WP 18 Project report

<table>
<tr><td colspan="4">CSR Great Minds</td></tr>
<tr><td colspan="2">Start date: November 2017</td><td colspan="2">Completion date: June 2020</td></tr>
</table>

Team members **funded** (full or part-time) by DPUK
Heather Holve, Ivan Koychev (25%)
Team members involved with the project but not funded by DPUK
Michael Ben Yehuda, Simon Young
Locations: Oxford University

Objectives	Dependencies to and from other work packages, networks and themes
In order to build a new generation of highly targeted clinical studies, DPUK will establish a register of highly characterised individuals who are consented for recontact for dementia-focused clinical studies; the DPUK clinical studies register (CSR). By combining genomic data with detailed phenotyping from cohorts, this register will enable risk stratification per hypothesis at a level of detail and convenience that would not be otherwise available. Specific objectives: 1. Gain cohort agreement to enable their participants to be invited to join the CSR; gain ethical approval for the register 2. Set up registration, cognitive testing, membership management and participant engagement 3. Recruit participants to join the CSR and manage member engagement 4. Facilitate study recruitment from the CSR	

Deliverables	Milestones	Milestone deadline	Work package dependencies	Person(s) responsible
D1.1 Gain NHS ethics approval for the register	M1.1.1 Initial application submitted	M1.1.1 Complete	None	Ivan Koychev
	M1.1.2 Final approval given	M1.1.2 Complete	WP16	
D1.2 Gain agreement from UKB and early adopter cohorts for their participants to be invited to join the CSR	M1.2.1 UKB agreement to allow participants to be contacted and for the CSR to have access to a limited number of existing variables relevant to dementia risk	M1.2.1 On Hold		
	M1.2.2 Cygnus, Airwave and BDR agreement to allow participants to be contacted	M1.2.2a BDR: On Hold	Cohort approval	
		M1.2.2bAirwave: Complete		
		M1.2.2cCygnus: On Hold		
D1.3 Extend recruitment to further cohorts	M1.3.1 Two further cohorts (HWW)	M1.3.1 Jun 2020		
Objective 2:				
D2.1 Create a CSR website that will manage registration, cognitive testing, membership management and participant engagement	M2.1.1 Cambridge Cognition tests ready	M2.1.1 Complete		Ivan Koychev
	M2.1.2 Mobile cognitive application ready	M2.1.2 Complete		
	M2.1.3 Initial website build ready	M2.1.3 Complete		

	M2.1.4 Final website created and ready to use	M2.1.4 Complete		
D2.2 Establish processes for participant contact and support	M2.2.1 Processes for participant contact and support established	M2.2.1 Complete		Ivan Koychev
	M2.2.2 Recruit research assistant	M2.2.2 Complete		Anna Myers
D2.3 Create a communications and events strategy for participant engagement	M2.3.1 Communications and events strategy ready	M2.3.1 Complete		Anna Myers
	M2.2.2 Recruit communications officer	M2.2.2 Complete		
Objective 3:				
D3.1 Pilot recruitment: a joint exercise with the initial CSR parent cohort to ensure all procedures are acceptable, there is a good user experience, and that yield is optimised	M3.1.1 Feedback on CSR experience by participants recruited from the initial CSR parent cohort	M3.1.1 Complete	CSR ethical and cohort approval	Ivan Koychev
D3.2 Initial recruitment materials are created and circulated to all participating cohort members	M3.2.1 Recruitment materials prepared	M3.2.1 Complete		Anna Myers
	M3.2.2 Recruitment materials circulated	M3.2.2 Complete		Heather Holve
D3.3 Wider communications campaigns are conducted to support recruitment	M3.3.1 Public engagement events organised	M3.3.1 Complete		Anna Myers
	M3.3.2 Annual CSR participant events organised	M3.3.2 On Hold due to Covid restrictions		Heather Holve
D3.4 Conduct web-based enhancement of existing data	M3.5.1 Establish six monthly web-based repeat assessment to assess changes in cognition, mood and everyday functioning	M3.5.1 Complete		Ivan Koychev
	M3.5.2 Make data available to the parent cohort	M3.5.2 Jun 2020		Ivan Koychev
Objective 4:				
D4.1 Facilitate recruitment to individual studies through CSR (ie Portfolio Studies)	M4.1.1 Establishment of Data Access Committee	M4.1.1 Complete	CSR ethical and cohort approval	Ivan Koychev
	M4.1.2 Approval of initial Portfolio Study	M4.1.2 Complete		
	M4.1.3 Recruitment to first Portfolio Study	M4.1.3 On hold due to Covid restrictions		

Updates on delivery against milestones since last report

M1.1.2: Ethics amended allowing remote genotyping and actigraph monitoring

M1.2.2: Recruitment from Cygnus and BDR on hold until initial testing of front- and back-end system completed

M1.3.1: HealthWise Wales has joined Great Minds offering it to all its participants

M2.1.4: Back-end website fully functional as of end of Q1 2020 allowing use of the participant selection and feasibility tools; Customer Management System website fully functional as of end of Q1 2020 allowing i) study application submission; ii) study invitation of GM participants and iii) linkage to GM participant selection tool; iv) researcher claiming of participants who have agreed to take part in offered studies

M3.3.2: Annual meeting is being planned jointly with HWW but currently on hold due to COVID restrictions.

M3.5.2: Genotyping of a proportion of the Airwave cohort will be carried out by DPUK and the data will be made available for GM as well as Airwave purposes.

WP 18 Project report

M4.1.3: Due to EPAD LCS closing to recruitment, DFP has been selected as the first study for targeted recruitment through GM. Due to COVID restrictions participant recruitment is expected to start by the end of Q2 2020

Summary of plan to deliver on outstanding work
- Communication to Researchers to advertise availability of participants (Apr 2020)
- Review / upgrades of system following initial study (May 2020)
- Two further cohorts added to register (Sep 2020)
- Participant event (Oct 2020)
- Two further studies testing digital technologies to be run through GM (Jun 2020 and Oct 2020 respectively)

Risks	Mitigation
1) Lack of take up by researchers	1) Increase profile of CSR/GM in Q2 2020
2) No further cohorts added to DPUK	2-4) Short-term focus on remotely delivered studies (i.e. validating digital technologies) to mitigate COVID disruption.
3) Variable cohort data quality	
4) Lack of research activity due to COVID epidemic	

Lessons learnt
- There is a willingness of individuals on existing cohort studies to make themselves available for further studies and assessments;
- Technology can be used to efficiently, yet securely, contact and enrol individuals onto a register, and for them to perform regular cognitive tests, for very modest costs.

Please tell us the most successful outcome and what it means to dementia research *(no more than 50 words)*
The GM infrastructure was designed and delivered at a fraction of the cost of comparable projects (e.g. Brain Health Registry) within 18 months. As of end of Q1 2020 membership of GM stands at 2,962 participants and while the CSR allows re-contact over 23,000 individuals (Airwave cohort).

Outcomes

PUBLICATIONS

Published
- Koychev I, et al **Deep and Frequent Phenotyping study protocol: an observational study in prodromal Alzheimer's disease** BMJ Open 2019;9:e024498. doi: 10.1136/bmjopen-2018-024498

In preparation
- Koychev I, Gallacher, et al. **Dementias Platform UK Stratified Recruitment Infrastructure Protocol: Clinical Studies Register and Great Minds**

ENGAGEMENT ACTIVITIES
- PPI session through Alzheimer's Society in Nov 2018 focusing on ethical issues surrounding risk disclosure and recruitment into preclinical disease trials. We have recruited a Great Minds panel and have set the terms of reference for this group.

PROTOCOLS
- Great Minds and CSR protocol as approved in Oct 2019 amendment

DPUK DATA PORTAL STUDY REQUESTS
- Deep and Frequent Phenotyping study request to recruit through Great Minds

USE OF FACILITIES & RESOURCES
- Use of Data Portal for data storage and data access

Project narrative

The Great Minds protocol was completed in February 2018 and we were granted ethical approval in June 2018. Initial work focused on designing the front- and back-end of the IT infrastructure required to register participants, conduct prospective data collection (medical history, questionnaires and cognitive testing), select participant for studies and organise re-contact. The WP has approached a number of cohorts and since launching Great Minds in Jan 2019 we have recruited over 2.900 participants from Airwave and HealthWise Wales. Agreements in principle are in place with Cygnus and Brains for Dementia Research. The Great Minds website is functional and includes a front-end (participant information on Great Minds) and back-end (registration, medical questionnaires, CANTAB testing). We have also completed the set up a customer relationship management system to manage re-contact of and reporting on Great Minds participants. Deep and Frequent Phenotyping has been identified as the first study to recruit through Great Minds. We are aiming to have recruited the first participants to DFP by the end of Q2 2020. Negotiations with two Sponsors developing digital tools relevant to brain health about testing them in Great Minds are ongoing – expected start date for the two studies in Q2 2020.