Date: 1-20-2025

IRB #: NUS-IRB-2024-259
Title: Exploring and Evaluating the Impact of 'Refresh and Reconnect!': A Museum-based Heritage Programme for Older Persons with Cognitive Impairment
Creation Date: 3-18-2024
End Date: 1-31-2026
Status: Approved
Principal Investigator: Nur'adlina Bte Maulod (GMSNUR)
Review Board: NUS-IRB
Sponsor: NATIONAL HERITAGE BOARD, (No SAP BizPart#) LIEN FOUNDATION

Study History

Submission Type	Review Type	Decision
Initial	Expedited	Approved

Key Study Contacts

Member Nur'adlina Bte Maulod (GMSNUR)	Role Principal Investigator	Contact gmsnur@nus.edu.sg
Member Malcolm Sujeeth Ravindran (MALCOLMR)	Role Primary Contact	Contact malcolmr@nus.edu.sg
Member Sasha Syahirah Rouse (GMSSASH)	Role Primary Contact	Contact gmssash@nus.edu.sg
Member Yunjie Wong (YUNJIE)	Role Primary Contact	Contact yunjie@nus.edu.sg
Member Rahul Malhotra (GMSRM)	Role Investigator	Contact gmsrm@nus.edu.sg
Member Malcolm Sujeeth Ravindran (MALCOLMR)	Role Investigator	Contact malcolmr@nus.edu.sg
Member Sasha Syahirah Rouse (GMSSASH)	Role Investigator	Contact gmssash@nus.edu.sg
Member Yunjie Wong (YUNJIE)	Role Investigator	Contact yunjie@nus.edu.sg

Initial Submission

Getting Started

Initial Submission Application, V9, 1 Mar 2021

About Cayuse IRB

Cayuse IRB is an interactive web application. As you answer questions, new sections relevant to the type of research being conducted may appear. You do not have to finish the application in one sitting. All information can be saved.

For more information about the IRB submission Process, IRB Tracking, and Cayuse IRB Tasks, please refer to the Cayuse IRB Support website or by clicking the orange question mark at the bottom right hand corner.

Getting Started

Throughout the submission, you may be required to provide the following information:

- Detailed Study Information
- Study Recruitment
- Data Storage Information
- Details on Reimbursement
- Details if a waiver of Informed Consent is requested

Other Important Information

- You cannot begin your study until a **formal approval letter** from the chair of the IRB has been received.

- The IRB meets as needed during the regular academic year. Please submit the application as soon as possible.

Guidelines

- Please go to the NUS-IRB website to download the relevant guidelines.
- Please note that guidelines are accessible to NUS researchers only.
- For non-NUS researchers, please contact irb@nus.edu.sg.

---

*required

Confirmation

✓ I have read the information above and I am ready to begin my submission.

Basic Information

Simplified Title

For use in recruitment documents, e.g. Participant Information Sheet & Consent Form, advertisements.

***Please leave blank if main protocol title will be used in study documents*.**

ReCognition Study

Second Simplified Title

Is there a second Simplified Title for this project?

✓ No

Yes

Key Personnel

Please list the key personnel on this project.

Principal Investigator

*required

Please find the Principal Investigator in the people finder, below.

Name: Nur'Adlina Bte Maulod (GMSNUR)
Organization: DUKE-NUS OFFICE OF RESEARCH
Address: 21 Lower Kent Ridge Rd , ,
Phone: 65168344
Email: gmsnur@nus.edu.sg

Principal Investigator's Alternate Email Address

Student Principal Investigator

Is the PI a student at NUS?

- ✓ No
- Yes

Primary Contact

*required

Please find the Primary Contact in the people finder, below.

Name: Malcolm Sujeeth Ravindran (MALCOLMR)
Organization: DUKE-NUS OFFICE OF RESEARCH
Address: 21 Lower Kent Ridge Rd , ,
Phone: 66012578
Email: malcolmr@nus.edu.sg

Name: Sasha Syahirah Rouse (GMSSASH)
Organization: DUKE-NUS OFFICE OF RESEARCH
Address: 21 Lower Kent Ridge Rd , ,
Phone: 65161901
Email: gmssash@nus.edu.sg

Name: Yunjie Wong (YUNJIE)
Organization: DUKE-NUS OFFICE OF RESEARCH
Address: 21 Lower Kent Ridge Rd , ,
Phone: 66018148
Email: yunjie@nus.edu.sg

Primary Contact's Alternate Email Address

Co-Investigator(s)

Please find the Co-Investigator(s) in the people finder, below, if applicable.

More than one Co-Investigator may be selected. ***Please do not include collaborators if they are not co-investigators in this study.***
Name: Rahul Malhotra (GMSRM)
Organization: DUKE-NUS OFFICE OF RESEARCH
Address: 21 Lower Kent Ridge Rd , , 119077
Phone: 65166666
Email: gmsrm@nus.edu.sg

Name: Malcolm Sujeeth Ravindran (MALCOLMR)
Organization: DUKE-NUS OFFICE OF RESEARCH
Address: 21 Lower Kent Ridge Rd , ,
Phone: 66012578
Email: malcolmr@nus.edu.sg

Name: Sasha Syahirah Rouse (GMSSASH)
Organization: DUKE-NUS OFFICE OF RESEARCH
Address: 21 Lower Kent Ridge Rd , ,
Phone: 65161901
Email: gmssash@nus.edu.sg

Name: Yunjie Wong (YUNJIE)
Organization: DUKE-NUS OFFICE OF RESEARCH
Address: 21 Lower Kent Ridge Rd , ,

Phone: 66018148
Email: yunjie@nus.edu.sg

Co-Investigator(s)'s Alternate Email Address(es)

External Co-Investigator(s)

If applicable.

Please do not include collaborators if they are not co-investigators in this study.

Will there be external co-investigators on this study?

- ✓ No
- Yes

*required

Funding

Is this project funded?

- No
- ✓ Yes

Sponsor(s)

Please find the sponsor(s) in the sponsor finder below.

Name

-

- Name - A to Z
- Name - Z to A

NATIONAL HERITAGE BOARD

(No SAP BizPart#) LIEN FOUNDATION

If your project sponsor(s) cannot be found in the sponsor finder above, please list them down below:

---

*required

Status of Award

Approved

✓ In-Progress

*required

Award Amount

Please provide the award amount in Singapore dollars (SGD). Please add a "$" to the amount awarded (e.g., $1000).

376114

Benefits

The financial benefits or other benefits derived from this study to the PI/Co-I(s)/Department/Institution are as follows (if any):

*required

Indirect Research Costs (IRC)

If this research is sponsored by a commercial company, and the company has an interest on the results arising from this research, please advise if NUS has already charged 20% indirect costs / fees for this research. If not, please note that a review fee of SGD$500 will be applicable (SGD$535 inclusive of 7% GST).

- ✓ N/A
- Yes, IRC charged
- No, IRC not charged

*required

External IRB(s)

Has the protocol for this project been submitted to or approved by other local/overseas IRBs?

- ✓ No
- Yes

Review and Study Classification

Social, behavioral, and education research (SBER) encompasses a range of methodologies and tackles questions that seek to improve our understanding of human behavior, attitudes, beliefs, and interactions as well as social and economic systems, organizations, and institutions.

Human Tissue Framework: Please refer here for more information and the HTF Self-Checklist for PI.

Human Biomedical Research: Please refer to the link to the Act for the definition and the HBR Self-Checklist for PI.

Review Classification

---

*required

Social, Behavioral, Educational Research (SBER) Category

Does this project fall under the Social, Behavioral, Educational Research (SBER) category?

Yes

✓ No

*required

e-Declaration

Is the PI submitting an e-Declaration?

Yes

No

✓

*required

Human Biomedical Research Act (HBRA)

Is your study regulated under the Human Biomedical Research Act (HBRA)?

✓ Yes

No

Study Classification: Human Biomedical Research and Human Tissue Framework

*required

This research is intended to study:

1.a

The prevention, prognostication, diagnosis or alleviation of any disease, disorder or injury affecting the human body

No

✓ Yes

*required

Please briefly elaborate.

1.a This mixed-methods study evaluates the impact of "Refresh and Reconnect!" (R&R!), a museum-based heritage programme, launched by the National Museum of Singapore, on the health and well-being of persons with cognitive impairment (PWCIs).

The study seeks to gain insights into the factors, contexts, and mechanisms that influence the effect and implementation of the museum-based intervention, as well as to understand how participation in the programme affects participants' understanding and perception of the museum as a potential place to enhance one's health and well-being so as to provide insights leading to the development of effective, non-pharmacological interventions for PWCIs.

*required

This research is intended to study:

1.b

The restoration, maintenance or promotion of the aesthetic appearance of human individuals through clinical procedures or techniques

✓ No

Yes

*required

This research is intended to study:

1.c

The performance or endurance of human individuals

✓ No

Yes

*required

This research involves:

2.a

Subjecting an individual to any intervention (including any wilful act or omission) that has a physical, mental or physiological effect (whether temporary or permanent) on the body of the individual

No

✓ Yes

*required

Please briefly elaborate.

This study would recruit participants with mild cognitive impairments or mild dementia, and invite them to participate in an interactive 6-week programme in National Museum of Singapore. This programme would include some physical requirement of the participants to walk around the museum, do art and craft, cooking, and interact with other participants and

artists.

2.a

For programme evaluation, participants are subject to several non-invasive screenings and questionnaires which include the following: cognitive impairment screening, quality of life, loneliness, anxiety and depression, and motivations to learn. These questionnaires will be administered 2 times: up to 1 month before the program, and approximately 1 to 2 weeks after the program. These questionnaires may require participants to evaluate their own mental well-being and social relationships during the assessment period. Several participants will also be selected for in-depth interviews which will explore their responses in surveys further, in addition to understanding more deeply about participants' experiences with the programme or the museum space.

---

*required

2.b *This research involves:*

The use of any human biological material

✓ No

Yes

*required

2.c *This research involves:*

The use of any individually-identifiable health information

✓ No

Yes

*required

2.d *This research involves:*

The use of human gametes or human embryos

✓ No

Yes

*required

This research involves:

2.e

The use of cytoplasmic hybrid embryos

✓ No

Yes

*required

This research involves:

2.f

The introduction of any human-animal combination embryo into an animal or a human

✓ No

Yes

*required

This research involves:

2.g

The introduction of human stem cells (including induced pluripotent stem cells) or human neural cells into an animal at any stage of development (including a prenatal animal fetus or animal embryo)

✓ No

Yes

*required

This research involves:

2.h

Any entity to be created as a result of any process referred to in 2.f or 2.g

Yes

✓ No

*required

Will the research fall within the Second Schedule of the Human Biomedical Research Act? [Biomedical Research (HBRA) Studies only]

✓ No

Yes

****

NUS-IRB OFFICE ONLY [Biomedical Research (HBRA) Studies only]

1.a Yes

1.b No

1.c No

2.a No

2.a Yes

2.b No

2.c No

2.d No

2.e No

2.f No

2.g No

2.h No

Study Introduction

*required

Abstract

*Please provide an abstract of this study in **no more than 300 words.***

The abstract must be self-contained so that it can serve as a succinct and accurate description of the application when separated from it.

Background

Dementia and mild cognitive impairment are a rising concern for the ageing population in Singapore, leading to diminished quality of life and health outcomes. Arts-based interventions in a museum setting have been shown to improve cognitive health and well-being for Persons with Cognitive Impairment (PWCIs), however little is known about the relationship of heritage-based interventions on the health and well-being of PWCIs.

Methods

This mixed-methods study evaluates the 6-week *"Refresh and Reconnect!"* programme (R&R!), a museum-based heritage programme including guided artist-led activities and tours of the National Museum of Singapore.

i) In the quantitative study (n = 64-120 PWCIs), assessments will be conducted at 2 time points (pre-programme, post-programme) to evaluate cognitive, social, and mental well-being.

ii) In the qualitative study, ethnographic observations of the R&R! programme; ethnographic interviews with staff (n= max 3), & artists (n= max 6); and in-depth interviews with PWCIs (n=16) will be used to elicit the underlying context-mechanisms-outcomes which enable R&R! success. Programme volunteers will also be engaged through casual or informal conversations as part of the ethnographic observations.

Expected outcomes

The study aims to provide valuable insights into the development of effective, non-pharmacological interventions for PWCIs. These findings are of significant public health importance for Singapore, potentially informing policy decisions, resource allocation, and healthcare strategies to better support PWCIs, ultimately improving their quality of life. Findings of the study may also contribute to similar heritage-based programmes in future, contributing to the understanding of key elements of programme success, and for whom these programmes are effective for.

*required

Specific Aims

The study will explore and assess the impact of “Refresh and Reconnect!”, a 6-week heritage-based intervention programme organised by the National Museum of Singapore (NMS), which includes guided

gallery tours led by the museum's Care Facilitator volunteers and artist-led hands-on activities based on various art forms.

The overall objectives of the study are to understand the following:

1. To what extent, and how does participation in the "Refresh and Reconnect!" programme impact health and well-being of PWCIs?
2. To what extent, and how does participation in the programme affect the study participants' understanding and perception of the museum as a potential place to enhance one's health and well-being? *[Note: Study Participants include all who are participating in the study such as PWCIs and those who are implementing (e.g. museum staff), facilitating (e.g. artists) and assisting (e.g. volunteers) with the R&R! Programme]*
3. What are the contexts and mechanisms that influence the implementation of the programme?

Hypothesis

*required

Preliminary Studies

State those studies relevant to this project.

Quantitative: The study team has previous experience conducting longitudinal surveys with older persons in the community (NUS-IRB: LS-18–387C)

Mixed-methods: The study team has also previously completed a study which involved the study team working with persons with dementia and their caregivers in a community setting to better understand caregiving needs (NUS-IRB: H-17-013)

Qualitative: The study team is also conducting a study which includes similar methodology to the qualitative component (NUS-IRB-2023-898), incorporating both in-depth interviews and ethnographic observations with service users.

*required

CVs

Please submit a copy of all investigators' CVs.

cv_ad-maulod_aug-2022.pdf

resume_rahul_malhotra-for-hssr-and-care-websites_16-june-2022.pdf

07 WongYunjie Jackie CV_Mar 2024.docx

CV_SashaRouse2024.pdf

Resume - Malcolm Ravindran (Nov 2024).pdf

*required

Collaborative Institutional Training Initiative (CITI Program)

Please submit a copy of all NUS investigators' CITI completion report(s) and/or certificate(s).

CITI Certificates and Completion Reports_Ad Maulod.pdf

CITI Certificates and Completion Reports_Malcolm Ravindran.pdf

CITI Certificates and Completion Reports_Rahul Malhotra_NUS_Jan 2023.pdf

CITI Certificates and Completion Reports_Jacky.pdf

CITI Certificates and Completion Reports_Sasha.pdf

*required

Qualifications

Please justify the suitability and qualifications of all researchers to conduct the proposed research (e.g. relevant training, years of experience, list of relevant publications).

For example: if a research assistant will be conducting the consent and blood drawing procedures, he/she must have undergone relevant training and/or certification for consent taking and phlebotomy.

Dr Ad Maulod (PI)

- Dr Ad Maulod is a cultural anthropologist (PhD, Purdue University, USA) and has been working as a Senior Research Fellow for 10 years at the Centre for Ageing Research and Education. He also has more than 10 years of working with persons in the community.
- Previous training: PhD (Cultural Anthropology), Master of Science (Anthropology)
- Relevant publications: He has published over 20 peer-reviewed papers about the lived experience of older persons in Singapore and Asia using qualitative methodology.

A/Prof Rahul Malhotra (Co-PI)

- 10+ years of experience in doing research of social gerontology, health services and system
- A/Prof Malhotra is the Research Deputy for Centre for Ageing Research & Education. He is also a member of the World Health Organization's Consortium on Metrics and Evidence for Healthy Ageing, and served on the World Economic Forum's Global Future Council for Healthy Ageing and Longevity for the 2020-2021 term
- Previous training: Medical Doctor, Master of Public Health (Havard University)
- Relevant publications: He has published over 175 peer-reviewed papers in the realm of clinical and social gerontology.

Sasha Rouse

- 6 years of experience in gerontology research
- Previous training: Master of Art (Forensic Psychology), Bachelor of Science (Psychology)

Malcolm Ravindran

- Four years of experience in gerontology research; two years of experience in the community healthcare setting working with older persons
- Previous training: Post Graduate Diploma (Social work), Bachelor of Science (Nursing)

Wong Yunjie

- 3 years of experience in gerontology research
- Previous training: Professional Diploma in Intercultural Theatre (Acting), Bachelor of Social Science (Political Science)

*required

Human Subjects [Biomedical Research (HBRA) Studies]

Will this project involve the recruitment of human subjects?

- ✓ Yes
- No

Methodology

*required

Type of Study [Biomedical Research (HBRA) Studies]

Human Biological Materials (excluding Human Tissues)

Human Tissue

Tissue Bank

Restricted Research

✓ Questionnaire / Survey / Interview / Focus Group Discussion

Copy of questionnaire / survey / interview guide / focus group discussion guide

---

Please submit a copy of questionnaire / survey / interview guide / focus group discussion guide, if available.

ReCognition Baseline-Survey PWCI V1.docx

ReCognition MoCA Instructions (English Singapore).pdf

ReCognition Post-Survey PWCI V1.docx

ReCognition IDI Guide PWCI V1.docx

ReCognition Ethno Checklist V1.docx

ReCognition Programme Assessment PWCI V1.docx

✓ Interventions / Invasive procedures

Use of Device(s)

Testing of Device(s)

Animal procedures

Other(s)

*required

Procedures

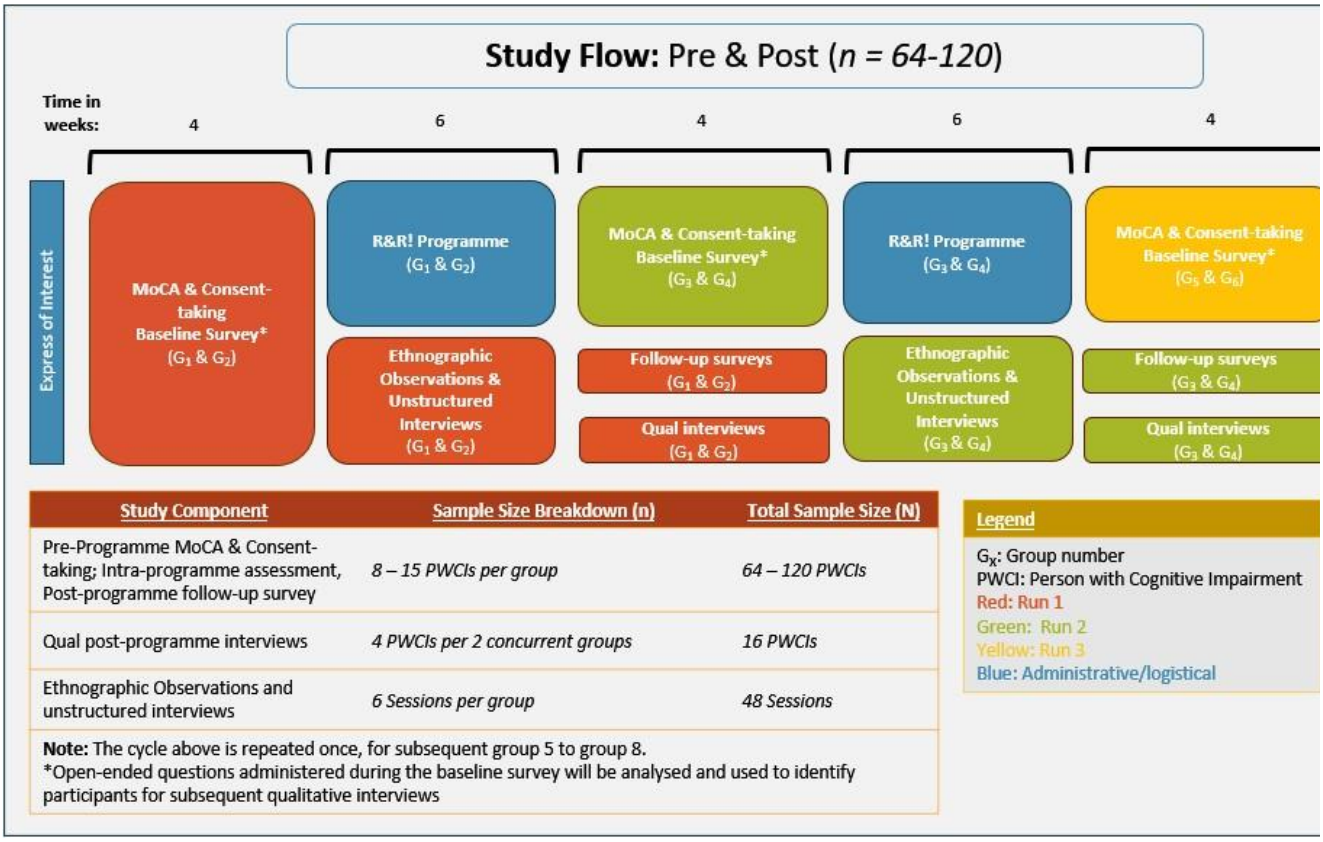
Describe research procedures, including research visits (frequency and duration of procedure involved).

A draft of the project agreement is attached for initial reference and review. The final terms of the project ar in the process of finalisation. The study team will attach a signed version of the project agreement where available.

Study design

The study will explore and assess the impact of “Refresh and Reconnect!”, on the health and well-being of persons with Mild Cognitive Impairment (MCI) or mild dementia - from here such individuals are referred to person(s) with cognitive impairment (PWCIs). “Refresh and Reconnect!” is a 6-week heritage-based intervention programme organised by the National Museum of Singapore (NMS), which includes guided gallery tours led by the museum’s Care Facilitator volunteers and artist-led hands-on activities based on various art forms.

The exploratory study adopts a quasi-experimental and mixed-methods design, incorporating *i) a quantitati component, and ii) a qualitative component*. The duration of each run of the “Refresh and Reconnect!” *(R&* programme is 6 weeks, and the data collection will take place over 4 programme rounds (Rounds 1 to 4), w 2 concurrent programme runs in each round, contributing to a total of 8 programme runs. For the period of study, participants enrolled into the R&R! programme will also be enrolled into the research study, with due informed consent. The study design for the first 2 rounds of the programme presented as below, and are repeated once more for a total of 8 programme runs:



R&R! Programme Design

The programme will be delivered at the NMS by certified facilitators including trained art and music artists, and the museum's Care Facilitator volunteers. Each 6-week long run of the programme will be held over consecutive weeks, with each week having a single session of approximately 2 hours in duration. The sessions of the two concurrent runs of the programme in any given week will be held on different days of th week. Each PWCI involved will attend 6 sessions in total. A sample layout of the programme is given belo

Week	Focus area(s) (Runs 1 through 4)	Focus area(s) (Runs 5 through 8)
1	Introduction to Reunion and welcome session (the space, and museum)	
2-3	Guided tour & Artist-led art workshop	
4-5	Guided tour & Artist-led dance workshop	Guided tour & Artist-led drama workshop
6	Celebration & programme conclusion	

Programme Recruitment & Quantitative Sampling

NMS and the research team will conduct outreach with community partners to recruit suitable participants from day centres and Active Ageing Centres that support older persons living with cognitive impairment. Service providers will be approached based on their (i) willingness and interest to participate in the programme and by extension, the study as well as (ii) ability to recruit potential participants with mild cognit impairment into the programme. Partners include the following organisations for the first 6 runs of the programme: NTUC Health (Senior Day Care @ Wisma Geylang Serai & Bukit Merah View), Dementia Singapore, Fei Yue (AAC & CREST-PDS programme @ Fajar Road), Sparkle Care @ Braddell Heights, Caregiving Welfare Association. NMS is continuing to seek out community partners for the 7th and 8th run the programme at the time of this IRB application; the study team will amend the ethics application accordingly when these partners are confirmed. All interested and eligible participants for the programme will need to consent to the research study to participate in the R&R! programme.

Staff at the respective recruitment sites will refer interested participants to NMS and the research team for follow-up. Staff at the recruitment sites will seek their verbal consent to provide contact details to a member the study team for them to explain the research and coordinate the **cognitive screener** and subsequent programme/research activities.

A member of the study team will subsequently contact the prospective participant(s) to explain the study further and administer the Montreal Cognitive Assessment (MoCA) screener - screening of participants may take place at a place of their choice (e.g. Home, void deck, etc.) or at the centre (e.g. Active Ageing Centre Dementia Daycare centre, etc.) from which they had been recruited. MoCA has been utilised in previous research to establish the mental capacity of PWCIs in independently consenting to research studies, medic decisions, and for surgery. Research studies (Karlawish et al., 2013; Vertennikoff, Walker, Biggs, & Robins 2017; Yang et al., 2024; Zietlow et al., 2020) have suggested a score of 22 out of 30 as the mental capacity threshold for informed consent. Participants whose MoCA scores are below 22 (out of 30) will not be eligibl for this the study.

Only PWCIs who meet the eligibility criteria will be enrolled into the study during the programme run. PWCI who did not meet the eligibility criteria may still participate in the programme in a subsequent run (outside c the study period) subject to the discretion of NMS staff, but they will not be able to participate in the researc entirely - NMS may consider this group of interested participants for other programmes within the museum well, with their consent. As not all participants screened with the MoCA will be eligible or willing to take part the study, the study team will continue to screen participants until the required number of participants is me Participants will undertake the informed consent process only after their eligibility has been ascertained wit the screener; members of the research team will briefly explain prospective participants' involvement in the quantitative and qualitative components of the study. The study team will also highlight that participants ma or may not be selected for in-depth interviews as not all PWCI-participants will be recruited for this study procedure. The screening and subsequent informed consent process is to be conducted in-person and is expected to take no more than 20 minutes per participant in total (5-10 minutes for either screener or informed consent).

A maximum number of 15 participants will be recruited per programme run to account for attrition (minimun participation is n=8 per run). As two concurrent runs will take place at one time, a total of 16-30 participants will be recruited for study at each pre-programme time point. Transportation will be provided by NMS throug a transport contractor, with costs borne by NMS or their relevant funding channels, independent of the research funding. Staff at NMS will liaise with staff from the relevant community partner organisations to organise and facilitate the transport of PWCIs for the R&R! programme. To facilitate ease of transporting PWCIs from participating centres, only PWCIs from the same centre will be enrolled in each run. Ideally, ea run will consist of two participating centres (if possible). Participants will get their turn to participate in the programme depending on their centre’s scheduled run.

Component (i): Quantitative Study

A quasi-experimental, pre-post study design will be adopted, by comparing the baseline assessment and th post-program assessments of **all PWCI-participants of each program run** (n=64-120). All PWCI-participants recruited in the study will be surveyed at two time points (i) and (ii).

(i) The **pre-programme baseline assessmen**t will be conducted starting from one month leading up to the st of the program in each run for all PWCIs of those 2 concurrent runs. All study procedures may only begin after participants have been confirmed eligible and have undergone the informed consent process. Baselin

surveys will be conducted with this group of participants either at the site from which they had been recruite and may be conducted immediately following the informed consent process. Otherwise, participants may a request for baseline assessments to take place at a time and place of their convenience. Upon completion the pre-programme baseline assessments, participants will receive the programme as usual (enrolment based on availability and logistics of NMS and participating centres)

(ii) The **post-programme assessment** will be administered to PWCI-participants approximately one to two weeks after the completion of the 6-week R&R! programme. Post-programme assessments, conducted by trained research staff, may similarly be done at the respective recruitment site of the PWCI-participant, or a place of their convenience (e.g. home/place of residence, community open space). PWCI-participants will also be required to complete a brief museum-related assessment at the end of each session throughout the programme run.

All participants recruited for the study will be expected to **complete both quantitative surveys**. Interviewers v administer the study questionnaires in the participants' preferred language (English, Mandarin, Malay, or other dialects). The questionnaire will be administered in Qualtrics where possible. Each in-person survey i expected to **last no more than 1 hour** and will take place at a time and place of the participant's convenience. PWCI-participants may be accompanied by a CG during the interview if they require assistan however no proxy will respond on the PWCI-participant's behalf. If participants are unable to complete the survey in a single session, they may request for the survey to be done over multiple sessions (with no char to remuneration).

The pre-programme baseline assessment questionnaires will collect the following information for all PWCI-participants: socio-demographic, number of chronic diseases, stage of dementia (if applicable), statu of activities of daily living (ADLs) and instrumental ADLs (IADLs), living arrangement. Both the pre-programme baseline assessment, as well as the post-programme assessment measure the following constructs:

- *Cognitive performance* (during screener; MoCA),
- *Health-related Quality of Life* (EQ-5D),
- *Quality of Life* (Control, Autonomy, Self-Realization, and Pleasure-11-SG; CASP-11-SG),
- *Anxiety & Depression* (Hospital Anxiety and Depression Scale; HADS),
- *Loneliness* (UCLA-LS-9 Loneliness scale),
- *Motivations to Learn* (Readiness-to-learn scale from Programme for the International Assessment of Adult Competencies (PIAAC))

In addition to the constructs measured above, PWCIs will also be asked several open-ended questions relating to their experience of the programme, motivations to join the programme, as well as their previous experience with heritage-based or arts-based programmes. Responses from these questions, and engagement during the ethnographic observation will be used for selection of participants for the qualitative component and will also be analysed together with survey and in-depth interview responses; participants' responses from each research component will only be linked via the assigned unique participant ID.

After each session of the 6-week programme, participants will also answer a brief questionnaire [Labelled: *"ReCognition Programme Assessment PWCI"*] measuring their *Museum-based subjective well-being* (UCL Museum Wellbeing Measures toolkit). This measure will be administered in hard-copy paper, with each participant filling in one copy of the questionnaire at the end of the session (distributed either by NMS staff members of the research team). Each participant will either write their initials or first name on the

questionnaire for identification purposes - a member of the research team would subsequently key in these scores, pegged to respective participants' unique ID number. Subsequently once the scores are digitised and verified by another member of the research team, the hardcopy measurements will be shredded. This measure is expected to take **no more than 5 minutes** for participants to complete. Throughout the course o the study, participants would thus complete 6 instances of this questionnaire.

All health and well-being constructs at pre-programme baseline assessment and post-programme assessments will be compared using linear mixed models for repeated measurements. Analyses will be adjusted for potential socio-demographic or other confounders, collected at baseline. All data will be collect on Qualtrics and analysed on Stata 16, or similar statistical software packages.

Component (ii): Qualitative Study

Utilising the Realist Evaluation Framework, the qualitative study utilises several phases of data collection methods to identify the contexts, mechanisms, and outcomes of the programme.

Qualitative sampling

During the informed consent process, participants will also be informed of the ethnographic observations, a the researchers' presence throughout the programme. Participants will be informed of the possibility of thei being selected for the in-depth interviews.

A total of 16 PWCIs will be identified to participate in the in-depth interviews, based on their quantitative baseline assessment and responses to the survey, open-ended questions and engagement during the ethnographic observations. For the purposes of the qualitative portion of the study, participants will be identified using the unique participant ID previously assigned during the quantitative component.

As multiple instances of the programme may run simultaneously, participants will be sampled across differe runs/iterations of the programme. 4 PWCI-participants will be sampled from each concurrent run of the programme (i.e. 4 participants for the first consecutive two runs, 4 from the next two consecutive runs, etc.) for a total of 16 participants. Sampling participants across different runs of the programmes not only enable the research team to attain a more diverse sample of older persons but also serves to understand how variations in the programme affect participants' experiences. A diverse sample of participants across gende ethnicity and socio-economic status will be obtained as much as possible.

Non-PWCI participants, such as museum staff and artists, will be invited to participate in the study and follo consent-taking processes. Ethnographic interviews, referring to informal and unstructured interviews that occur during ethnographic observations or programme sessions will be conducted with non-PWCI participa such as: Museum staff (max. n=3) organizing the sessions, and programme artists facilitating the sessions (max. n= 6). Programme volunteers assisting PWCIs during the sessions will be engaged in casual conversations as part of the ethnographic observation component.

Ethnographic observations

Ethnographic observations will be conducted by members of the study team throughout the R&R! programı run. Members of the study team will be on-site at the Reunion Space (within the National Museum of Singapore premise) throughout the course of **all R&R! programme runs** (n = 48 max visits) to conduct ethnographic observations. Members of the study team would stay for the approximately 2-hour duration of the R&R! session. The study team will remind programme facilitators or staff to inform participants of researchers' presence prior to the commencement of the programme as well.

During ethnographic observations, study team members will make observations about the conduct of the programme, PWCI's responses to programme components, interactions between PWCIs and Artists/Volunteers/Staff (including staff/volunteers from both the museum, and from relevant Active ageing centres or dementia day care centres), as well as how PWCIs' interaction with the Reunion space.

Informal conversations will also be conducted with PWCIs, & volunteers present during the R&R! programn runs. Members of the study team will first briefly introduce themselves and the study prior to any conversations and seek the verbal consent of the participant; it will be emphasised that their participation is voluntary. Where possible, study team members will conduct conversations in participant's language(s) of choice.

As some PWCI-Participants will be accompanied by their caregivers or their migrant domestic workers (MDWs/helpers), the study team will also seek to obtain programme insights from this group in their capaci as a part of the PWCI's care system. Not all participants will have an accompanying family caregiver/MDW throughout the programme, as some caregivers may not be available or willing to accompany participants. Speaking to participants and caregivers may elucidate potential differences in the experiences for PWCI-participants with or without caregivers, and may help understand the role of caregivers' presence an involvement in the programme.

Members of the study team may also have informal conversations with NMS staff, programme volunteers, a well as the artist-facilitators involved in the R&R! programme, in order to better understand their experience conducting, assisting, and organising the programme. The study team will note these observations for furth discussion in ethnographic unstructured interviews with artists and NMS staff; programme volunteers will n be involved in these subsequent ethnographic unstructured interviews, and will only be engaged in casual/informal conversations throughout the study. The study team will be sensitive to the needs of artists and staff and will ensure that observations and informal conversations do not interfere with the smooth operations and the experience of the programme. Members of the study team will also emphasise the voluntary nature of these conversations.

The study team will also identify participants for in-depth interviews; **4 PWCI-participants** from each **concurrent run** of the programme (total n=16). This recruitment will take place on-site during a session of the R&R! programme. Should a selected participant be willing to take part in the in-depth interviews, study team members will seek verbal consent to provide a follow-up call to the participant to arrange for interview after the conclusion of that specific run of the R&R! programme. Participants will be reminded that their participation in the in-depth interviews are voluntary, and that participation or non-participation will not impa their ability to complete the R&R! programme nor the post programme assessment in the quantitative component of the study.

These informal conversations are conducted to gain understanding of the key elements which drive the R& programme and their ensuing impact on PWCI's lives. As conversations may vary highly between different persons, and at different points in the R&R! programme, no 'interview guide' is provided. As part of the ethnographic observations however, members of the study team will also utilise the Engagement of a Pers with Dementia Scale, an observational scale which requires that members of the research team observe ea PWCI-participant for a duration of 10 minutes and score them across different domains. These scores are recorded in the ethnographic observation checklist (attached, with each participant identified only by their unique participant ID number.

Informal chats or unstructured interviews will not be audio-recorded. Photographs and videos may be taker

with consent, strictly to supplement note-taking processes; where participants or staff members did not give consent for photography or videography but happen to be captured in any photograph or video, the study team will mask faces or any identifiable features (E.g. blurring, mosaic). No personal data of participants will be recorded as part of the note-taking process for ethnographic observations except for participants who are identified for and are agreeable to participate in the IDIs. Any notes taken as part of the ethnographic observations will be analysed in tandem with findings in other study components.

Ethnographic Unstructured Interviews with service provider (Museum organising staff)

The team will carry out informal and unstructured interviews with NMS staff (max. n=3) which will be divided into two sections: Pre (Pi) and Post (Pii)-programme and carried out accordingly– at the start (or early into study period) and at the end of the programme.

In P(i), questions are asked to document NMS staff's processes, motivations and objectives of designing museum-based interventions for PWCIs, including outreach efforts, programme expectations and perceptions of 'success'. In P(ii), questions pertaining to feedback about each session, including the curation and experience of working with different artists-facilitators, as well as programme enablers and barriers that contribute to or hinder a successful run, will be asked.

As each NMS staff's role in operationalising and conducting the R&R! programme is unique, and each conversation will focus on the specific challenges and experiences relating to this role, no 'interview guide' provided. Study team members will rely on fieldnotes from ethnographic observations (which include casual conversations with NMS staff) to guide the interviews further, in addition to the themes highlighted above.

Conversations with NMS staff may be audio-recorded and subsequently transcribed, with consent from NMS staff, for analytical purposes. Should NMS staff decline audio-recording, members of the study team will continue to take detailed notes of the session. Each NMS staff interviewed will be assigned a unique participant ID, and all identifiable information will be anonymised or removed from any research data at the earliest time possible. Audio-recordings from these interviews will be identified only by the unique participant ID.

Ethnographic Unstructured Interviews with service provider (Artists)

Each programme run may involve different artists facilitating a few sessions. Each artist (max. n=6) will be interviewed separately by the research team. To minimize research fatigue/ burden on artists, short, unstructured interviews will be conducted with artists throughout the overall programme segment.

Unstructured interviews will focus on their programme vision and previous exposure with curating programmes for older persons and experiences facilitating the sessions. They will also be asked to evaluate their own strengths and weaknesses as facilitators, their expectations of the programme, and how their own experience conducting the programme matches their expectations (or not), as well as other sources of enablers and barriers that can promote or hinder the success of their program segment.

Conversations with artists may be audio-recorded and subsequently transcribed, with consent from the artists, for analytical purposes. Should artists decline audio-recording, members of the study team will continue to take detailed notes of the session. Each artist interviewed will be assigned a unique participant and all identifiable information will be anonymised or removed from any research data at the earliest time possible. Audio-recordings from these interviews will be identified only by the unique participant ID.

Interviews with PWCIs

In-depth interviews (IDIs) will be conducted with PWCI-participants. Interviews will take place after programme completion (6 weeks). Studies evaluating interventions for persons with cognitive impairment a dementia have demonstrated a lasting effect on mood, well-being, and cognitive function for at least a perio of 4-6 weeks (Dinius, Pocknell, Caffrey, & Roche, 2023; Ho, Ma, Tan, & Bajpai, 2021), thus participants in t study will be interviewed within 1 month from their programme completion.

Interviews will seek elaboration to participant's short responses to the open-ended questions during the baseline survey interview, such as questions on motivations to attend the programme, perceptions of the museum as a place for older persons, impact on health & well-being, feedback about participation (what th enjoyed, did not enjoy, challenges, benefits) and their experiences being in the museum space (including t Reunion space). The responses will be used to triangulate pre-programme perceptions with post-programn experiences and feedback, as well as ethnographic observations of participants' experiences throughout th entire 6 weeks of programme, to observe for change and account for reasons why changes occur.

Each **in-person** in-depth interview will last for **1 – 1.5 hours** and will take place at a time and place of the participants' convenience and are intended to understand the PWCI-participants' experiences of the programme, including what they find memorable. The interviews are conducted by experienced researcher who are comfortable interacting with older persons, including speaking in their language of choice (E.g. English, Malay, Mandarin, Hokkien, Cantonese, etc.). Interviews will be facilitated by an interview guide wh will be translated by the study team.

The IDI will be audio-recorded (with no video-recording), with the consent of the participant, and transcribed for analysis purposes. Each participant will be assigned a unique participant ID, and all identifiable information will be anonymised or removed from any research data at the earliest time possible. Audio-recordings or transcripts from these interviews will be identified only by the unique participa ID which the participant had been assigned during the quantitative baseline survey.

Qualitative analysis

Qualitative data will be analysed thematically using nVivo, a Computer-Assisted Qualitative Data Analysis Software, in accordance with the methods highlighted by Braun & Clarke (2006). Synthesis of both qualitati data and quantitative insights will allow for a better understanding of the configurations of contexts, mechanisms, and outcomes. Thematic analysis provides a well-structured approach to data analysis which useful for examining the perspectives of diverse research participants (Nowell, Norris, White, & Moules, 2017).

References

Ho, A.H.Y., Ma. S.H.X., Tan, M.K.B., & Bajpai, R.C. (2021). A Randomized Waitlist-Controlled Trial of an Intergenerational Arts and Heritage-Based Intervention in Singapore: Project ARTISAN. F*rontiers in Psychology, 12*. https://doi.org/10.3389/fpsyg.2021.730709

Karlawish, J., Cary, M., Moelter, S. T., Siderowf, A., Sullo, E., Xie, S., & Weintraub, D. (2013). Cognitive impairment and PD patients' capacity to consent to research. *Neurology*, *81*(9), 801–807. https://doi.org/10.1212/WNL.0b013e3182a05ba5

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. International *Journal of Qualitative Methods, 16*(1). https://doi.org/10.1177/1609406917733847

Veretennikoff, K., Walker, D., Biggs, V., & Robinson, G. (2017). Changes in Cognition and Decision Making Capacity Following Brain Tumour Resection: Illustrated with Two Cases. *Brain sciences*, *7*(10), 122. https://doi.org/10.3390/brainsci7100122

Yang, M., Samper-Ternent, R., Volpi, E., Green, A. N., Lichtenstein, M., Araujo, K., Borek, P., Charpentier, Dziura, J., Gill, T. M., Galloway, R., Greene, E. J., Lenoir, K., Peduzzi, P., Meng, C., Reese, J., Shelton, A. Skokos, E. A., Summapund, J., Unger, E., … Stevens, A. B. (2024). The dementia care study (D-CARE): Recruitment strategies and demographic characteristics of participants in a pragmatic randomized trial of dementia care. *Alzheimer's & dementia : the journal of the Alzheimer's Association*, *20*(4), 2575–2588. https://doi.org/10.1002/alz.13698

Zietlow, K. E., Oyeyemi, D. M., Cook, S. E., Hardy, M., McDonald, S. R., Lagoo-Deenadayalan, S., Heflin, M T., & Whitson, H. E. (2020). RESEARCH Cognition and Capacity to Consent for Elective Surgery. *Journal of the American Geriatrics Society*, *68*(11), 2694–2696. https://doi.org/10.1111/jgs.16786

*required

Study Sites [Biomedical Research (HBRA) Studies]

- *Please provide the full address(es) (including postal code and unit number) of all premise(s) to be used for the procedures of this study.*
- *Please specify what procedures will be conducted at each of the listed premise(s) and explain why the premise(s) are suitable for the proposed procedures.*
- *Please indicate the applicable type of agreement with the external party for the Non-NUS premises.*

*required

NUS Premises

✓ Add site

*required

Address

Please provide the full address(es) (including postal code and unit number) of all premise(s) to be used for the procedures of this study.

Centre for Ageing Research & Education, Level 4, Duke-NUS Medical School, 8 College Road, Singapore 169857

*required

Procedures

Please specify what procedures will be conducted at each of the listed premise(s) and explain why the premise(s) are suitable for the proposed procedures.

Data analysis will be conducted in the CARE office at level 4 in Duke-NUS Medical School, where the study team resides.

Add site

Non-NUS Premises

✓ Add site

*required

Address

Please provide the full address(es) (including postal code and unit number) of all premise(s) to be used for the procedures of this study.

National Museum of Singapore, Reunion Social Space, Level 1, 93 Stamford Rd

*required

Procedures

Please specify what procedures will be conducted at each of the listed premise(s) and explain why the premise(s) are suitable for the proposed procedures.

- Ethnographic observations of the R&R! programme
- Ethnographic unstructured interviews with NMS staff, and artists
- Casual conversations with PWCIs, Caregivers, volunteers, accompanying staff (from active ageing centres/daycare centres), Artists, NMS staff

This space houses the R&R! programme, the intended unit of study for this research.

*required

Type of Agreement

Please indicate the applicable type of agreement with the external party for the Non-NUS premises.

Research Collaboration Agreement

Service Agreement

✓ Other

*required

Please specify.

Project agreement

Supporting Documents *for agreement with the external party for the Non-NUS premises*

2024-0561_PA_CARE_NHB_CIE review_20240731_CARE (revised).docx

---

✓ Add site

*required

Address

Please provide the full address(es) (including postal code and unit number) of all premise(s) to be used for the procedures of this study.

Public open spaces (e.g. Void decks, open areas; As indicated/selected by partners or participants)

*required

Procedures

Please specify what procedures will be conducted at each of the listed premise(s) and explain why the premise(s) are suitable for the proposed procedures.

- Surveys or Interviews with PWCIs

Surveys or interviews may take place in public open spaces, as per the choice of PWCIs themselves. These spaces would only be utilised should it be convenient and preferred by the participant themselves.

*required

Type of Agreement

Please indicate the applicable type of agreement with the external party for the Non-NUS premises.

Research Collaboration Agreement

Service Agreement

✓ Other

*required

Please specify.

No agreement is provided for use of community open spaces or spaces open to public; permission will be sought from any managing authorities/staff on-site if available

Supporting Documents *for agreement with the external party for the Non-NUS premises*

2024-0561_PA_CARE_NHB_CIE review_20240731_CARE (revised).docx

✓ Add site

*required

Address

Please provide the full address(es) (including postal code and unit number) of all premise(s) to be used for the procedures of this study.

Active Ageing Centres/ Senior Care Centres:Fei Yue AAC (Fajar) - Blk 406 Fajar Road #01-29

*required

Procedures

Please specify what procedures will be conducted at each of the listed premise(s) and explain why the premise(s) are suitable for the proposed procedures.

- MoCA Screener, consent-taking with PWCIs
- Surveys or Interviews with PWCIs

Active ageing centres (AACs) serve as a recruitment site for PWCIs; AACs often have rooms or spaces which PWCIs and other guests (i.e. the research team) can utilise to conduct interviews, surveys, and assessments in a private and comfortable manner. PWCIs who are recruited from AACs would typically be members of the AAC and have access to the space.

NMS staff and members of the research team will collaborate with the AAC staff for the AACs involved in the study to arrange for the study team's presence at the AAC for MoCA screening and consent-taking, as well as to seek consent to use the space for subsequent study procedures if possible.

AACs not yet confirmed for the study will be added to this IRB application in a future amendment.
The study team will check with IEP on RCA requirements for this study and will commence the study after all necessary agreements are in place.

*required

Type of Agreement

Please indicate the applicable type of agreement with the external party for the Non-NUS premises.

Research Collaboration Agreement

Service Agreement

✓ Other

*required

Please specify.

NMS Staff has negotiated separately with AAC for use of the space for the MoCA Screener. Permission will be sought from any managing authorities/staff on-site where possible for study procedures beyond initial screening

Supporting Documents *for agreement with the external party for the Non-NUS premises*

2024-0561_PA_CARE_NHB_CIE review_20240731_CARE (revised).docx

✓ Add site

*required

Address

Please provide the full address(es) (including postal code and unit number) of all premise(s) to be used for the procedures of this study.

Dementia Daycare Centres/ Senior Care Centres:PCF Sparkle Care @ Braddell Heights - Blk 307 Serangoon Avenue 2, #01-44NTUC Health Senior Day Care (Wisma Geylang Serai) - 1 Engku Aman Turn, #03-04NTUC Health Senior Day Care (Bukit Merah View) - 117 Bukit Merah View, #01-201Dementia Singapore - 20 Bendemeer Road, #01-02, BS Bendemeer CentreCaregiving Welfare Association - 3 Ghim Moh Road, #01-294

*required

Procedures

Please specify what procedures will be conducted at each of the listed premise(s) and explain why the premise(s) are suitable for the proposed procedures.

- MoCA Screener, consent-taking with PWCIs
- Surveys or Interviews with PWCIs

Dementia daycare centres/senior care centres serve as a recruitment site for PWCIs; these centres often have rooms or spaces which PWCIs and other guests (i.e. the research team) can utilise to conduct interviews, surveys, and assessments in a private and comfortable manner. PWCIs who are recruited from this site would typically be members and have access to the space.

NMS staff and members of the research team will collaborate with the dementia daycare/senior care staff for the centres involved in the study to arrange for the study team's presence for MoCA screening and consent-taking, as well as to seek consent to use the space for subsequent study procedures if possible.

Daycare or senior care centres not yet confirmed for the study will be added to this IRB application in a future amendment.
The study team will check with IEP on RCA requirements for this study and will commence the study after all necessary agreements are in place.

*required

Type of Agreement

Please indicate the applicable type of agreement with the external party for the Non-NUS premises.

Research Collaboration Agreement

Service Agreement

✓ Other

*required

Please specify.

No agreement is provided for use for this space as it is open to the older persons in the study who utilise this space; permission will be sought from

any managing authorities/staff on-site where possible for study procedures

Supporting Documents *for agreement with the external party for the Non-NUS premises*

2024-0561_PA_CARE_NHB_CIE review_20240731_CARE (revised).docx

✓ Add site

*required

Address

Please provide the full address(es) (including postal code and unit number) of all premise(s) to be used for the procedures of this study.

Participant Homes (As indicated/selected by partners or participants, with consent)

*required

Procedures

Please specify what procedures will be conducted at each of the listed premise(s) and explain why the premise(s) are suitable for the proposed procedures.

- Surveys or interviews with PWCIs

Participants can request for surveys or interviews to be conducted in their homes should they wish to. Members of the research team will only do so with participants' express verbal consent to share their contact details which may include their address.

*required

Type of Agreement

Please indicate the applicable type of agreement with the external party for the Non-NUS premises.

Research Collaboration Agreement

Service Agreement

✓ Other

*required

Please specify.

Verbal consent will be sought from participants who request for interviews or surveys to be conducted in their homes.

Supporting Documents *for agreement with the external party for the Non-NUS premises*

2024-0561_PA_CARE_NHB_CIE review_20240731_CARE (revised).docx

Add site

*required

Anticipated Study End Date

12/31/2026

Study Participants

*required

Human Subject Groups [Biomedical Research (HBRA) Studies]

This project involves the following group(s):

✓ Healthy Adults

*required

Target Number

14

*required

Lower Age Limit

21

*required

Upper Age Limit

75

Healthy unmarried minors <21 years old

✓ Elderly with mental capacity

*required

Target Number

120

*required

Lower Age Limit

50

*required

Upper Age Limit

No upper limit is specified for PWCIs; older age is not an exclusion criterion for this group; participants are eligible as long as they meet inclusion criteria

*required

How will the mental capacity of elderly be screened?

For PWCI:
Prior to initiation of informed consent, the research team will also administer a screener using Montreal Cognitive Assessment (MoCA). MoCA is a test used to detect mild cognitive decline and early signs of dementia (see more at https://mocacognition.com/).

PWCI whose MoCA score ranging from less than 27 (if the participant has 10 or more years of education) OR less than 26 (if the participant has less than 10 years of education), but are above 22 are determined to be eligible for the study, and also eligible to undergo the informed consent independently. These thresholds are following the recommendation of MoCA use in Singapore (see 10.11622/smedj.2013220) and draw from studies concerning mental capacity and consent for persons living with cognitive impairment (10.1002/alz.13698; 10.3390/brainsci7100122; 10.1111/jgs.16786; 10.1212/WNL.0b013e3182a05ba5). Any participants with MoCA score outside of these range will not be included in the study.

Outpatients: Adults (21 years old and above)
(*If the study specifically targets subjects who visit hospitals or clinics for diagnosis or treatment without staying overnight*)

Outpatients: Unmarried Minors <21 years old
(*If the study specifically targets subjects who visit hospitals or clinics for diagnosis or treatment without staying overnight*)

Deceased Persons

Vulnerable Populations

Individuals who lack mental capacity: Adults (21 years old and above)

Individuals who lack mental capacity: Minors (<21 years old)

*required

Total Number of Study Participants

134

*required

Inclusion Criteria

Please identify which criterion is applicable for specific group(s) of research subjects.

For persons with cognitive impairments (PWCIs):

1. Fulfils the programme recruitment criteria and registers for the programme through NMS' collaborating partners; AND
2. Provides consent for participation in the study personally; AND
3. Willing and able to participate in interviews independently, without proxy; AND
4. Scores between 22 to 27 on the MoCA (or 22 to 26 for participants with less than 10 years of education). These thresholds follow the recommendation of MoCA use in determining mild cognitive impairment and mild dementia in Singapore (Ng et al., 2013) and draw from studies concerning mental capacity and consent for persons living with cognitive impairment (Karlawish et al., 2013; Veretennikoff et al., 2017; Yang et al., 2024; Zietlow et al., 2020)

For Artists, NMS Staff, & Programme volunteers:

1. Willing and able to participate in interviews independently, without proxy
2. Must be involved in the planning, organisation, or conduct of the NMS' R&R! programme

*required

Exclusion Criteria

Please identify which criterion is applicable for specific group(s) of research subjects.

For persons with cognitive impairments (PWCIs):

1. Whose cognitive impairment status cannot be confirmed by the administered screener; OR
2. Do not give consent to participate in the study; OR
3. Scores below 22 on the MoCA, or above 27 (or 26 for participants with less than 10 years of education); OR
4. Documented or known diagnosis of moderate or severe dementia

For Artists, NMS Staff, & Programme volunteers:

1. Presence of any medical condition which may impair their ability to participate in interviews safely or independently

Relationship with Researchers [Biomedical Research (HBRA) Studies]

*required

Are there any human subjects in a dependent relationship with the researchers? [HBRA Studies only]

- ✓ No
- Yes

*required

PI's Confirmation

Researchers will prevent cases where participants agree to participate while under duress.

- ✓ Confirmed

Recruitment

*required

Recruitment Locations [Biomedical Research (HBRA) Studies]

Where will subjects be recruited from?

Select all that apply.

General Public

NUS

✓ Organisations / Agencies / Companies / Institutions / Schools (non NUS)

*required

Correspondence of willingness from participating Organisations / Agencies / Companies / Institutions / Schools

Please submit a copy of the correspondence of willingness from relevant authorities for recruitment at the selected site or Research Collaboration Agreement with selected site(s).
2024-0561_PA_CARE_NHB_CIE review_20240731_CARE (revised).docx

*required

Overseas Recruitment

Will participants be recruited from overseas?

✓ No

Yes

*required

How will subjects be recruited? [Biomedical Research (HBRA) Studies]

Select all that apply.

NUS Recruitment Platform

✓ Word of mouth / Snowballing / Referral / Personal contacts

✓ Phone calls

*required

Please advise where phone numbers will be obtained from.

You may wish to seek advice from Office of Privacy and Confidentiality (OPC) on whether your list of phone numbers should be scrubbed against the Do-Not-Call (DNC) registry.

Participating active ageing and dementia daycare centres may refer participants for this study to members of the study team. Staff from these centres will first seek verbal consent from PWCIs to provide contact details to the study team. For participants who have yet to be assessed for their eligibility and/or provide consent for the study, contact details will only be sought, with verbal consent from the participating centre staff or directly from a member of the study team in-person, should they wish for assessments or consent-taking to take place outside of their respective centres. The study team will only receive the contact details of potential participants who had given express consent to be contacted for the purposes of the study.

✓ Email invitation / letters

*required

Please advise where email addresses / addresses will be obtained from.

Recruitment for the R&R! programme, for the period of this study, is handled by National Museum of Singapore who will contact partner organisations and recruit participants with their aid; all R&R! participants for this period will also be enrolled into the study.

*required

Email Sender

Please advise who will be sending the invitation/letters.
Invitations for the study are issued by National Museum of Singapore to partner organisations.

*required

Please attach a copy of the Email Invitation / Letter

ReCognition Invite PWCI V1_8Jan25.docx

✓ Advertisements / Flyers / Posters

*required

Permission will be obtained from the relevant authorities for the posting / distribution of recruitment materials, if necessary.

✓ Confirmed

*required

Please attach a copy of the Advertisement(s) / Flyer(s) / Poster(s)

R&R! Recruitment poster V1_8Jan25.png

Social Media / Other Online Platforms

Door-to-door recruitment

Medical records

Other method(s)

✓

*required

Please describe.

NMS Staff, Programme volunteers, and artists involved in the R&R! programme will also be recruited on-site during the ethnographic observations. Prior to any informal conversations with staff, programme volunteers or artists, members of the study team will first seek the verbal consent of the participant.
NMS staff and artists who are involved in the interview components of the study will also be approached for their informed consent early in the programme run. The study team may, for purposes of coordinating any interviews outside of the museum space, request for participants (Staff, artists) to share contact details as necessary.

*required

PI's Confirmation

PI confirms that permission, where applicable, will be/has been obtained from potential subjects for the use for their personal data (e.g. name and contact information) for recruitment purposes.

✓ Confirmed

Recording

*required

Recording the Procedure(s)

Will the procedure(s) be recorded?

- [ ] No
- [x] Yes

*required

Type of Recording

- [x] Audio-recording
- [x] Video-recording
- [x] Photography

*required

Will participants who decline recording be excluded from the study?

- [ ] Yes
- [x] No

*required

Please specify alternative.

Participants who do not consent to audio-recording will still be included in the study. For PWCI-participant who are selected for the in-depth interviews but do not consent to

audio-recording, members of the study team may continue with interviews and take detailed notes of the participants' responses. The study team will continue to interview (under the ethnographic unstructured interviews) Artists or NMS staff who do not consent to audio-recording by taking detailed notes of their responses as well.

Participants who do not consent to photography or video-recording will still be included in the study. Photographs or videos may be taken as part of the ethnographic observations. Photographs and videos will mostly be of physical infrastructure of the Reunion space, surrounding areas, and R&R! programmes (with faces not shown) where possible. The study team will only take photographs or videos, which include identifiable faces or markers, with consent from participants.

The research team will also avoid, insofar possible, taking photographs or videos which include participants who decline to be photographed or video-recorded. Where photographs or videos are taken happen to capture this group of participants, the research team will mask their faces or other identifiable features (e.g. Mosaic, blur). Study participants have the right to request for deletion of any photos that may capture their likeness or be identifiable.

*required

PI's Confirmation

I confirm that any identifiable information in the recordings (e.g. faces, recorded names, etc.) will be removed / covered before any publication or use, unless I have obtained prior consent from participants.

✓ Confirmed

Assessment of risk involved

Minimal risk means the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical and psychological examinations or tests.

Anticipated Benefits and Risks [Biomedical Research (HBRA) Studies]

*required

Anticipated Benefits

What are the benefits the subjects may reasonably expect from participating in this study?

No direct benefit is guaranteed for participants in this research study. However, information they provide contributes to the knowledge of non-pharmaceutical interventions for people with cognitive impairments (PWCIs) in Singapore. For people with cognitive impairments who participate in the program, they may engage in creative and educational activities, which have been proved to enhance cognitive stimulation, emotional well-being, and overall quality of life in previous intervention studies (For some examples, see: Cobb, 2022; Fioranelli, Roccia, & Garo, 2023; Poulos et al., 2019; Reschke-Hernández, Gfeller, Oleson, & Tranel, 2023; Thomson, Morse, Elsden, & Chatterjee, 2020).

The program may offer opportunities for social interactions between participants, museum staff, and volunteers, which may foster a sense of community and belonging during the programme.

Museum staff and volunteers involved in the program may also benefit from the evaluation's findings to find factors impacting the expected outcomes of the program, hence may improve the programme's curriculum and outreach.

*required

Anticipated Risks

What are the foreseeable risks, discomforts, inconveniences, and expected serious adverse events (SAE) that may occur to a subject arising from this study and/or removal of tissue?

Programme fatigue - Participants may feel fatigue after participating in the activities over the 2-hour R&R! sessions, which can be physically demanding particularly for older adults with cognitive impairments. Additionally, participants might experience cognitive overload from the various cognitive activities included in the program, which also might lead to cognitive fatigue.

Interview Fatigue - Participants may experience fatigue whilst answering survey or interview questions.

Social anxiety -PWCI-participants may feel uncomfortable interacting in a group setting with unfamiliar persons and in an unfamiliar environment, particularly if they have not yet become accustomed to such environments.

Data confidentiality - Personal information will be collected from the participants (e.g. Name, contact numbers) for the purpose of coordinating study procedures, and there is a risk of the breach of confidentiality. During the ethnographic observations component of the study, photographs or videos may be taken. This may infringe the privacy of participants who do not consent to have their photographs or videos taken.

Emotional distress & discomfort - Although the nature and topics covered in the surveys and interviews are not expected to cause distress, questions concerning participants' challenges with cognitive impairment or in caregiving may cause discomfort in some participants. Particularly for PWCIs-participants, they may experience frustration or anxiety during interviews if they encounter difficulties understanding or answering questions.

*required

Mitigation of Risk

Please state the measures in place to mitigate any risk to subjects.

Programme & Interview Fatigue - During the informed consent process, participants will be reminded that they are able to take breaks at any point in the interview should they require. Should participants be unable to complete the surveys or interview in a single sitting, they may also request that the interviewer return to complete the rest of the surveys or interview as needed. Interviewers are trained, also, to recognise when respondents may be showing signs of fatigue (e.g. loss of focus, physical discomfort etc.) and offer breaks as appropriate. Interviewers may also choose to stop interviews at any point should they assess that respondents are unable to continue. During the programme, the museum staff, artists and volunteers are trained to work with persons with cognitive

impairments and anticipate distress signals which may help identifying participants with signs of distress. The Reunion space also has quiet zones and spaces for rest should participants feel overwhelmed or tired. During the programme, volunteers or staff will assist participants with any kinds of aid or respite as required.

Emotional distress & discomfort - Interviewers are trained to prompt participants to skip questions or take a break for questions which they appear to not feel comfortable to answer. Prior to the surveys or interviews, interviewers will also remind participants of their autonomy to choose which questions they may wish to avoid. Upon encountering scenarios that respondents may feel distressed, the interviewers will respond in a situation-appropriate manner. The respondent will also be referred to the helplines provided in the Participant Information Sheet. The interviewer can exercise the option to let the respondent not to continue with the questionnaire in the worst case scenario. Interviewers will remind participants that participation is voluntary and they can choose not to participate if they do not wish to. Should distress or discomfort relate to the R&R! programme (rather than study procedures), participants will have the option to rest in the quiet area within the Reunion space during the programme should they require. PWCI-participants may choose to be accompanied by a CG for the R&R! programme, or for the interviews as needed.

Data confidentiality, photography, & videography - To minimise the risk of confidentiality breaches, participant details and information will be coded at the earliest possible stage. All recordings or survey responses will be treated with confidence and coded at the earliest possible stage as well. File names for any recording will not contain any personal details of the participant. All instances of participants' addresses or names that appear in transcriptions or interview notes will be replaced with a participant ID or a pseudonym, this also applies to data being used for publication. Quotations maybe shared from participants' experiences at presentations and in journal publications, but participants will not be identified as pseudonyms will be used. Any research data which could help identify the participant will also be anonymised or redacted. Any photographs or videos taken will need permission from relevant individuals, service providers, or authorities who might be identified within the frame of the photo before photo-taking. In cases where such images are required for used in the analysis or consent has not been given, faces, business names/trademarks/logos will be censored or anonymised. Should participants be selected for any interview components but not consent to audio recording, members of the study team will instead take detailed notes of the interview responses.

Data Safety Monitoring Plan (DSMP) [Biomedical Research (HBRA) Studies]

For research with more than minimal risk, *please include details on the Data Safety Monitoring Plan (DSMP) for the research, e.g. the frequency of review and type of data that will be monitored.*

Please also discuss the plans in place to ensure the safety and well-being of subjects and integrity of the data collected.

*required

Compensation and/or Treatment

What compensation and treatment are available to the research subject in the event of injury arising from participation in this study and/or donating tissue?

✓ **NUS Clinical Trial Insurance**
If subjects follow the directions of the PI or researchers in charge of this research study and are injured, the NUS will pay the medical expenses for the treatment of that injury. Subjects will not waive any of their legal rights or release the parties involved in this study from liability for negligence.

Other(s)

*required

Anticipated Expenses for the Subject

What are the anticipated expenses the subject is likely to incur as a consequence of participating in the study and/or donating tissue?

There are no anticipated expenses for participants involved in the research

*required

Anticipated Incidental Findings

Do you anticipate any incidental findings in this study and/or from analysis of tissue samples?

✓ No

Yes

---

*required

Alternative Procedures or Treatments

Are there any alternative procedures or treatments available to subjects if they do not participate in this research?

✓ No

Yes

---

*required

Circumstances for Further Consent

Under what circumstances, if any, will subjects be re-contacted for further consent? For example, changes in the research, serious adverse events that would lead to a change in the research, development of capacity by minors to make decisions.

Change in research participation

Participants will be re-contacted for further consent should the extent of their involvement in the research procedures change.

Reimbursement

*required

Will subjects be reimbursed for their participation? [Biomedical Research (HBRA) Studies]

No

✓ Yes

*required

Type of Reimbursement [Biomedical Research (HBRA) Studies]

What type of reimbursement will be provided?

✓ Cash / Voucher

*required

Please elaborate.

PWCIs who are recruited and complete both the pre-programme baseline assessment and post-programme assessment will be reimbursed with SGD40 in cash. PWCIs who are recruited and complete the qualitative in-depth interviews will be reimbursed with an additional SGD30 in cash. Facilitating artists who participate in interviews with the study team will be reimbursed with SGD50 in cash at the end of the R&R! programme, or after their involvement in the programme has been completed.Museum staff and programme volunteers who participate in interviews or in informal conversation during the ethnographic observations will not be reimbursed.

Other(s)

*required

Withdrawal after participation

Will participants be entitled to reimbursement if they withdraw after their participation?

- ✓ Yes
- No

*required

Withdrawal mid-way

Will reimbursement be pro-rated if participants withdraw from the study mid-way?

- ✓ Yes
- No

Consent [HBRA Studies]

*required

Will consent be obtained in writing for all research subjects?

Please note that appropriate consent must be obtained in writing for the removal of human tissues from research subjects (tissue donors).

- Yes
- ✓ No

Please apply for a waiver of requirement for appropriate consent to be in writing, in the section below.

*required

Please select / state the group(s) of subjects that will not be providing written consent.

- ✓ Healthy Adults
- Healthy unmarried minors <21 year old
- Elderly with mental capacity
- Outpatients: Adults (21 years old and above)
- Outpatients: Unmarried Minors < 21 years old
- Deceased persons
- Vulnerable populations

Will consent be obtained from research subject personally?

- ✓ Yes
- No

*required

Prescribed Witness

Please advise if consent will be obtained in the presence of a prescribed witness.

- ✓ Yes

*required

Please advise who will act as the witness during consent taking.

Appropriate consent must be taken in the presence of a witness -
(a) who is 21 years of age or older;
(b) who has mental capacity; and
(c) who must not be the same individual taking the appropriate consent.

To avoid doubt, the witness may be a member of the team carrying out the research. Please refer here for more information.

An additional member of the study team or any other staff member on-site, who is an eligible witness, will be present during the consent process.

- No

*required

Consent Process

Please describe / summarize the consent process for subjects and/or any other person authorized to give consent (e.g. parents).

Consent for all PWCIs involved in the study will be sought for their involvement in the quantitative component of the study (pre-programme baseline, post-programme assessments), as well as for their involvement in the ethnographic observations in the study. Participants will also be informed of the possibility of their involvement in the in-depth interviews, if selected. All participants will be reminded of the voluntary nature of their participation in this study; however they would not be able to participant in the "Refresh and Reconnect!" (R&R!) programme at this time should they not consent to the study. All interested participants for the R&R! programme during the period of the study will be required to be a part of the research study. Should they not consent to the research, or fail to meet the inclusion criteria, they will be contacted only for a subsequent run of the programme after the conclusion of the study period, or be identified by NMS for other suitable programmes.

Programme staff from National Museum of Singapore (NMS) contact dementia day care centres, day activity centres, dementia day programmes or active ageing centres (AACs) with known PWCI groups in Singapore to explain the programme and the research, with the help of members of the research team. Sites include the following organisations for the first 6 runs of the programme: NTUC Health (Senior Day Care @ Wisma Geylang Serai & Bukit Merah View), Dementia Singapore, Fei Yue (AAC & CREST-PDS programme @ Fajar Road), Sparkle Care @ Braddell Heights, Caregiving Welfare Association. NMS is continuing to seek out community partners for the 7th and 8th run of the programme at the time of this IRB application; the study team will amend the ethics application accordingly when these partners are confirmed.

The eligibility criteria for PWCIs in these centres to participate in both R&R! and the study will be explained in detail for the participating day care centers. Centres who have eligible participants will receive more information from NMS so as to support their ability to explain the programme and the research to their participants. The respective centres will determine the eligibility of participants under their care (any documented diagnosis of cognitive impairment or dementia will NOT be shared with NMS programme staff or the research team) and invite interested participants for consent to be contacted by a member of the research team for further explanation, a cognitive assessment, and informed consent. Otherwise, participants who are interested may also choose to indicate their interest to sign up for the programme with either the centre in which they participate, or directly by contacting NMS programme staff. Interested participants with a documented or known diagnosis of moderate or severe dementia will also be contacted only for a subsequent run of the programme beyond the study period.

PWCIs who express interest in the study will either:

- Be arranged into timeslot, coordinated by their respective centres, for screening and consent-taking at the centre itself; OR
- be asked for their verbal consent to be contacted by members of the research team for follow-up screener and informed consent, at a time and location of their convenience

A member of the study team will arrange for an in-person cognitive assessment for all interested PWCIs, utilising the MoCA. PWCI-Participants who score less than 27 (if the participant has 10 or more years of education) OR less than 26 if the participant has less than 10 years of education), and score above 22 points will be considered eligible for the study. Should the PWCI-Participant be willing to participate, the research staff will initiate the informed consent process with the PWCI-Participant using the PIS&CF as a

guide.

PWCI-Participants will be informed of the possibility of selection or non-selection for the in-depth interviews which take place only after their respective R&R! programme run. They will be reminded that their consent to audio-recording will be ascertained again at the point in which interviews will be conducted. The voluntary nature of this component of the study will be emphasised. Declining in-depth interviews will not affect PWCI-participant's involvement in other study procedures, nor in the R&R! programme in any way.

Museum Staff & Artists

All staff and artists involved in the R&R! programme will be informed of the researchers' presence for the ethnographic observations. They will be informed that members of the research team may approach them to ask questions about their involvement and experience with the R&R! programme.

Museum staff and artists who are involved in the ethnographic unstructured interviews will undergo the informed consent procedure, and consent for audio-recording will be sought at this juncture.

All participants

Although PWCIs will be informed of the ethnographic observations during the course of the R&R! programme, the research team will request NMS staff to remind service users of the researcher's presence during any such ethnographic observation session, where possible. All other staff or volunteers will also be provided with a brief introduction to the study and informed of the researcher's presence.

Members of the study team will seek verbal consent from any persons in the programme space during the course of the R&R! programme prior to any unstructured ethnographic interviews or conversations. Any person who declines to be informally spoken to during this component of the study will not personally be engaged by members of the study team.

All persons present will be reminded that videos or photographs may be taken over the course of the ethnographic observations (during the R&R! session) to supplement note-taking. Although members of the study team will minimise photographs that capture any identifiable information or features, any persons present may indicate at any time that they do not wish to have photographs or videos taken throughout this study process or may request the deletion of any photographs or videos taken by the study team which may capture them. The research team will not take identifiable photographs that may contain sensitive information without explicit consent from participants, and any identifiable faces would be pixelated.

Any personal data or information is gathered mainly for the purpose of scheduling surveys/interviews/programs visits as well as re-contacting willing participants for future research-related tasks/activities (with consent). Participants' identifiable information is strictly confidential and will be kept within the research team.

Members of the research team will also emphasise the voluntary nature of participating in the research study, and that participants may withdraw at any time by informing the research team, without giving any reasons. Participants will be informed that withdrawal of consent does not affect research information obtained before the consent is withdrawn, and such information may still be retained and used in

subsequent analysis within the research study. Any audio-recordings, videos, or photographs taken throughout the course of the project will be made known to the participant.

Where any participant is unable to understand the language captured in the PIS&CF, a member will translate it to the appropriate language/dialect which the participant is able to comprehend. Informed consent will be done in the presence of an impartial witness for this group of participants to ensure that the information within the PIS&CF was presented accurately to the participant. Participants may indicate their consent on the form using their signature or thumbprint. The consent taker and witness (where applicable) will also sign and date the consent form thereafter.

*required

Please attach Participant Information Sheet and Consent Form (PIS&CF) / Parental IS&CF / PIS.

ReCognition PIS&CF PWCI V1.docx Sample documents: HBRA PIS&CF Template

ReCognition PIS&CF Artist_Staff V1_8Jan25.docx

*required

Study Personnel

Please state the designation(s) of all study personnel taking consent (e.g. research assistant, graduate student, etc.).

Note: Consent takers do not need to be listed as Co-Investigators.
The team is inclusive of interviewers who are full-time or part-time researchers employed by Duke-NUS CARE.

*required

Consent Training

Please state how consent taking training will be provided / conducted for study personnel.

Note: Consent takers should complete the informed consent module in the CITI course or equivalent training.

All consent takers have completed the informed consent module in the CITI courses.

*required

I am applying for a Waiver of/for:

The requirement for appropriate consent to be in writing

✓ *Note: Not applicable for removal of human tissues from subjects*

*required

Please justify how your research fulfils the following criteria:

---

1. No more than minimal risk to the subject or donor

The waiver of consent for this study is sought only for programme volunteers who are involved solely in the ethnographic observation component of the study.

This research study involves no more than minimal risk to the participant; the study procedures require participants to be shadowed or engaged in informal or casual conversations- participants may choose not to answer any questions that they feel may be sensitive or uncomfortable with during either of these.

*required

2. No procedures for which written consent is ordinarily required outside of a research context (for therapeutic or diagnostic purposes)

Participants engaged during the ethnographic observations need not perform or conduct any specific behaviour for the study purposes, aside from assisting or participating in the programme as usual (with consent) - the research team will observe how participants engage with the PWCIs involved in the programmes, the programme's content, and programme staff, artists, and other programme volunteers.

*required

3. The only record linking the research subjects to the research or use of the human tissue is the consent form, ***and*** *the principal risk to the research subjects or donors is potential harm resulting from unauthorized disclosure of confidential information such as the research subject's identity and the fact of the subject's participation in the research.*

No records linking this group of participants' research data with any kind of personal data will be kept - all notes taken for this group of participants will not contain personal data which could be used to identify the participant or their involvement in the research. No audio recordings will be taken of this group of participants as well.

The requirement that the tissue be removed primarily for a therapeutic or diagnostic purpose

The requirement to obtain appropriate consent of at least one adult parent or guardian for the participation of a minor as a research subject

Appropriate consent for human biomedical research involving human biological material or health information obtained or compiled AFTER 1 November 2017

Appropriate consent for human biomedical research involving *individually-identifiable* health information that was obtained BEFORE 1 November 2017

Appropriate consent for human biomedical research involving *individually-identifiable* human biological material that was obtained BEFORE 1 November 2017

Appropriate consent for emergency research

Not Applicable

*required

PI's Declaration

✓ I confirm that appropriate consent will be obtained from subjects in accordance with Part 3 of the HBRA, if i did not receive approval from NUS-IRB for the relevant waiver(s).

*required

PI's Declaration

✓ I confirm that I will use only IRB-approved PIS&CF to obtain appropriate consent from subjects.

[Biomedical Research (HBRA) Studies]

*required

Personal Data

Will personal data be collected in this research?

No

✓ Yes

*required

Please state the personal data that will be collected and the purpose for collection.

Names, contact numbers, addresses (only for participants who wish to complete surveys or in-depth interviews in their homes)

*required

Please state the extent to which personal data of the research subject / tissue donor will be kept confidential and how subject's / donor's privacy will be protected.

For example, stored in coded / irreversible de-identified forms at the earliest stage possible, key to code kept separate from research data, not used in publications / presentations arising from this research, etc.

Participant details and information will be coded (With a link between details and study codes securely kept in a separate document) at the earliest possible stage with a unique participant ID number. All recordings will be treated with confidence and coded at the earliest possible stage as well. File names for any recording will not contain any personal details of the

participant. All instances of participants' addresses or names that appear in transcriptions or interview notes will be replaced with a participant ID or a pseudonym, this also applies to data being used for publication. Quotations maybe shared from participants' experiences at presentations and in journal publications, but participants will not be identified as pseudonyms will be used. Any research data which could help identify the participant will also be anonymised or redacted.

---

*required

Please advise who (e.g. trusted third party - *please identify who*) will perform the coding / de-identification of research data, and at which stage of the research will data be irreversibly de-identified / coded.

Participant IDs are assigned to participants after the have consented to the study - upon collection of research data from the participant (survey, or interview), all data will not be identified by their personal identifiers but rather using the unique participant ID.

Coding and de-identification of the data will be done by members of the research team who are involved in data collection. Where a participant's personal identifiers appear in transcripts of any interview, they will be anonymised/coded at the earliest possible stage during the transcription process, or when photographs are being uploaded/reviewed. Any data used for the purposes of analysis must be de-identified before use. The code key which provides a linkage between anonymised transcripts and participant personal identifiers will be destroyed upon completion of the study.

*required

Will personal data obtained from research subject / tissue donor be used for future research?

No

✓ Yes

***Please ensure that consent will be obtained*.**

---

*required

Location of Research Data

Where will research data be kept*?*

Please see NUS Research Data Management Policy Guidelinesand NUS Data Management Policy.

- ✓ nBox
- ✓ Encrypted thumbdrive and/or device(s)
- Other

*required

Location of Personal Data

Where will personal data be kept?

Please see NUS Research Data Management Policy Guidelinesand NUS Data Management Policy.

- ✓ nBox
- ✓ Encrypted thumbdrive and/or device(s)
- ✓ Other(s)

*required

Please describe.

Upon conclusion of the data collection phase of the study, all hardcopies of consent forms and cash receipt forms will be scanned to create digital softcopies. These digital versions will be thorough, high-quality reproductions of the original documents. The integrity and completeness of the softcopies will be meticulously verified before the destruction of the hardcopies. Once verification is complete, the hardcopies will be destroyed through shredding to ensure the confidentiality of participant information, at the earliest possible time following digitisation and verification. All digital softcopies will be stored securely on

encrypted, password-protected devices, including external hard drives, and thumb drives. These devices will be specifically designated for the storage of sensitive study materials and will be safeguarded by robust encryption protocols to prevent unauthorized access. Following digitization, these encrypted devices will be forwarded to a trusted third party at Duke-NUS Medical School. The trusted third party will not have access to the research data.

*required

Access to Research Data

Who will have access to the research data?

- ✓ NUS research team
- ✓ Other(s)

Please Note:
This information must be disseminated to participants via Participant Information Sheet if subjects are recruited.

*required

Please list people who will have access.

Findings from this study will be shared with staff from the National Museum of Singapore, as a fulfilment of the study requirements and as a deliverable for the project. Any research data provided for this purpose (e.g. Report, presentations) will only contain high-level de-identified, aggregated findings, or anonymised data.No raw interview transcripts and research data that could identify research participants will accessible outside of the NUS research team. Interview responses will be aggregated for analysis and in presentations to any relevant stakeholders. Responses will be coded and presented in a cluster to maintain confidentiality and mitigate risk of exposure for research participants.

*required

Access to Personal Data

Who will have access to personal data?

✓ NUS research team

✓ Other(s)

Please Note:
This information must be disseminated to participants via Participant Information Sheet if subjects are recruited.

---

*required

Please list people who have access.

Administrative staff at Duke-NUS outside of the research team may access to PWCIs' personal data to verify the receipt of reimbursement for audit purposes. The administrative staff will not have access to personal data unless strictly necessary for audit purposes, at which point the research team would provide only the relevant contact information.Partners/staff at NMS will have access to contact details for participants who consent to the research and programme, for the purposes of coordinating the programme, with express consent reflected in the PIS&CF.

*required

What will happen to the research data after completion of the study?

✓ Research data used in publication will be kept for at least 10 years in accordance with NUS Research Data Management Policy

Other(s)

*required

When will personal data be discarded?

✓ Before/ Upon completion of study

✓ Kept beyond completion of study

It is NUS-IRB's recommendation that personal data should be discarded upon completion if it is not required as part of the data collected for the study.

---

*required

Please explain.

Only personal data of participants who consent to be re-contacted for future studies will be kept beyond the research period. Participants who have withdrawn from this study will be asked again at the point of withdrawal whether they consent to being recontacted for other studies. If they do not consent, their personal data will be discarded at the earliest possible time. Otherwise, any identifiable information collected in this study will be destroyed immediately upon its completion. The code key will also be destroyed upon completion of the study.

*required

Consent Forms

If consent forms will be used, please advise how long they will be kept before being discarded.

✓ At least 10 years in accordance with NUS Research Data Management Policy

Others

*required

PI's Declaration on Personal Data

I will protect subjects' privacy and the confidentiality of their personal data, and comply with all relevant laws and regulations, institutional guidelines and policies including the Research

Compliance Policy on Human Subject Research and Human Biomedical Research and the NUS Data Protection Policy.

✓ Confirmed

HBRA Final Declarations

*required

As the Principal Investigator of this research study, I hereby declare that:

- I am not conducting any prohibited HBR as defined in Third Schedule of HBRA.
- I confirm that my research is not regulated as a "clinical trial" under Health Products (Clinical Trials) Regulations or the Medicines (Clinical Trials) Regulations.
- I confirm that my research team is fully qualified and properly trained to conduct the proposed research herein.
- This research has not commenced and I will not initiate this research until I receive written notification of NUS-IRB approval and any other required approval(s) from relevant authorities.
- I will not deviate from the IRB-approved protocol without prior written approval from NUS-IRB except unless it is necessary to mitigate an immediate risk of harm to the research subjects. Any protocol deviation will be reported to the NUS-IRB without reasonable delay.
- I will maintain all relevant documents and recognize that the NUS-IRB staff, Research Compliance and Integrity Office staff and regulatory authorities may inspect these records.
- I have assessed suitability of the premise(s) for the proposed research and will obtain NUS Office of Safety Healthy and Environment (OSHE) and other relevant approval(s), if required
- I will promptly report all serious adverse events, unanticipated problems or incidents, or contraventions of the HBRA that may occur in the course of this research in accordance with the Research Compliance Policy on Human Subject Research and Human Biomedical Research.
- I declare that there is no existing or potential conflict of interest (financial or otherwise) for any of the investigators participating in this research and/or their immediate family members. If there are conflicts of interest, I have declared them accordingly.
- I understand and have complied with the requirements of the Human Biomedical Research Act 2015 (HBRA) and its regulations, as well as my institution's policies

governing the conduct of human biomedical research and tissue-banking activities, as applicable. I further understand that any failure to comply could result in suspension or termination of this research as well as criminal liability to me and NUS.

- I have not committed any suspected offence or contravention of the Human Biomedical Research Act 2015 as of the date of this declaration, or if I have committed any such suspected offence or contravention, this has been fully disclosed to the Dean of my faculty or Director of my research centre or their designated representative(s).

✓ Confirmed

Please read:

1. Confirm all sections are complete with a **white check** (tick) next to the section name in the left column.
2. Attach any and all relevant documents in the **Attachments** section.
3. Leave any comments relevant to this study in the **Comments** section. (Optional)
4. Click **Complete Submission** at the bottom of the left column.
5. Please check that the **"Organisation" unit** in the **Study Details page** is correct **BEFORE** the PI certifies the application.

Attachments

*required

CVs

cv_ad-maulod_aug-2022.pdf

resume_rahul_malhotra-for-hssr-and-care-websites_16-june-2022.pdf

07 WongYunjie Jackie CV_Mar 2024.docx

CV_SashaRouse2024.pdf

Resume - Malcolm Ravindran (Nov 2024).pdf

*required

CITI Completion Report(s) / Certificate(s)

CITI Certificates and Completion Reports_Ad Maulod.pdf

CITI Certificates and Completion Reports_Malcolm Ravindran.pdf

CITI Certificates and Completion Reports_Rahul Malhotra_NUS_Jan 2023.pdf

CITI Certificates and Completion Reports_Jacky.pdf

CITI Certificates and Completion Reports_Sasha.pdf

*required

Correspondence of willingness from participating Organisations / Agencies / Companies / Institutions / Schools

2024-0561_PA_CARE_NHB_CIE review_20240731_CARE (revised).docx

Copy of Questionnaire / Survey / Interview guide / FGD guide

ReCognition Baseline-Survey PWCI V1.docx

ReCognition MoCA Instructions (English Singapore).pdf

ReCognition Post-Survey PWCI V1.docx

ReCognition IDI Guide PWCI V1.docx

ReCognition Ethno Checklist V1.docx

ReCognition Programme Assessment PWCI V1.docx

*required

Copy of Email invitation / Letter

ReCognition Invite PWCI V1_8Jan25.docx

*required

Copies of Advertisements / Flyers / Posters

R&R! Recruitment poster V1_8Jan25.png

*required

PIS&CF / Parental IS&CF / PIS

ReCognition PIS&CF PWCI V1.docx

Sample documents: HBRA PIS&CF Template

ReCognition PIS&CF Artist_Staff V1_8Jan25.docx

*required

Supporting Documents for agreement with the external party for the Non-NUS premises

2024-0561_PA_CARE_NHB_CIE review_20240731_CARE (revised).docx

Other Relevant Documents

Please attach any other relevant documents for this Research Protocol submission that may be important to reviewers and that were not included in the application.

Comments

For the IRB analyst

Study design has changed significantly upon discussion with our partners at the Museum, changes broadly covering the following:

1. Reduction of R&R! programme duration from 8 to 6-weeks (the programme itself has been modified since previous submissions)
2. Removal of pilot component of the study (Procedure written out is for the 'full' study now)
3. Removal of the involvement of caregivers in the study
4. Inclusion of only PWCIs whose cognitive status is above the MoCA threshold outlined in previous research (indicating their ability to provide consent to studies and participate independently)

We have updated the submission to reflect the full study as a result. Thank you for the expeditious reviews on our previous editions and submissions for the pilot study - we look forward to hearing from you.