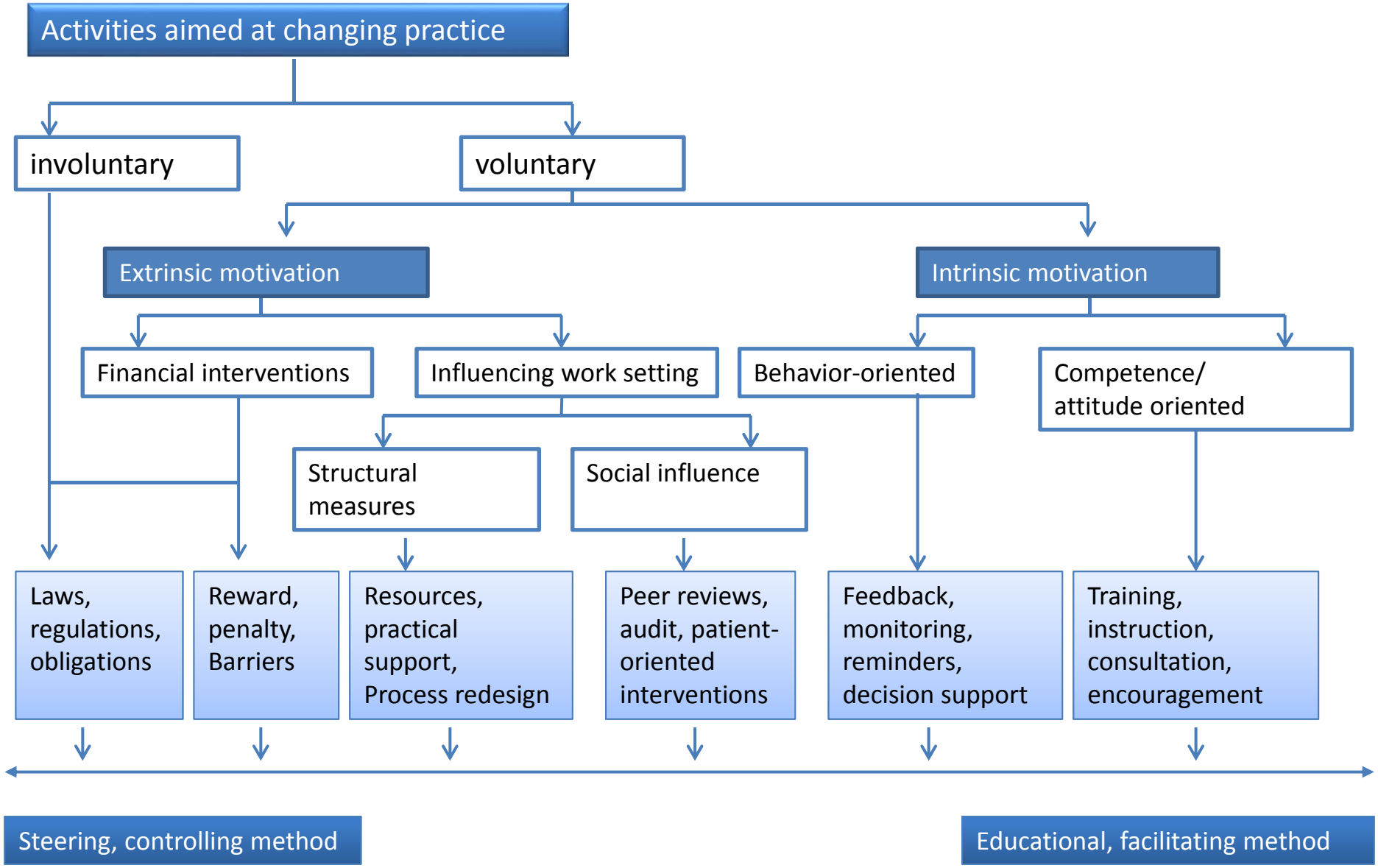
Implementation interventions

Based upon van Woerkom, 1990



Magic bullet or not?

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Many people believe in one particular strategy to change healthcare, based on experience, research, or ideology.

Different phases of the change process:

1. Orientation
2. Insight
3. Acceptance
4. Change
5. Maintenance

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Tailoring implementation interventions to barriers and enablers

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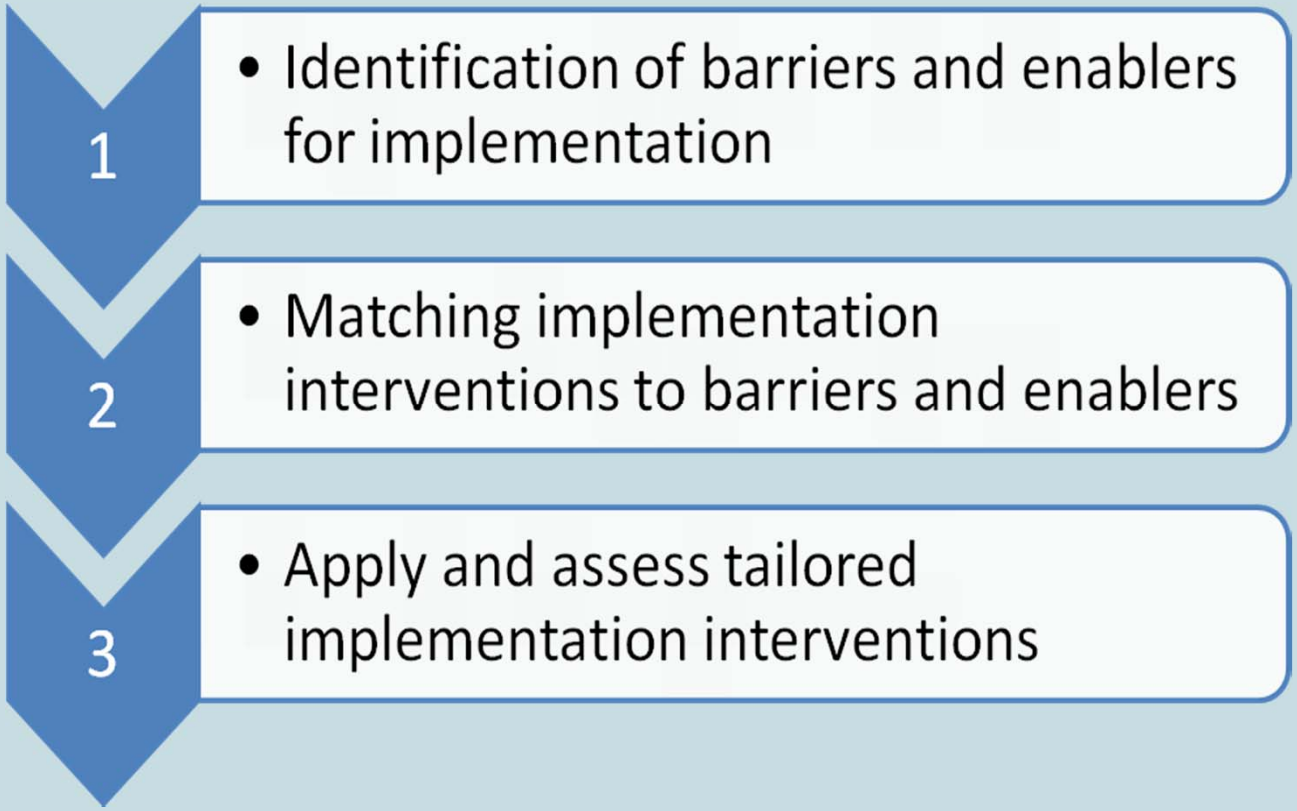

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Intervention mapping

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"It offers a process to turn the results from a diagnostic analysis into a concrete program for change. The process also appears to be suitable for the development or select of interventions aimed at implementing changes in healthcare"

Steps:

1. Needs assessement
2. Specifify determinants of (current) practice
3. Developing matries of proximal program objectives
4. Cosider theoretical methods and practical strategies
5. Design the program
6. Monitoring and program evaluation

Ref: Bartholomew LK, Parcel GS, Kok G, Gottlieb NH. Intervnetion Mapping: designing theory-and evidence based health promotion programs. New York: McGraw Hill. 2001.

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Determinants of practice

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- “Factors that might prevent or enable improvements, includingfactors that can be modified and non-modifiable factors that can be used to target interventions” (Oxman 2011)

- May be related to:
  - guidelines /knowledge
  - professional behaviour
  - interactions of health professionals
  - organisation of healthcare
  - health system arrangements
  - patient behaviours
  - social and political environment

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Outline

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Examples and evidendence EIBI/SBI

What can we learn from other areas?

Take home message

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Some (Dutch) examples

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Optimizing Delivery of Healthcare Interventions (ODHIN)

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Identified barriers:		‘Tailored’ strategies:
1. Lack of knowledge/skills	→	1. Education and support
2. Lack of appropriate payment	→	2. Reimbursement SBI
3. Lack of time	→	3. Facilitation: referral to internet treatment

Odhin project

Keurhorst NM, et al. Implementing training and support, financial reimbursement, and referral to an internet-based brief advice program to improve the early identification of hazardous and harmful alcohol consumption in primary care (ODHIN): study protocol for a cluster randomized factorial trial. Implementation Science 2013 8:11.

&

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A public health approach, a self-help intervention

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Identified barriers:

1. No use of healthcare services
2. Unwilling, unlikely, not ready to seek conventional help (healthcare)

Identified facilitators:

1. Internet access (> 85% population)
2. Minimal intrusive into lifestyle of people (at own time and speed)
3. Stepped care for problem drinking

Based upon: Riper H. (2008) Curbing Problem Drinking in the Digital Galaxy. Thesis. Amsterdam: Vrije Universiteit

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A public health approach, a self-help intervention

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A public health approach, a self-help intervention

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Conclusions:

- Small to medium effects
- 1st step stepped care approach
- viable prospect (large scale, low costs)

Recommendations, e.g.:

- Broaden the reach of digital interventions:
    - Adapt to groups not yet reached, e.g. tailor/adapt to lower eductaiton backgrounds, younger and older people, people with various religions.
    - Recruitment / marketing strategies for actracting people.
- Stepped care principle → offer follow-up when necessary
- Integrating interventions at different levels total prevalen

Based upon: Riper H. (2008) Curbing Problem Drinking in the Digital Galaxy. Thesis. Amsterdam: Vrije Universiteit

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A provider and organisational oriented intervention in secondary care *(Bredie B, et al)*

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Identified barriers:

1. Screening lifestyle not daily practice
2. Lack of time
3. Lack of knowledge
4. No follow-up after identification at risk

Multi-strategies:

1 a. Support of medical specialist → Cardio vascular risk assessment
b. Use of validated questionnaires lifestyle

2 a. Computerized self-assessment by patients
b. Algoritme to calculate risk and motivation for change→ feedback report

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A provider and organisational oriented intervention in secondary care *(Bredie B, et al)*

Scientific Institute for Quality of Healthcare

Identified barriers:

1. Screening lifestyle not daily practice
2. Lack of time
3. Lack of knowledge
4. No follow-up after identification at risk

Multi-strategies:

3 a. Multidisciplinary meetings to discuss patients
b. Education Nurses 'brief interventions' / motivational interviewing

4. a. Protocol with 'actions'
b. Nurse practitioner guideline /protocol for brief intervention
c. 'Social map' addiction services

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A provider and organisational oriented intervention in secondary care *(Bredie B, et al)*

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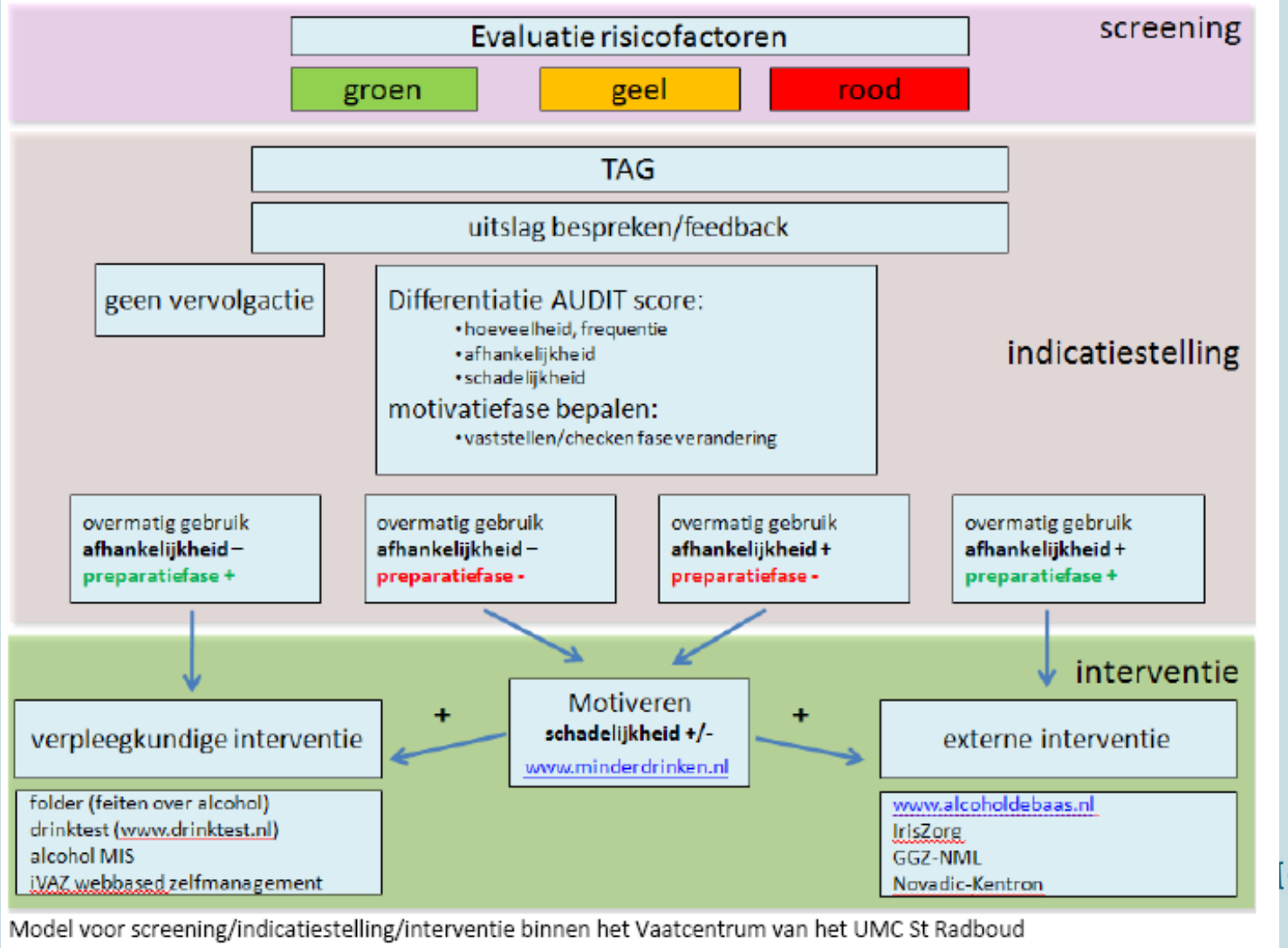

Model voor screening/indicatiestelling/interventie binnen het Vaatcentrum van het UMC St Radboud

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A provider and organisational oriented intervention in secondary care *(Bredie B, et al)*

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Results (after 1 year):

Aim: 90% of all new patients complete lifestyle questionaire:

- Vascular Surgery & neurology > 90%
- Cardiology > 70%

Aim: 50% of all patients at risk offered a brief intervention or referral to addiction services

- Motivation in case of pre-contemplation phase by nurses
- All follow-up consultations with nurses lifestyle and goals are discussed (about 60% remain in secondary care).
- General practitioners informed about risk score (‘letter’)
- Referral to / collaboration with addication services hindered due to change in payment systems

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A provider and organisational oriented intervention in secondary care *(Bredie B, et al)*

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Results (after 1 year):

Aim: at least 12% of at risk patient reduced alcohol consumption to safe level *(v/d Wijngaard et al, submitted).*

- 11,1% reduced alcohol consumption to safe level
  → 65,6 to 76,7%
- 5,2% reduction hazardous/harmful alcohol consumption
  → 14,8% to 9,6%
- motivation to change (5-point scale):
  → mean 1.68 (Keurhorst et al, submitted)

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Effective implementation EIBI / SBI

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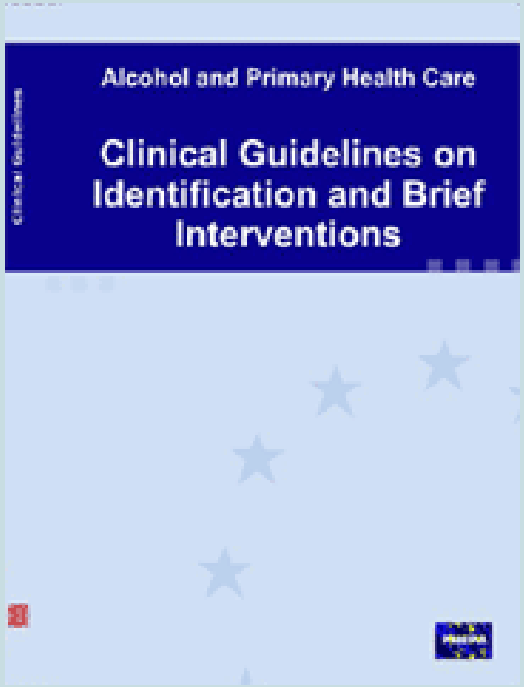
From bookshelf (‘guidelines’) to routine practice



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Results systematic literature review

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12 trials → 15 interventions

Educational : 8 interventions

Organisational: 4 interventions

Combination: 2 interventions

Outcomes:

Screening;
Brief interventions/counselling)

[not alcohol consumption]

Anderson et al, Engaging general practitioners in the management of alcohol problems: Results of a meta-analysis Journal of Studies on Alcohol.2004; 65 (2): 191-199.

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Results systematic literature review

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Weighted mean effect size:
0.73 (95% CI, 0.56 – 0.90), heterogeneous variations (p<0.001)

SBI – rates:
13% difference (95% CI, 8% - 18%)

Predictors effect:

- **multi-facetted** or single facetted intervention
i.e. multi-facetted seen as more than one ‘intervention’; e.g. one educational outreach visit + 6 educational telephone calls

- **Alcohol specific** or general ‘lifestyle’ prevention

Anderson et al, Engaging general practitioners in the management of alcohol problems: Results of a meta-analysis Journal of Studies on Alcohol.2004; 65 (2): 191-199.

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Results systematic literature review (ODHIN)

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Michel Wensing

Odhin project

Keurhorst et al, preparation

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Results systematic literature review (ODHIN)

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4,594 citations

Finally included 29 trials → appr. 60% USA

Professional oriented:	11
Organisational oriented:	3
Patient oriented:	1
Professional + organisational:	6
Professional + patient:	2
Organisational + patient:	3
Professional + organisational + patient:	2
'all combinations, incl. financial':	1

Outcomes:

- Screening;
- Brief interventions/counselling
- Alcohol consumption
- Cost / cost-effectiveness

Keurhorst et al, preparation

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Results systematic literature review (ODHIN)

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Preliminary findings → (qualitative analysis of effects)

Provider oriented strategies:
- → majority effect on SBI rates
- → effect alcohol consumption patient less clear!

Provider + organisational oriented strategies:
- → effect on SBI rates mixed
- → seems to have no effect alcohol consumption patient

Other strategies:
- → Mixed results

Next step → qualitative analysis of effects and meta-regression
Report → December 2013

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Keurhorst et al, preparation

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What can we learn from other areas?

Take home message

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Cochrane Reviews on professional education (impact on performance)

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	N trials	ES
Printed educational material (Farmer 2008)	23	+4%
Educational meetings (Forsetlund 2009)	56	+6%
Educational outreach visits (O'Brien 2007)	34	+5%
Audit and feedback (Jamtvedt 2006)	118	+5%

ES=median change on dichtomous performance measures

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Review of Computerized clinical decision support systems

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	Number of trials	Improved processes	Improved outcomes
Primary prevention	41	63%	29%
Diagnostic test ordering	35	52%	31%
Drug prescribing	65	64%	21%
Drug monitoring and dosing	33	60%	21%
Acute care management	36	63%	15%
Chronic care management	55	63%	15%

http://www.implementationscience.com/series/CCDSS

Cochrane Review on financial intervention

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N= 7 trials

“there is insufficient evidence to support or not support the use of financial incentives to improve the quality of primary health care.”

Scott A, Sivey P, Ait Ouakrim D, Willenberg L, Naccarella L, Furler J, Young D. The effect of financial incentives on the quality of health care provided by primary care physicians. *Cochrane Database of Systematic Reviews 2011, Issue 9. Art.No.: CD008451.* DOI: 10.1002/14651858.CD008451.pub2.

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Cochrane Review on tailored interventions

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N= 26 trials

“Interventions tailored to prospectively identified barriers are more likely to improve professional practice than no intervention or dissemination of guidelines.”

“the methods used to identify barriers and tailor interventions to address them need further development.”

Baker R, Camosso-Stefinovic J, Gillies C, Shaw EJ, Cheater F, Flottorp S, Robertson N. Tailored interventions to overcome identified barriers to change: effects on professional practice and health care outcomes. Cochrane Database of Systematic Reviews 2010, Issue 3. Art. No.: CD005470. DOI: 10.1002/14651858.CD005470.pub2.

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What's next?!

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*Take home message

Adjust expectations:
"Small to moderate effects"

Implementation model (Grol & Wensing)→
- Identification barriers and facilitators (different domains/categories)
- Tailoring interventions to these determinants

Realisation:
"No magic bullet, but multi-facetted aimed at different levels"

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What's next?!

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*Take home message

Challenge → Maintenance

"Integrate new practice into routines"

"Embed new practice in the organization"

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Conclusion

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Effective implementation is when innovations are given a structural place in professional (routine) practice and organizations in healthcare

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