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Prevention and early treatment of mental ill-health

Department of

Clinical Psychology

EMGO Institute for Health and Care Research

Pim Cuijpers

VU university medical center VU University Amsterdam EMGO+ Institute for Health and Care Research

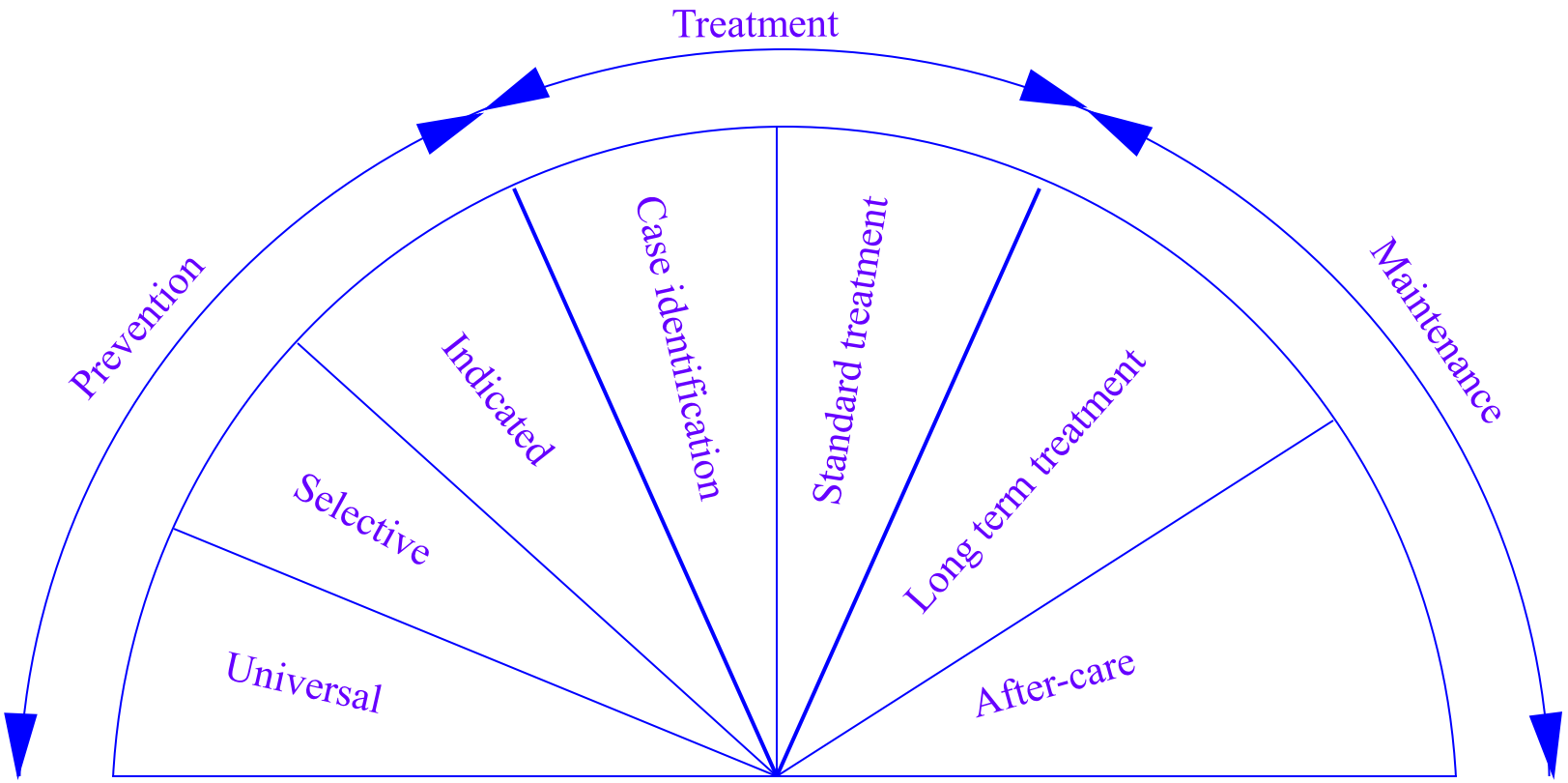
Overview

- What is prevention?
- Why is prevention important?
- Prevention for whom?
- Is it possible to prevent new incident cases?
- Prevention of depression in primary care
- Conclusions

What is prevention?

Intervention spectrum for mental disorders

(Mrazek & Haggerty, 1994)



Why is prevention of common mental disorders important?

Why is prevention important?

- Huge burden of disease
- Highest burden of disease in 2030 in developed countries
- High prevalence
- High incidence (almost 50% of prevalence)
- Huge economic costs (130 million euros per million inhabitants, 47% incidence)
- Treatments can reduce burden of disease with not more than 35% (currently 15%)

Illnesses with highest disease burden

Illness	% of disease burden
Coronary heart disease	7.6
Anxiety disorders	***5.1***
Stroke	4.9
Depression / dysthymia	***3.9***
COPD	3.2
Diabetes mellitus	3.2
Lung cancer	3
Alcohol dependence	***2.5***
Artrosis	2.5
Dementia	***2.3***

Source: RIVM, 2006

Top 5 of diseases in The Netherlands

	0-14	15-24	25-44	45-64	65-74	75+
1	Innate anomalies	**Alcohol**	**Anxiety**	Coron. Heart dis	Coron. Heart dis	Coron. Heart dis
2	Mental handicaps	**Anxiety**	**Depres-sion**	**Anxiety**	Stroke	Stroke
3	Privat accidents.	**Depres-sion**	**Alcohol**	Lung cancer	COPD	Dementia
4	Bronchial infections	Traffic accidents	**Suicide**	**Depres-sion**	Lung cancer	COPD
5	Asthma	Mental handicaps	Traffic accidents	Diabetes	Diabe-tes	Diabetes

Currently averted YLD

Disorder	Current
• Any mood disorder	15%
• Major depression	16%
• Any anxiety disorder	13%
• Any alcohol rel. dis.	2%
• Schizophrenia	13%
• Any disorder	13%

Andrews et al., Br J Psychiatry 2004

Averted YLD (current and with EBMH)

Disorder	Current	with EBMH
• Any mood disorder	15%	23%
• Major depression	16%	23%
• Any anxiety disorder	13%	20%
• Any alcohol rel. dis.	2%	5%
• Schizophrenia	13%	22%
• Any disorder	13%	20%

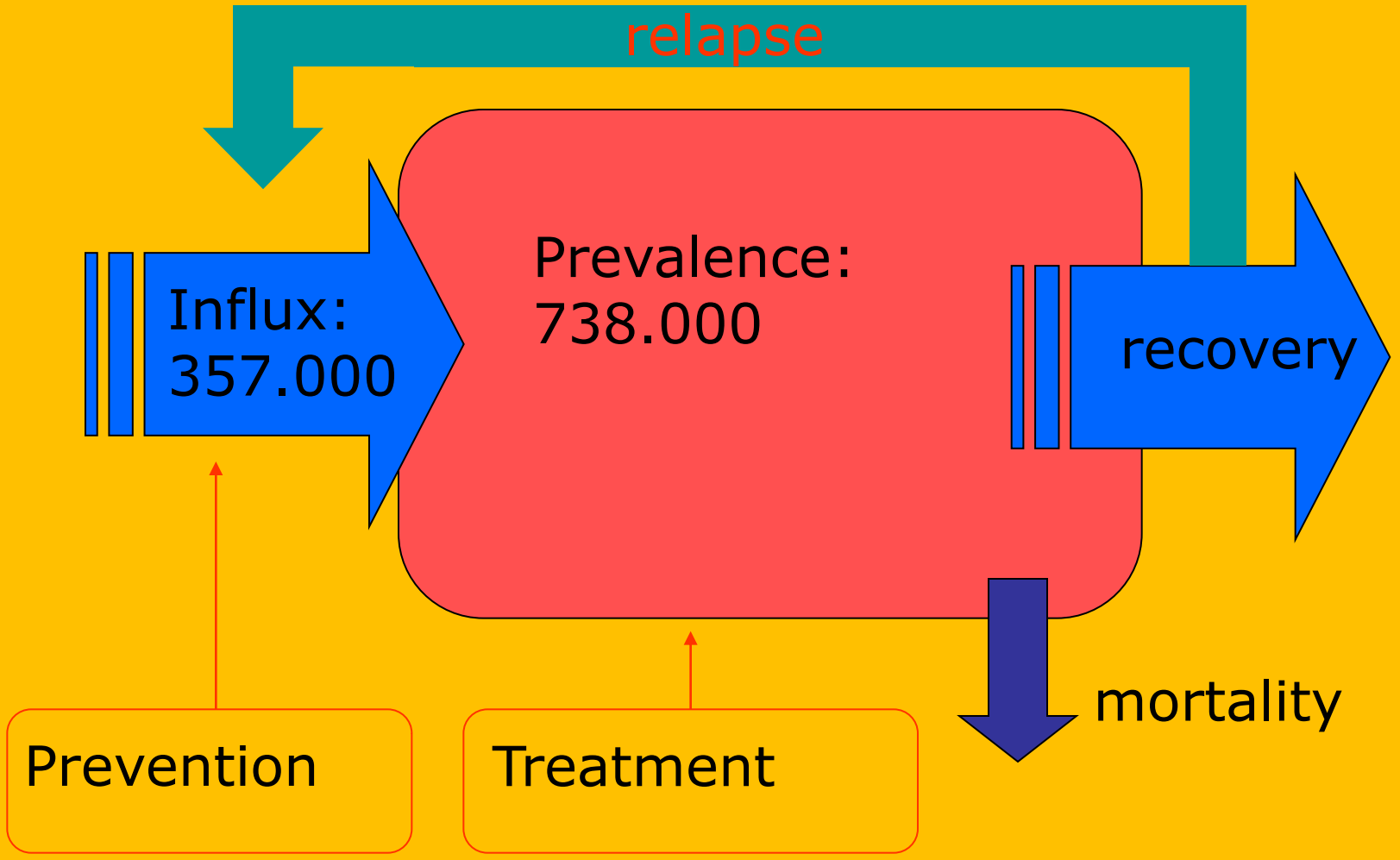
Averted YLD (maximum)

Disorder	Current	EBMH	Max
• Any mood disorder	15%	23%	35%
• Major depression	16%	23%	34%
• Any anxiety disorder	13%	20%	49%
• Any alcohol rel. dis.	2%	5%	34%
• Schizophrenia	13%	22%	22%
• Any disorder	13%	20%	40%

Consequences

- Currently avoided in MDD: 16%, maximum 34%
- Currently avoided in anxiety disorders: 13%, maximum 49%
- Consequences:
  - Better treatments
  - Dissemination (low-income countries!)
  - Prevention!

Epidemiology of depression in The Nederlands



Costs of depression

- €132 million per milion adults
- Of which 47% is related to the incidence
- About the same costs in minor depression
- About twice as much in dysthymia
- Total costs about € 600 million, per million adults

- Smit et al. (2006) Journal of Mental Health Policy and Economics
- Cuijpers et al. (2007). Acta Psychiatrica Scandinavica

So why is prevention necessary?

- Because of high
  - Prevalence
  - Incidence
  - Costs
  - Burden of disease
- Limited possibilities of treatment

- But: Prevention for whom?

Identifying target groups for preventive interventions

What do we need for effective prevention?

- Low specificity of most risk indicators
- Most people with a risk indicator do not develop a disorder
- Most epidemiologal studies report OR or RR
- Other methodology is needed

New statistics

- Exposure rate: prevalence of risk group among the population
- Population attributable fraction: the percentage of the incident cases that are accounted for by the risk indicator
- NNT: numbers needed to be treated in order to prevent the onset of one case

Method

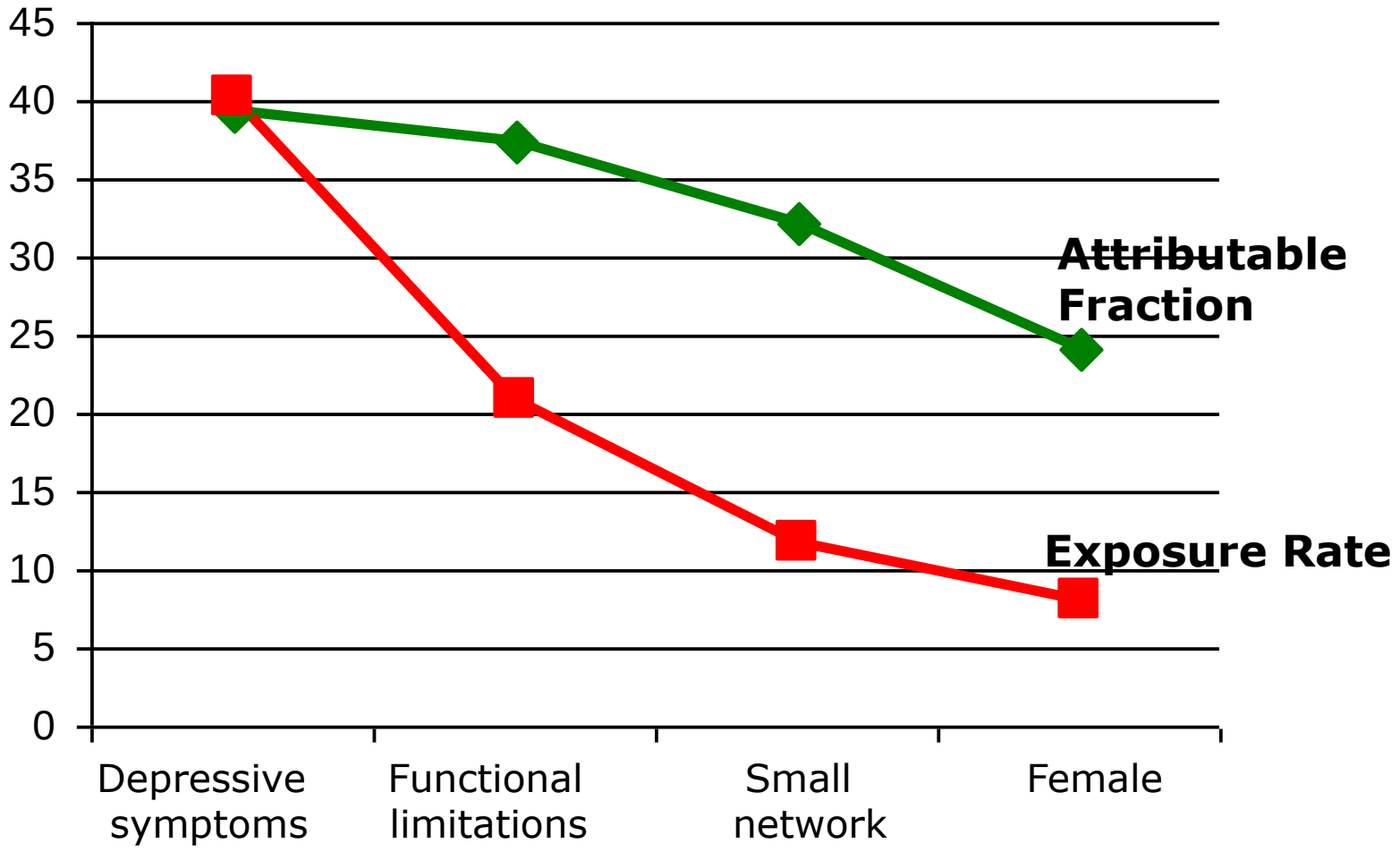
- LASA data
- At t1: N=3056; at t2: N=2200 (72%)
- Age: 55-85
- Incidence of depression: CES-D>16 at t2
- Risk indicators: vulnerability-stress theory

Smit et al., Arch Gen Psychiatry 2006

Risk indicators

Risk indicator	***Exposure Rate***	***Attributable Fraction***	***NNT***
Female	51.6	34.0	23
Low education	36.4	16.6	34
≥2 chronic diseases	32.8	20.7	26
Functional limitations	28.5	26.5	18
Depressive sympt.	40.3	40.3	16
Small network	45.5	21.6	30
Total AF		82.8	

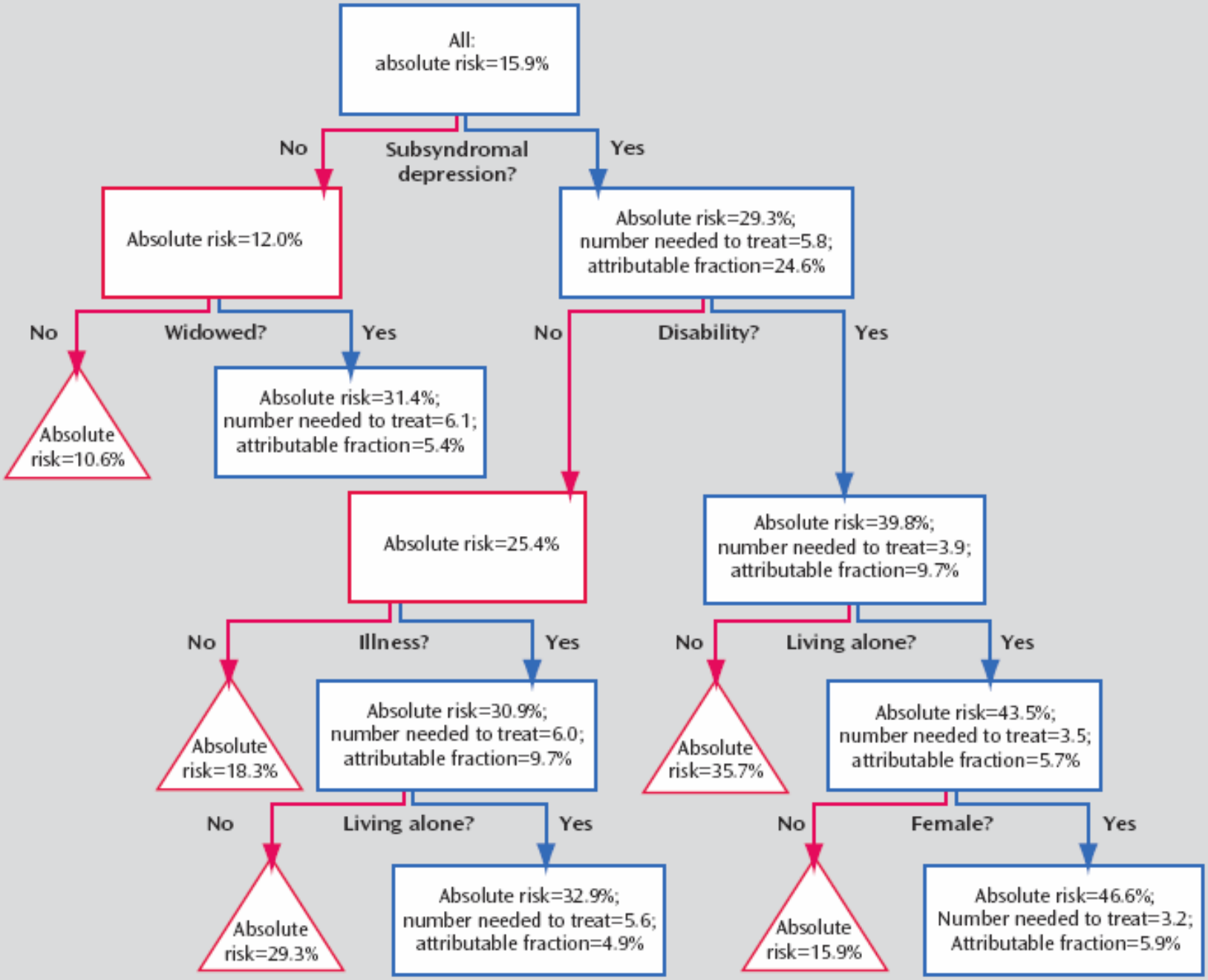
Combinations of risk indicators



Another study

- Amstel study
- N=2244 (pre + post)
- MDD: AGECAT
- Risk factors
- CART-analyses
  - Lowest NNT
  - Highest AF
  - Smallest ER

Schoevers et al., Am J Psychiatry 2006


All:
absolute risk=15.9%
No
Subsyndromal depression?
Yes
Absolute risk=12.0%
Absolute risk=29.3%; number needed to treat=5.8; attributable fraction=24.6%
No
Widowed?
Yes
No
Disability?
Yes
Absolute risk=10.6%
Absolute risk=31.4%; number needed to treat=6.1; attributable fraction=5.4%
Absolute risk=25.4%
Absolute risk=39.8%; number needed to treat=3.9; attributable fraction=9.7%
No
Illness?
Yes
No
Living alone?
Yes
Absolute risk=18.3%
Absolute risk=30.9%; number needed to treat=6.0; attributable fraction=9.7%
Absolute risk=35.7%
Absolute risk=43.5%; number needed to treat=3.5; attributable fraction=5.7%
No
Living alone?
Yes
No
Female?
Yes
Absolute risk=29.3%
Absolute risk=32.9%; number needed to treat=5.6; attributable fraction=4.9%
Absolute risk=15.9%
Absolute risk=46.6%; Number needed to treat=3.2; Attributable fraction=5.9%

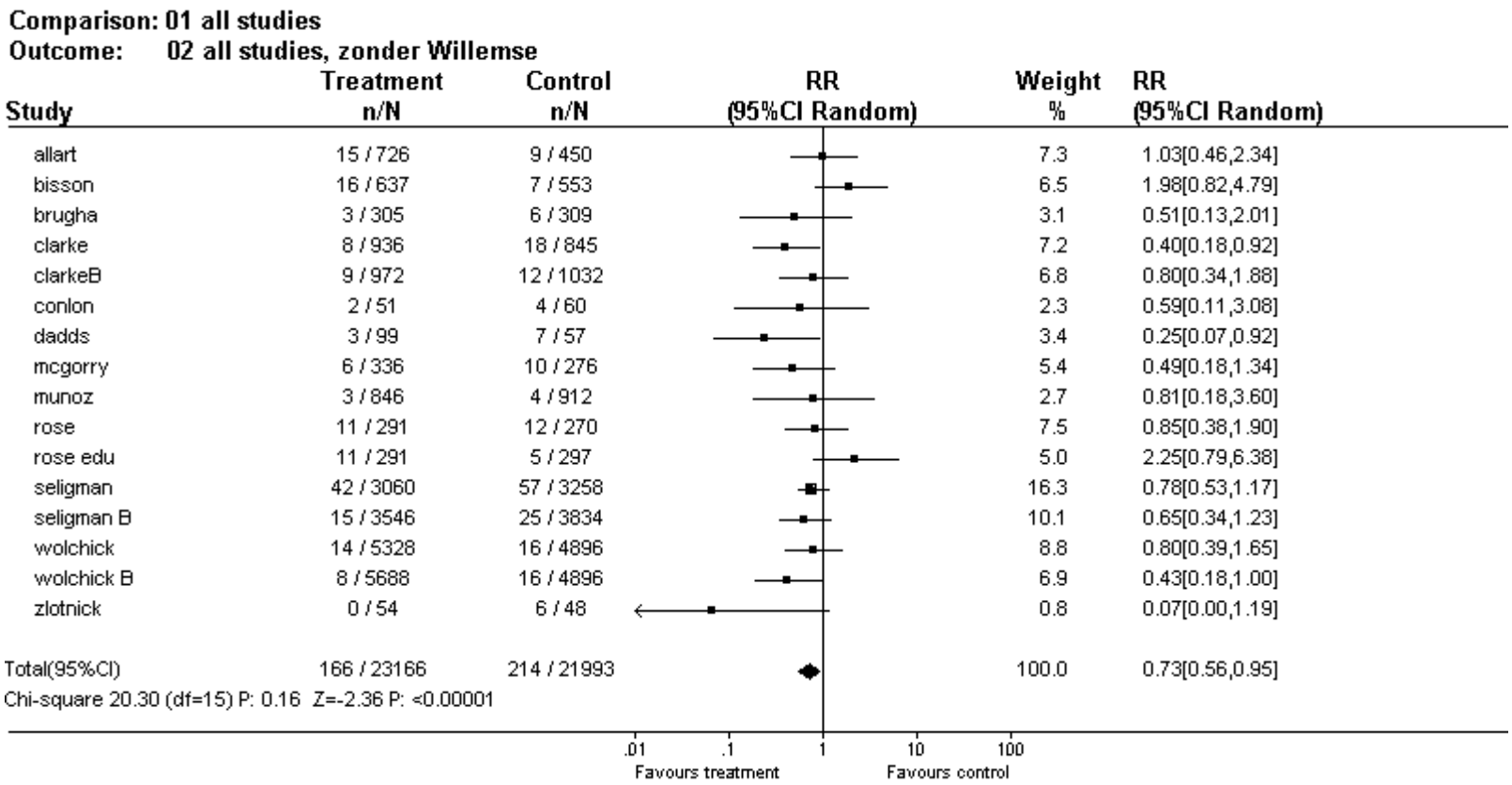
Is it possible to prevent the onset of depressive disorders?

Preventing incidence of mental disorders

- Meta-analytic review
- 13 studies:
  - 6 on depression
  - 3 on posttraumatic stress disorders
  - 4 other (anxiety, anx+depr, psychosis, any)
- Many differences between studies

Cuijpers et al., J Nerv Ment Dis 2005

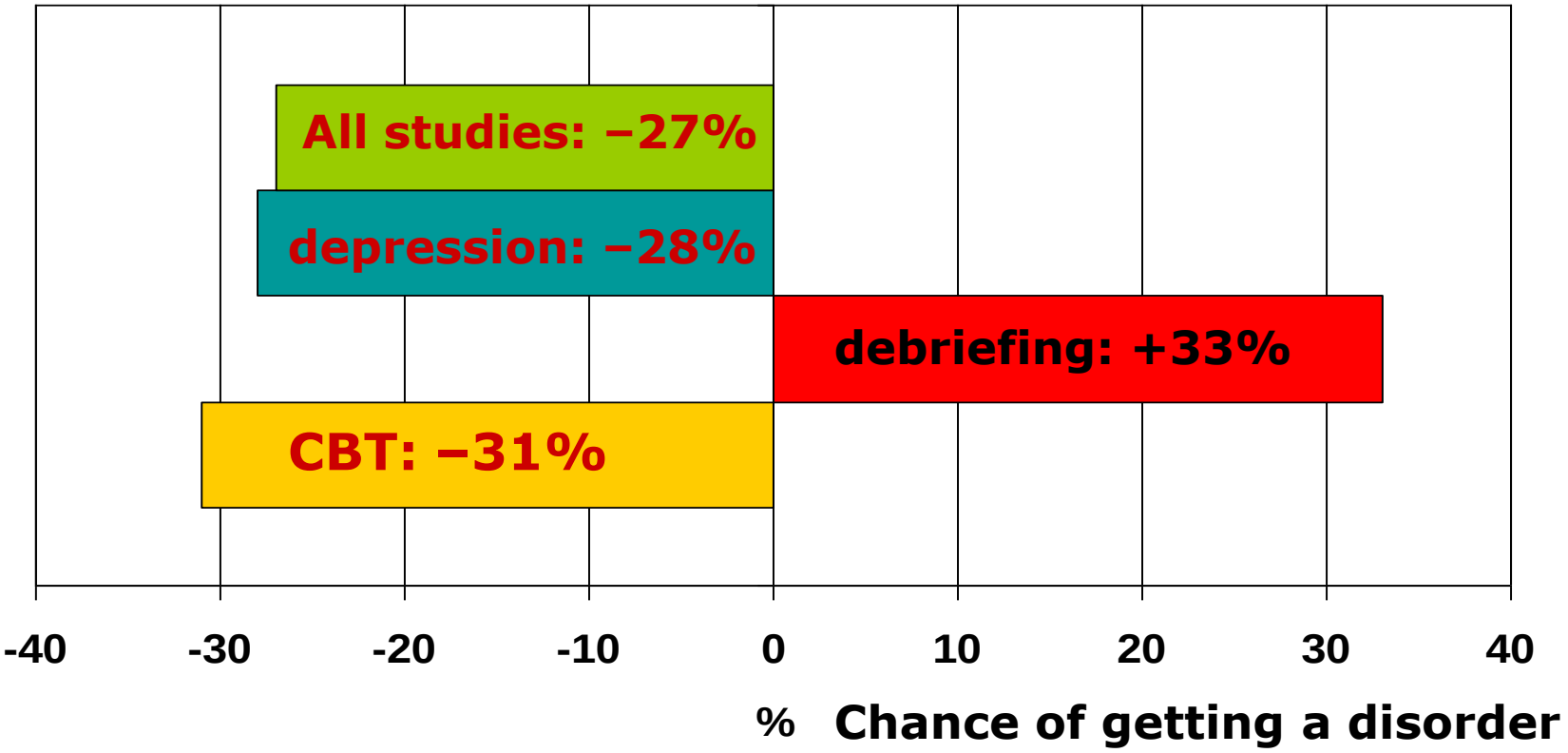
Effects of prevention



Outcomes

	N	*IRR (95% CI)*
• All studies *	16	0.73 (0.56–0.95)
• Depression *	7	0.72 (0.54–0.96)
• PTSD	4	1.33 (0.75–2.37)
• CBT *	8	0.69 (0.53–0.89)
• Selective	11	0.81 (0.59–1.11)
• Indicated *	5	0.58 (0.37–0.92)

Effects of prevention



CBT=cognitive behaviour therapy

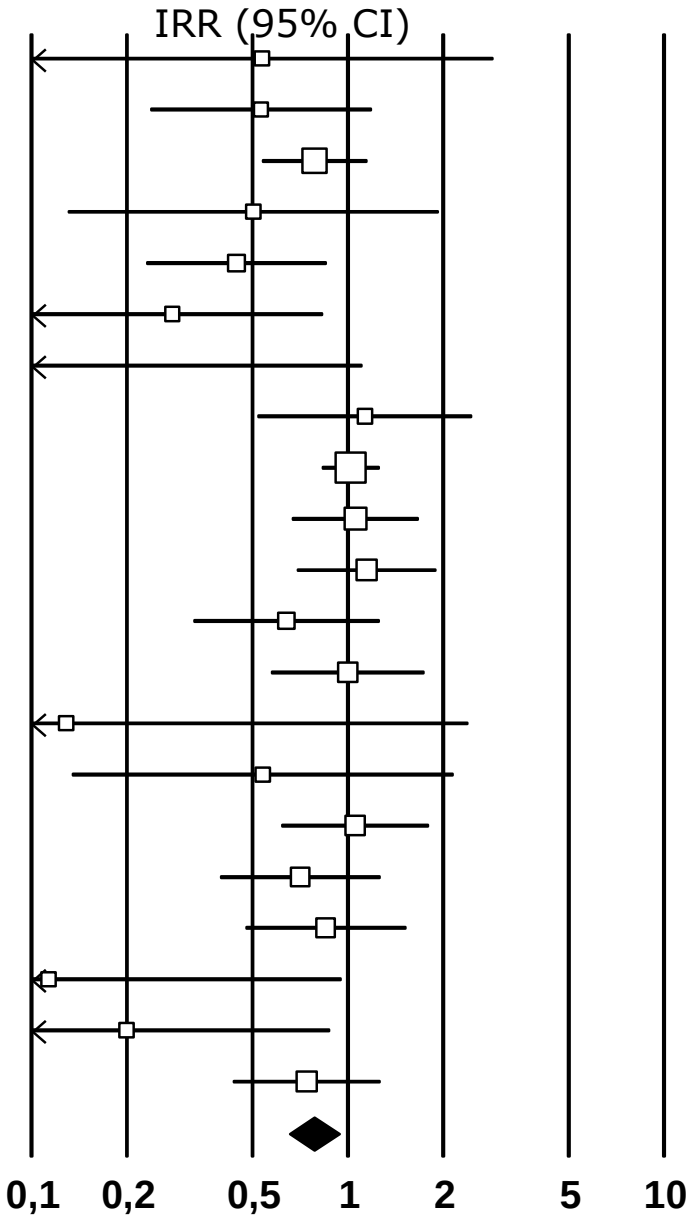
Prevention of depressive disorders

- 19 trials
- Comparable results:
  - IRR = 0.78 (95% CI: 0.65~0.93)
  - Universal prevention is less effective
  - No significant subgroups (type, target group)
  - IPT may be more effective than CBT

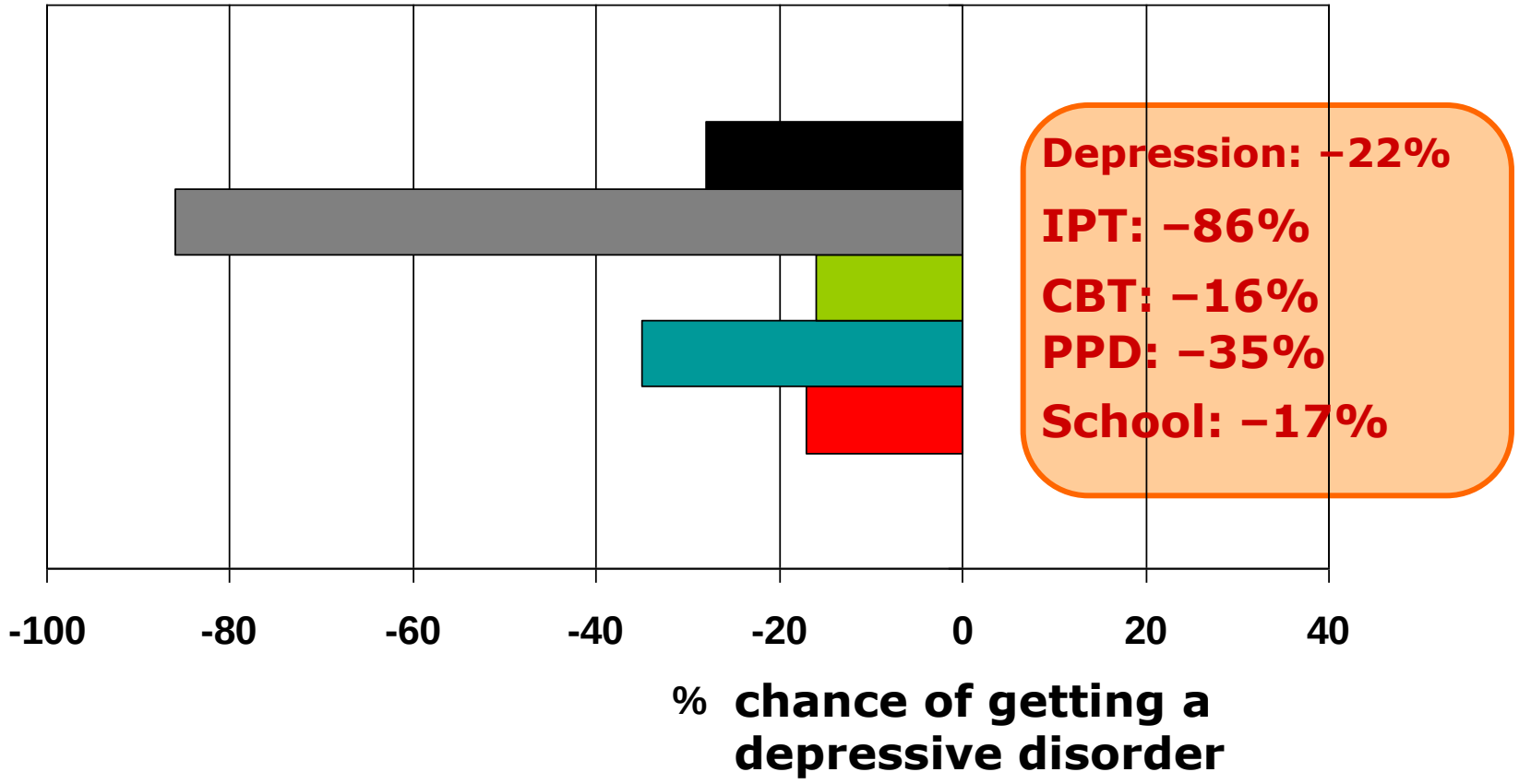
Cuijpers et al., Am J Psychiatry 2008

Meta-analysis of studies on prevention of depressive disorders

Study	*IRR*	*95% CI*
Munoz, 1995	0.54	0.10~2.90
Clarke, 1995	0.53	0.24~1.20
Seligman, 1999	0.78	0.53~1.16
Brugha, 2000	0.50	0.13~1.95
Elliott, 2000	0.44	0.23~0.86
Clarke, 2001	0.28	0.09~0.84
Zlotnick, 2001	0.07	0.00~1.12
Allart, 2003	1.13	0.52~2.49
Priest, 2003	1.02	0.82~1.27
Spence, 2003	1.06	0.66~1.68
Hagan, 2004	1.15	0.69~1.92
Willemse, 2004	0.64	0.32~1.27
Gilham, 2006	1.00	0.57~1.76
Martinovic, 2006	0.13	0.01~2.42
Munoz, 2006	0.54	0.13~2.17
Sheffield, 2006 I	1.05	0.61~1.82
Sheffield, 2006 U	0.71	0.39~1.28
Sheffield, 2006 U+I	0.85	0.47~1.54
Young, 2006	0.11	0.01~0.96
Zlotnick, 2006	0.20	0.05~0.88
Rovner, 2007	0.74	0.43~1.28
Pooled	0.78	0.65~0.93



Effects of prevention of depression



Prevention of depression in primary care

Prevention in different settings

- Schools/adolescents
- Postpartum depression
- General medical settings
- Older adults
- Internet

- Primary care

Guided self-help in primary care

- Screening of GP patients (N=5276)
- CIDI in screen-positive patients
- Those with increased symptoms, but no depressive disorder were included
- Randomized to:
  - Guided self-help (n=107)
  - usual care (n=109)

Willemse et al., Br J Psychiatry 2004

Intervention

- Self-help book
- “Coping with Depression” course:
  - Cognitive restructuring
  - Behavioral activation
  - Social skills
- 6 weekly telephone calls
  - no therapy, only support in working through materials
  - Max 15 minutes

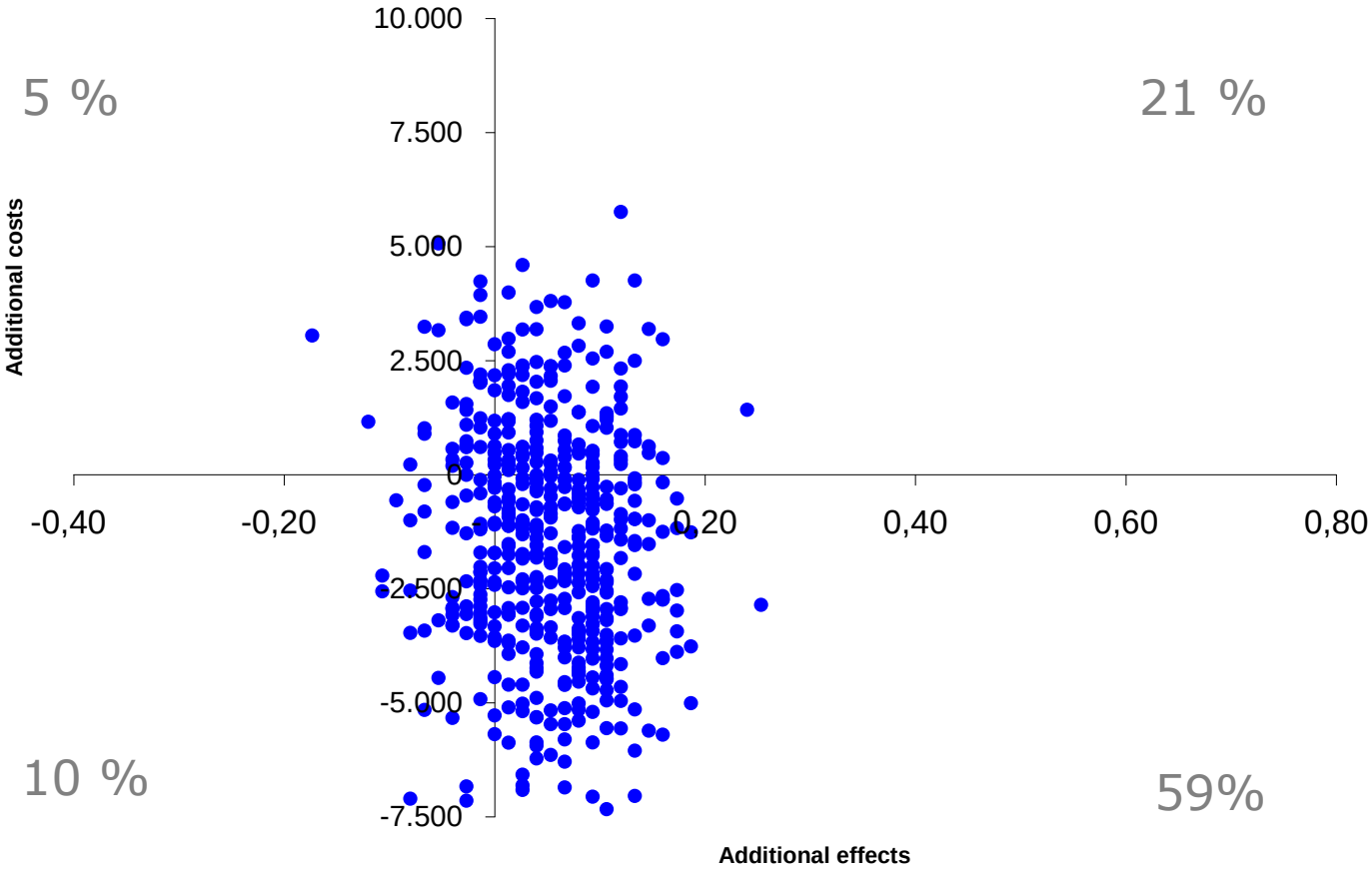
Results at 12 months

- IRR =0.66 (p<0.05)
- Incidence:
  - 0.12 (13/107) for self-help
  - 0.18 (20/109) for the usual care
  - P<0.05
- NNT= 16

Cost-effectiveness plane

More costs, Less health	More costs More health
Less Costs Less Health	Less costs, More health

Guided self-help as prevention of major depression



Mean saved costs per patient: €1849

Smit et al., *British Journal of Psychiatry* 2006

Prevention of depression in older adults

- Aimed at older adults in primary care
- Stronger effects:
  - stepped-care
  - Depression and anxiety

Van 't Veer et al., Arch Gen Psychiatry 2009

Inclusion of patients

- Part of larger project of GP group
- Screening of patients 75 years or older (N=5207)
- Those scoring above cut-off on CES-D, but had no DSM-IV depressive disorder were included
- Randomized to:
  - Stepped-care (N=86)
  - Care-as-usual (N=84)

Stepped-care

- Four steps
  - Watchful waiting
  - Guided self-help (Coping with depression and anxiety)
  - Brief psychotherapy (PST)
  - Referral to GP for medication
- Steps of 3 months
- Screening every 3 months

Results

- Stepped care: incidence of 11.6% (10/86)
- Control group: incidence 23.8% (20/84)
- RR=0.49 (95% CI: 0.24~0.98)
- NNT=8.2

Conclusions

- Prevention of depressive disorders is important
- It is very well possible to identify high-risk groups
- Prevention of new cases is possible
- Stepped care models
- Broaden prevention field towards other disorders
- Implementation!

Contact: p.cuijpers@vu.nl