

# Depression in the aged

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# Reference

Depression in the elderly,  
GS Alexopoulos, Lancet, 365, 1961-70, 2005

# Major Depression

DSM IV Criteria:

Over the last 2 weeks, 5 of the following features should be present of which one or more should be:

- depressed mood
- loss of interest or pleasure

and the remaining (the total to make at least five) from any of the following:

- significant weight loss or gain or an increase or decrease in appetite
- insomnia or hypersomnia
- psychomotor agitation or retardation
- fatigue or loss of energy
- feelings of worthlessness
- diminished ability to think or concentrate
- recurrent thoughts of death or recurrent suicidal ideas

# Medical comorbidity

- Late-life depressive syndromes often arise in the context of medical and neurological disorders.
- 25% of individuals who have a myocardial infarction or who are undergoing cardiac catheterisation have major depression, and another 25% have minor depression.
- 50% of those with major depression at the time of cardiac catheterisation remain depressed a year after the procedure

# Medical comorbidity

- High rates of depression in other chronic medical conditions:
- Diabetes
- COAD

# Substance induced depression

Benzodiazepines, Propranolol, Reserpine,  
Steroids, Anti-Parkinsonian drugs  
Beta blockers, Cimetidine, Clonidine,  
Hydralazine, Oestrogens, Progesterone,  
Tamoxifen, Vinblastine,  
Vincristine, Dextropropoxyphene, Methyldopa etc, etc

# Suicide

- Suicide is almost twice as frequent in elderly individuals than in the general population.
- Suicidal ideation decreases with ageing, but if older people have suicidal thoughts they are at a higher risk of actually committing suicide than younger people.
- Suicidal ideation is closely associated with severity of depression

# Epidemiology

- 1–4% of the general elderly population has major depression
- Twice as many women as men are affected
- Both the prevalence and the incidence of major depression double after age 70–85 years

# Epidemiology

- Prevalence of late-life depressive syndromes is higher in medical settings than in the community.
- 10–12% of patients admitted to hospital have major depression, whereas the prevalence among primary-care patients is 6–9%. Additionally, 6% of primary-care patients have minor depression.

More than half of patients with less severe types of depression remain depressed a year later.

# Epidemiology

- The prevalence of major depression among individuals who live in nursing homes is 12–14%
- 17–35% of those in long-term care have minor depression or clinically significant symptoms of depression

# Heredity

- In community-residing elderly twins, heredity accounted for 18% of the variation in depressive symptoms.
- Elderly people who are depressed are, however, less likely to have a depressed relative than younger patients who are depressed
- Possible association between the serotonin 2A receptor gene and depression in elderly men, but not in elderly women

# Late-onset depression

Includes a large subgroup of patients with neurological abnormalities

Individuals with late-onset major depression have:

- less frequent family history of mood disorders,
- higher prevalence of disorders of dementia,
- larger impairment in neuropsychological tests,
- higher rate of dementia development on follow-up,
- more neurosensory hearing impairment,
- greater enlargement in lateral brain ventricles,
- more white-matter hyperintensities

# Neuroanatomical correlates of depression

*functional studies:*

- \* Cerebral blood flow and metabolism *increased* in
  - amygdala
  - orbital cortex
  - medial thalamus
- \* Cerebral blood flow and metabolism *reduced* in
  - dorsomedial PFC
  - anterior cingulate
- \* some abnormalities reverse in treatment responders

# Neuroanatomical correlates of depression

*structural changes (structural MRI or post mortem)*

- Late onset depression associated with increased numbers of white matter hyperintensities suggestive of cerebrovascular disease
- role of neurogenesis in hippocampus

# Psychosocial adversity

Increased risk with low economic status, poor physical health, disability, social isolation

- Depression can develop during long-term caregiving.
- During the first year of bereavement, 10–20% of surviving spouses develop symptoms of depression, which generally persist if left untreated

# Management

- Treatment planning should start with an assessment that focuses on identification of any intake of the drugs or presence of illnesses that predispose to depression
- Treatment of the underlying illness or removal of offending drugs is necessary, but is often not enough to achieve remission of depression.

# Management

Antidepressants, psychotherapy, or both, are also generally required

- Antidepressants are as effective when given to elderly individuals as they are when given to younger adults.
- Selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) are the antidepressants of choice

# Management

Nortriptyline is a reasonable alternative to SSRIs in severe late-life depression.

- Electroconvulsive therapy should be considered if patients do not respond to treatment with antidepressants, have severe depression with suicide risk, are likely to die because of lack of nutrition and fluids, or are psychotic.

# Management

Most elderly individuals who are depressed are treated in primary-care settings.

- Barriers to adequate diagnosis and treatment include doctors' reluctance to discuss emotional problems, time constraints, and medical comorbidity complicating diagnosis and competing for clinical attention

# Prognosis

Late-life depression is a recurring disorder.

- Up to 90% of elderly individuals with major depression in remission had a recurrence within 3 years when maintained on placebo,
- whereas those maintained on nortriptyline and interpersonal psychotherapy had a recurrence rate of 20%,
- 43% recurred among those who received nortriptyline and medication clinic visits.

# Identifying Depression as a Comorbid Condition (IDACC)

Psychiatry liaison with GPs reduces depression after cardiac hospitalisation: a randomised controlled trial.

Schrader G, Cheek F, Wade V, Marker J, Hordacre AL, Banham D, Guiver N.

# Background

- Depression a leading, global health problem
- Depression concurrent with cardiac conditions proven to have adverse impact on:
  - Mortality from cardiac disease
  - Morbidity from cardiac disease
- **Psychiatric Comorbidity with Physical Illness**
  - Is often unrecognised (30% to 60%)
  - Is often untreated or poorly treated

National Heart Foundation, Australia. 'Position Statement' March 2003:

(Expert Working Group: review of systematic reviews of evidence)

**There is strong and consistent evidence of an independent causal association between**

- **Depression**
- **Social isolation, lack of quality social support and both the causes and prognosis of CHD.**

**Increased risk of similar order to conventional CHD risk factors**

**Smoking    High cholesterol    Hypertension**

# Depression and Myocardial Infarction

Possible mechanisms linking depression to adverse outcomes are speculative

## Biological

- Role of increased sympathetic tone
- diminished heart rate variability
- changes in platelet reactivity

## Psychological

- compliance re treatment regimes: medication  
diet  
exercise
- smoking continuation

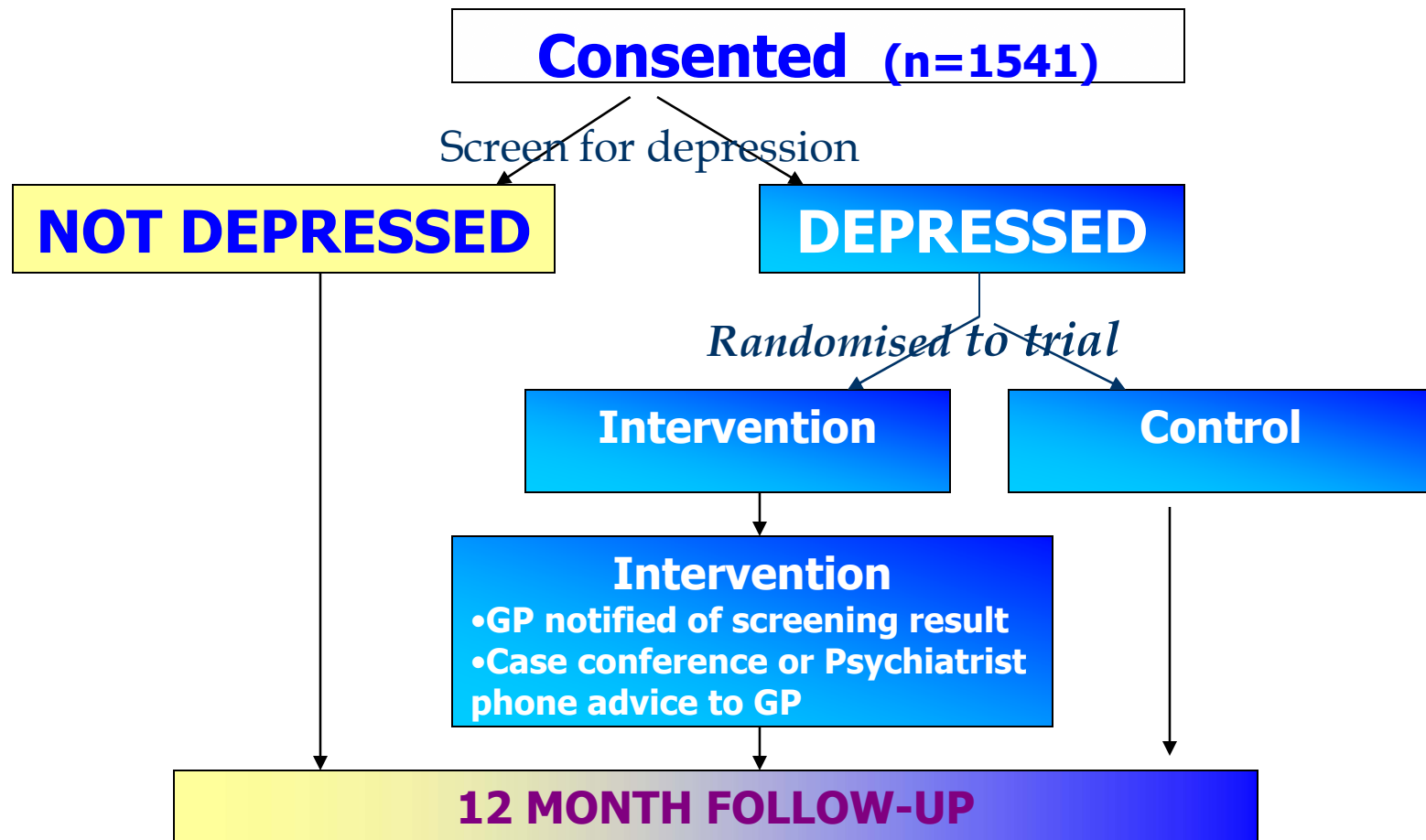
# IDACC Study

- **I**dentifying **D**epression **A**s a **C**omorbid **C**ondition (during cardiac hospitalisation)
- Conducted by the Health Outcomes Unit of the South Australian Dept of Health
- Chief Investigators: Frida Cheok, Geoff Schrader
- Collaborative project involving GPs, psychiatrists, cardiologists, nurses, epidemiologists, consumers

# IDACC study purpose and design

1. Prevalence and natural history of depression
  - Prospective cohort study of patients admitted to cardiac units, with 12 months follow-up
2. Effectiveness of GP-focused intervention for depression
  - Nested randomised controlled trial to test the effectiveness of a GP-focused intervention vs 'usual care'

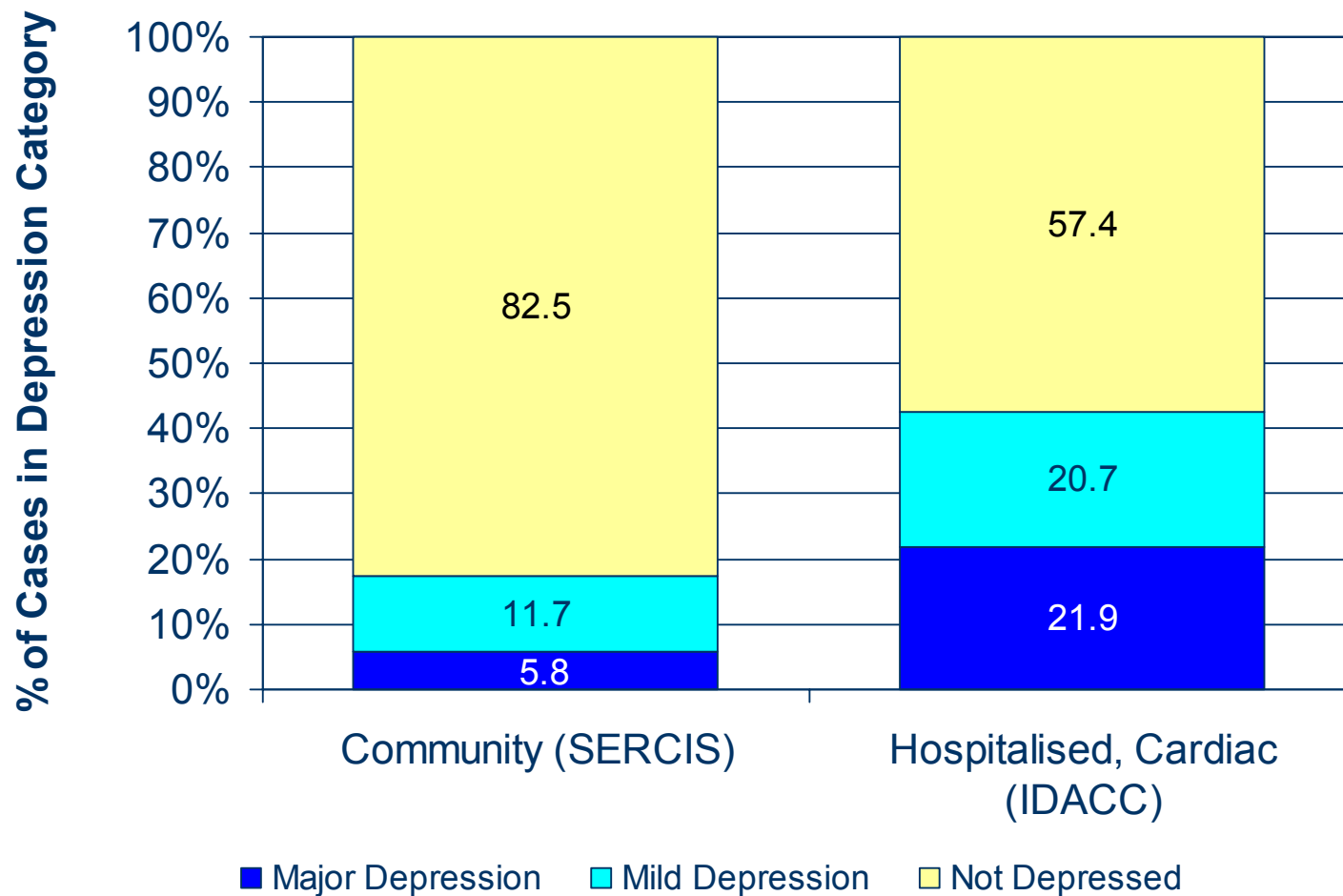
# IDACC Study Design



# Depression Rates (CES-D): SERCIS\* survey vs IDACC

(standardised to SA state age & sex rates)

\* SERCIS: Social Environmental Risk Context Information System



## Predictors of Depression at 3 months

5 factors were found to contribute significantly to the multinomial regression model:

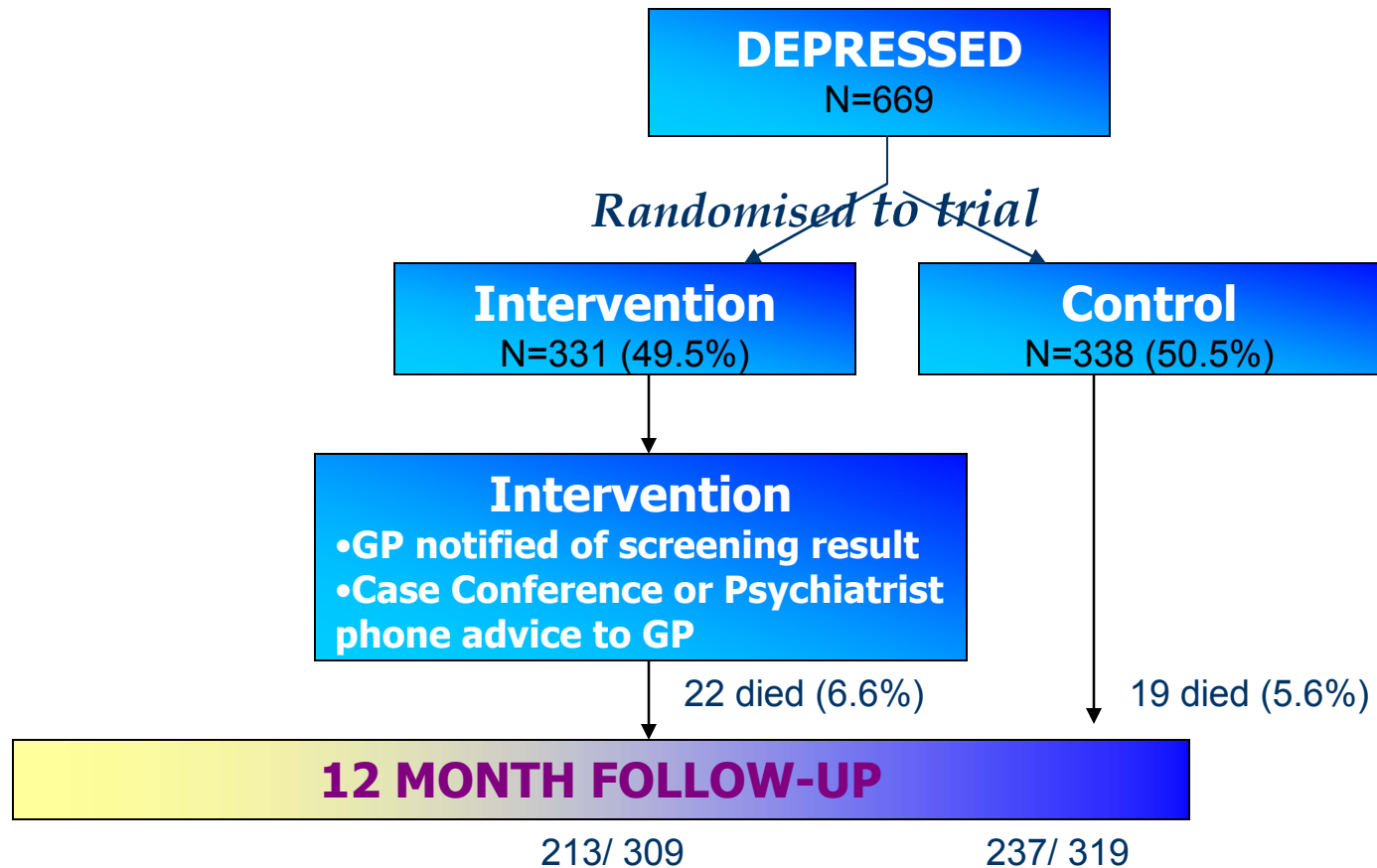
- Moderate to severe depression at baseline
- Previous history of depression
- Smoking
- Previous cardiac condition
- Younger age



## **Predictors of depression at 12 months**

- Moderate to severe depression at baseline
- Previous history of depression
- Smoking

# IDACC randomised trial



## Results of IDACC intervention trial

- Data analysed on basis of “intention to treat”
- 25% with moderate to severe depression in intervention group compared with 35% with moderate to severe depression in control group. RR = 0.72 (CI 0.54 to 0.96)
- Significant intervention effect
- Need to treat 11 depressed patients to prevent one case of moderate to severe depression at 12 months

# IDACC: Post hoc findings

## Psychiatrist 'phone advice call':

- Easy to implement (delivered to GPs of 40% of patients)
- Effective: ↓ Moderate to severe depression 19% vs 35%, RR 0.55, CI 0.33 to 0.86

## GP Education alone or with telephone case conference:


- Not found effective

## Does treating depression reduce cardiovascular morbidity?

- No definitive evidence yet for treatment of depressed patients with heart disease reducing adverse cardiac events
  - Sertraline and Depression Heart Attack Randomised Trial (SADHART) – *reported JAMA Aug 2002*
    - SSRI anti-depressant is safe for use after acute MI or episode of unstable angina
    - Efficacious treatment for relatively severe, recurrent depression
    - 20% reduction in cardiac adverse events in SSRI treated group
  - Enhancing Recovery in Coronary Heart Disease (ENRICHD) trial – *reported Circulation 2001*
    - Psychotherapy for depression and social support failed to significantly increase survival in post-MI patients
- Further research studies required with sufficient power to provide definitive answer

# TAKE HEART

A joint NHMRC  
funded project of UQ,  
UniSA, U of A and  
MHROU



## **“Take Heart” in general practice**

- NHMRC funded project commencing 2006
- Plans to determine effect of treating depression on cardiac status in patients with either heart failure or angina.

# “Take Heart” in general practice

- RCT
- Screen cardiac patients in general practice
- IDACC “telephone” intervention
- Outcomes:
  - Depression severity
  - Cardiac status

# IDACC

- More information, publications available at:
- <http://idacc.healthbase.info/>

## Depression and myocardial infarction

- Role of the serotonin transporter gene
- Previously associated with increased risk for depression
- Recent report (American Heart Journal, oct 2005) short arm of this gene is associated with increased risk for subsequent cardiac events, mediated in part by depressive symptoms

**QoL: Depression vs Comorbid depression**

**#Hawthorne, Cheek, Goldney, Fisher (2003) The excess cost of depression in South Australia: a population-based study. ANZ J Psych 37:362-373**

	AQoL		
	Depression # (n=3010)	IDACC^ (BL n=1185)	IDACC^ (12 months n=833)
Not depressed	0.86	0.71	0.70
Mild / 'Other' Depression	0.71	0.54	0.57
Mod-severe / Major depression	0.54	0.34	0.40
Incremental cost per annum	\$2801 million	?	?

# Hawthorne et al 2003: Depression assessed by Prime MD mood module

^ IDACC Depression assessed by Centre for Epidemiological Studies Depression Scale (CES-D)

# Recommendations

- Change role of Consultation Liaison Psychiatry
  - Screen for depression in high risk groups in medical wards in general hospitals
  - Psych Liaison role to contact GPs and offer advice, support and interpretation of screening test results
  - Providing screening results and written guidelines to GPs is not sufficient