Complex mental health needs in older people living with frailty

Dr Jayati Das-Munshi FRCPsych, PhD

Senior Lecturer/ Clinician Scientist, KCL

Honorary Consultant Psychiatrist, South London & Maudsley NHS Trust

Definitions

"…a state of vulnerability to poor resolution of homoeostasis after a stressor event and is a consequence of cumulative decline in many physiological systems during a lifetime.

This cumulative decline depletes homoeostatic reserves until minor stressor events trigger disproportionate changes in health status."

(Clegg et al 2013)

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Many frailty instruments….

- Cumulative deficits model which assesses frailty through an index of aging-related deficits, includes disabilities and disease
- ‘Phenotype’ model- comprises ‘frailty indicators’: weight loss, grip strength, gait, exhaustion, sedentary behaviour
- 48 frailty tools identified in a systematic review only 20 of 48 included psychological domains. **No tools** considered interactions between frailty and mental health (Sutton et al, 2019)

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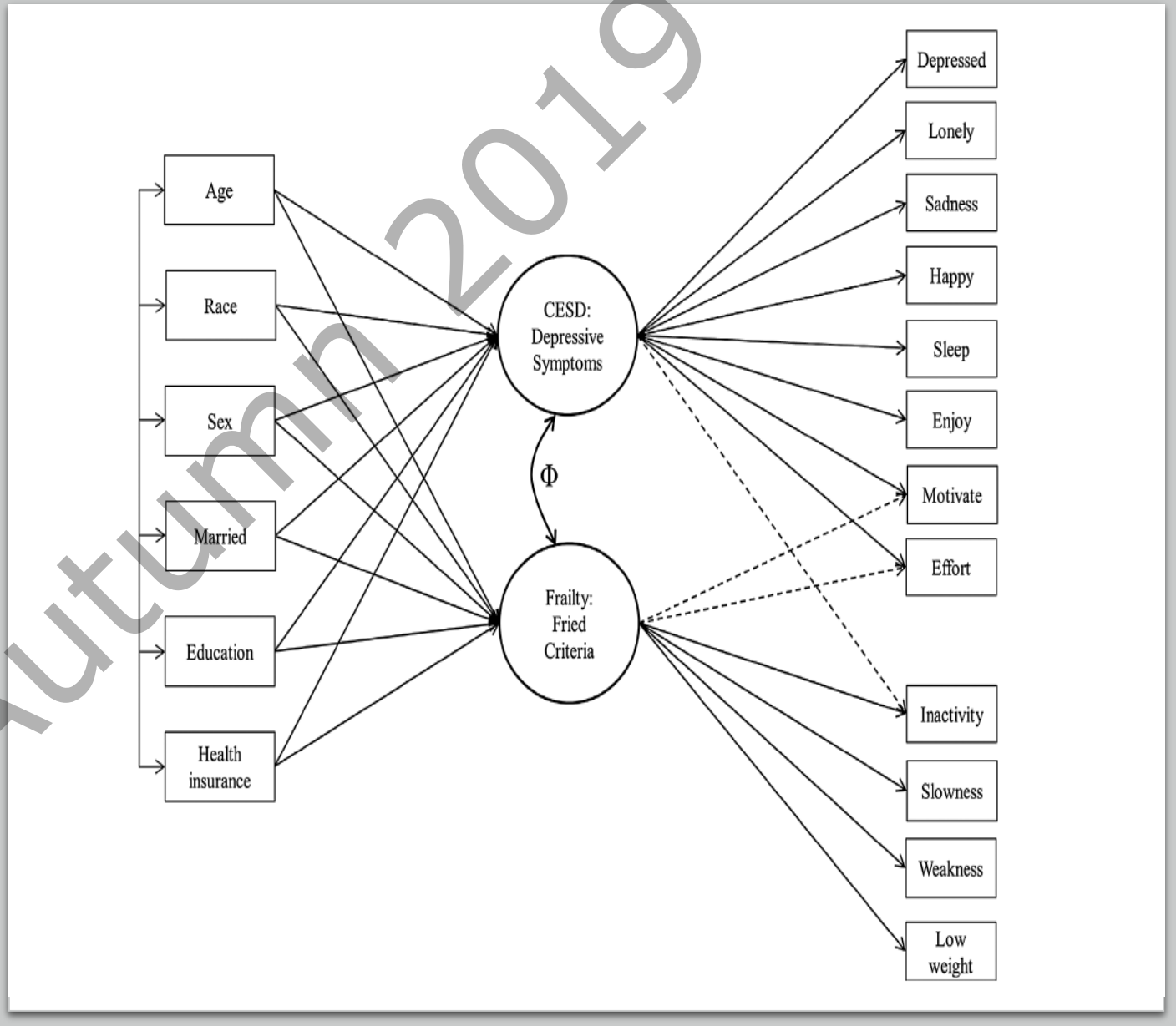
Depression and frailty- common vulnerability?

- Substantial correlation between frailty and depressive symptoms
- Psychological vulnerability an ‘important component’ in frailty? (Lohman et al 2016)



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"Phenomenological overlap" between frailty criteria and mental disorders

Clinical history, examination and collateral history help to determine contributors to presentation and inform management

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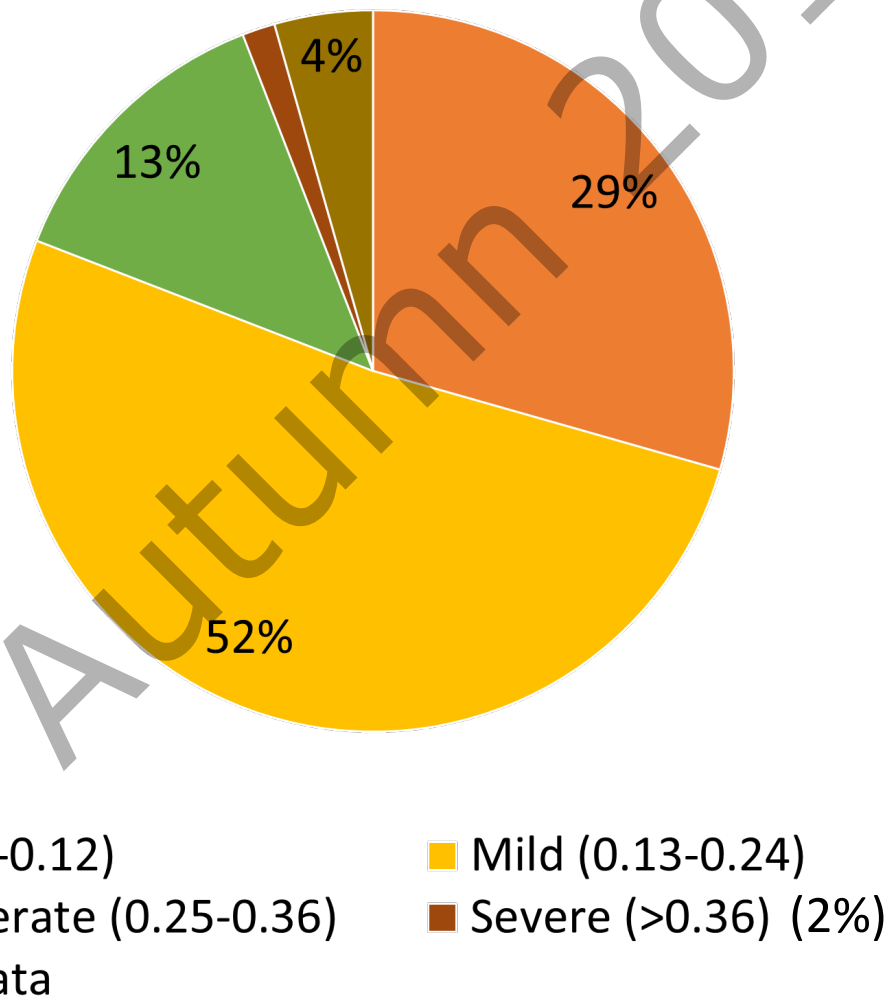
	Depression	Bipolar affective disorder	Generalised Anxiety Disorder	Schizophrenia
FRAILTY CRITERIA:				
Weight loss/ reduced appetite	X	X		
Fatigue	X	X	X	
Reduced concentration	X	X	X	
Slowness	X	X		X
Reduced activity/ apathy	X			X
Sleep problems	X	X	X	

Table adapted from Sutton et al 2018

Proportions meeting frailty criteria in our outpatient liaison service in inner city London….



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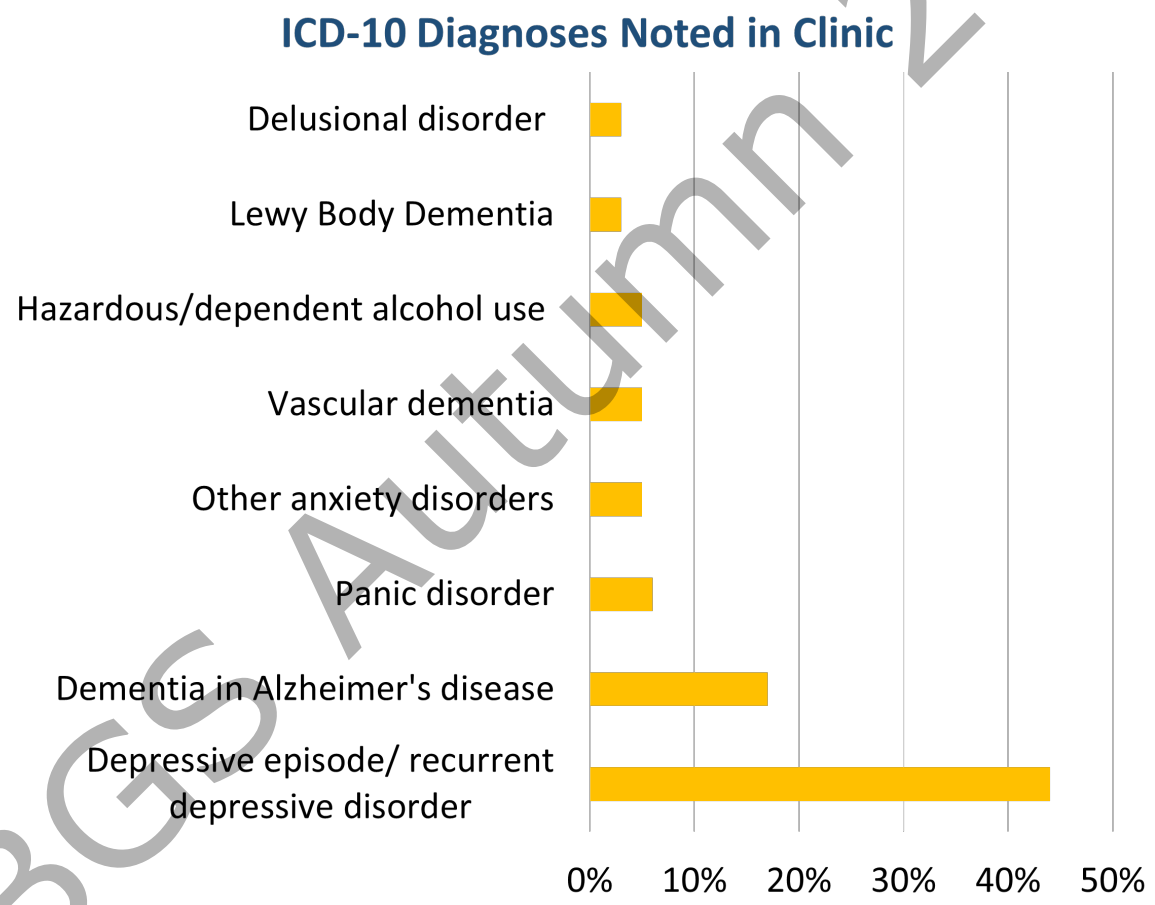
Das-Munshi, Pandhian in prep

Clinician diagnoses



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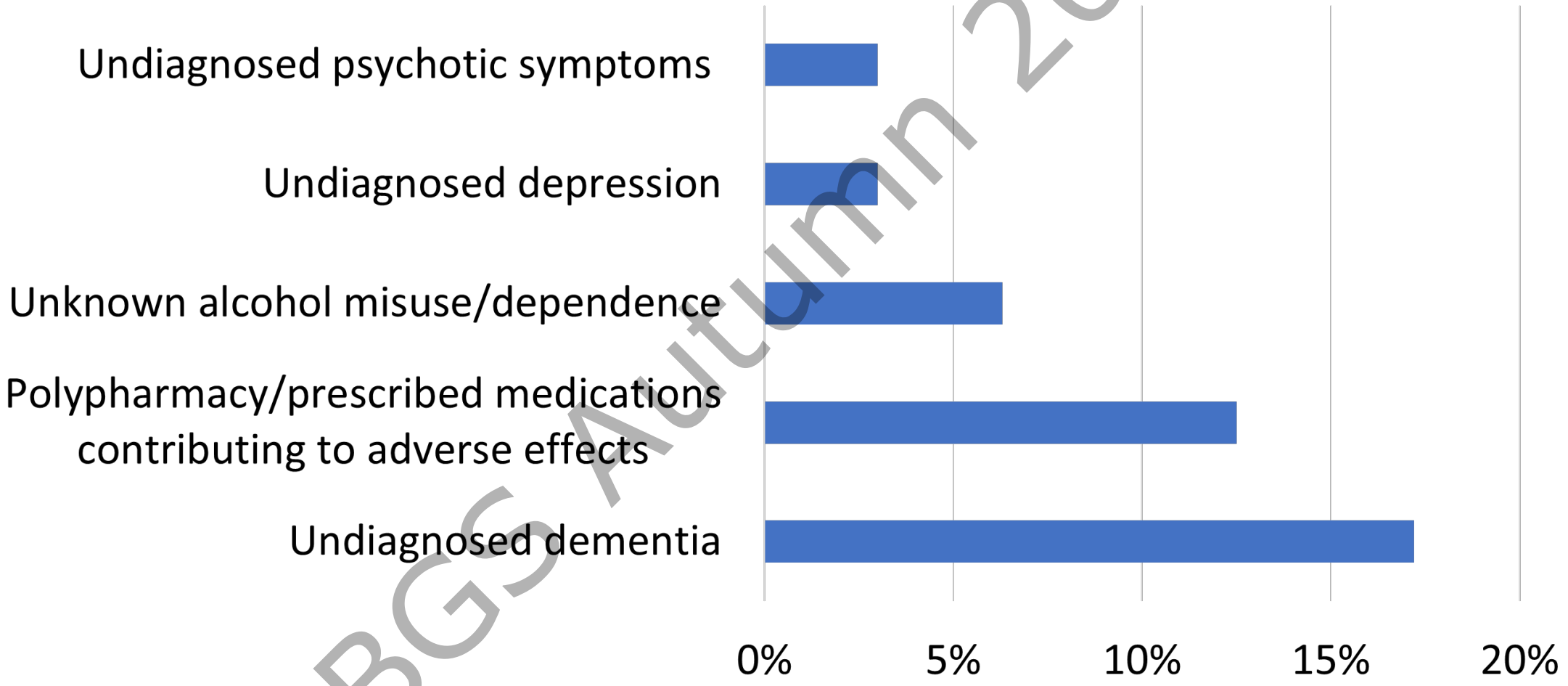
Das-Munshi, Pandhian in prep

Morbidity Previously Unknown Prior to Assessment in Clinic



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Das-Munshi, Pandhian in prep

Many physical illnesses common in older people living with frailty are comorbid with depression

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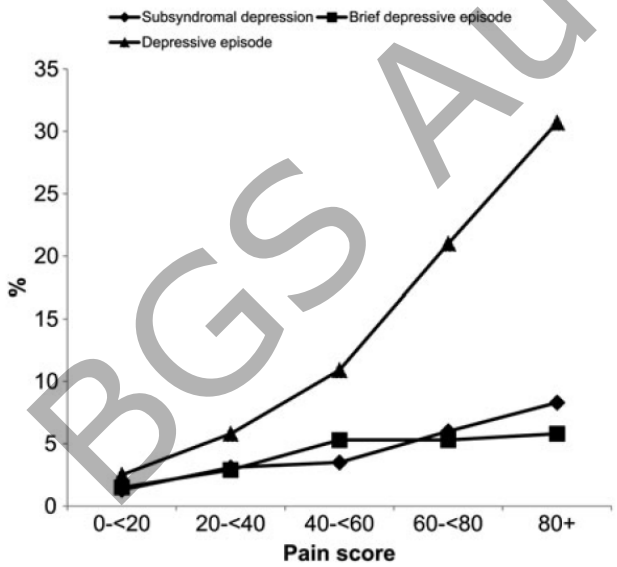
Diabetes

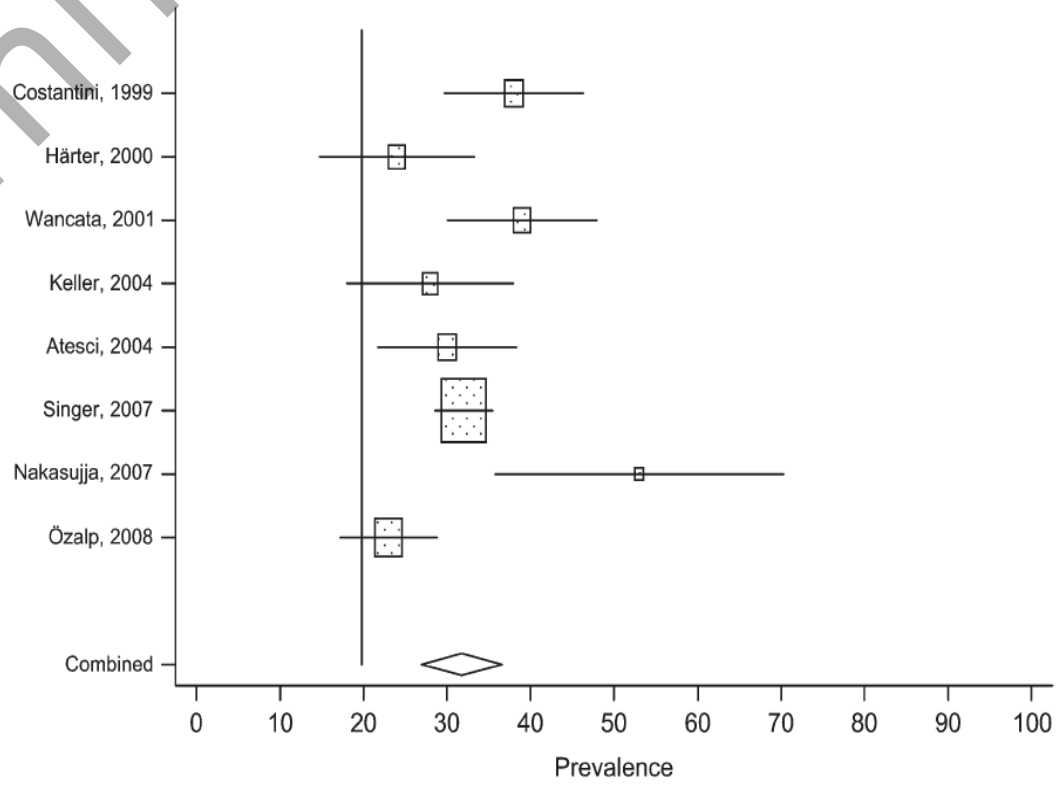
- National UK sample- prevalence of CMDs elevated in people with NIDDM (OR 1.50, 1.10-2.20) (Das-Munshi et al, 2007)

Chronic pain



Stubbs et al 2017

Cancers



Singer, Das-Munshi, Brahler et al 2010

Conditions with age

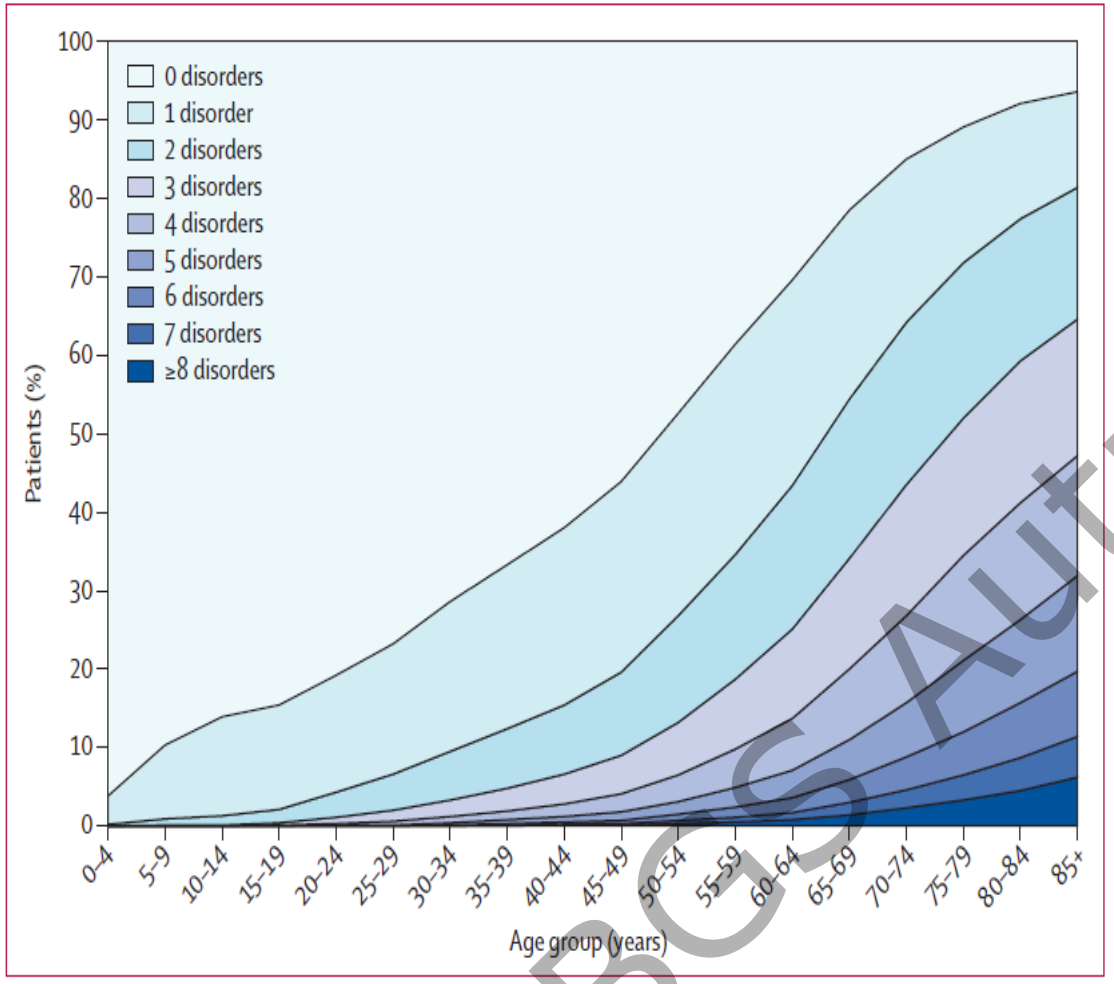


Figure 1: Number of chronic disorders by age-group

Number of physical disorders strongly associated with mental disorders

	Any mental health disorder (unadjusted OR, 95% CI)	Any mental health disorder (adjusted OR, 95% CI)*
Male (*vs* female)	0·66 (0·66–0·67)	0·71 (0·70–0·71)
Age†	1·64 (1·62–1·66)	1·64 (1·62–1·66)
Age squared†	0·972 (0·971–0·974)	0·954 (0·953–0·955)
Deprivation decile		
1 (affluent)	1	1
2	1·07 (1·05–1·10)	1·08 (1·05–1·11)
3	1·21 (1·18–1·24)	1·17 (1·15–1·20)
4	1·32 (1·29–1·35)	1·26 (1·23–1·29)
5	1·52 (1·49–1·57)	1·44 (1·41–1·47)
6	1·53 (1·50–1·56)	1·48 (1·45–1·52)
7	1·66 (1·63–1·70)	1·60 (1·56–1·63)
8	1·78 (1·74–1·82)	1·75 (1·71–1·79)
9	2·00 (1·96–2·05)	1·91 (1·87–1·96)
10 (deprived)	2·19 (2·15–2·24)	2·28 (2·21–2·32)
Number of physical disorders		
0	1	1
1	2·09 (2·06–2·11)	1·95 (1·93–1·98)
2	3·16 (3·12–3·21)	2·95 (2·90–3·00)
3	4·07 (4·00–4·14)	3·91 (3·83–3·98)
4	4·88 (4·78–4·98)	4·85 (4·74–4·96)
≥5	6·43 (6·31–6·56)	6·74 (6·59–6·90)

*All adjusted for other listed variables in model. †ORs are per 10-year increase in age.

Table 2: Odds ratios (OR) for any mental health disorder by age, sex, socioeconomic status, and number of physical disorders

Barnett et al Lancet 2012

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Excess mortality is elevated in depression - mostly from physical causes

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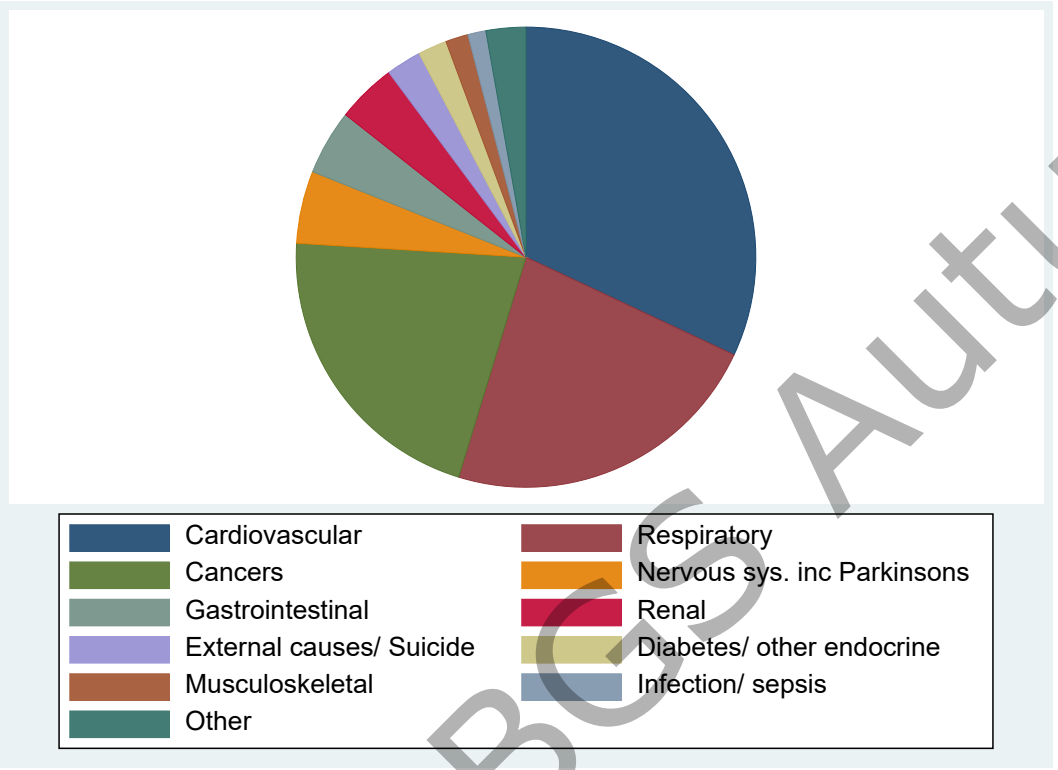
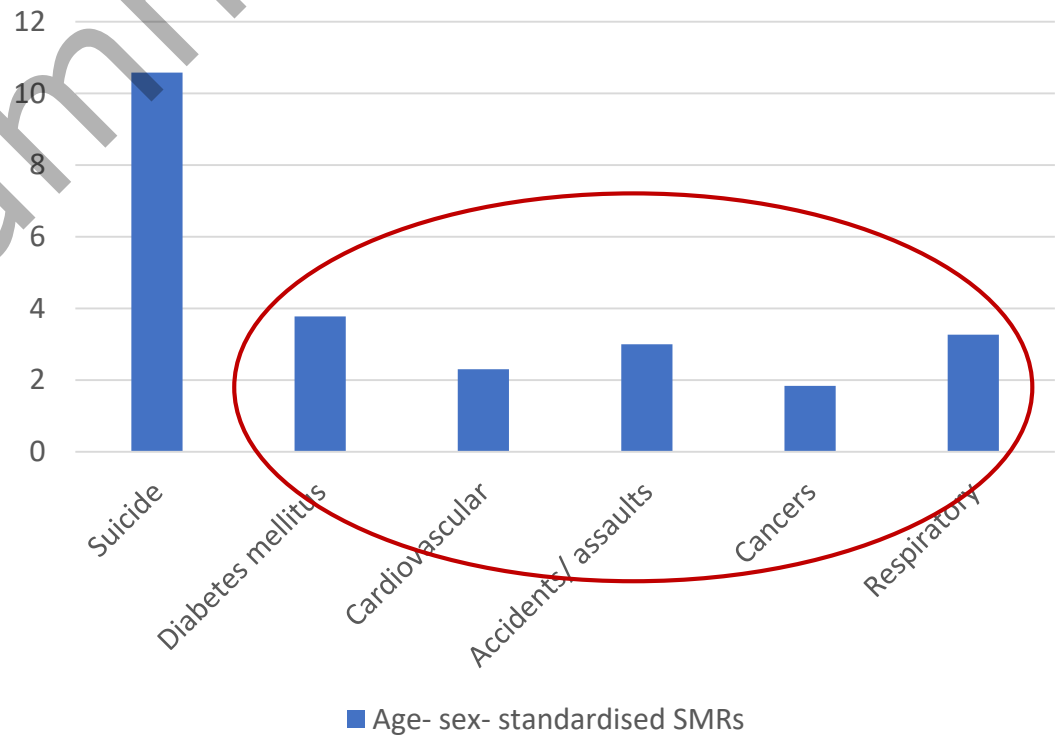
Top causes of death in older people with depression



Cause specific mortality in depression



Das-Munshi et al 2018

Complex associations between frailty and depression

DEPRESSION

- Prevalence of depression in frailty: **38.6%**
- Greater baseline impairments (gait, grip strength, physical activity, fatigue) in people who are depressed (Brown et al 2014)
- Depressive symptoms also associated with declining intrinsic capacity (WHO ICOPE)

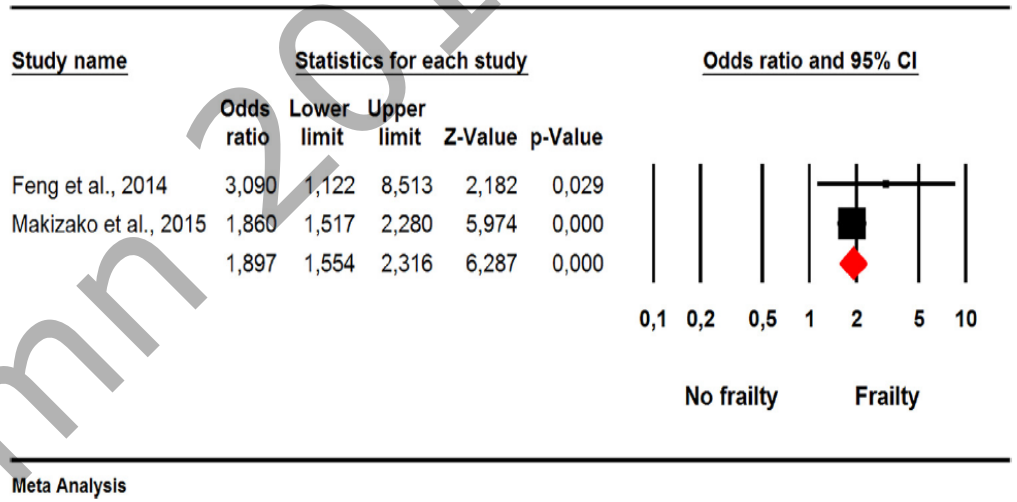


Fig. 4. Odds for incident depression among people with frailty.

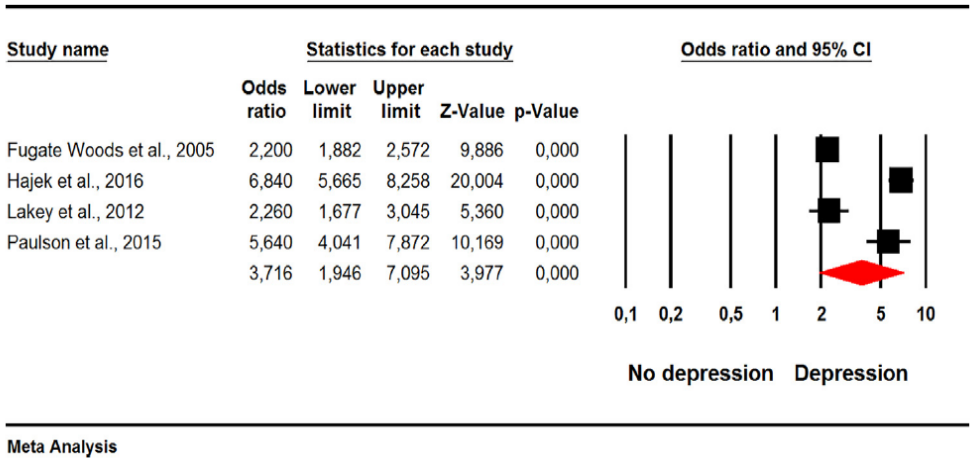


Fig. 3. Odds for incident frailty in older people with depression.

Soysal et al. Ageing Research Reviews 2017 (78-87)

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Mental disorders in people living with frailty

ANXIETY

In a community survey, older adults meeting frailty criteria had an odds ratio of 4.36 (95% 1.4, 13.8) for case-level anxiety and 4.31 (95% CI: 1.5, 11.9) for case-level depression symptoms

(Mhaol´ain et al, 2012)

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Mental disorders in people living with frailty

DEMENTIA

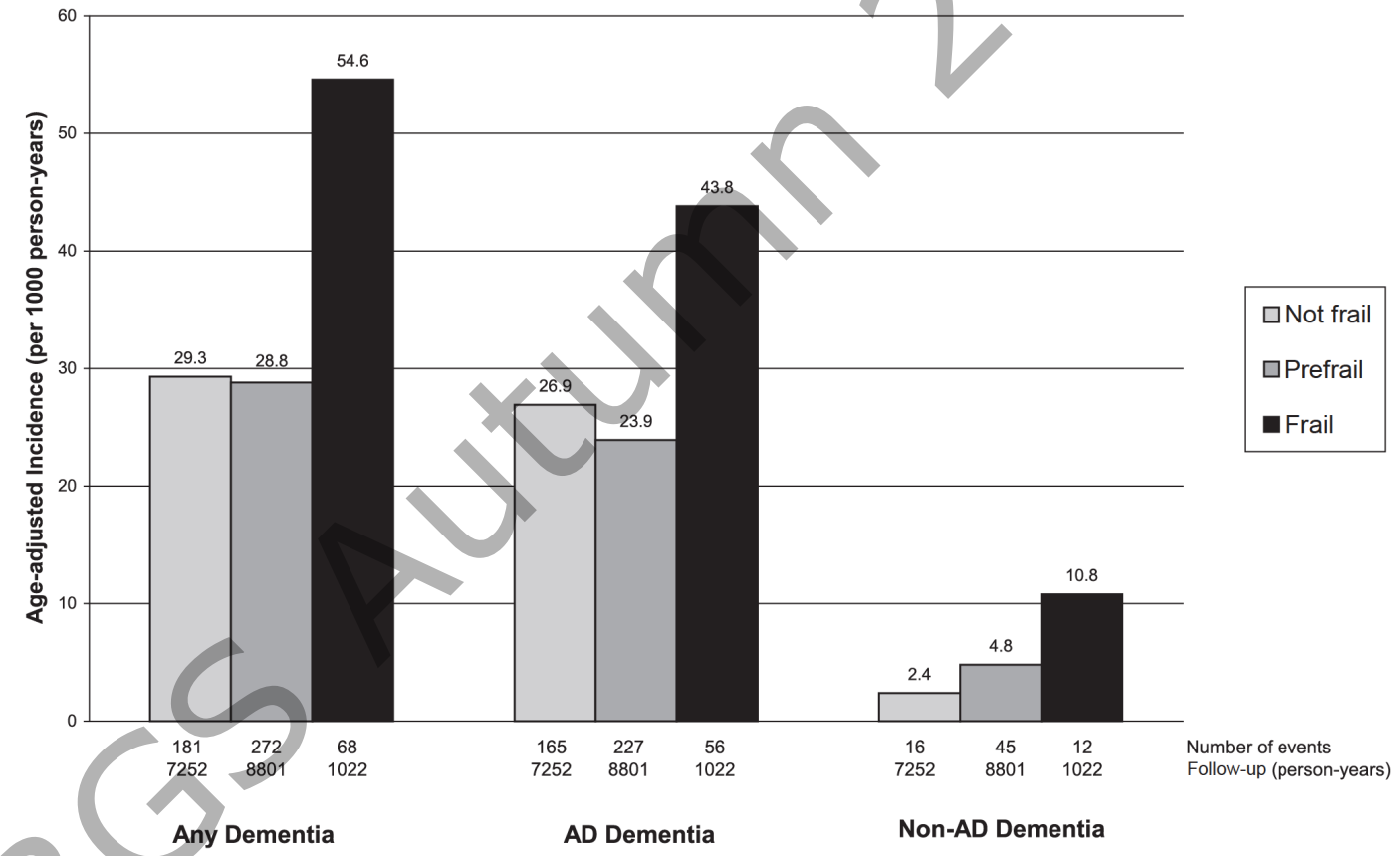

Figure 2. Age-adjusted rates of dementia per 1,000 person-years according to baseline frailty.

"Frailty and incident dementia" Gray et al 2013

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Mental disorders in people living with frailty

- **ALCOHOL**
- Assumption that older people do not drink. “Baby boomers” (born 1946-1964), now aged 53-71 years: high risk of harmful/ hazardous alcohol use
- Comorbidities (depression, anxiety), alcohol-related brain damage. Direct impact on falls, loss of mobility, confusion
- ‘Accelerated ageing’

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Mental disorders in people living with frailty

SEVERE MENTAL ILLNESS

- People with severe mental illnesses such as schizophrenia-spectrum and bipolar disorders experience excess mortality compared with the general population, mostly through preventable physical causes (Das-Munshi et al 2017)
- Accelerated ageing may also be relevant- higher prevalence of multimorbidities, including CVD, NIDDM and respiratory conditions occuring at a younger age
- For those that ‘make it’, frailty may be more common

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Irrespective of the evidence…

- Mental disorders may be systematically left out of assessments of older people
  - The CGA screens for depression and cognition- what about other psychiatric comorbidities?
  - (Even here: in our recent work- only 5/10 surveyed RCTs of CGA mentioned active management of mental disorders) (*in prep*)
  - Largely missing in current discussions related to frailty

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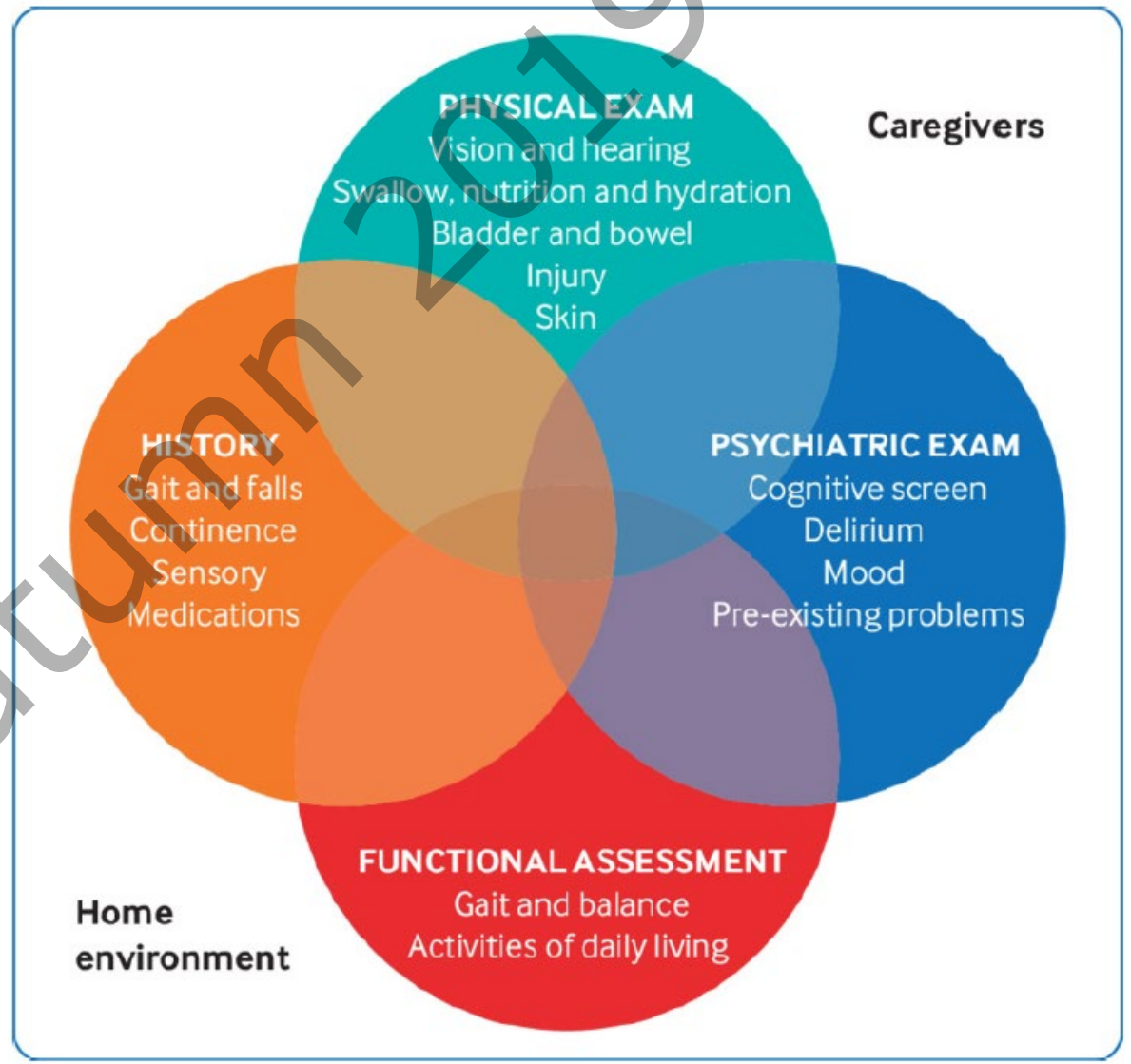
Initial assessment

- Assessments should screen for common mental health presentations
  - Depression
  - Delirium
  - Dementia/ MCI
  - Note other conditions- anxiety and comorbid alcohol use
- Involve family/ obtain collateral history
  - Crucial for ascertaining decline/ change



Quinn et al. BMJ 2019;364:I13

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Integrated management

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Recommendation 1

Multimodal exercise, including progressive strength resistance training and other exercise components (balance, flexibility and aerobic training), should be recommended for older people with declining physical capacity, measured by low gait speed, grip strength and other physical performance measures.

Quality of the evidence: ***moderate***
Strength of the recommendation: ***strong***

Recommendation 2

Oral supplemental nutrition with dietary advice should be recommended for older people affected by undernutrition.

Quality of the evidence: ***moderate***
Strength of the recommendation: ***strong***

Recommendation 3

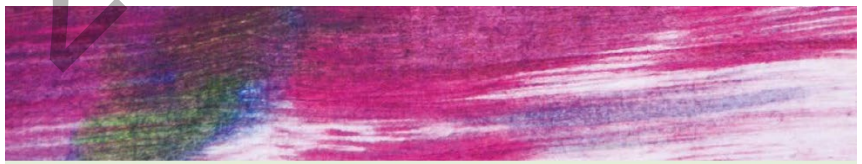
Older people should receive routine screening for visual impairment in the primary care setting, and timely provision of comprehensive eye care.

Quality of the evidence: ***low***
Strength of the recommendation: ***strong***

Recommendation 4

Screening followed by provision of hearing aids should be offered to older people for timely identification and management of hearing loss.

Quality of the evidence: ***low***
Strength of the recommendation: ***strong***



Integrated care for older people

Guidelines on community-level interventions to manage declines in intrinsic capacity

World Health Organization

Recommendation 5

Cognitive stimulation can be offered to older people with cognitive impairment, with or without a formal diagnosis of dementia.

Quality of the evidence: ***low***
Strength of the recommendation: ***conditional***

Recommendation 6

Older adults who are experiencing depressive symptoms can be offered brief, structured psychological interventions, in accordance with WHO mhGAP intervention guidelines, delivered by health care professionals with a good understanding of mental health care for older adults.

Quality of the evidence: ***very low***
Strength of the recommendation: ***conditional***

Recommendation 13

Psychological intervention, training and support should be offered to family members and other informal caregivers of care-dependent older people, particularly but not exclusively when the need for care is complex and extensive and/or there is significant caregiver strain.

Quality of the evidence: ***moderate***
Strength of the recommendation: ***strong***

To inform assessment consider brief tools

- Geriatric Depression Scale
- Hospital Anxiety and Depression Scale
- Cognition- with brief validated tools (eg MMSE MoCA ACE-R)

- NB. Tools **not in place** of clinical assessment, but as an adjunct and can help track change
- Tools are not diagnostic- interpret in context of history and examination

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Box 4:
How to identify cognitive impairment

- Assessment for cognitive function can be performed using any locally validated tool.
- In the absence of standard assessment: (a) assess memory by asking the person to repeat three common words immediately, then again 3 to 5 minutes later, (b) assess orientation to time by asking the time of day, day of week, season, and year, and assess orientation to place by asking the person where they are being tested, or where the nearest market or store is to their home, and (c) test language skills by asking the person to name parts of the body and to explain the function of physical items (for example, "What do you do with a hammer?").
- Confirm any cognitive deficit with a family member or someone else who knows the person well.

More detail is found in the WHO mhGAP intervention guide *(45)*, available at http://www.who.int/mental_health/mhgap/mhGAP_intervention_guide_02.

Integrated care for older people

Guidelines on community-level interventions to manage declines in intrinsic capacity

World Health Organization

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Depression

- Assess if depressive symptoms are associated with social isolation and have functional impacts
- Screen for cognition- dementia may initially present with mood/ behavioural symptoms (e.g apathy)
- Physical exercise could be considered as an adjunct to structured psychological treatments to improve intrinsic capacity

Box 5:
Summary information for treatment of depression

Brief, structured, psychological treatment:

- Interpersonal therapy and cognitive behavioural therapy (CBT) (including behavioural activation), and problem-solving treatment should be considered as psychological treatment of depressive episode/disorder in non-specialized health care settings if there are sufficient human resources (supervised community health workers, for example). In moderate and moderate-to-severe depression, problem-solving treatment should be considered as adjunct treatment.
- A problem-solving approach should be considered in people with depressive symptoms (in the absence of a depressive episode disorder) who are in distress or have some degree of impaired functioning.
- Psychological treatment based on CBT principles should be considered in repeat adult help-seekers with medically unexplained somatic complaints who are in substantial distress and who do not meet the criteria for depressive episode/disorder.

More detail and further recommendations are in the WHO mhGAP intervention guide *(45)*, available at http://www.who.int/mental_health/mhgap/mhGAP_intervention_guide_02.

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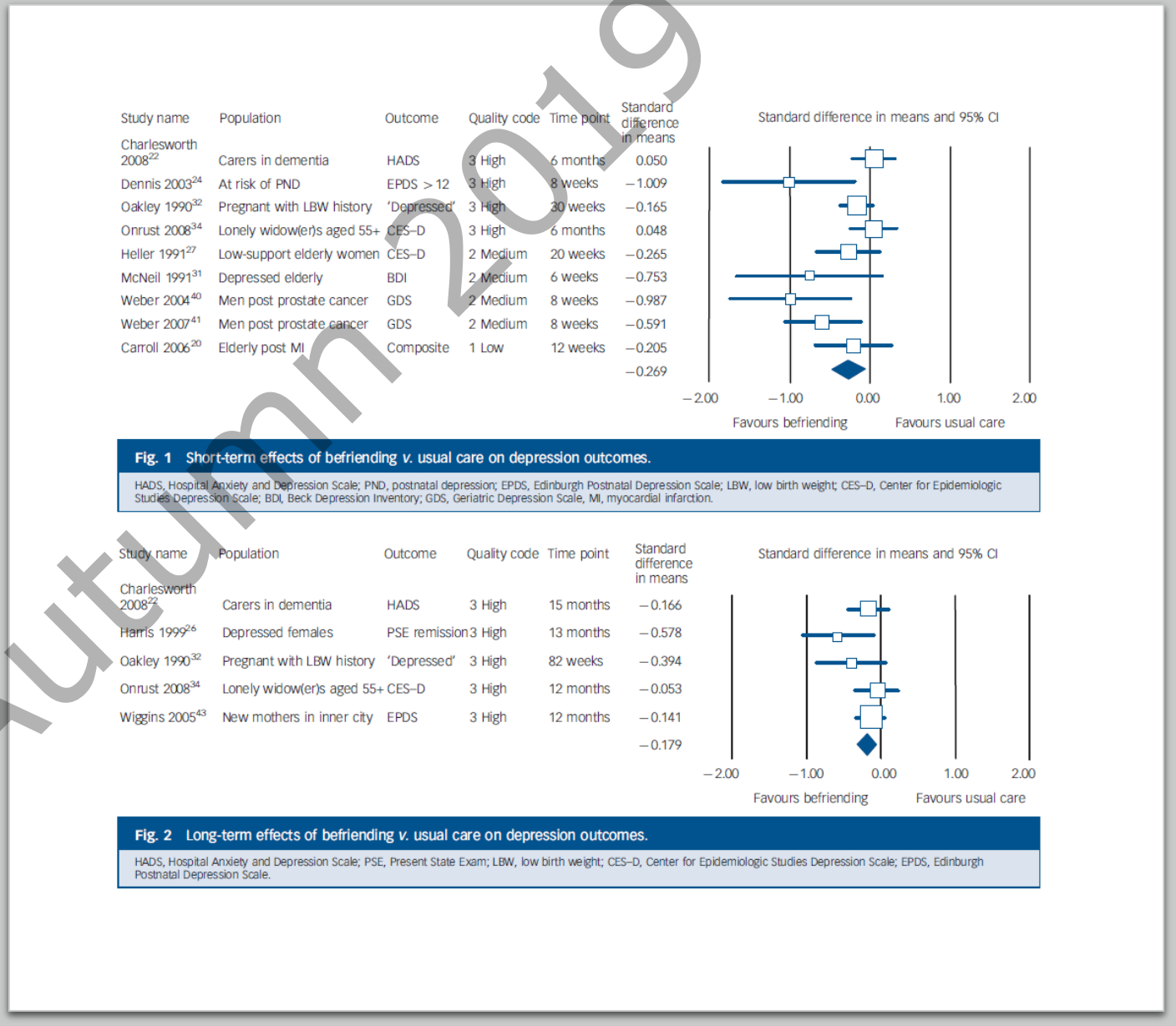
Depression

- Befriending- modest associations *(Mead et al 2010)*



Study name	Population	Outcome	Quality code	Time point	Standard difference in means
Charlesworth 2008[22]	Carers in dementia	HADS	3 High	6 months	0.050
Dennis 2003[24]	At risk of PND	EPDS > 12	3 High	8 weeks	−1.009
Oakley 1990[32]	Pregnant with LBW history	'Depressed'	3 High	30 weeks	−0.165
Onrust 2008[34]	Lonely widow(er)s aged 55+	CES–D	3 High	6 months	0.048
Heller 1991[27]	Low-support elderly women	CES–D	2 Medium	20 weeks	−0.265
McNeil 1991[31]	Depressed elderly	BDI	2 Medium	6 weeks	−0.753
Weber 2004[40]	Men post prostate cancer	GDS	2 Medium	8 weeks	−0.987
Weber 2007[41]	Men post prostate cancer	GDS	2 Medium	8 weeks	−0.591
Carroll 2006[20]	Elderly post MI	Composite	1 Low	12 weeks	−0.205
					−0.269

Fig. 1 Short-term effects of befriending *v.* usual care on depression outcomes.

HADS, Hospital Anxiety and Depression Scale; PND, postnatal depression; EPDS, Edinburgh Postnatal Depression Scale; LBW, low birth weight; CES–D, Center for Epidemiologic Studies Depression Scale; BDI, Beck Depression Inventory; GDS, Geriatric Depression Scale, MI, myocardial infarction.

Study name	Population	Outcome	Quality code	Time point	Standard difference in means
Charlesworth 2008[22]	Carers in dementia	HADS	3 High	15 months	−0.166
Harris 1999[26]	Depressed females	PSE remission	3 High	13 months	−0.578
Oakley 1990[32]	Pregnant with LBW history	'Depressed'	3 High	82 weeks	−0.394
Onrust 2008[34]	Lonely widow(er)s aged 55+	CES–D	3 High	12 months	−0.053
Wiggins 2005[43]	New mothers in inner city	EPDS	3 High	12 months	−0.141
					−0.179

Fig. 2 Long-term effects of befriending *v.* usual care on depression outcomes.

HADS, Hospital Anxiety and Depression Scale; PSE, Present State Exam; LBW, low birth weight; CES–D, Center for Epidemiologic Studies Depression Scale; EPDS, Edinburgh Postnatal Depression Scale.

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Depression- prescribing in older people

- No ‘ideal’ antidepressant, SSRIs are better tolerated
  - Note increased risk of bleeding (NSAIDS, warfarin co-prescription)
  - Hyponatraemia
  - Postural hypotension and falls

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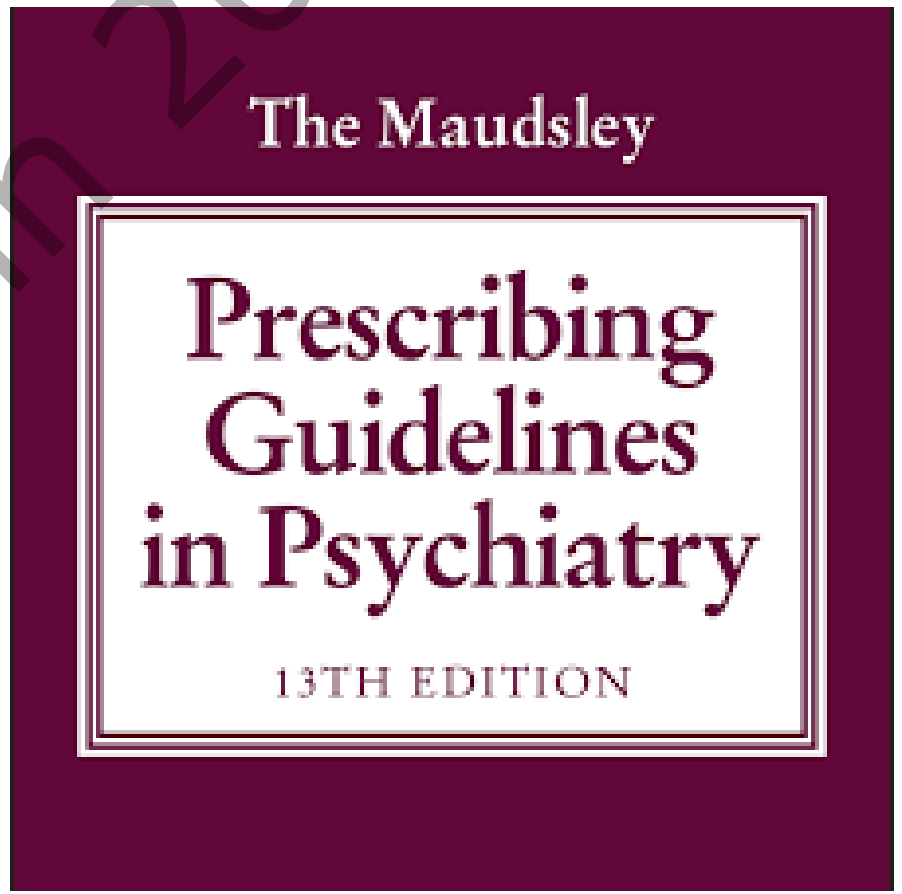
“Key points patient should know”

- Depressive episode needs to be treated for 6-9 months after remission
- Risk of recurrence high and increases with each episode
- Chance of staying well improved by staying on an antidepressant
- Do not stop abruptly (discontinuation effects)
- Take at treatment dose
- **NOT**
  - Addictive
  - Are not known to lose efficacy over time
  - And do not cause new long-term side effects



Taylor et al Maudsley Guidelines 13th ed.

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Falls and psychotropics

- Medication review esp psychotropic meds
  - Sleeping tablets (OTC containing diphenhydramine, sedating antihistamines)
  - Benzodiazepines (avoid)
  - Antidepressants- polypharmacy (2 or more antidepressants) or at subtherapeutic dose (side effects with no benefit)
  - Although beware of withdrawing long-term psychotropic medications which have kept someone well…. If this is being considered should be done in consultation with patient, carers and involvement of mental healthcare professionals with adequate follow up

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Anticholinergic medications

- Anticholinergic drugs block muscarinic receptors/ impair cholinergic function
- Associated with cognitive impairment, sedation, delirium and falls
- More pronounced side effects in older adults with dementia
- Directly oppose acetylecholinesterase inhibitors
- High ‘total’ anticholinergic burden predictive of mortality and MMSE decline

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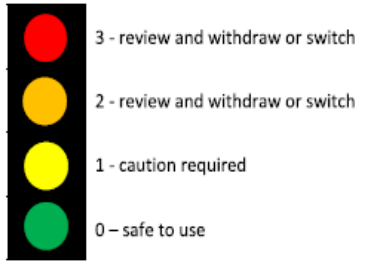
Taylor et al, The Maudsley Prescribing Guidelines, 2018

Recommendations

- In older adults with cognitive impairment, dementia or delirium stop or switch individual drugs with AEC 2-3
- Review in older adults with total AEC score 3+
- Gradual withdrawal
- NB. **Commonly prescribed** medications with AEC score 3: **Oxybutynin, Amitriptyline, Dothiepin, Doxepin, Nortriptyline, Lofepramine**



Limited data so unable to score		Drugs with AEC score of 0		Drugs with AEC score of 1	Drugs with AEC score of 2	Drugs with AEC score of 3
Alendronic Acid	Ramipril	Alprazolam	Lovastatin	Amiodarone	Amantadine	Alimemazine (trimeprazine)
Allopurinol	Rivaroxaban	Amlodipine	Lurasidone	Aripiprazole	Chlorphenamine	Amitriptyline
Anastrozole	Rosuvastatin	Amoxycillin	Meloxicam	Bromocriptine	Desipramine	Atropine
Apixaban	Spironolactone	Aspirin	Metoclopramide	Carbamazepine	Dicycloverine (dicyclomine)	Benztropine
Baclofen	Tamoxifen	Atenolol	Metoprolol	Citalopram	Dimenhydrinate	Chlorpromazine
Bisoprolol	Topiramate	Atorvastatin	Moclobemide	Diazepam	Diphenhydramine	Clemastine
Bumetanide	Tizanidine	Buproprion	Morphine	Domperidone	Disopyramide	Clomipramine
Captopril	Verapamil	Cephalexin	Naproxen	Fentanyl	Levomepromazine (methotrimeprazine)	Clozapine
Carbimazole	Zopiclone	Cetirizine	Omeprazole	Fluoxetine	Olanzapine	Cyproheptadine
Carvedilol	Zotepine*	Chlordiazepoxide	Paracetamol	Fluphenazine	Paroxetine	Dothiepin
Chlortalidone		Cimetidine	Pantoprazole	Hydroxyzine	Pethidine	Doxepin
Clarithromycin		Ciprofloxacin	Pravastatin	Iloperidone	Pimozide	Hyoscine hydrobromide
Clonazepam		Clopidogrel	Propranolol	Lithium	Prochlorperazine	Imipramine
Codeine		Darifenacin	Rabeprazole	Mirtazapine	Promazine	Lofepramine
Colchicine		Diclofenac	Ranitidine	Perphenazine	Propantheline	Nortriptyline
Dabigatran		Diltiazem	Risperidone	Prednisolone	Quetiapine	Orphenadrine
Dexamethasone		Enalapril	Rosiglitazone	Quinidine	Tolterodine	Oxybutynin
Dextropropoxyphene		Entacapone	Simvastatin	Sertindole	Trifluoperazine	Procyclidine
Digoxin		Fexofenadine	Theophylline	Sertraline		Promethazine
Erythromycin		Fluvoxamine	Thyroxine	Solifenacin		Trihexyphenidryl (benzhexol)
Flavoxate*		Furosemide	Tramadol	Temazepam		Trimipramine
Hydrocodone		Gabapentin	Trazodone			
Irbesartan		Gliclazide	Trimethoprim			
Lansoprazole		Haloperidol	Trospium			
Levetiracetam		Ibuprofen	Venlafaxine			
Metformin		Ketorolac	Valproate			
Methocarbamol		Lamotrigine	Warfarin			
Methotrexate		Levadopa	Ziprasidone			
Nitrofurantoin		Lisinopril	Zolpidem			
Oxcarbazepine		Loperamide				
Oxycodone		Loratadine				
Phenytoin		Lorazepam				
Pregabalin		Losartan				

*These drugs have confirmed anticholinergic activity but the extent and clinical significance of this is unknown.

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Bishara, Harwood, Sauer, Taylor 2017

Care givers

- Globally, 349 million people are care-dependent
- Care givers for people who have declined in intrinsic capacity are at an increased risk of psychological distress and depression
- Care-giver stress associated with nursing home admission across studies (for Dementia- Gaughler 2009)

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Interventions for care-givers

- Support groups, psychoeducational interventions for caregivers of dementia patients*;STAR trial**
- Management of BPSD- including pharmacological (antipsychotics, anticholinergic medications) effective*

Dr K (inpatient geriatrician): *[The suicide attempt] was originally precipitated by years of caregiver burden. … Mrs D stated that she was planning this for 2 years. Every day … when she thought about committing suicide, … that made her feel better that she had an option.*

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**Adelman et al 2014; **Livingston et al 2013*

Conclusions

- Mental disorders and frailty are closely interlinked
- Psychiatric management and input must be thought about in integrated care approaches for older people living with frailty
- At the moment there is a gap in frailty service provision- mental health is missing!
- If we could address this gap- outcomes for older adults living with frailty could be improved

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FUNDERS

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BGS Autumn 2019

@JayDasMunshi

jayati.das-munshi@kcl.ac.uk

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BGS Autumn 2019