Alcohol use in older adulthood: Physiological impacts and effective treatment options

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We acknowledge the tradition of custodianship and law of the Country on which the University of Sydney campuses stand. We pay our respects to those who have cared and continue to care for Country.

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Key learning outcomes

The physiological impacts of alcohol use on older adults

The impact of alcohol use on the brain of older adults, including the relationship between alcohol use, cognitive impairment and dementia

Effective approaches for treating harmful alcohol use in older adults

Our ageing population

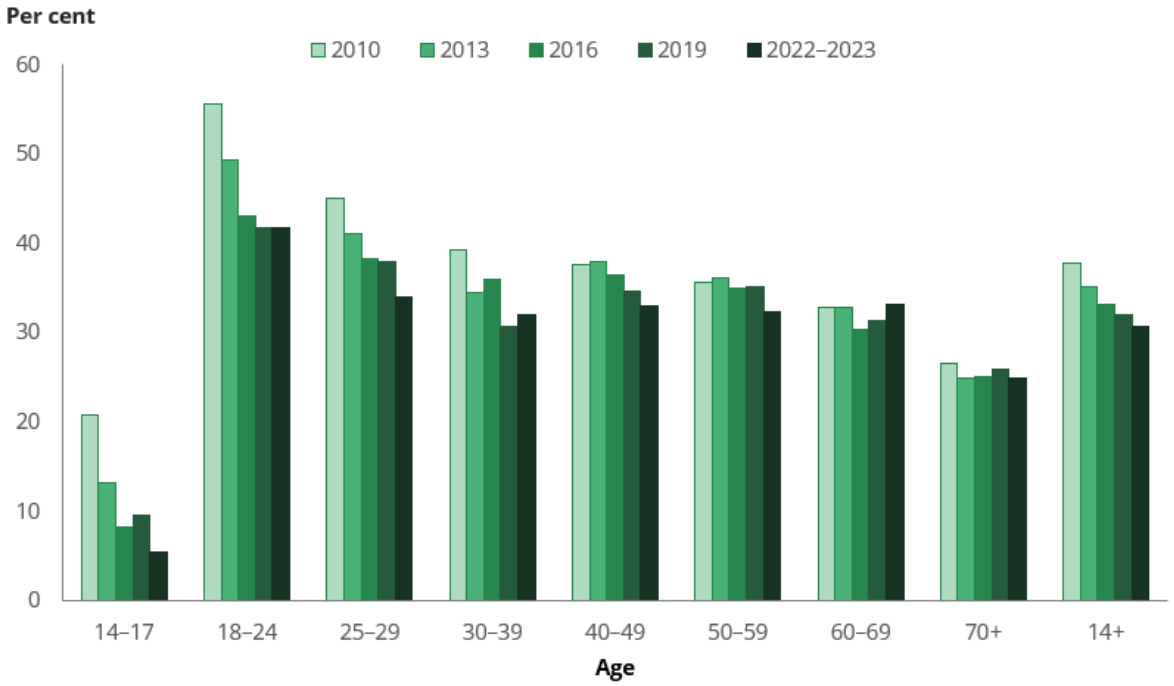
https://www.agewithoutlimits.org/image-library

Definitions: "older" adults are those aged over 65 years in the general population but for Aboriginal and Torres Strait Islander peoples and persons attending SUD services aged over 50 years

Australia's ageing population: In 2017, 3.8M Australians were aged over 65 (15% of the population). In the next 50 years this is expected to increase to 8.6M-10.2M (21-23% of the total population)

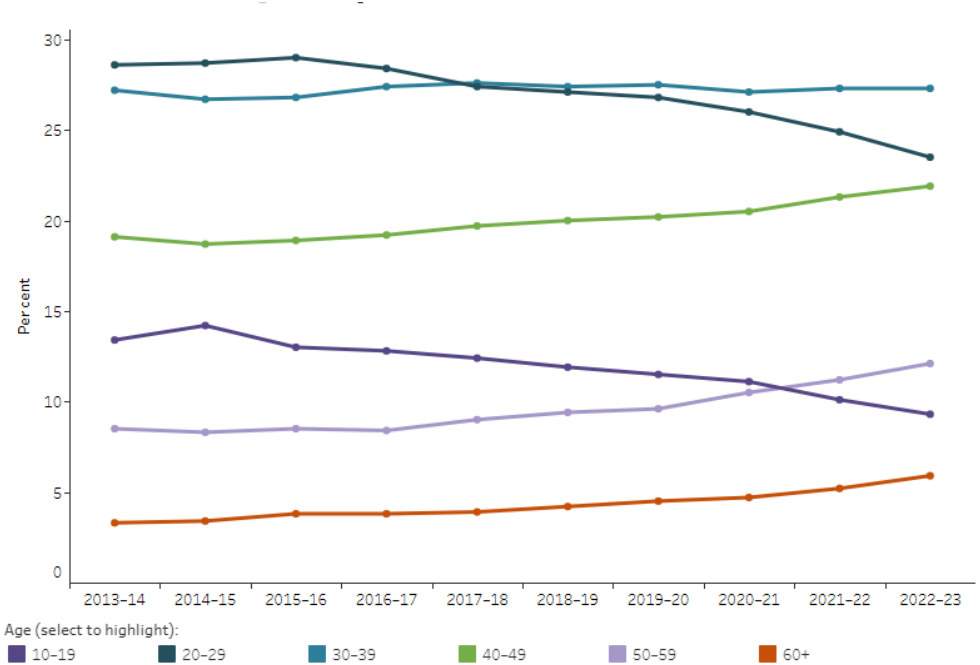
Alcohol use in older adults

Figure 3: Risky alcohol consumption by age, 2010 to 2022–2023



Source: NDSHS 2022–2023, Table 4.28.

Alcohol-related treatment episodes



Title: Figure AODTS CLIENTS.1: Client demographics (age group, sex, Indigenous status), by state and territory, 2013–14 to 2022–23.
Source: AIHW Alcohol and Other Drug Treatment Services National Minimum Data Set
http://www.aihw.gov.au

Types of older drinkers

Survivors (early onset users): often develop alcohol use disorder (AUD) in their 20s, and prematurely age as they do not use preventative services and may require aged care related services in their 50s.

Maintainers: their long-term risky alcohol use only starts to manifest itself as an overt problem as age-related changes occur and previously well-tolerated, albeit excessive, consumption of alcohol is no longer tolerated or results in harm.

Reactors (late onset users): tend to develop alcohol use disorders after the age of 50 and this may occur in association with issues such as declining health, chronic pain, stress, insomnia, bereavement, unemployment, depression, social isolation and boredom.

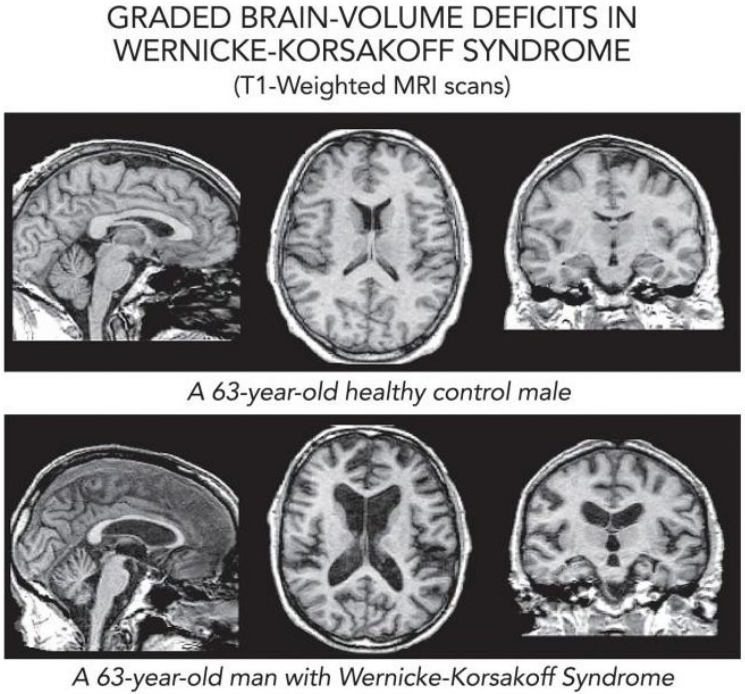
https://alcoholtreatmentguidelines.com.au/pdf/guidelines-for-the-treatment-of-alcohol-problems.pdf

Older adults and alcohol

- Decreases in lean body mass and total body water
- Less efficiency in the liver enzymes that metabolise alcohol
- Multimorbidity
- Medication use
- Acute cognitive effects (injuries and falls)
- Chronic cognitive effects (cognitive impairment and dementia)

Alcohol-related brain damage

- **Wernicke-Korsakoff Syndrome**
  - Caused by severe thiamine (vitamin B1) deficiency due to poor nutrition and inflammation of stomach lining



https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/wernicke-korsakoff-syndrome

Alcohol-related brain damage

- **Symptoms of Wernicke's disease include:**
  - Confusion
  - Lack of energy, hypothermia, low blood pressure, or coma
  - Lack of muscle coordination that can affect posture and balance and can lead to tremors (i.e., involuntary movements in one or more parts of the body)
  - Vision problems such as abnormal eye movements (e.g., back and forth movements called nystagmus), double vision, misaligned or crossed eyes, and eyelid drooping

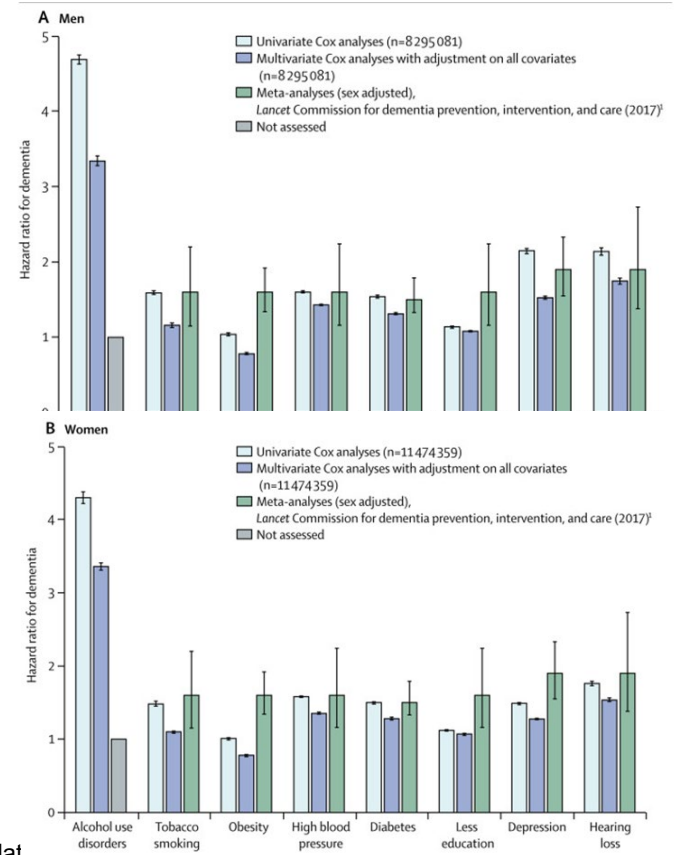
Alcohol-related brain damage

- **Symptoms of Korsakoff's include:**
  - Potentially severe, irreversible memory impairments, including problems forming new memories (called anterograde amnesia) and recalling memories
  - Making up inaccurate stories about events (i.e., confabulation) or remembering events incorrectly
  - Experiencing hallucinations
  - Repetitious speech and actions
  - Problems with decision making as well as planning, organizing, and completing tasks
  - Lack of motivation and emotional apathy

Alcohol-related brain damage

- **Alcohol-related dementia**
  - Cognitive impairment that alters independence in activities of daily living
  - Minimum weekly intake of 60 units for men and 49 units for women for a minimum of 5 years
  - Supported by the presence of other alcohol-related organ damage and ataxia attributable to brain atrophy (i.e., evidence from neuroimaging)
  - Cognitive impairment and brain atrophy improve with extended abstinence – not necessarily degenerative
  - Discriminated from Alzheimer's through better performance on semantic and verbal memory, poorer performance on visuospatial tasks

Alcohol use disorder and all-cause dementia



- French study >31million adults discharged from hospital
- >1million diagnosed with dementia
- 60% of early onset dementia cases were alcohol-related
- Alcohol use disorders were also the strongest modifiable risk factor for all-cause dementia (HR=3.35)

Contribution of alcohol use disorders to the burden of dementia in France 2008–13: a nationwide retrospective cohort study

*Michaël Schwarzinger, Bruce G Pollock, Omer S M Hasan, Carole Dufouil, Jürgen Rehm, for the QalyDays Study Group**

Summary

Background Dementia is a prevalent condition, affecting 5–7% of people aged 60 years and older, and a leading cause of disability in people aged 60 years and older globally. We aimed to examine the association between alcohol use

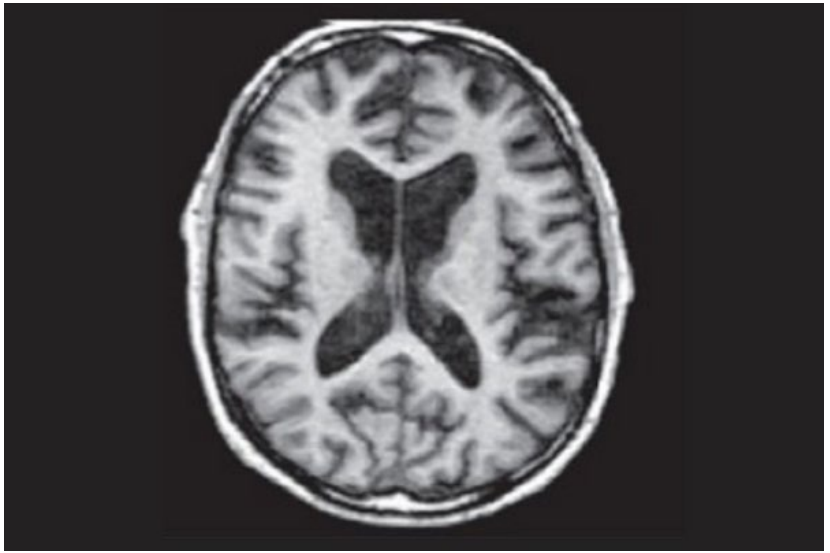
Lancet Public Health 2018; 3: e124–32

Alcohol use and cognitive impairment

- **50-80% of those with alcohol use disorder demonstrate significant cognitive/behavioural compromise**
  - 30-40% demonstrate compromises at the level of clinical impairment
- **Alcohol impacts cognitive functioning in multiple domains**
  - Executive functioning (attention, working memory, problem-solving, inhibition and flexibility)
  - Visuospatial functioning
  - Gait/balance
  - New learning/memory
  - Emotion processing and social cognition

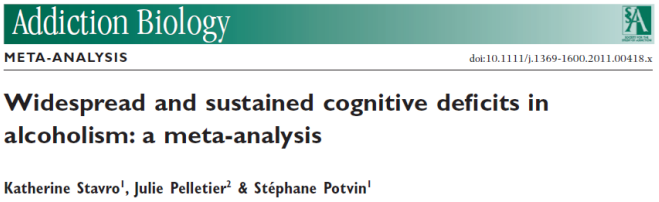
Impacts on the brain

- **Neuroimaging studies show:**
  - Loss of brain volume in grey and white matter (particularly in frontal areas)
  - Compromised white matter integrity
  - Larger ventricles
  - Compromised brain activity and connectivity



Recovery of cognitive functioning

- **Abstinence sustained for 12 months results in cognitive improvements across 11 domains (0.2-0.3 effect size)**
  - Substantial improvements occur within 4-6 weeks of abstinence, followed by modest gains for up to 12 months
  - Verbal skills improve most quickly, while other domains may remain compromised for longer (e.g. inhibitory control)
- **Underpinned by improvements in brain structure and function**
- **Improvements have been shown for those who continue to drink in a low-moderate pattern as well**

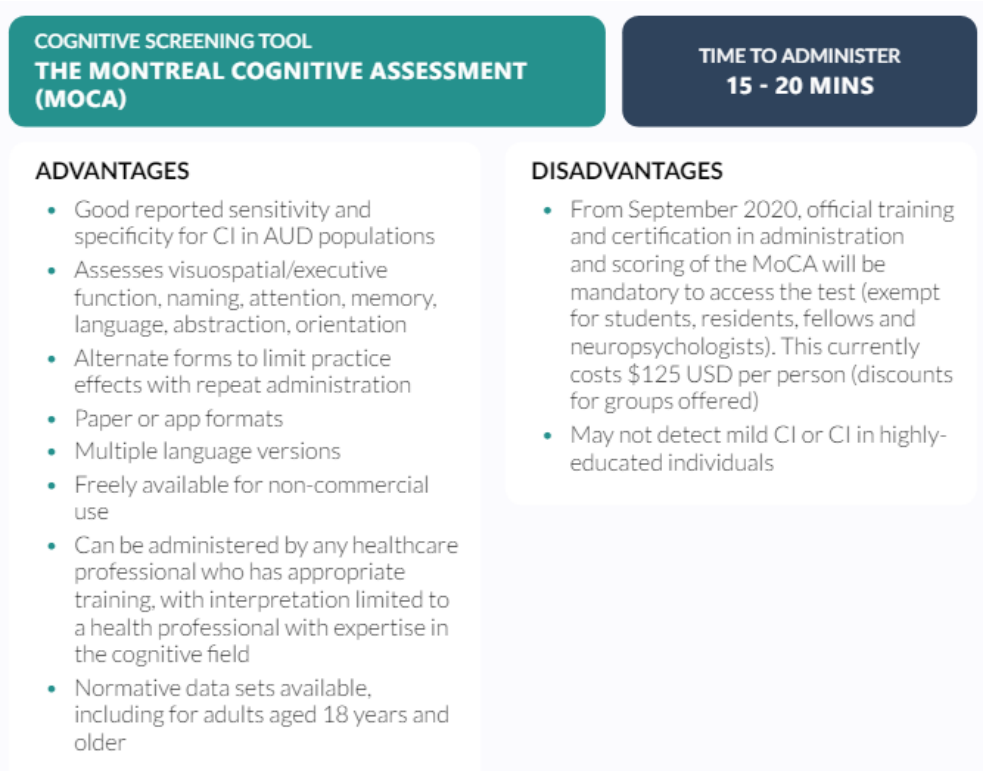


Australian alcohol treatment guidelines: Screening

Recommendations:
Regardless of the health care setting, screening for harmful alcohol use should be undertaken for all new patients over 50 years old and reviewed at regular intervals at least once a year with a view to document for use and misuse and associated complications.
For older adults who present with unexplained physical and psychological symptomatology and inconsistencies or contradictions in the presentation, as well as the major life events, should prompt re-screening for, or assessment of alcohol and other substance use.
Concurrent physical or mental illness, medications, social conditions and functional limitations need to be considered when assessing people who are older.
Reassess any concomitant physical and mental conditions several weeks to months after cessation of drinking. Abstinence can be associated with marked improvements; conversely, alcohol use may have been masking underlying illness.

https://alcoholtreatmentguidelines.com.au/pdf/guidelines-for-the-treatment-of-alcohol-problems.pdf

Cognitive screening



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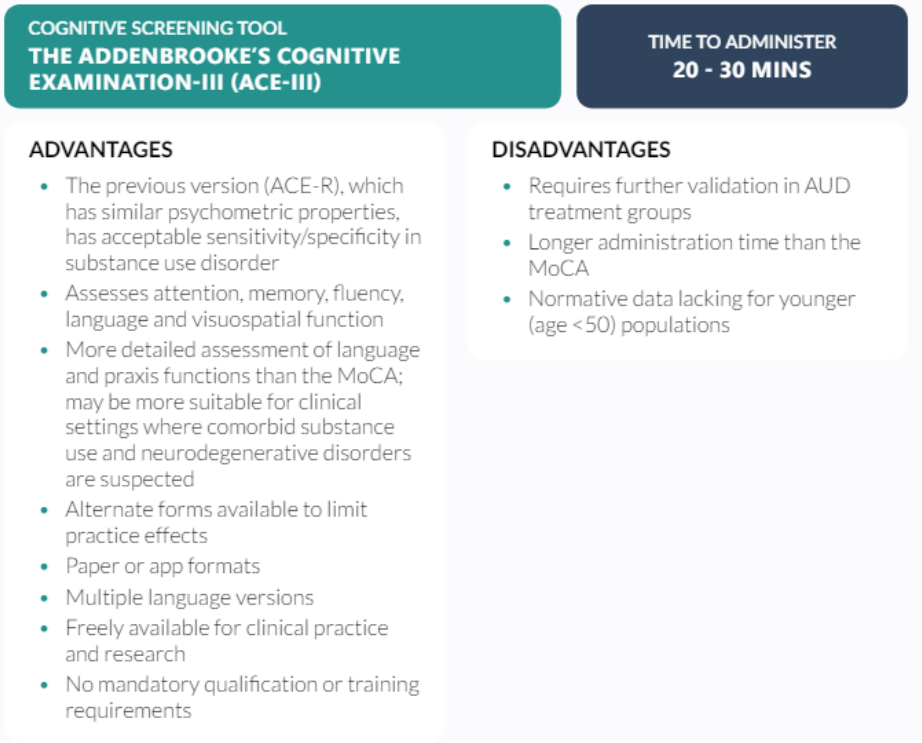
Cognitive screening



COGNITIVE SCREENING TOOL
THE ADDENBROOKE'S COGNITIVE EXAMINATION-III (ACE-III)

TIME TO ADMINISTER
20 - 30 MINS

ADVANTAGES

- The previous version (ACE-R), which has similar psychometric properties, has acceptable sensitivity/specificity in substance use disorder
- Assesses attention, memory, fluency, language and visuospatial function
- More detailed assessment of language and praxis functions than the MoCA; may be more suitable for clinical settings where comorbid substance use and neurodegenerative disorders are suspected
- Alternate forms available to limit practice effects
- Paper or app formats
- Multiple language versions
- Freely available for clinical practice and research
- No mandatory qualification or training requirements

DISADVANTAGES

- Requires further validation in AUD treatment groups
- Longer administration time than the MoCA
- Normative data lacking for younger (age <50) populations

https://alcoholtreatmentguidelines.com.au/pdf/guidelines-for-the-treatment-of-alcohol-problems.pdf

Cognitive screening

COGNITIVE SCREENING TOOL
THE REPEATABLE BATTERY FOR THE ASSESSMENT OF NEUROPSYCHOLOGICAL STATUS (R-BANS)

TIME TO ADMINISTER
20 - 30 MINS

ADVANTAGES

- Is able to detect CI in individuals with AUD
- Assesses immediate and delayed memory, visuospatial/constructional ability, language, attention
- More detailed assessment of learning and memory skills than MoCA/ACE-III
- Alternate forms available to facilitate repeated administration
- Comprehensive normative data set

DISADVANTAGES

- Longer administration time than the MoCA or ACE-III
- Does not assess executive function – this needs additional testing
- Requires specific user qualifications (allied health or psychologist)
- Costs $594 AUD for basic test kit

https://alcoholtreatmentguidelines.com.au/pdf/guidelines-for-the-treatment-of-alcohol-problems.pdf

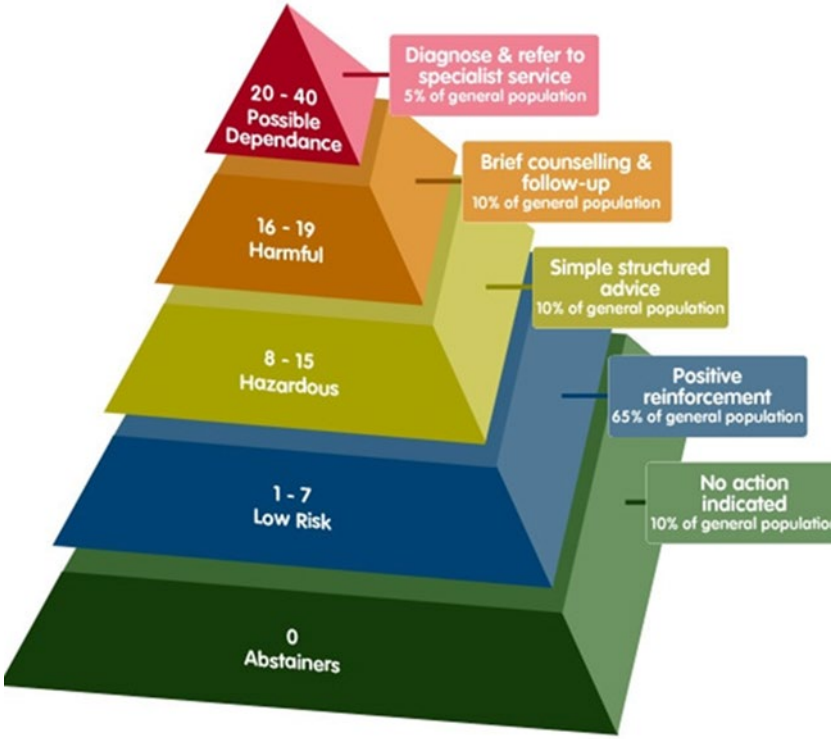
Neuropsychological assessment

- Neuropsychological assessment is recommended where cognitive impairment persists following 1-2 months of abstinence
- Results of the assessment can inform appropriate AUD treatment and other interventions as required (e.g. need for guardianship, aged care or disability service involvement)
- Following full neuropsychological assessment, the clinician should discuss the results with the patient and their supporting networks and provide written material for patients in an easily understood format

Australian alcohol treatment guidelines: Treatment

Recommendation

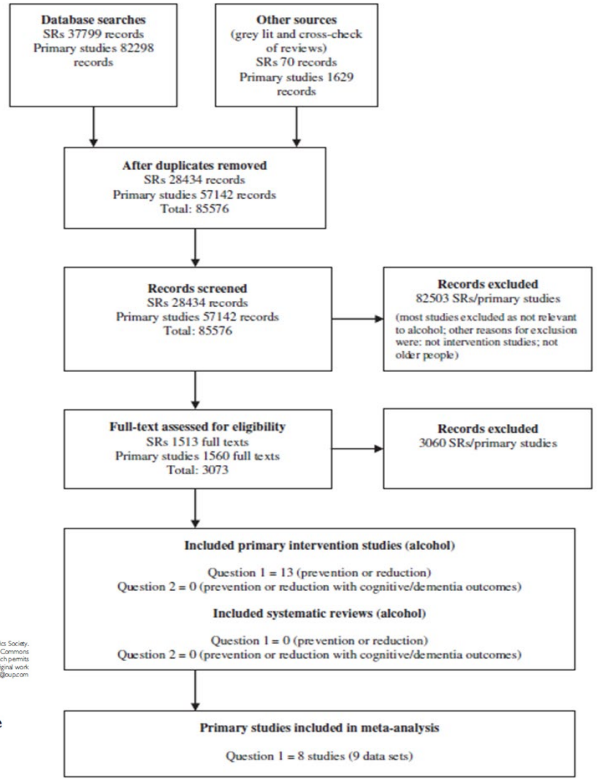
Brief interventions should be employed for older people drinking at risky levels or experiencing alcohol-related harms (such as falls, driving impairment, drug interactions).



https://alcoholtreatmentguidelines.com.au/pdf/guidelines-for-the-treatment-of-alcohol-problems.pdf

Alcohol interventions in older adults

- Systematic review and meta-analysis of interventions to prevent and reduce excessive alcohol consumption in older adults
- 13 primary intervention studies included
- No studies looked at cognition as an outcome
- 6 of the13 studies showed reductions in alcohol use



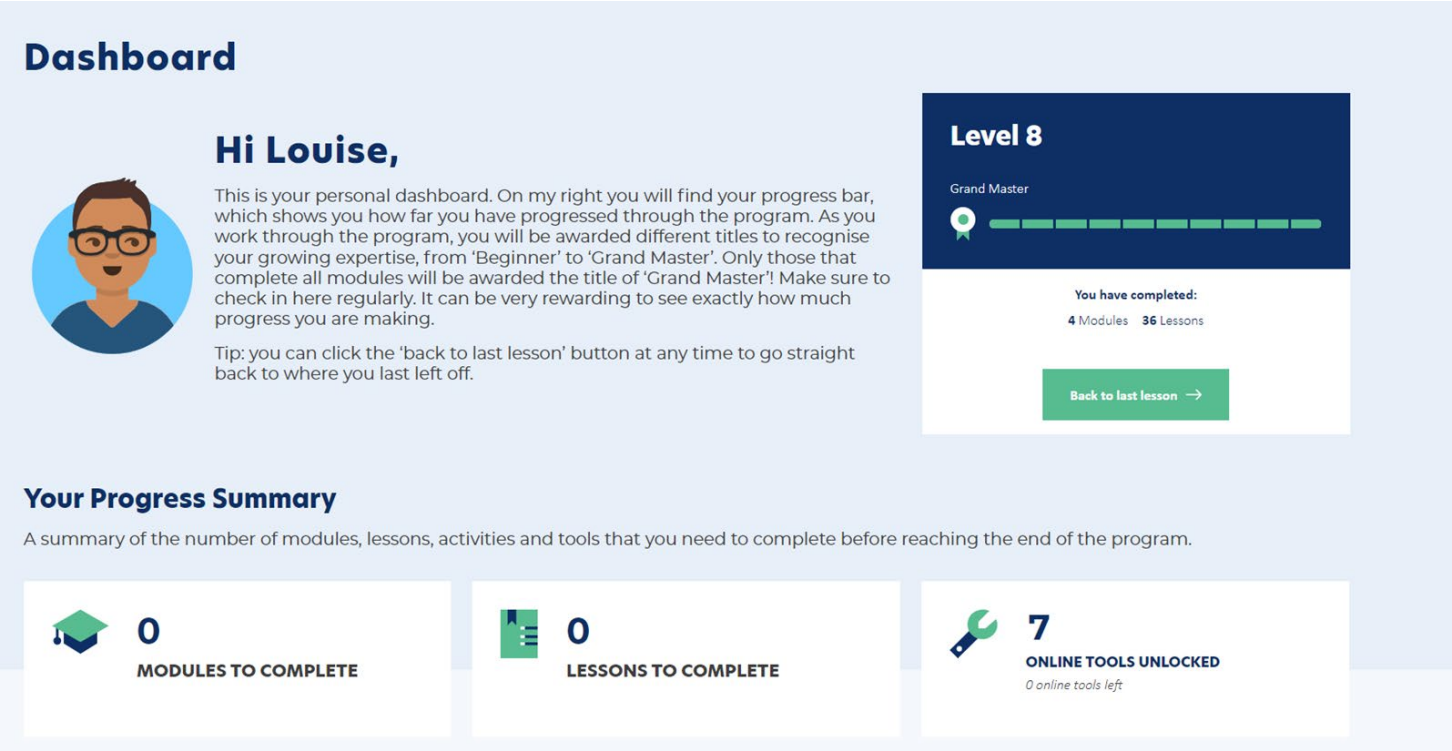
Age and Ageing 2018; 47: 175–184
doi: 10.1093/ageing/afx32
Published electronically 20 July 2017

SYSTEMATIC REVIEWS

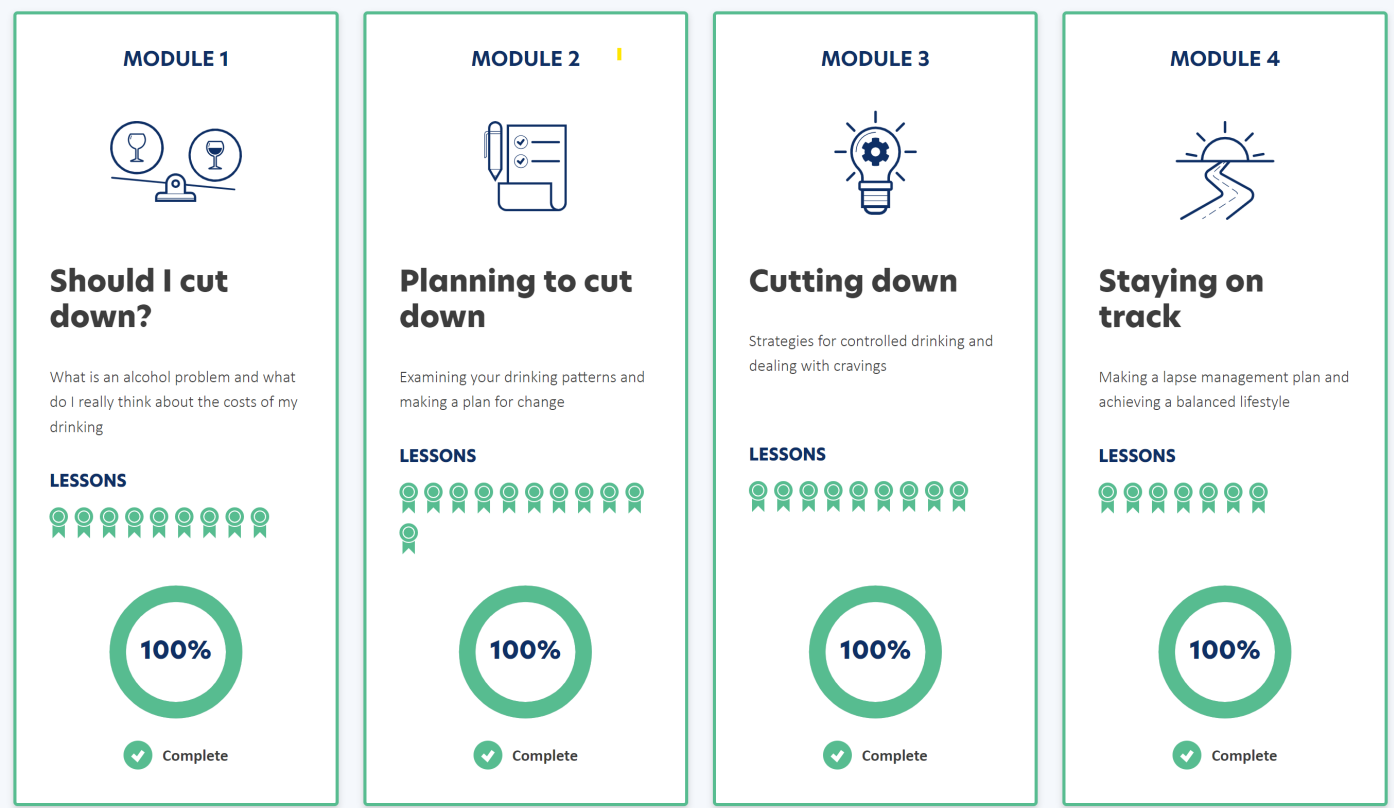
Interventions to prevent and reduce excessive alcohol consumption in older people: a systematic review and meta-analysis

Sarah Kelly, Olawale Olanrewaju, Andy Cowan, Carol Brayne, Louise Lafortune

Rethink My Drink intervention

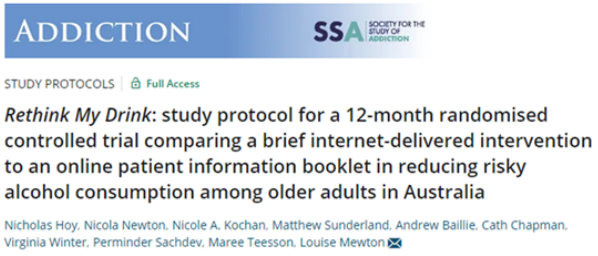


Rethink My Drink intervention



Rethink My Drink trial

- **Q1: Can an online brief alcohol intervention reduce alcohol consumption in older risky drinkers?**
- **Q2: Can an online brief alcohol intervention have an impact on cognitive outcomes in older risky drinkers?**
  - 1:1 parallel group, randomised controlled trial
  - ≥5 on the Alcohol Use Disorders Identification Test
  - Aged 60 to 75 years old
  - n = 888 recruited; 75% completed post-intervention (4-week) assessment
  - 55% followed up over 12 mos


ADDICTION SSA SOCIETY FOR THE STUDY OF ADDICTION

STUDY PROTOCOLS | Full Access

Rethink My Drink: study protocol for a 12-month randomised controlled trial comparing a brief internet-delivered intervention to an online patient information booklet in reducing risky alcohol consumption among older adults in Australia

Nicholas Hoy, Nicola Newton, Nicole A. Kochan, Matthew Sunderland, Andrew Baillie, Cath Chapman, Virginia Winter, Perminder Sachdev, Maree Teesson, Louise Mewton

Australian alcohol treatment guidelines: Withdrawal

Recommendations
Withdrawal management of people who are older with alcohol dependence requires close monitoring, nutritional supplements especially IV thiamine, careful use of sedative medication, and management of comorbid conditions.
Caution should be exercised when prescribing medications to people who are older that drink. Short-acting benzodiazepines (such as oxazepam, lorazepam) are preferred for alcohol withdrawal management over long acting benzodiazepines (such as diazepam).

https://alcoholtreatmentguidelines.com.au/pdf/guidelines-for-the-treatment-of-alcohol-problems.pdf

Australian alcohol treatment guidelines: Relapse Prevention

Recommendation
Psychological and pharmacological treatment approaches should be tailored to physical, cognitive and mental health of older patients with a special attention to complications of polypharmacy.

https://alcoholtreatmentguidelines.com.au/pdf/guidelines-for-the-treatment-of-alcohol-problems.pdf

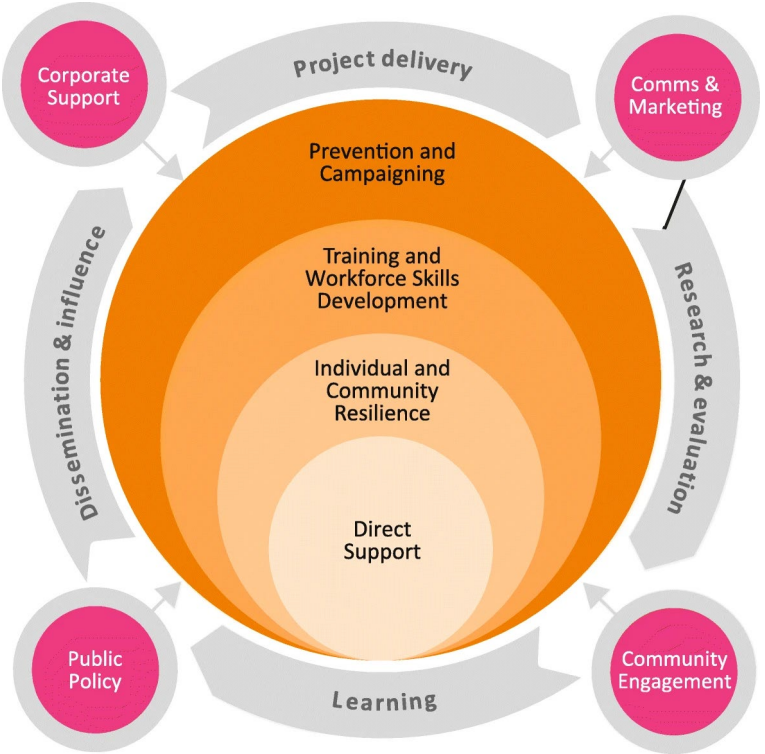
Service access barriers

- **Key service access barriers for older people with drug and alcohol issues:**
  - recognition or lack of insight regarding the problem
  - stigma and/or embarrassment
  - lack of knowledge of drug and alcohol issues and services
  - availability and affordability of services
  - ageism

https://www.health.nsw.gov.au/aod/professionals/Publications/opdap-fullreport.pdf

Drink Wise, Age Well

- Community-based, multi-level, multi-intervention prevention-to-treatment program
- Aims to reduce alcohol-related harm in people aged 50 and over



https://www.drinkwiseagewell.org.uk/

Prevention and campaigning

- **Increasing awareness, tackling public stigma and providing information and advice about alcohol use for >50s**
  - Local media advertisements
  - Promotion in healthcare settings (e.g., GP surgeries, hospital waiting rooms)
  - Public workshops
  - Public information stalls (with screening and brief intervention capacity)
  - Telephone helpline, webchat service, website
  - Short films to tackle stigma about alcohol in >50s

https://www.drinkwiseagewell.org.uk/

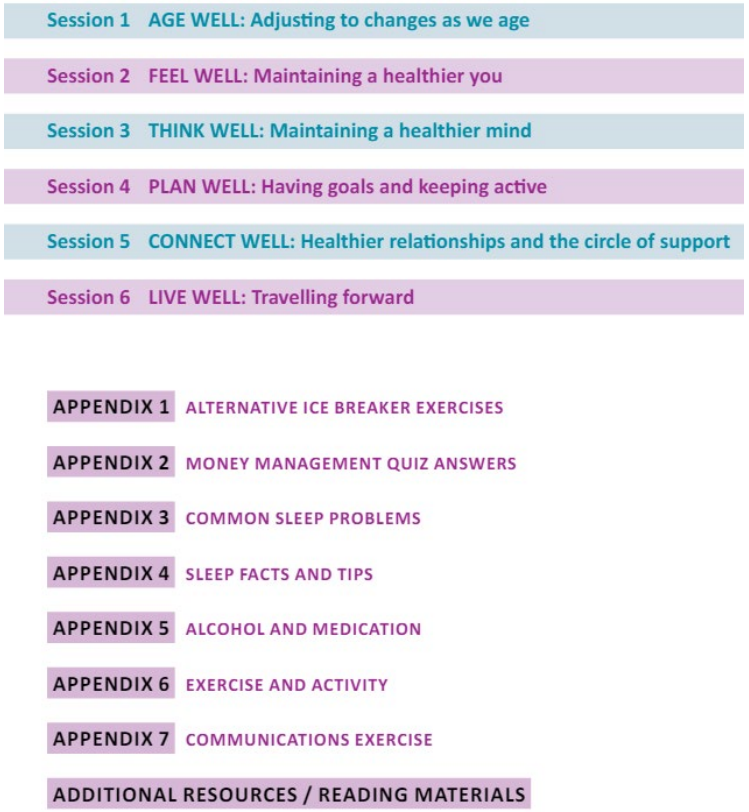
Training and skills development

- **Training developed for those who provide healthcare services to older adults (health and social care, bereavement support)**
  - Training manuals and easy read guides
  - Face to face training

https://www.drinkwiseagewell.org.uk/

Individual and community resilience

- **6-week resilience group work course for >50s (Live Wise, Age Well)**
  - Delivered in workplaces and community settings
  - Alcohol psychoeducation
  - Stress management
  - Coping skills
  - Relaxation techniques
  - Mindfulness



https://www.drinkwiseagewell.org.uk/

Direct support

- **Substance use services designed for older adults experiencing alcohol problems**
  - Age sensitive assessments
  - Screening for cognitive impairment
  - Adapted interventions (e.g., focused on life stage issues, fall prevention)
  - Family support services

https://www.drinkwiseagewell.org.uk/

Summary

- Alcohol use is increasing in older adults
- Alcohol use is associated with brain damage, dementia and cognitive impairment
- These impairments may be reversible, so effective treatment is key
- There are Australian guidelines specific to older adults in terms of assessment, treatment, withdrawal management, and relapse prevention
- Individual and community level approaches to reducing alcohol use work and need to be implemented more widely

Thank you!

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