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Svendborg Sygehus

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Hjertepatienter med ondt i livet: Behandling og udfordringer

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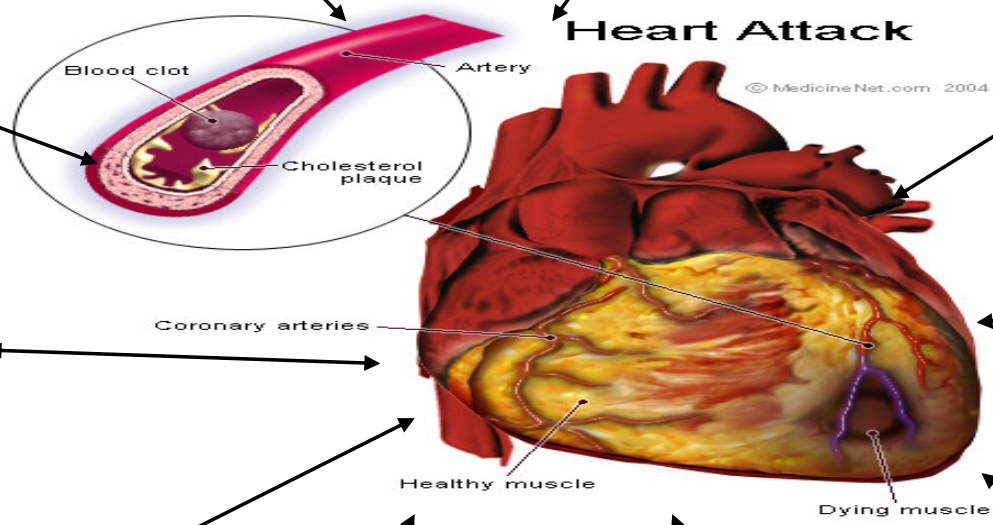
Anxiety

Depression

Vital exhaustion

Type D



Social isolation

Type A

PTSD

Hostility

Stress

Anger

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Projected top 10 diseases with the largest disease burden worldwide in 2020

	Disease	DALYs	%
1	*Ischemic heart disease*	82.3	5.9
2	*Depression*	78.7	5.7
3	Road traffic collisions	71.2	5.1
4	Cerebrovascular disease	61.4	4.4
5	Chronic obstructive pulmonary disease	57.6	4.2
6	Lower respiratory tract infections		
7	Tuberculosis		
8	War		
9	Diarrhea		
10	HIV	36.3	2.6

21,000 new cases with ischemic heart disease per year in Denmark

Michaud et al. JAMA 2001;285:535-9

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Implantable cardioverter defibrillator: ICD shock from the patient perspective

- **It is physically painful (6 on 0-10 point pain scale)**
- ***"It's like getting kicked in the chest by a big horse!"***

Up to 840 volts – compare that to 220 volts….

Ahmad et al. Pacing Clin Electrophysiol 2000;23:931-3

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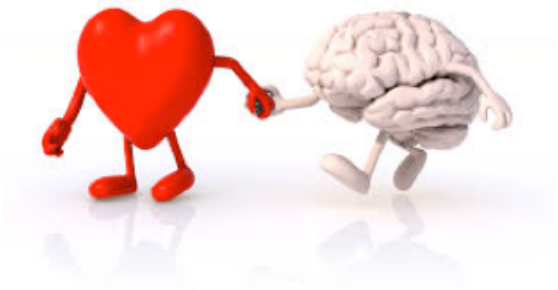
OUTLINE



- Prevalence of depression
- Impact of depression
- Barriers for implementation of heart-mind interventions in clinical practice
  - Level of evidence
  - Society
  - Health-care system
  - Patients
- How do we advance the field and quality of care?

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Prevalence of depression in patients with heart disease

Major depression: 16% to 23%

Depressive symptoms: 22% to 40%

Subset of patients:

1 in 5 (20%)

Pogosova et al. Eur J Preventive Cardiol 2017;24:1371-80
Magyar-Russel et al. J Psychosom Res 2011;71:223-31

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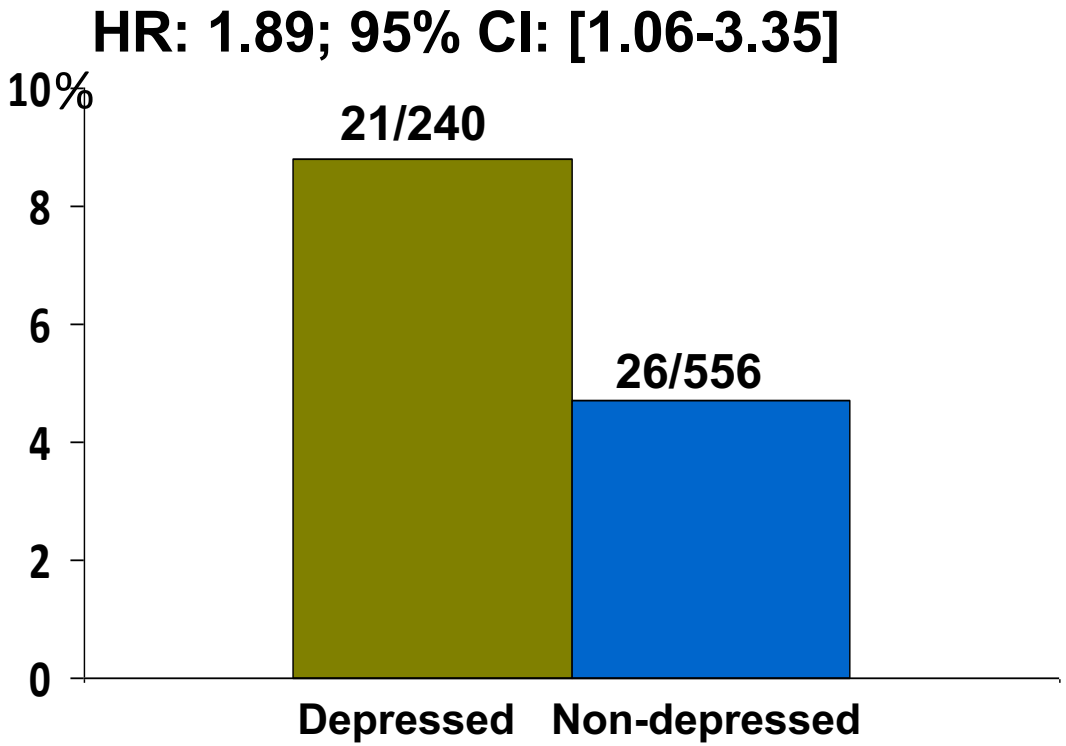
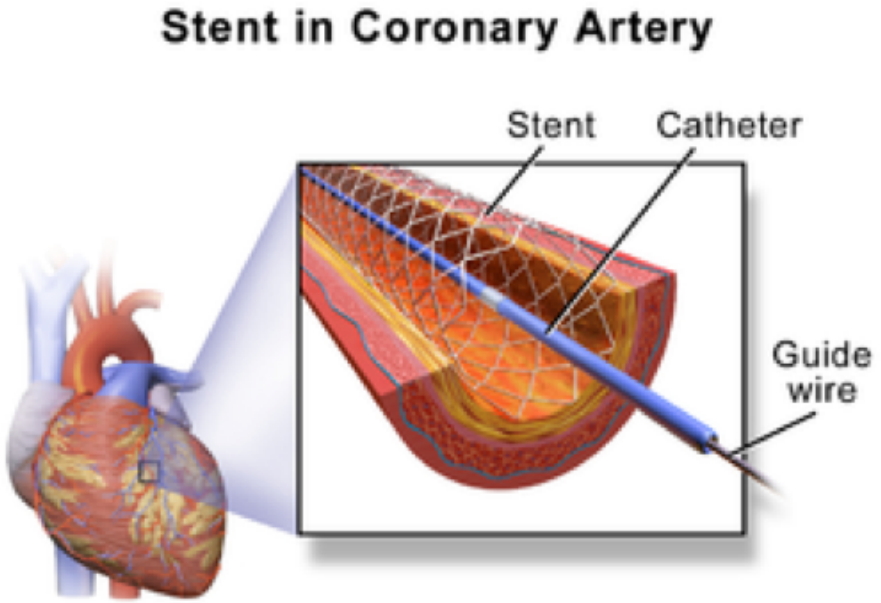
Depression and death/MI: PCI patients
Even minimal symptoms predict prognosis...

PHQ-2* cut-off ≥2 (range 0-6)





1. *Little interest or pleasure in doing things*
2. *Feeling down, depressed, or hopeless*

Pedersen et al. J Gen Intern Med 2009;24:1037-1042

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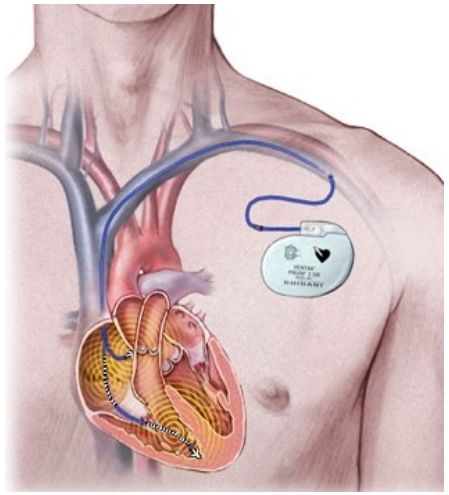
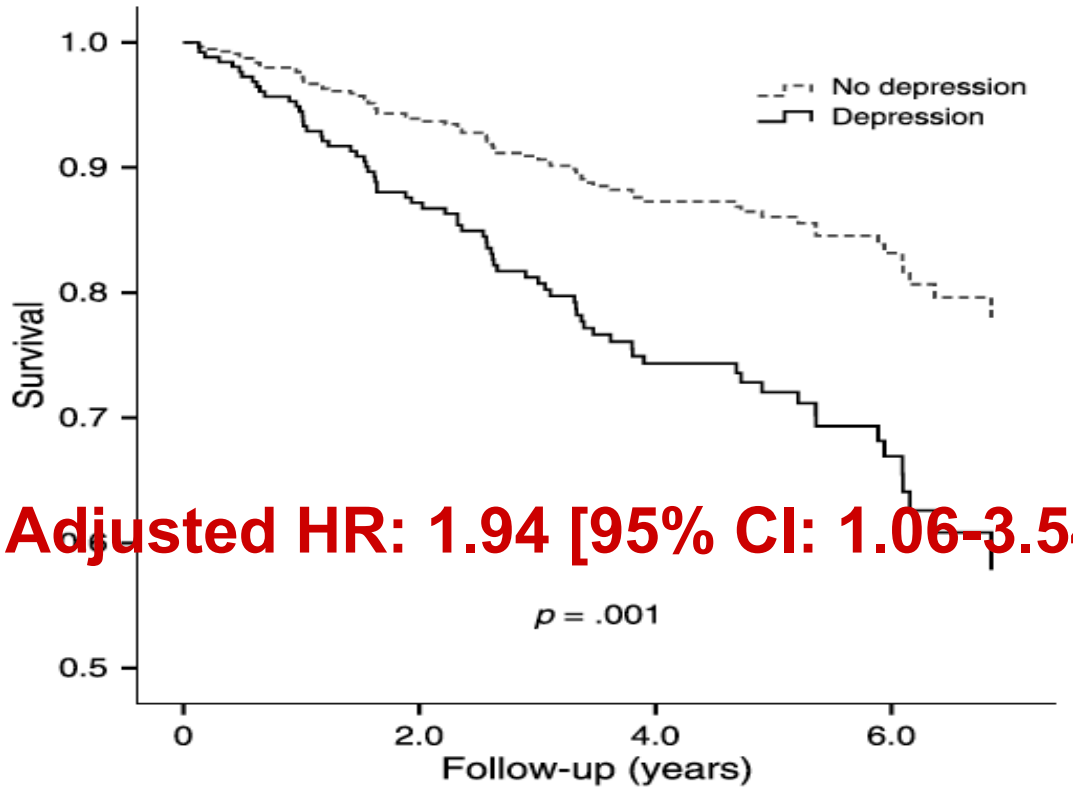
Depression and mortality: ICD patients



(N = 430)



Adjusted HR: 1.94 [95% CI: 1.06-3.54]

Patients at risk				
Depression	107	83	56	22
No depression	321	260	148	61

Figure 2. Cumulative survival curve for all-cause mortality.

Mastenbroek, Pedersen et al. Psychosom Med 2014;76:58-65

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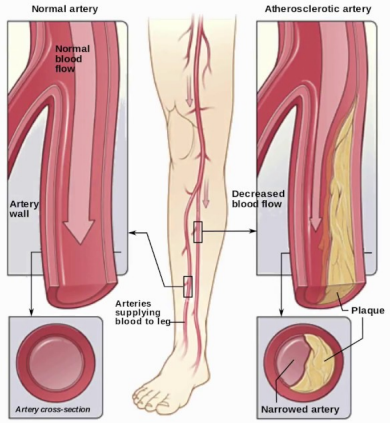
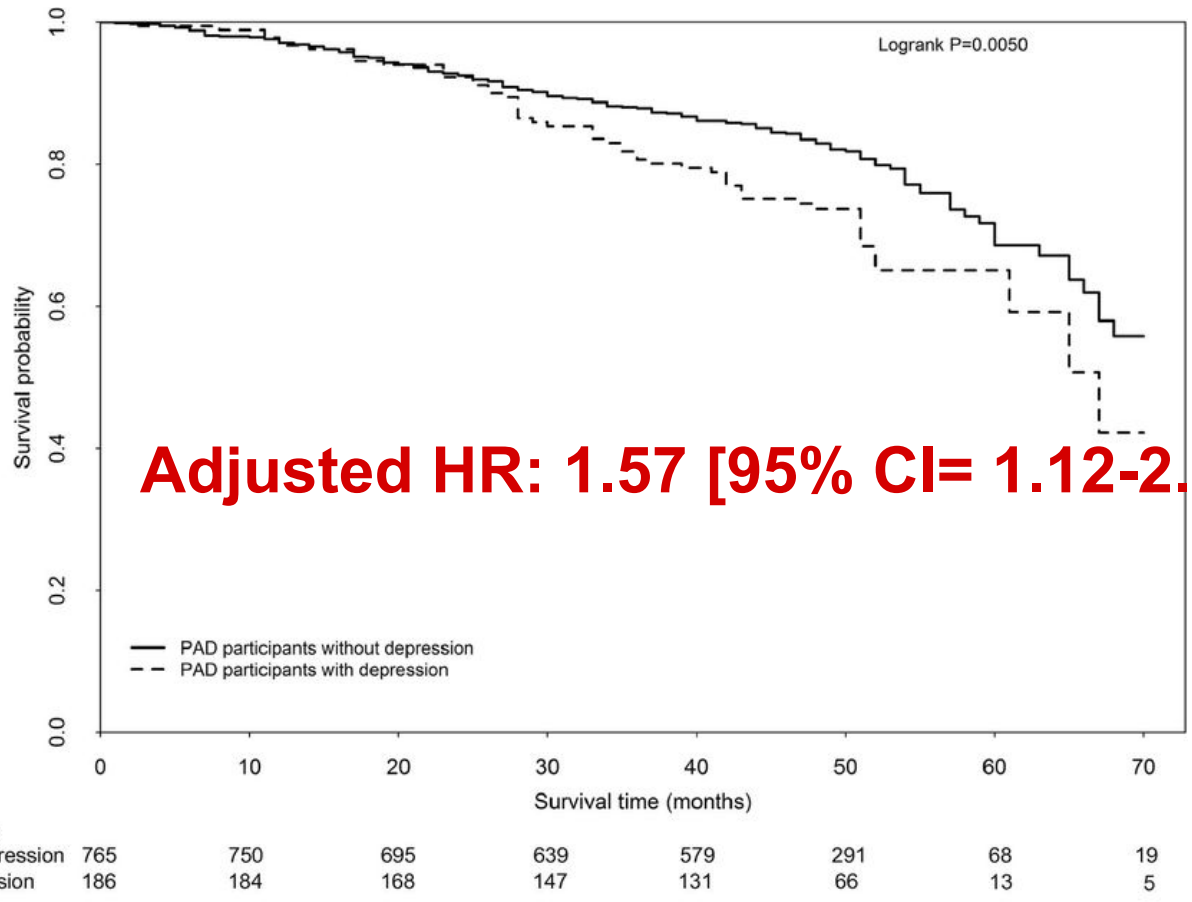
Depression and all-cause mortality: Peripheral arterial disease





Number ofparticipants at risk								
PAD participants without depression	765	750	695	639	579	291	68	19
PAD participants with depression	186	184	168	147	131	66	13	5

(N = 951)

Adjusted HR: 1.57 [95% CI= 1.12-2.21]

McDermott et al. J Am Heart Assoc 2016;5:e002959

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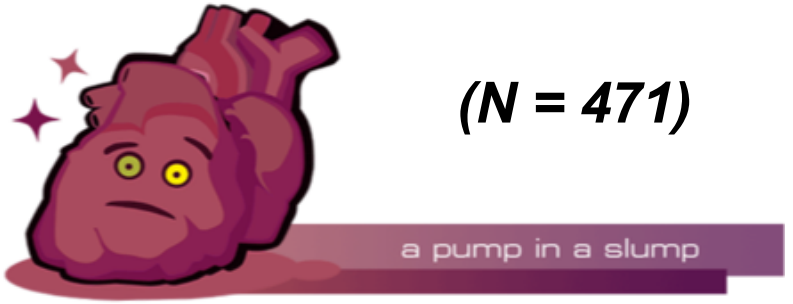
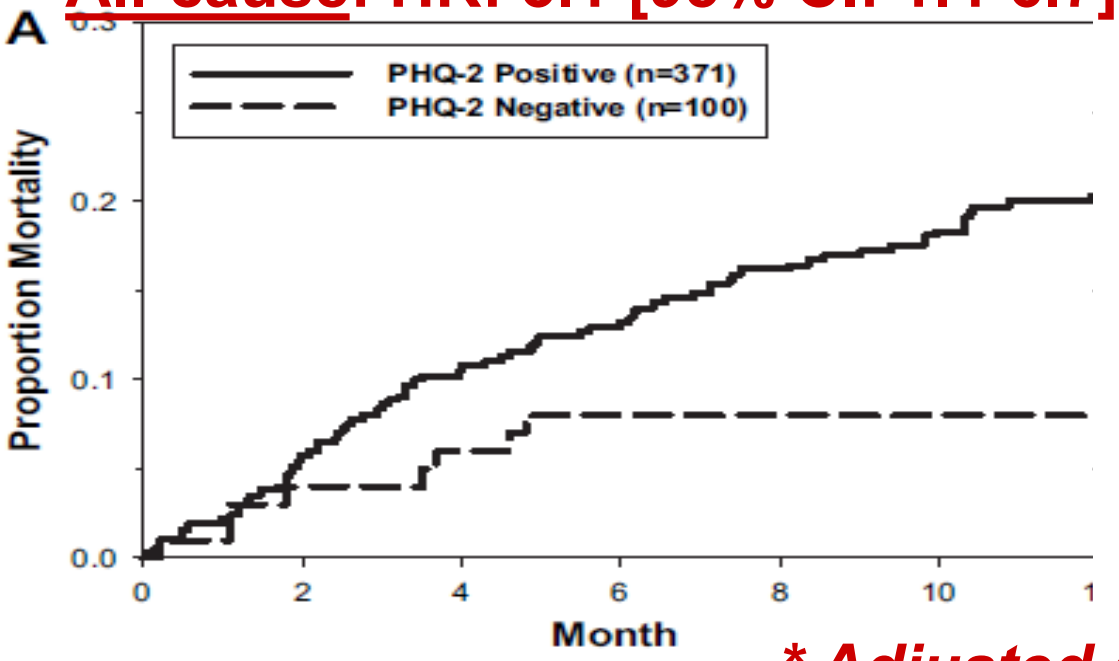
Depression and mortality: Chronic heart failure

Fig. 2. (A) All-cause mortality by 2-item Patient Health Questionnaire (PHQ-2) status. At 12 months follow-up, 20% of PHQ-2–positive and 8% of PHQ-2–negative patients died ($P = .007$). (B) Cardiovascular mortality by PHQ-2 status. At 12 months follow-up, 14% of PHQ-2–positive and 6% of PHQ-2–negative patients died ($P = .05$).

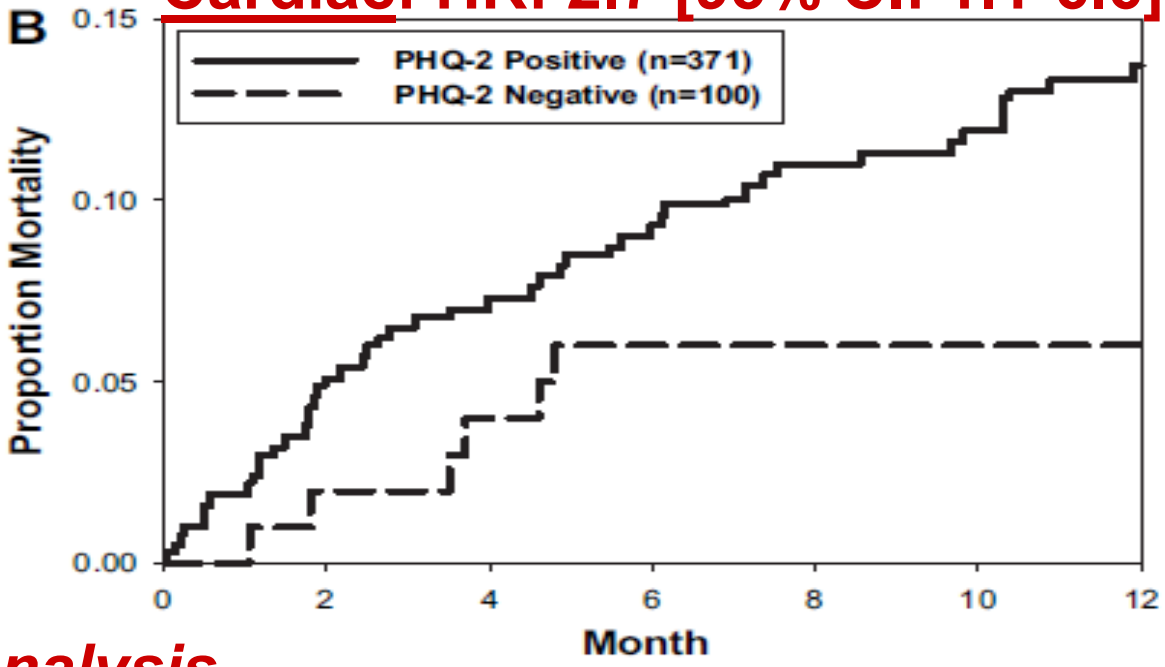


(N = 471)

All-cause: HR: 3.1 [95% CI: 1.4-6.7]*



Cardiac: HR: 2.7 [95% CI: 1.1-6.6]*



**** Adjusted analysis***

Rollman et al. J Cardiac Fail 2012;18:238-45

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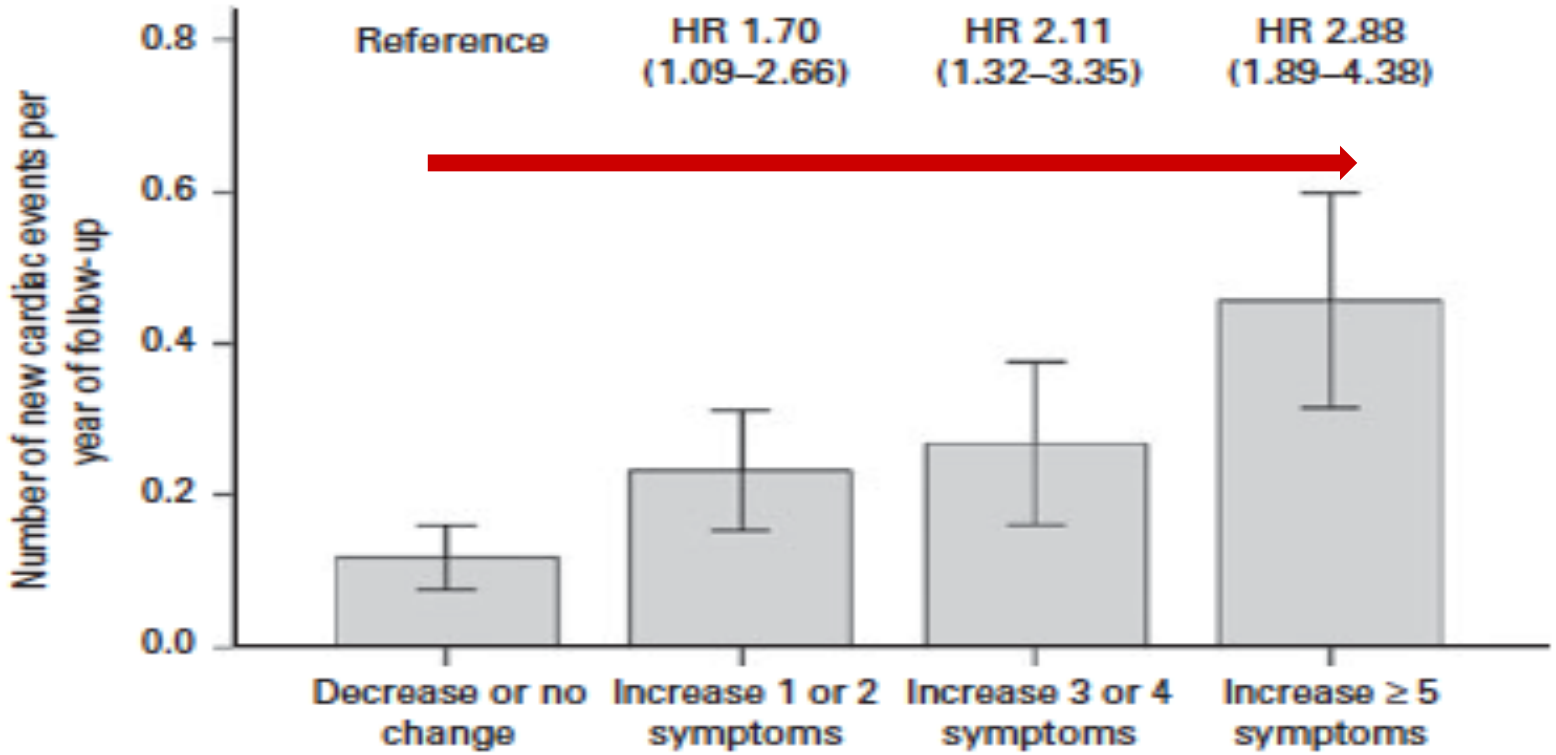
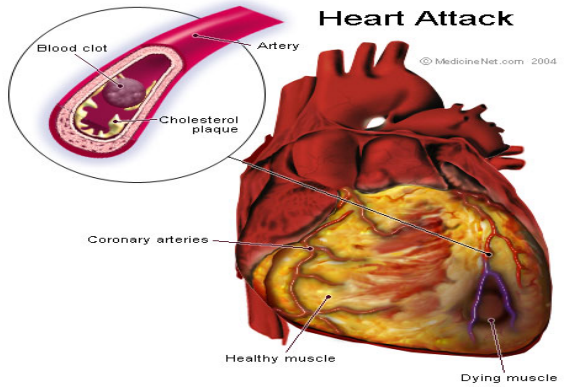
Increase in depressive symptoms* post MI is a risk factor for new events

** Composite International Diagnostic Interview (CIDI)*

(N = 767)





Zuidersma M, De Jonge P et al. Psychol Med 2012;42:683-93

Cardiac rehabilitation reduces symptoms of anxiety and depression

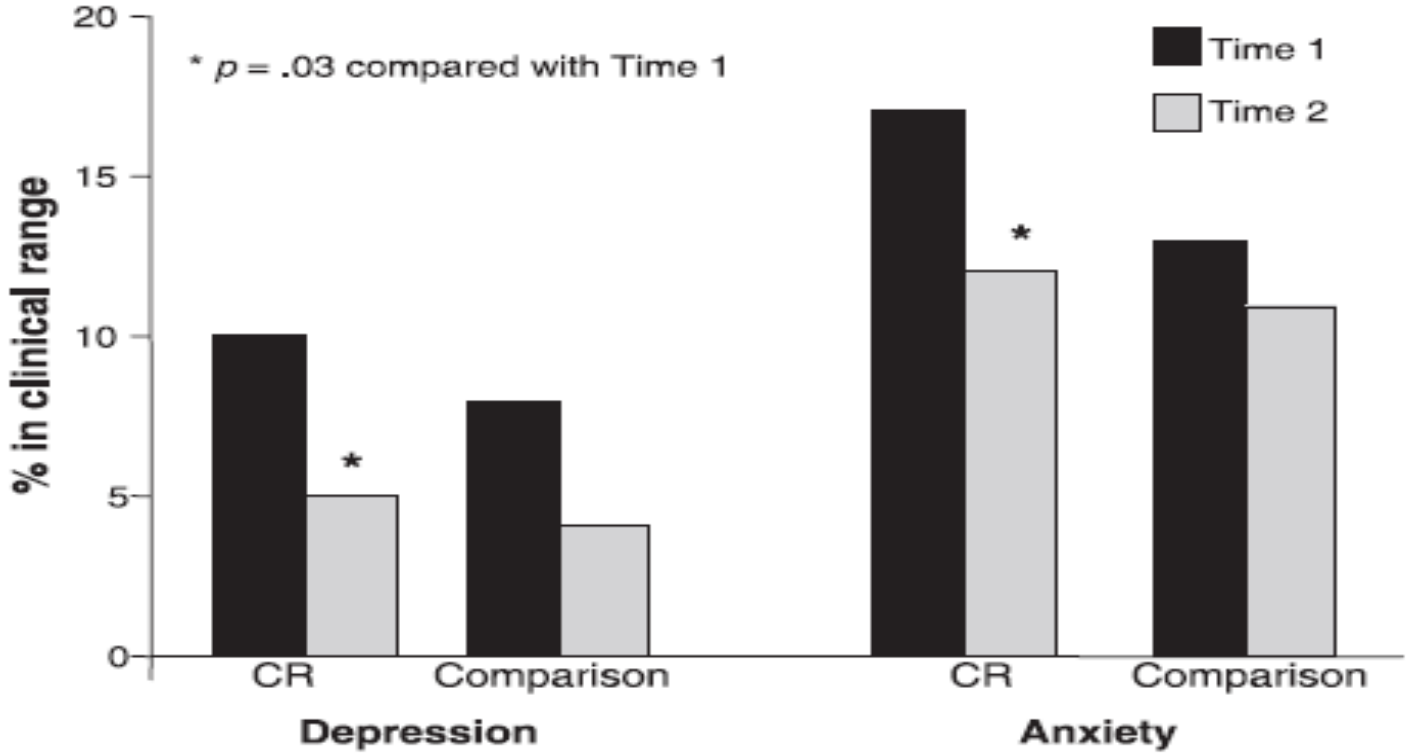


Figure 1. Changes in the CR and comparison groups in relationship to the percentage of participants classified as clinically depressed or clinically anxious at each time point. CR = cardiac rehabilitation.

Hevey et al. Psychosom Med 2007;69:793-7

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But there is a paradox…

… non-completers and early dropouts have more distress and poorer quality of life

Table 2 • BASELINE PSYCHOLOGICAL AND PHYSICAL SCORES [MEAN (SD)]

	Completers (n = 190)	All noncompleters (n = 190)	Early dropouts (n = 68)
Beck Depression	8.6 (7.5)	11.7 (8.9)	12.8 (9.3)
Beck Anxiety	7.9 (7.6)	9.4 (9.6)	11.6 (9.9)
SF-36v2 PCS	39.2 (8.5)	35.7 (9.1)	35.4 (9.1)
SF-36v2 MCS	47.6 (11.5)	43.4 (12.9)	40.9 (11.8)
Walk test (ft)	3021.3 (724.1)	2921.1 (847.1) (n = 122)	NA
Completers & all noncompleters		Completers & early dropout noncompleters	
MANOVA $F_{4,336}$ = 6.3; P = .0001		MANOVA $F_{4,228}$ = 4.9; P = .001	
Significant difference between groups		Significant difference between groups	
BDI-II: F = 13.6; P = .001		BDI-II: F = 11.1; P = .001	
SF-36v2 PCS: F = 13.5; P = .001		BAI: F = 8.0; P = .005	
SF-36v2 MCS: F = 10.1; P = .002		SF-36v2 PCS: F = 8.0; P = .005	
		SF-36v2 MCS: F = 13.5; P = .0001	

Abbreviations: BAI, Beck Anxiety Inventory; BDI-II, Beck Depression Inventory–II; SF-36v2 MCS, SF-36 version 2 Mental Component Summary; SF-36v2 PCS, SF-36 version 2 Physical Component Summary.

McGrady et al. J Cardiopulm Rehab Prevention 2009;29:358-64

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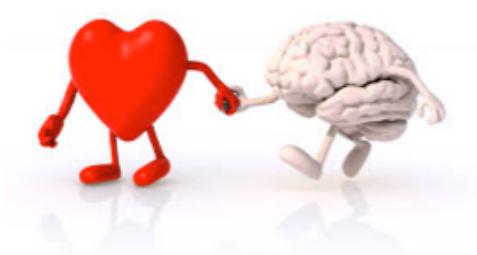
Sufficient evidence that depression / psychosocial factors kill patients prematurely…



- Highly prevalent in cardiac patients
- Linked to behavioural and cardiovascular risk factors
- May trigger acute events
- Incur an increased risk of mortality and morbidity that is independent of traditional biomedical risk factors
- The associated prognostic risk is at least of an equal magnitude to that of traditional biomedical risk factors
- Impact adversely on quality of life
- Moderate the effects of medical interventions
- Impede the adoption of lifestyle changes
- There is a poor match between physician-evaluated and patient-rated psychological states and health status

Pedersen, Smolderen, Kupper, Doyle, Burg, Albus, Denollet & von Känel. Psychological factors and heart disease. In J Camm, TF Lüscher, G Maurer & P Serruys (eds): ESC TEXTBOOK OF CARDIOVASCULAR MEDICINE (Chapter 35), 3nd edition. Oxford University Press, In Press

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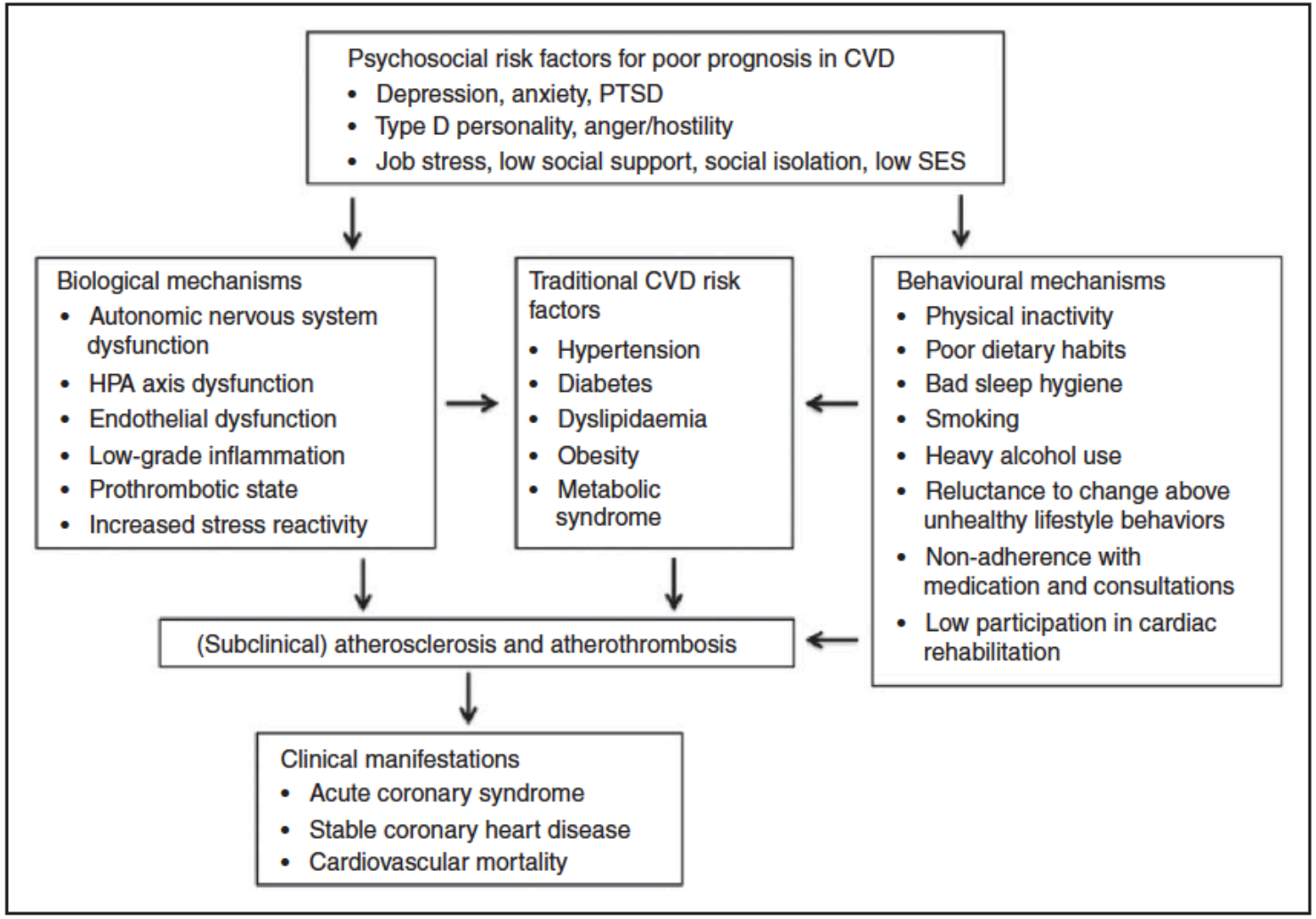
Biological and behavioral pathways linking psychosocial factors to CVD prognosis



- Both types of **mechanisms** also **contribute** to the **manifestation** of **traditional** CVD **risk factors**
- Studies show ‘so-called’ independent associations, but there are **intricate interactions** across mechanisms and pathways

Pedersen, von Känel et al. Eur J Prev Cardiol 2017;24:108-15

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Psychosocial factors in perspective…

TABLE 4 Risk Factors for CHD-Related Outcomes Associated With Clinical Parameters, Behavioral Risk Factors in Large Studies, or Meta-Analyses

Parameters	First Author (Ref. #)	n	Endpoint	Adjusted Risk Estimates (95% CI)*
Conventional CHD risk factors				
Smoking	Jha (45)	88,496 men†	ACM	2.80 (2.40–3.10)
Passive smoking	He (46)	637,814	CVD/MI	1.25 (1.17–1.32)
Elevated	Emerging	302,430	CVD	1.50 (1.39–1.61)
Non-HDL-C	RFC (47)			
Diabetes mellitus	Emerging	820,900	Vascular deaths	2.32 (2.11–2.56)
Low fitness	Kodama (49)	102,980	CHD/CVD	1.56 (1.39–1.79)
BMI 30–34.9 kg/m^2	Berrington de Gonzalez (50)	1,460,000	ACM	1.44 (1.38–1.50)
Psychosocial CHD risk factors				
Insomnia	Sofi (3)	122,501	CHD/CVD	1.45 (1.29–1.62)
Short sleep	Cappuccio (4)	474,684	CHD/CVD	1.48 (1.22–1.80)
Depression	Nicholson (6)	146,538	CVD/MI	1.90 (1.49–2.52)
Anxiety	Roest (7)	67,187	CVD	1.48 (1.14–1.92)
Psychological distress (GHQ >6)	Russ (51)	68,222	CVD	1.72 (1.44–2.06)
Anger	Chida (21)	67,187	CHD/CVD	1.19 (1.05–1.35)
Positive social integration	Holt-Lunstad (28)	309,849	ACM	1.91 (1.63–2.23)‡

*Risk estimates are varied, ranging from temporally adjusted hazard ratios to specific odds and/or relative risks at a particular point in time. †Adjusted risk in 113,752 women was 3.0 (95% CI: 2.7 to 3.3). ‡Improvement in odds of survival with social integration.

BMI = body mass index; CHD = incidence of coronary heart disease; CI = confidence interval; CVD = cardiovascular death; GHQ = General Health Questionnaire; HDL-C = high-density lipoprotein cholesterol; RFC = Risk Factor Collaboration.

Rozanski. J Am Coll Cardiol. 2014;64

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THE BAD NEWS…

”Epidemiological studies over the last decade demonstrate generally strong dose-response relationships between an expanding number of psychosocial risk factors and CHD…. To date, however, there has been relatively little translation of these findings into cardiac practice.”

Rozanski. J Am Coll Cardiol. 2014;64:100-10

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European Heart Journal (2012) 33, 1635–1701
doi:10.1093/eurheartj/ehs092

European Guidelines on cardiovascular disease prevention in clinical practice (version 2012)

**The Fifth Joint Task Force of the Europea
and Other Societies on Cardiovascular Dis
Practice (constituted by representatives o
and by invited experts)**

Class II	Conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of the given treatment or procedure.	
Class IIa	*Weight of evidence/opinion is in favour of usefulness/efficacy.*	Should be considered

3.4 Psychosocial risk factors

Key messag

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Level of evidence

Level of evidence A	Data derived from multiple randomized clinical trials or meta-analyses.
Level of evidence B	Data derived from a single randomized clinical trial or large non-randomized studies.
Level of evidence C	Consensus of opinion of the experts and/or small studies, retrospective studies, registries.

Recommendation regarding psychosocial factors

Recommendations	Class[a]	Level[b]	GRADE	Ref[c]
Psychosocial risk factors should be assessed by clinical interview or standardized questionnaires. Tailored clinical management should be considered in order to enhance quality of life and CHD prognosis.	IIa	B	Strong	84–86

HD = coronary heart disease.
lass of recommendation.
evel of evidence.
eferences.

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European Heart Journal (2016) 37, 2315–2381
doi:10.1093/eurheartj/ehw106

2016 European Guidelines on cardiovascular disease prevention in clinical practice

The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts)

Recommendation for assessment of psychosocial risk factors

Recommendation	Class[a]	Level[b]	Ref[c]
Psychosocial risk factor assessment, using clinical interview or standardized questionnaires, should be considered to identify possible barriers to lifestyle change or adherence to medication in individuals at high CVD risk or with established CVD.	IIa	B	90–92

[a]Class of recommendation.
[b]Level of evidence.
[c]Reference(s) supporting recommendations.

Barriers for implementation

1. Level of evidence
2. Society
3. Health-care system
4. Patients

1. Barriers: Level of evidence

Evidence-based practice

Major depression intervention trials in CAD

6-14 years ago…

	Trial name	Sample	Risk factor	Treat	
	SADHART (2003)	369 MI/UAP	Depression	Sertraline vs. placebo	LVEF (safety)
	ENRICHD (2003)	2481 MI	Depression/ poor support	CBT (+SSRI) vs. UC	Recurrent MI/death (all-cause)
	EXIT (2005)	710 PCI	Exhaustion	BI vs. UC	Exhaustion/MACE
	CREATE (2007)	284 CAD	Depression	Citalopram vs. IPT vs. UC	Depression (HAM-D/BDI)
	MIND-IT (2007)	91 MI	Depression	Mirtazapine vs. placebo	MACE (safety)
	Bypassing the Blues (2009)	302 CABG	Depression	Phone-delivered nursing intervention	QoL (SF-36)

BI = behavioral intervention; IPT = interpersonal psychotherapy; UC = usual care

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Recent Cochrane review…

(85 publications)

Comparison 1. Psychological intervention (alone or with … other rehabilitation)

Outcome or subgroup title	No. of studies	No. of participants		
1 Total mortality	23	7776	Risk Ratio (M-H, …	…, 1.05]
2 Cardiac mortality	11	4792	Risk Ratio (M-H, Ra… …5% CI)	0.79 [0.63, 0.98]
3 Revascularisation (coronary artery bypass graft surgery and percutaneous coronary intervention combined)	13	6822	Risk Ratio (M-H, Random, 95% CI)	0.94 [0.81, 1.11]
4 Non-fatal myocardial infarction	13	7845	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.64, 1.05]
5 Depression	19	5825	Std. Mean Difference (IV, Random, 95% CI)	-0.27 [-0.39, -0.15]
6 Anxiety	12	3161	Std. Mean Difference (IV, Random, 95% CI)	-0.24 [-0.38, -0.09]
7 Stress	8	1251	Std. Mean Difference (IV, Random, 95% CI)	-0.56 [-0.88, -0.24]

"…however, the GRADE assessments suggest considerable uncertainty surrounding these effects, including who would benefit and the specific components of successful interventions."

Richards et al. Cochrane Database Syst Rev 2017 Apr 28;4:CD002902. doi: 10.1002/14651858.CD002902.pub4.

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Some evidence that psychosocial interventions work…

But it depends on which outcome we consider sufficient and relevant:

- ***Depression / Anxiety***
- ***Quality of life***
- ***Rehospitalization***
- ***Mortality***

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JAMA®

Depression Screening and Patient Outcomes in Cardiovascular Care

A Systematic Review

Brett D. Thombs, PhD
Peter de Jonge, PhD
James C. Coyne, PhD
Mary A. Whooley, MD
Nancy Frasure-Smith, PhD
Alex J. Mitchell, MSc, MRCPsych
Marij Zuidersma, MSc
Chete Eze-Nliam, MD, MPH
Bruno B. Lima
Cheri G. Smith, MLS
Karl Soderlund, BS
Roy C. Ziegelstein, MD

Context Several practice guidelines recommend that depression be evaluated and treated in patients with cardiovascular disease, but the potential benefits of this are unclear.

Objective To evaluate the potential benefits of depression screening in patients with cardiovascular disease by assessing (1) the accuracy of depression screening instruments; (2) the effect of depression treatment on depression and cardiac outcomes; and (3) the effect of screening on depression and cardiac outcomes in patients in cardiovascular care settings.

Data Sources MEDLINE, PsycINFO, CINAHL, EMBASE, ISI, SCOPUS, and Cochrane databases from inception to May 1, 2008; manual journal searches; reference list reviews; and citation tracking of included articles.

Study Selection We included articles in any language about patients in cardiovascular care settings that (1) compared a screening instrument to a valid major depressive disorder criterion standard; (2) compared depression treatment with placebo or usual care in a randomized controlled trial; or (3) assessed the effect of screening on depression identification and treatment rates, depression, or cardiac outcomes

"No clinical trials have assessed whether screening for depression improves depressive symptoms or cardiac outcomes in patients with cardiovascular disease."

Thombs, de Jonge et al. JAMA 2008;300:2161-71

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Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

American Heart Association®
Learn and Live℠

AHA Science Advisory

Depression and Coronary Heart Disease

Recommendations for Screening, Referral, and Treatment

A Science Advisory From the American Heart Association Prevention Committee of the Council on Cardiovascular Nursing, Council on Clinical Cardiology, Council on Epidemiology and Prevention, and Interdisciplinary Council on Quality of Care and Outcomes Research

Endorsed by the American Psychiatric Association

Judith H. Lichtman, PhD, MPH, Co-Chair; J. Thomas Bigger, Jr, MD;
James A. Blumenthal, PhD, ABPP; Nancy Frasure-Smith, PhD; Peter G. Kaufmann, PhD;
François Lespérance, MD; Daniel B. Mark, MD, MPH; David S. Sheps, MD, MSPH;
C. Barr Taylor, MD; Erika Sivarajan Froelicher, RN, MA, MPH, PhD, Co-Chair

Routine screening for depression in patients with CHD in various settings, including the hospital, physician's office, clinic, and cardiac rehabilitation center. The opportunity to screen for and treat depression in cardiac patients should not be missed, as effective depression treatment may improve health outcomes.

Lichtman et al. Circulation 2008;118;1768-75

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AHA Scientific Statement

Depression as a Risk Factor for Poor Prognosis Among Patients With Acute Coronary Syndrome: Systematic Review and Recommendations

A Scientific Statement From the American Heart Association

Background—Although prospective studies, systematic reviews, and meta-analyses have documented an association between depression and increased morbidity and mortality in a variety of cardiac populations, depression has not yet achieved formal recognition as a risk factor for poor prognosis in patients with acute coronary syndrome by the American Heart Association and other health organizations. The purpose of this scientific statement is to review available evidence and recommend whether depression should be elevated to the status of a risk factor for patients with acute coronary syndrome.

Methods and Results—Writing group members were approved by the American Heart Association's Scientific Statement and Manuscript Oversight Committees. A systematic literature review on depression and adverse medical outcomes after acute coronary syndrome was conducted that included all-cause mortality, cardiac mortality, and composite outcomes for mortality and nonfatal events. The review assessed the strength, consistency, independence, and generalizability of the published studies. A total of 53 individual studies (32 reported on associations with all-cause mortality, 12 on cardiac mortality, and 22 on composite outcomes) and 4 meta-analyses met inclusion criteria. There was heterogeneity across studies in terms of the demographic composition of study samples, definition and measurement of depression, length of follow-up, and covariates included in the multivariable models. Despite limitations in some individual studies, our review identified generally consistent associations between depression and adverse outcomes.

Conclusions—Despite the heterogeneity of published studies included in this review, the preponderance of evidence supports the recommendation that the American Heart Association should elevate depression to the status of a risk factor for adverse medical outcomes in patients with acute coronary syndrome.

Lichtman et al. 2014;129:1350-69

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Comparison **o**f **D**epression **I**nterventions after **A**cute **C**oronary Syndrome: **Q**uality of **L**ife (COPES-QOL)

- **Evaluate the 2008 AHA depression screen advisory**
- **Sample size:** 1500 ACS patients
- **3 groups:**
  - AHA depression screen and treat (CBT and/ or antidepressants)
  - No depression screening control group
  - Depression screen and notify (primary care provider) minimally enhanced group
- **Trial duration: 18 months**
- **Endpoints:** QALYs and cost-effectiveness

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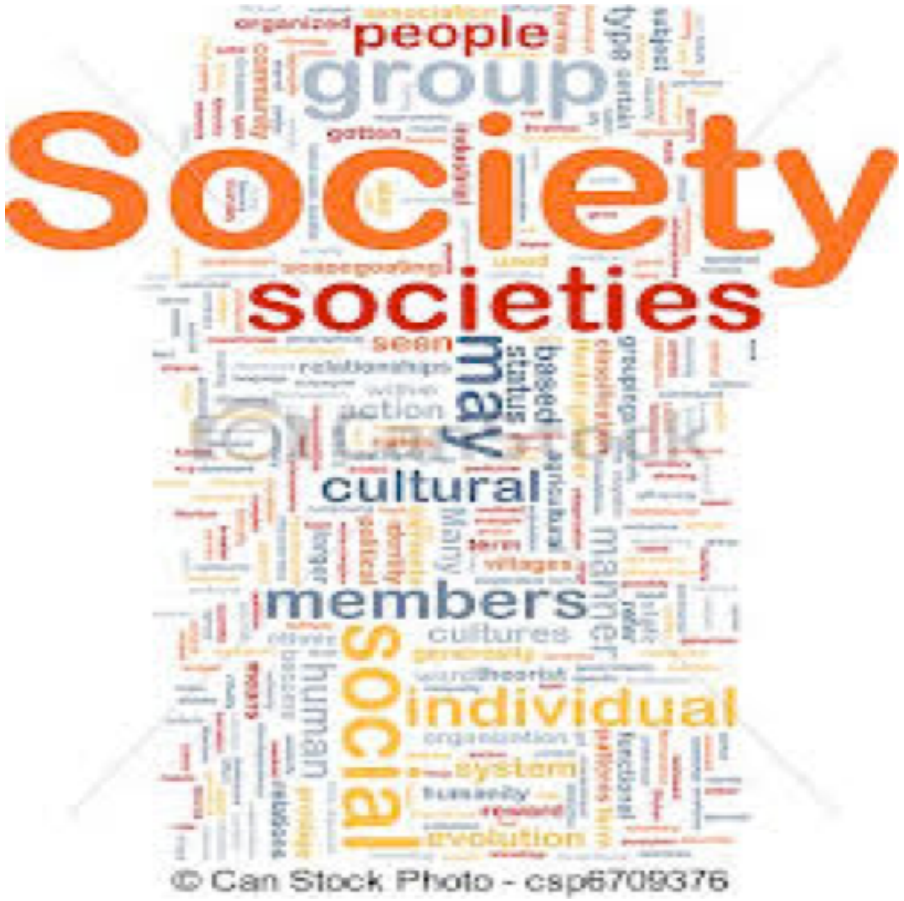
2. Barriers: Society



- Number of patients with **complex disease** and **multi-morbidities** increased exponentially
- In 2020, **ischemic heart disease** and **depression** - the **top contributors** to the **disease-burden worldwide**
- **Co-morbid somatic** and **psychological disease** worse health outcomes for patients

$\sum$

RISING HEALTH CARE COSTS

At a time when health care systems worldwide are already challenged

Willingness to invest in psychosocial interventions in clinical practice

3. Barriers: Health-care system

- Focus on **treatment of underlying disease**
- **Less** focus on **treating body and mind in concert**
- **Absence** of **mental health professionals** as part of the multi-disciplinary team
- **Organisation**: Busy clinical practice and limited resources
- **Lack of understanding** of some health care professionals

Requires a re-organisation and a new way of thinking

Are patients receiving the best quality of care in clinical practice?

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Undertreatment of distress: Impact on patient-reported health status

(N = 353)

*Mean Scores on Anxiety and Depression for the Different Distress and Treatment Groups at 12 Months Follow-Up**

N = 352	No emotional distress & no treatment (N = 225)		No emotional distress & treatment (N = 41)		Emotional distress & treatment (N = 36)			Emotional distress & no treatment (N = 50)			
Emotional distress	Mean	*SD*	Mean	*SD*	Mean	*SD*	%†	Mean	*SD*	%†	*p*-value
Anxiety	2.20	2.12	3.39	2.43	10.39	3.45	16.7	7.36	2.99	14.0	<.001
Depression	2.00	1.89	2.95	2.22	9.94	3.86	16.7	8.90	2.53	52.0	<.001
Comorbid anxiety and depression	—	—	—	—	11.48	2.55	66.7	10.03	1.19	34.0	.02

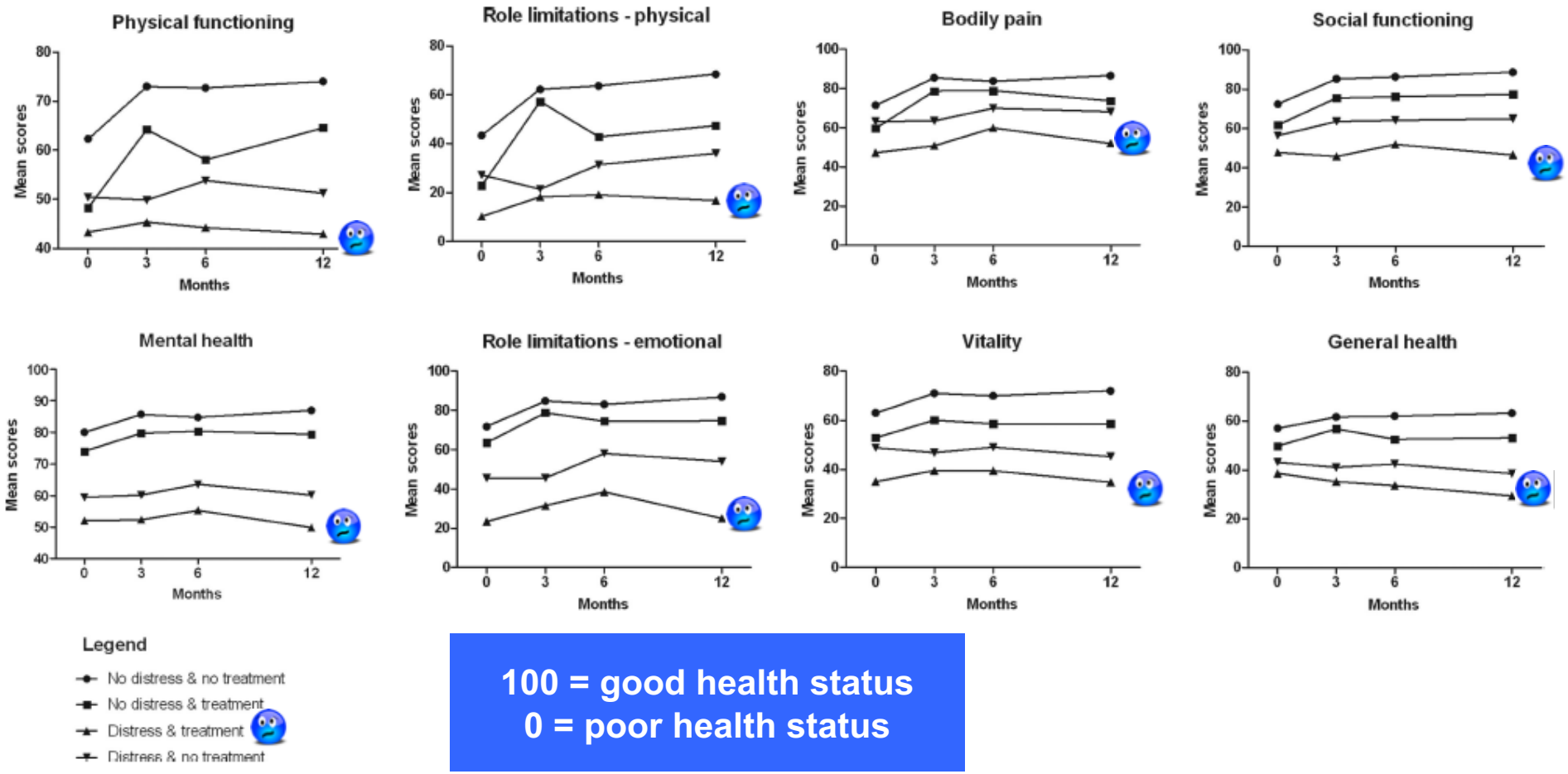
Note. N = number; *SD* = standard deviation.
† Percentage of patients with a score of ≥ 8 having anxiety, depression, or comorbid anxiety and depression. * A score of ≥ 8 on anxiety or depression or both is considered as a clinically significant level of emotional distress.

Treatment = either psychotropic medication, or treatment by a psychologist, or both

Hoogwegt, Theuns, Pedersen et al. Health Psychol 2012;31:745-53

SDU

Undertreatment – impact on health status



100 = good health status
0 = poor health status

Figure 2. Mean health status scores on the four measurement occasions for each subscale and stratified by group.

Hoogwegt, Theuns, Pedersen et al. Health Psychol 2012;31:745-53

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doi:10.1093/europace/euw109

Living with an implantable cardioverter defibrillator: patients' preferences and needs for information provision and care options

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Unmet needs - lack of information (top 3) on:

1. **Deactivation of ICD towards end of life (47.8%)**
2. **Psychological support for relatives (43.1%)**
3. **Psychological support for patients (39.9%)**

Table 2 Patients' preferences for care options that were not part of standard clinical practice, stratified by a priori defined subgroups*

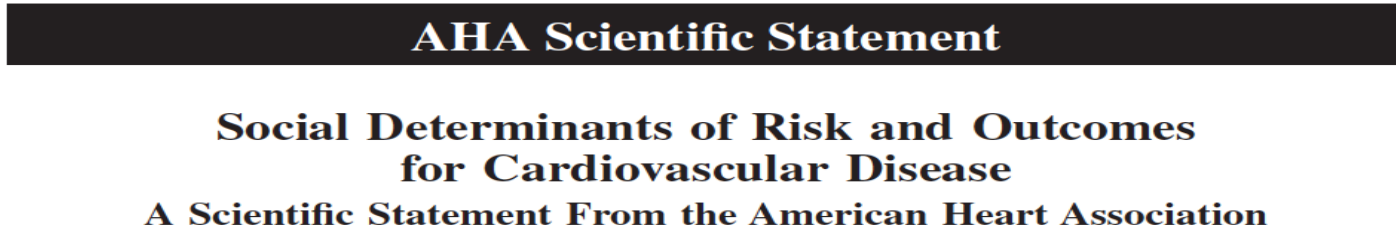
Care options	Women	Men	P	Primary prevention	Secondary prevention	P	SCA	No SCA	P
Personal conversation with doctor/nurse 2–3 weeks post-implant	63.2% (42)	58.8% (180)	0.502	50.0% (70)	62.4% (1439	0.080	60.3% (70)	58.5% (144)	0.744
Doctors/nurses ask how I feel while hospitalized	60.9% (42)	48.0% (146)	0.054	**40.2% (53)**	**54.8% (125)**	**0.007**	52.2% (60)	48.4% (119)	0.501
Doctor/nurse calls me post-discharge	52.2% (36)	40.5% (124)	0.077	39.1% (52)	44.1% (101)	0.353	43.1% (50)	42.1% (104)	0.858
Same doctor/nurse who talks to me every time	82.9% (58)	73.4% (224)	0.226	74.8% (98)	74.9% (173)	0.986	70.9% (83)	76.8% (189)	0.226
Exercise tolerance test	53.6% (37)	52.3% (160)	0.841	**43.2% (57)**	**59.1% (136)**	**0.003**	59.0% (69)	50.8% (125)	0. 145
Cardiac rehabilitation	44.8% (30)	50.2% (152)	0.425	48.5% (63)	48.9% (111)	0.937	51.7% (60)	47.5% (115)	0.456
Ongoing feedback via remote monitoring system	64.2% (43)	60.4% (183)	0.565	58.0% (76)	63.3% (143)	0.325	60.3% (70)	62.0% (150)	0. 766
Opportunity to meet other ICD patients	33.3% (23)	24.4% (75)	0.128	25.0% (33)	26.4% (61)	0.768	24.8% (29)	26.7% (66)	0.695
Opportunity to attend ICD workshop with family	44.9% (31)	35.5% (108)	0.145	**30.0% (39)**	**41.3% (95)**	**0.033**	41.9% (49)	34.8% (85)	0.195
Psychological consult while hospitalized	31.7% (20)	24.0% (69)	0.198	**19.0% (23)**	**28.6% (63)**	**0.050**	31.3% (35)	22.2% (51)	0.069
Psychological consult post-discharge for me	**43.1% (28)**	**30.3% (88)**	**0.048**	**21.3% (26)**	**38.5% (85)**	**0.001**	**42.3% (47)**	**27.5% (64)**	**0.006**
Psychological consult post-discharge for my family	33.3% (21)	30.9% (89)	0.706	**21.3% (26)**	**37.3% (81)**	**0.002**	**45.5% (50)**	**24.8% (57)**	**<0.0001**
Receiving ICD-related information several times rather than once	56.3% (36)	46.4% (135)	0.153	**33.6% (41)**	**55.7% (123)**	**<0.0001**	**59.5% (66)**	**42.1% (98)**	**0.003**

* Numbers highlighted in bold-face indicate statistically significant differences between groups.


Viser 20 af 20 notater hentet
Hent næste
Hvis biopsi eller blodprøver giver anden indikation, må man revurdere dette på et senere tidspunkt.
Hvis der er behov for yderligere opfølgning, kan man kontakte Dermatologisk Afd.
tienten informeres om og samtykker til ovenstående plan.
07-03-2014 09:00
isk klinisk kontakt [Psykiatrisk assistanc
Dikteret af
35-årig mand
– Svær hjertesvigt
– Indlagt pga infektion
– Pacemaker fjernet
Pt. er en 35-årig mand med svær hjertesvigt. Der har været overvejet hjertetransplantation. Pt. aktuelt indlagt på grund af infektion på grund af pacemaker, som er fjernet. Han henvises, fordi han har dødsangst og har det dårligt psykisk. Det fremgår af journalen, at der ikke er mistanke om, at han har en psykisk lidelse. Normale psykiske reaktioner på en alvorlig somatisk lidelse er ikke indeholdt i det psykiatriske funktionsområde. Der er ansat kliniske psykologer i somatikken. Endvidere kan
ægge henvise til praktiserende psykolog efter Sygesikringsoverensko
gnoser - Aktionsdiagnose: DZ719, Rådgivning UNS
- Dødsangst
- Dårligt psykisk
↓
"Normale psykiske reaktioner på alvorlig somatisk lidelse …"
– Ansat kliniske psykologer i somatikken…
– Kan henvenses til praktiserende psykolog via Sygesikringsoverenskomst …

4. Barriers: Patients

- **Depression**
- **Lack of faith** that interventions will work
- **Limited knowledge** and **understanding**
- **Lack of trust** in health care professionals
- **Age** - e.g. interventions that are digital
- **Lack of reimbursement** and access to care
- **Race / ethnicity**
- **Low socio-economic status**
- **Low health literacy**



"Interventions that improve self-care behavior, risk factor control, or cardiovascular outcomes in those with low health literacy or numeracy are generally lacking".

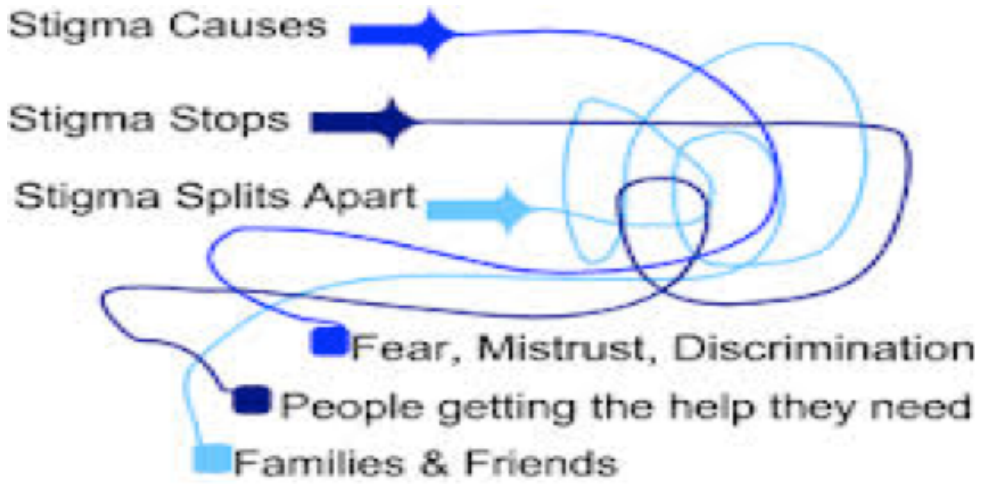
Lack of evidence

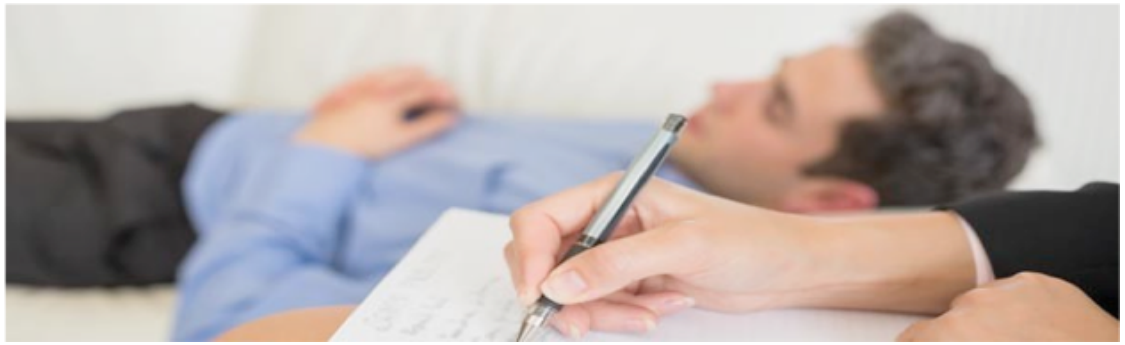
Havranek et al. Circulation 2015;132:873-98

SDU

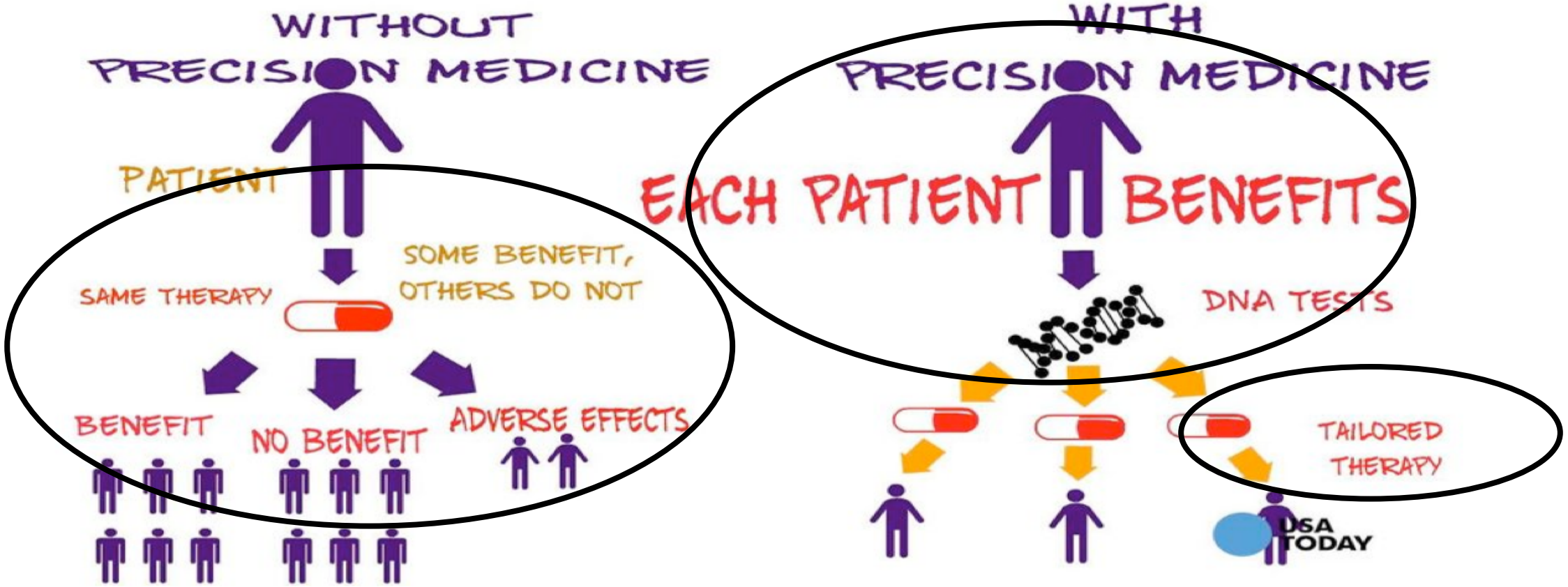
From the patient's perspective interventions may be…

- Associated with **stigma** – e.g. seeing a psychologist
- **Too abstract** - e.g. CBT, psychotherapy, mindfulness
- **Not meet** their **needs** and **preferences**






Precision
Medicine


WITHOUT
PRECISION MEDICINE
PATIENT
SAME THERAPY
SOME BENEFIT,
OTHERS DO NOT
BENEFIT
NO BENEFIT
ADVERSE EFFECTS
WITH
PRECISION MEDICINE
EACH PATIENT
BENEFITS
DNA TESTS
TAILORED
THERAPY
USA
TODAY

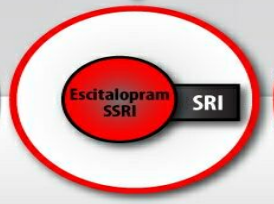
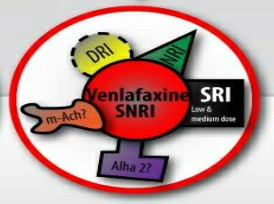
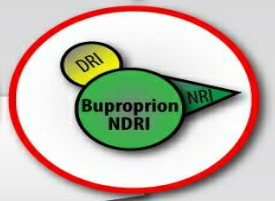
SDU

Personalized Medicine

Clinical Pathways

Brain Resource®

SEVERITY OF MARKERS

MARKERS	Generalized anxiety, worry Markers	Autonomic arousal Markers	Negativity bias, emotion, depression & PTSD Markers	Sociability Markers	**Complex Comorbidities:** Sociability, Emotional resilience, Negativity Bias Markers	**Psychomotor Slowing:** Depression, Negativity Bias, Slowed reaction time Markers	**Psychomotor agitated:** Anxiety, Stress Markers	**Mixed** Depression, Anxiety, Stress Markers	**Distractible** Sustained attention, Response variability, Impusivity, Intrusions Markers
SOLUTIONS									
	Lifestyle changes	Relaxation and/or Heart Rate Training	Computerized Cognitive Behavioral Intervention	Social skills training	Psychotherapeutic interventions	Escitalopram Fluoxetine Citalopram	Mirtazapine Duloxetine Tricyclics	Venlafaxine Sertraline	Buproprion Reboxetine

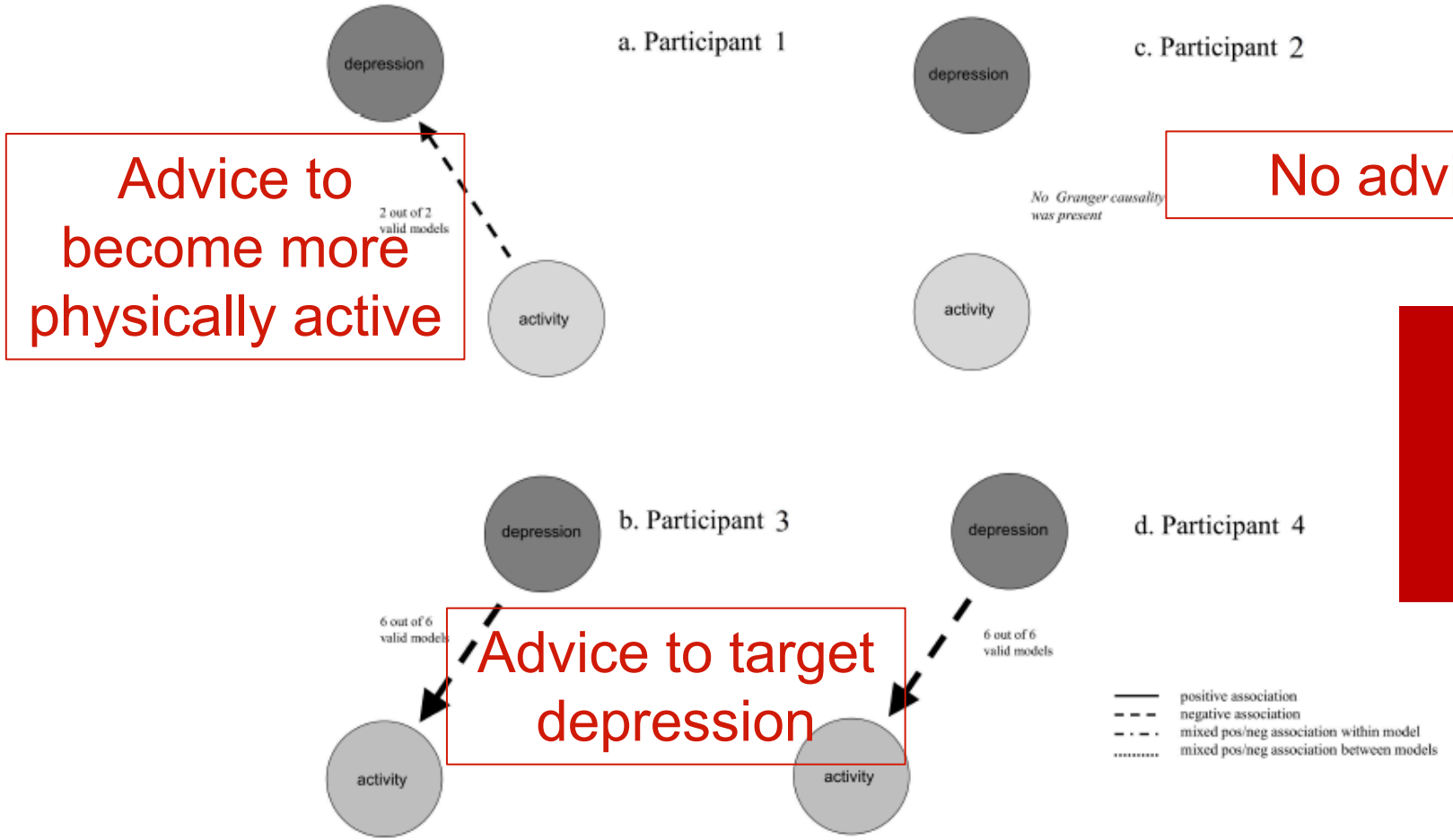
Evidence-based Strategic Decision Making Database
Connecting Markers and Solutions

*Individual Patient Programs: These solutions are not mutually exclusive and are tailored to individual needs. Aging adults and children require special attention to dose and type of drug

**Treatments being used in Brain Resource's International Personalized Medicine Depression Study (Escitalopram, Venlafaxine, Sertraline)

The potential of ecological momentary assessments

- ***Daily self-registration of depressive symptoms and physical activity (ecological momentary assessment)***
- ***Granger causality – test for directionality of the influence between two time series***



Target intervention to the individual patient!

van der Krieke et al. JMIR Res Protoc 2015;4(3):e100
Rosmalen et al. Psychosom Med 2012;4:377-86

SDU

Is a patient-preferred treatment the way forward?

- ***Patients with anxiety disorders***
- ***16 modules presented – choice of 10***
- ***10-week intervention***

High level of compliance (1 patient dropped out)

Table 3. *Mean scores (± SDs) at pretreatment and posttreatment*

Measure	Pretreatment	Posttreatment	*t*(25)	Cohen's *d* within
CORE-OM	1.46 (0.40)	0.95 (0.43)	7.12***	1.23
BAI	16.85 (8.04)	10.73 (6.72)	4.15***	0.83
MADRS-S	15.96 (6.48)	9.73 (6.65)	5.29**	0.95
QOLI	0.85 (1.64)	1.65 (1.48)	−2.71*	0.51

Note. *CORE-OM, Clinical Outcomes in Routine Evaluation–Outcome Measure; BAI, Beck Anxiety Inventory; MADRS-S, self-rated version of the Montgomery–Åsberg Depression Rating Scale; QOLI, Quality of Life Inventory.*
*$p < .05$. **$p < .01$. ***$p < .001$.

Andersson et al. Cog Behav Therapy 2011;40:57-64

SDU

In order to move the field forward and overcoming barriers…

We need to…

- **Treating heart and mind together**
- Elucidate **contribution** of **demographic characteristics** (e.g. SES) and their **interaction** with **psychosocial factors to** influence outcomes – ***help us design interventions***
- Move away from one-size fits all to a more **precision medicine approach**
- **Develop** and **evaluate** interventions **targeted** to **socially vulnerable**
- Knowledge of efficacy of "new kids on the block" **- mindfulness** and **eHealth / internet-based interventions**
- Evaluation of both **clinical efficacy** and **cost-effectiveness** **!!!**
- Close **collaboration** between **researchers**, **clinical practice** and **patients** - what is possible to implement, barriers to logistics, technological (IT), resources, preferences

To provide the best quality of care to patients

troubled minds, troubled hearts

Is there a connection?

Email: sspedersen@health.sdu.dk