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Screening, assessment and prevalence of alcohol-related cognitive impairment

Submission date
28/09/2026

Recruitment status
Recruiting

Registration date
30/09/2026

Overall study status
Ongoing

Last Edited
30/09/2026

Condition category
Mental and Behavioural Disorders

[X] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
Alcohol-related cognitive impairment (ARCI) describes problems with memory, attention, planning and other thinking skills that can occur as a result of long-term alcohol use. These difficulties can affect a person's ability to engage with treatment, manage daily activities and maintain their health and wellbeing. However, ARCI is often under-recognised in healthcare settings.

The study aims to determine whether a brief cognitive assessment completed during a hospital admission can accurately identify people with ARCI when compared with a more detailed assessment conducted after discharge. The researchers will also investigate how common ARCI is among hospital inpatients with alcohol use disorder, whether cognitive difficulties change over time, which factors are associated with these difficulties, and the impact of ARCI on health and social care service use.

Who can participate?
Adults aged 18 years and over who are admitted to hospital and have alcohol use disorder may be eligible to take part. Participants must be able to provide informed consent and take part in the study assessments.

What does the study involve?
Participants will be recruited while they are in hospital. After providing informed consent, they will complete a baseline assessment, including questionnaires about their health, wellbeing and alcohol use, together with a brief cognitive assessment called the Montreal Cognitive Assessment (MoCA).

Participants will then be invited to attend two follow-up visits, one 4-8 weeks after recruitment and another 6 months later. At these visits, participants will complete further questionnaires and a more detailed assessment of memory, attention and other cognitive functions. Researchers may also collect information about participants' use of health and social care services.

What are the possible benefits and risks of participating?
Benefits and risks not provided at time of registration.

Where is the study run from?
University of Hull, UK.

When is the study starting and how long is it expected to run for?
July 2026 to October 2029.

Who is funding the study?
National Institute for Health and Care Research (NIHR), UK.

Who is the main contact?
Dr Philippa Case, University of Hull, p.c.case@hull.ac.uk

Contact information

Type(s)
Scientific, Public

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Additional identifiers

Integrated Research Application System (IRAS)
369970

Central Portfolio Management System (CPMS)
73157

National Institute for Health and Care Research (NIHR)
207584

Study information

Scientific Title
Informing an assessment pathway for alcohol-related cognitive impairment: a longitudinal study of screening, assessment and prevalence

Acronym
SPARCI

Study objectives
Primary objectives:
1. What is the predictive value of the Montreal Cognitive Assessment (MoCA) screening tool administered in hospital at T1 (baseline) in identifying people with ARCI at T2 (4-8 weeks post-baseline)?
2. What is the prevalence of ARCI in recently hospitalised patients with AUD (AUDIT≥16), 4-8 weeks post-baseline (T2)?
3. What proportion of the sample continue to experience ARCI at T3 (6-months post-baseline)?

Secondary research questions/objectives:
4. Which clinical and demographic characteristics are associated with ARCI (T2)?
5. Which clinical and demographic characteristics are associated with persistent ARCI (T3)?
6. How do service use and associated costs for people with ARCI (T2) compare to those of people without ARCI?
7. How do service use and associated costs for people with persistent ARCI (T3) compare to those of people without ARCI?
8. What proportion of people who consent in hospital attend the follow-up assessments and what factors are associated with attendance at follow-up assessments?

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 20/08/2026, Yorkshire & The Humber - Bradford Leeds Research Ethics Committee (NHSBT Newcastle Blood Donor Centre, Holland Drive, Newcastle upon Tyne, NE2 4NQ, United Kingdom; -; bradfordleeds.rec@hra.nhs.uk), ref: 26/YH/0126

Primary study design
Observational

Secondary study design
Cohort study

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Mental and behavioural disorders due to psychoactive substance use

Interventions
STUDY DESIGN:
This is a prospective observational study using quantitative data collection methods.

SAMPLE AND SAMPLE SIZE:
The sample size has been calculated in order to achieve objective 1:
To assess the accuracy of the Montreal Cognitive Assessment (MoCA) screening tool administered in hospital at T1 (baseline) in identifying people with ARCI at T2 (4-8 weeks post-baseline), a sample size of 269 is required. This sample size calculation is based on a prevalence estimate of 30% (a conservative estimate based on previous research in hospital inpatients (1)) and will allow us to detect a minimum sensitivity of 0.70 and specificity of 0.70.
Based on previous research, we expect 60% of people who consent at T1 (baseline) to complete T2 (4-8 weeks post-baseline) assessments. To account for this expected attrition, we will recruit 449 participants in order to achieve 269 completed assessments at T2 (4-8 weeks post-baseline).

PARTICIPANT IDENTIFICATION:
The care team, including the Alcohol Care Team (ACT), have access to the Fast Alcohol Screening Test (FAST) score of hospital inpatients. A member of the care team will review the list of FAST scores daily to identify patients scoring 4 or more who are potentially eligible for the study. Patients without a FAST score recorded may be identified by a relevant member of the clinical care team as potentially eligible. A member of the clinical care team will make the first approach to potential participants to introduce the study and seek agreement for a researcher to approach them to discuss the study further. Either a member of the clinical care team or the researcher will provide the patient with a participant information sheet (PIS).
Patients can have as long as needed to decide whether to take part and will have a minimum of 30 minutes. This time period was recommend in our PPI consultations and has been applied in similar hospital based studies for this population (IRAS 330296, IRAS 332678).

CONSENT:
The researcher will go through the PIS with all potential participants and answer any questions. This discussion will include what the study involves (including the screening tool and fact that not everyone will be invited to continue to all questionnaires), how long it will take, how many visits, the potential for distress, the sharing of cognitive screening scores with the clinical team, the limits of confidentiality, the requirement for GP contact details and the optional consents to access patient records and provide the names and contact details of locators to help contact participants for follow-up should their information change (locators can be friends/family members and/or key workers). The fact that participation is voluntary and the right to withdraw will also be discussed. Eligibility to participate (except the Alcohol Use Disorders Identification Test (AUDIT) which is completed post consent) will be assessed during this meeting.

During the consent discussion, capacity to consent will also be assessed. All researchers are trained to engage in a consent discussion, with open questions allowing the researcher to ensure that the participant has understood the study and what it involves, and has been able to retain the information for long enough to weigh it up and make an informed decision about their participation, and can communicate that decision. Any concerns about capacity to consent will lead to a pause in the consent process and a discussion with the clinical team.
Informed consent will be collected electronically through the data capture system (REDCap Cloud).
Consent and data collection can happen at the bedside or in a private room, as preferred by the individual (and dependent on approval by nursing staff). Previous research with this population (IRAS 330296, IRAS 332678) has found that the majority of patients prefer to complete study procedures at the bedside (as per their clinical care, e.g. interactions with the Alcohol Care Team) with a minority opting for a private room.

SCREENING:
All consenting participants will be screened using the AUDIT. This questionnaire takes around 2 minutes to complete. Participants scoring 16 or more (indicative of an alcohol use disorder) will be invited to continue with the questionnaires. Those scoring less than 16 will be thanked for their time.
An anonymised screening log will be kept of patients who were not eligible to participate in the study, including information on sex, age, ethnicity and reason for non-eligibility. This will enable the research team to track how many people are ineligible to participate due to capacity issues, which could be linked to cognitive impairment and consider the impact of ineligibility due to lack of capacity on prevalence estimates.

DATA COLLECTION (BASELINE):
Location: Hospital
Time: Approximately 53 minutes
This can happen immediately after consent and screening or following a break if required. Data collection is led by a
researcher who will enter information directly into REDCap Cloud.
Demographic data will be collected, including age, sex, gender, ethnicity, living situation, Index of Multiple Deprivation (IMD — using postcode) marital status, employment status, veteran status, education level and current/most recent occupation. Health status will be assessed through self-reported long-term conditions and recorded long-term conditions (for consenting participants), smoking/vaping status, and nutritional status (using the Malnutrition Universal Screening Tool (MUST)).
Cognitive function will be measured using the Montreal Cognitive Assessment (MoCA). This is a pen and paper assessment. It will be scored after the baseline data collection is complete and the score will be entered into RCC and shared with the clinical team.
Information on alcohol withdrawal (Anxiety, Sweats, Tremors - AST), prescribed medications, alcohol consumption over the previous 28 days (Timeline Follow Back- TLFB28 - alcohol), problems with alcohol (Alcohol Problems Questionnaire - APQ), drug use over the previous 28 days (TLFB28 - drugs), depressive symptoms (PHQ-9), anxiety (GAD-7), service use (Client Service Receipt Inventory (CSRI) past 6 months) and quality of life (EQ-5D-5L) will also be collected.
Participants will be recruited as late in their admission as possible to allow for the stabilisation of any acute symptoms, including symptoms of alcohol withdrawal, that might affect the results.

THANK YOU VOUCHER:
The participant will be thanked for their time and given a £15 voucher.

DATA COLLECTION (4-8 weeks post baseline):
Location: Community (service, public bookable space, participant home if risk assessment in place) or hospital
(outpatients or at bedside/private room if still in hospital)
Time: Approximately 106 minutes
Capacity and ongoing consent will be obtained verbally.
Cognitive function will be measured using the Montreal Cognitive Assessment (MoCA) and the Cambridge Neuropsychological Test Automated Battery (CANTAB), including tests of executive function, attention and psychomotor speed, and memory. This battery of tests takes approximately 60 minutes and is completed on a touch screen computer, with in-built verbal instructions to ensure consistent administration. Participants can take breaks between the subtests if needed.
All participants will have a break after cognitive testing with refreshments / toilet break available.
Alcohol measures collected will be the Severity of Alcohol Dependence Questionnaire (SADQ), the Composite International Diagnostic Interview (CIDI)-alcohol and the TLFB28 - alcohol and alcohol withdrawal (AST). Other measures collected will relate to functional impairment (World Health Organization Disability Assessment Schedule -WHODAS 2.0), drug use (TLFB28 - drugs), quality of life (EQ-5D-5L) and medications. The final data collection point will be a breathalyser (optional).

THANK YOU VOUCHER:
The participant will be thanked for their time and given a £25 voucher.

DATA COLLECTION (6 months post baseline):
Location: Community (service, public bookable space, participant home if risk assessment in place) or hospital
(outpatients or at bedside/private room if still in hospital)
Time: Approximately 113 minutes
Capacity and ongoing consent will be obtained verbally.
Cognitive function will be measured using the MoCA and the CANTAB. Participants can take breaks between the subtests if needed.
All participants will have a break after cognitive testing with refreshments / toilet break available.
Alcohol measures collected will be the SADQ, CIDI-alcohol, TLFB28 - alcohol, APQ and AST. Other measures collected will be the WHODAS 2.0, TLFB28 - drugs, EQ-5D-5L, CSRI and medications. The final data collection point will be a breathalyser (optional).

THANK YOU VOUCHER:
The participant will be thanked for their time and given a £25 voucher.

PATIENT RECORDS:
For all participants who consent to researchers accessing their records:
At the end of follow-up, a secure download of NHS numbers and dates of consent will be provided via secure
download (using BOX) to an agreed member of staff from the Hospital Trust, who will identify the following for each
participant (current admission and admissions/ED attendances for the 6 months prior to and post-admission):
(1) admission and discharge date, (2) length of stay, (3) presenting condition, (4) diagnoses associated with admission, (5) discharge code.
References:

1. Thompson A, Richardson P, Pirmohamed M, Owens L. Alcohol-related brain injury: An unrecognized problem in
acute medicine. Alcohol. 2020;88:49-53.

Intervention Type
Other

Primary outcome(s)
1. Sensitivity, specificity, positive predictive value and negative predictive value of the Montreal Cognitive Assessment (MoCA) administered in hospital measured against ARCI measured using clinical consensus, with associated 95% confidence intervals, at at baseline (T1) to predict ARCI measured at T2

2. Prevalence of ARCI measured using a composite of the Cambridge Neuropsychological Test Automated Battery (CANTAB), Severity of Alcohol Dependence Questionnaire (SADQ), Composite International Diagnostic Interview (CIDI), and World Health Organization Disability Assessment Schedule (WHODAS 2.0) at 4 to 8 weeks post-baseline (T2)

3. Prevalence of persistent ARCI measured using a composite of the Cambridge Neuropsychological Test Automated Battery (CANTAB), Severity of Alcohol Dependence Questionnaire (SADQ), Composite International Diagnostic Interview (CIDI), and World Health Organization Disability Assessment Schedule (WHODAS 2.0) at 6 months post-baseline (T3)

Key secondary outcome(s)
1. Clinical characteristics associated with ARCI measured using the Severity of Alcohol Dependence Questionnaire (SADQ), Timeline Follow Back for alcohol consumption (TLFB28-alcohol), Alcohol Withdrawal Scale (AST), self-reported and recorded co-existing conditions, Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), Malnutrition Universal Screening Tool (MUST), and smoking/vaping status, among participants with and without ARCI at 4 to 8 weeks post-baseline (T2)

2. Demographic characteristics associated with ARCI measured using participant-reported sex, age, ethnicity, marital status, living situation, employment status, education level, most recent occupational classification, and veteran status among participants with and without ARCI at 4 to 8 weeks post-baseline (T2)

3. Clinical characteristics associated with ARCI measured using the Severity of Alcohol Dependence Questionnaire (SADQ), Timeline Follow Back for alcohol consumption (TLFB28-alcohol), Alcohol Withdrawal Scale (AST), self-reported and recorded co-existing conditions, Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), Malnutrition Universal Screening Tool (MUST), and smoking/vaping status, among participants with and without ARCI at 6 months post-baseline (T3)

4. Demographic characteristics associated with ARCI measured using participant-reported sex, age, ethnicity, marital status, living situation, employment status, education level, most recent occupational classification, and veteran status among participants with and without ARCI at 6 months post-baseline (T3)

5. Health and social care service use and associated costs measured using the Client Service Receipt Inventory (CSRI) and emergency department attendance and hospital admission data for consenting participants, comparing participants with and without ARCI at 4 to 8 weeks post-baseline (T2)

6. Health and social care service use and associated costs measured using the Client Service Receipt Inventory (CSRI) and emergency department attendance and hospital admission data for consenting participants, comparing participants with and without ARCI at 6 months post-baseline (T3)

7. Follow-up attendance measured using the proportion of participants who consent in hospital and complete follow-up assessments, with factors associated with attendance assessed using service use prior to baseline and clinical and demographic characteristics, at 4 to 8 weeks post-baseline (T2) and 6 months post-baseline (T3)

Completion date
30/10/2029

Eligibility

Key inclusion criteria
1. Aged 18+
2. Alcohol Use Disorders Identification Test (AUDIT)> = 16
3. Current hospital inpatient
4. Has capacity to give informed consent
5. Willing and able to participate in the baseline and follow-up assessments
6. Speaks English well enough to understand the study and participate in the research assessments or interpreter available and participant speaks one of the languages covered by the cognitive assessments (i.e. Polish, Romanian, Russian)

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit
120 Years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Severe and enduring complex co-morbidities which prevent engagement

Date of first enrolment
01/10/2026

Date of final enrolment
31/12/2028

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Hull University Teaching Hospitals NHS Trust
Hull Royal Infirmary
Anlaby Road
Hull
England
HU3 2JZ

Sponsor information

Organisation
University of Hull

ROR
https://ror.org/04nkhwh30

Funder(s)

Funder type
Government

Funder Name
National Institute for Health and Care Research

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type

Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study will be available upon request from Prof Thomas Phillips, camhr@hull.ac.uk, limited anonymized data, only collected from participants who consented to anonymized data being provided to other researchers can be provided on request, provided that relevant permissions for the project are in place.

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	version 1.4	19/08/2026	29/09/2026	No	Yes
Protocol file	version 1.3	21/08/2026	29/09/2026	No	No