

# Managing Behavioral Risks



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# Presentation outline

- 1 Introduction to risks
- 2 Changing risk behavior
- 3 Implementing in health care: 5As
- 4 Evaluating impact: RE-AIM



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# What are some major risks to health?

## Child & maternal under-nutrition

- Underweight
- Iron deficiency
- Vitamin A deficiency
- Zinc deficiency

## Other diet-related risks & inactivity

- Blood pressure
- Cholesterol
- High body mass index
- Inadequate fruit and vegetable intake
- Physical inactivity

## Sexual and reproductive health risks

- Unsafe sex
- Lack of contraception

## Addictive substances

- Smoking and oral tobacco
- Alcohol
- Illicit drugs

## Environmental risks

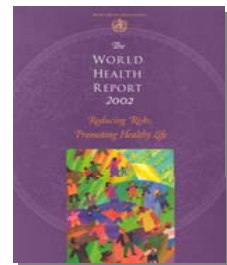
- Unsafe water, sanitation, and hygiene
- Urban air pollution
- Indoor smoke from solid fuels
- Lead exposure
- Climate change

## Occupational risks

- Risk factors for injury
- Carcinogens
- Airborne particulates
- Ergonomic stressors
- Noise

## Other selected risks to health

- Unsafe health care injections
- Childhood sexual abuse



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# Which risks have significant behavioral components?

## Child & maternal under-nutrition

- Underweight
- Iron deficiency
- Vitamin A deficiency
- Zinc deficiency

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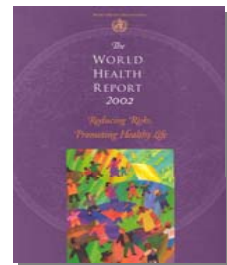
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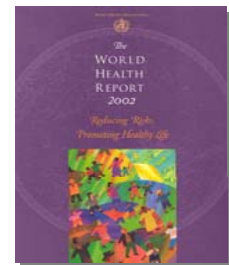
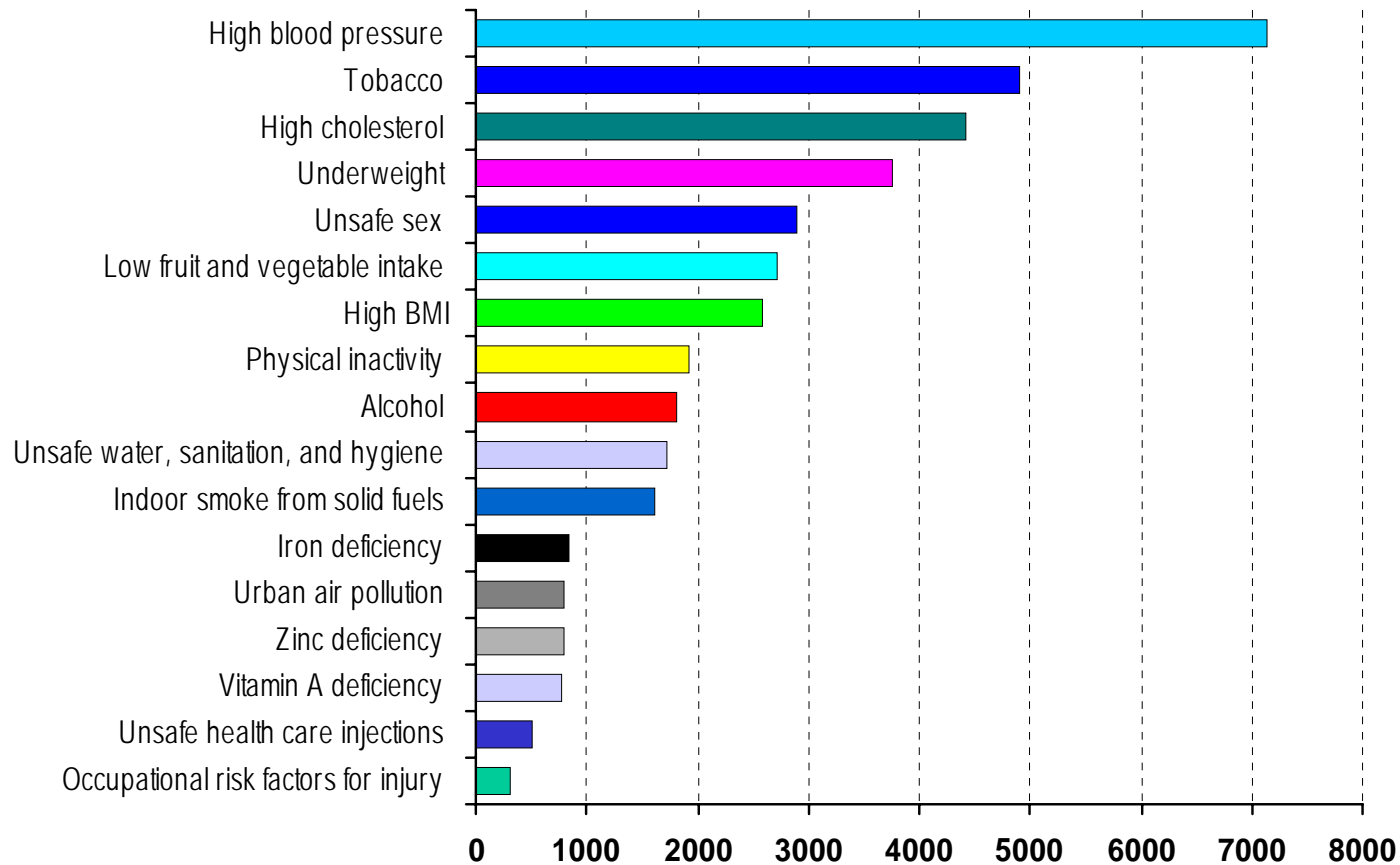
- Unsafe health care injections
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# World

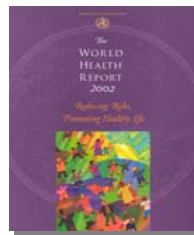
## Attributable mortality in 2000 by selected leading risk factors (000s)



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# The bad news: trends in behavioral risks

- Behavioral risks are increasing in most countries
- Tobacco: 4.2 million deaths/year
- Diet/nutrition (insufficient fruit/vegetables): 4 million deaths/year
- Physical activity: 1.6 million deaths/year
- Alcohol: 2 million deaths/year



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# The good news: Behavioral risks can be reduced using proven scientific principles

- Behavior is not random; it is explainable, predictable, and lawful
- Principles of learning
  - powerful techniques
  - teach new behaviors
  - change frequency, duration, intensity of existing behaviors





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# Levels for intervening on behavioral risk

**MACRO LEVEL**

**Health Policy**



**MESO LEVEL**

**Organization of Health Care**



**MICRO LEVEL**

**Individual**



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# Levels for intervening on behavioral risk

**MACRO LEVEL**

**Health Policy**



*26 March*



**MESO LEVEL**

**Organization of Health Care**



**MICRO LEVEL**

**Individual**



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# Myths constraining progress

*“Behavioral interventions don’t work.”*

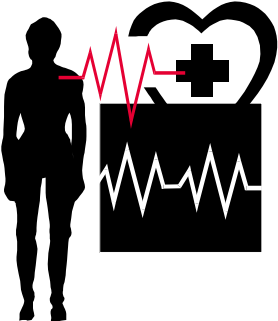


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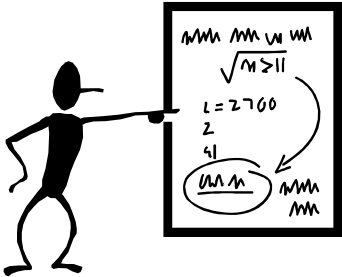
# Deconstructing the myth



+



= pharmacological interventions don't work??



+



= The 'tic tac' of behavioral interventions



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# Key idea

- Health information is *necessary* but *insufficient* to initiate/maintain health behavior change
- patient education  $\neq$  behavioral intervention



# Knowing versus doing



**move for health**

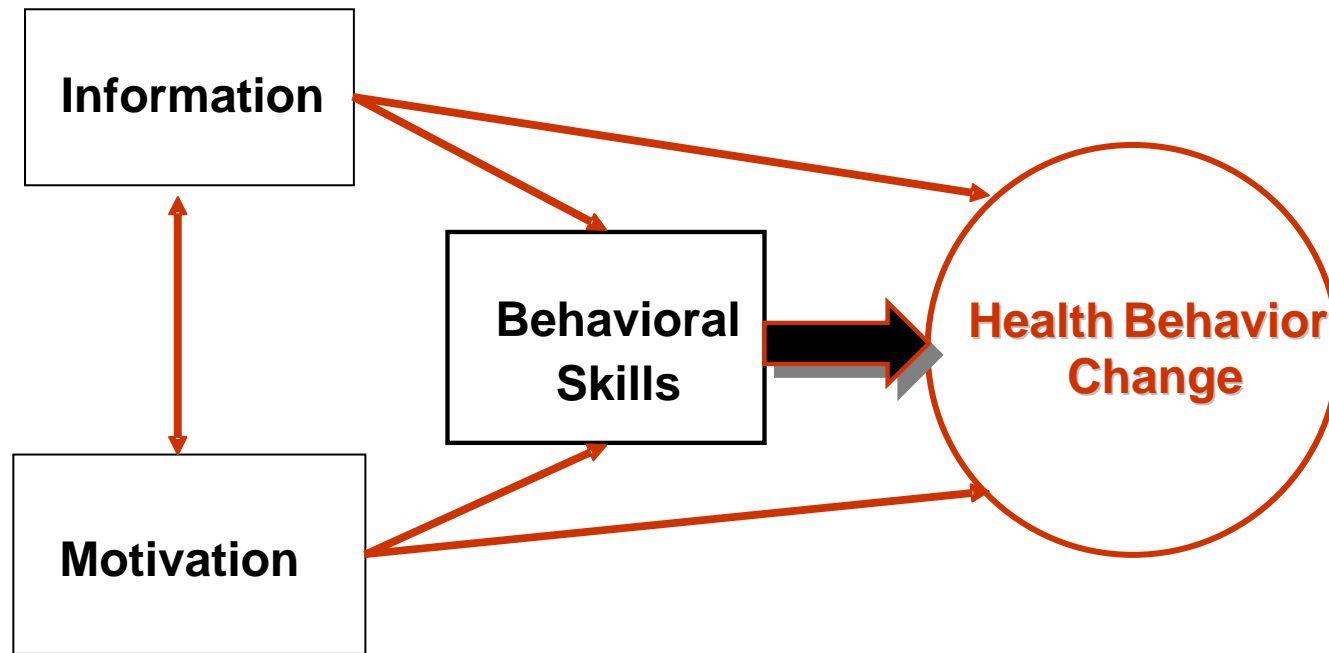
*... at least 30 minutes per day*

*...how many days successful in past month?*



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# A model for changing health behavior



Fisher, JD & Fisher, WA. Changing AIDS risk behavior, *Psychological Bulletin*, 1992;111(3):455-474





# Basic behavior change skills

- 1 Goal setting
- 2 Self-monitoring
- 3 Environmental control
- 4 Self-reward
- 5 Social support
- 6 Manage setbacks



# 1. Goal setting

Use general, long-term ideals as a guide, then develop goals that are

- Clear
- Measurable
- Realistic
- Under individual's direct control
- Limited in number



# Less helpful goals

“I’m going to lose 20 kilos”

“how? What specifically are you going to change in your daily behavior?”

“I’ll try to eat better”

“do or do not - there is no try.”

“I’ll exercise more”

“what is ‘more’? How will you know if you have succeeded in this goal?”



# More helpful goals

“I will eat 5 servings of fruits/vegetables each day”

“I’ll eat fried food only at one weekend meal per week”

“I’ll start walking 5 minutes per day and increase by 1 minute each week until I’m at 30 minutes per day”

☐ *Clear*

☐ *Measurable*

☐ *Realistic*

☐ *Under individual’s direct control*

☐ *Limited in number*



## 2. Self-monitoring

- Companies have yearly, monthly, even daily reports tracking sales, productivity, etc... Why?
- Sport organizations keep statistics. Why?
- How is self-monitoring like these other forms of tracking behavior?



Activity


S

M

T

W

Th

F

S

# Activity

*Fruits &  
Vegetables*

9							
8							
7							
6							
5							
4							
3							
2							
1							
	S	M	T	W	Th	F	S

# Self-monitoring multiple behaviors

1. Ate 5 Fruits/Vegetables
2. Walked for 20 Minutes
3. Did stretching for 10 minutes

S	M	T	W	Th	F	S
X		X		X		
		X	X	X		X
X		X		X		X
	X	X	X			X



# 3. Environmental control

- Why do you set your alarm clock?
- Why do people use “sticky notes?”
- Why do people leave their coats near their doors?



# Environmental control

- Arrange your world to:
  - Prompt and aid your change
  - Make unhealthy habits less “automatic”
- What can serve as cues for you?
  - Organizing your physical environment
  - People
  - Other activities



## 4. Self-reward

“Behavior that persists is being rewarded”

- Current rewards for current habits
  - Something good comes as a result
  - Something bad is avoided
- What would be more effective, immediate or delayed rewards?



# Self-reward

- What rewards can you use?
  - Monetary or materials from money saved
  - Social rewards
  - Activity rewards



# What should you reward?

- Behaviors, not overall goals
- Behaviors compatible with your overall goals
- Positive alternatives to less healthy behaviors



## 5. Social support

- Who are the people in your life who can help you?
- How might they help set your goals?
- How might they help monitor your progress?
- How might they prompt/cue your new habits?
- How might they help reward the new habit?
- Are there people who might make it harder?



# 6. Manage setbacks

- Setbacks are normal
- Remember, a “slip” is not a “fall”
- Use as learning experience
- Analyze cause of “slip” and determine ways to prevent it in the future
- Recognize “high risk” situations and decide on how to best avoid or manage them
- Perfection is unobtainable and not the goal



# Summary: Six steps to successful behavior change

- Select long-term goals, refine into short-term behaviors
- Monitor progress
- Arrange your environment
- Reward the new behavior and reaching goals
- Enlist helpful others
- Expect and manage setbacks





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# Applying behavior change to health care interactions: the 5As

## COMPONENT

## DEFINITION

*ASSESS*

Evaluate patient status  
(and progress)

*ADVISE*

Make personally relevant  
recommendations

*AGREE*

Set specific collaborative,  
feasible goals

*ASSIST*

Anticipate barriers,  
problem-solve solutions,  
and complete action plan

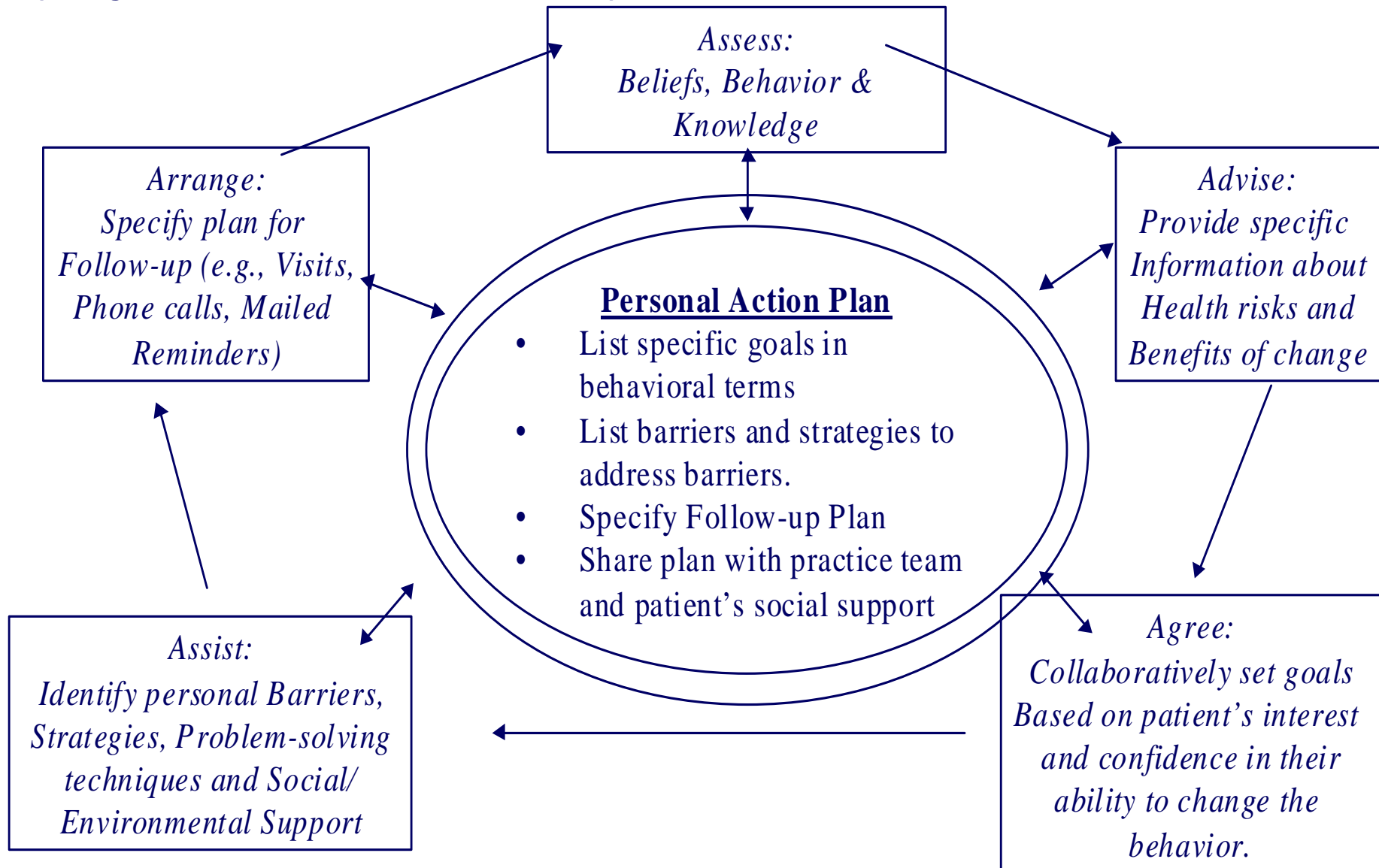
*ARRANGE*

Schedule follow-up  
contacts and resources



# Applying behavior change to health care interactions: the 5As

(Glasgow, et al, 2002; Whitlock, et al, 2002)



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# Measuring intervention success: RE-AIM

RE-AIM is an acronym that consists of five elements, or dimensions, that relate health behavior interventions:

- **R**each the target population
- **E**fficacy or effectiveness
- **A**doption by target settings or institutions
- **I**mplementation - consistency of delivery of intervention
- **M**aintenance of intervention effects in individuals and populations over time

[www.re-aim.org](http://www.re-aim.org)



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# RE-AIM dimensions and definitions

	DIMENSION	DEFINITION
Individual Level	REACH	<ol style="list-style-type: none"><li>1. Participation rate among eligible individuals</li><li>2. Representativeness of participants</li></ol>
	EFFICACY / EFFECTIVENESS	<ol style="list-style-type: none"><li>1. Effects on primary outcome of interest</li><li>2. Impact on quality of life and negative outcomes</li></ol>

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# RE-AIM dimensions and definitions

	DIMENSION	DEFINITION
Setting Level	ADOPTION	<ol style="list-style-type: none"><li>1. Participation rate among possible settings</li><li>2. Representativeness of settings participating</li></ol>
	IMPLEMENTATION	<ol style="list-style-type: none"><li>1. Extent to which intervention delivered as intended</li><li>2. Time and costs of intervention</li></ol>
Both	MAINTENANCE	<ol style="list-style-type: none"><li>1. (Individual) Long-term effects of intervention ( <math>\geq 6</math> months )</li><li>2. (Individual) Impact of attrition on outcomes</li><li>3. (Setting) Extent of continuation or modification of treatment</li></ol>

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# Ultimate impact of magic diet pill that 'works for 50% of patients'

<u>Dissemination Step</u>	<u>Concept</u>	<u>% Impact</u>
50% of Clinics Use	Adoption	50%
50% of Clinicians Prescribe	Adoption	25%
50% of Patients Accept Medication	Reach	12.5%
50% Follow Regimen Correctly	Implementation	6.2%
50% of Those Taking Correctly Benefit	Effectiveness	3.2%
50% Continue to Benefit After 6 Months	Maintenance	1.6%





# Overall summary



- Risk behavior can be changed (but requires a comprehensive approach)
- Risk behavior can be successfully addressed within health care
- The impact of risk interventions can and must be measured in a comprehensive manner

