

Oxford And Reading Cognitive Health After Recovery From Acute Illness And Delirium-Prospective Study (ORCHARD-PS)

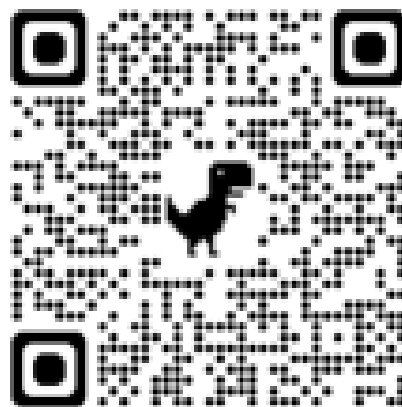


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The ORCHARD-PS includes a deeply phenotyped cohort of older acute hospital patients with detailed prospective delirium ascertainment and multimodal biomarkers (clinical, blood, digital, neuroimaging) to elucidate the pathophysiology of delirium and subsequent cognitive decline after acute illness in older adults.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES									
Delirium, characterised by an acute and fluctuating change in awareness, attention and cognition, is often precipitated by acute illness. Delirium is associated with long-term cognitive decline and subsequent dementia. Delirium may therefore be a potential modifiable factor for dementia. However, the mechanism underlying the delirium-dementia relationship remains unclear. ORCHARD-PS, a bi-centre study, aims to investigate the pathophysiology of delirium and future dementia after acute illness, with acquisition of multimodal biomarker (clinical, blood and neuroimaging) and follow-up to 3 years. In an interim analysis, we determined the baseline characteristics of the ORCHARD-PS cohort from Oxford, including delirium occurrence, cognition and frailty.	Acute medical patients aged ≥65 years without advanced dementia, terminal illness or nursing home residence were eligible. Consent/consultee agreement was required. Delirium was diagnosed according to DSM-V criteria and subsyndromal delirium (SSD) was considered if full criteria were not met. Montreal Cognitive Assessment (MoCA<26=abnormal) was performed as soon as possible after enrolment or deferred until feasible in patients who were too unwell or had delirium. Pre-admission functional ability was determined using the Clinical Frailty Scale (CFS>5=frail). Blood banking and neuroimaging were undertaken for biomarker analysis.	n=306 participants • Mean/SD age=81.9/6.9 years Female= 152 (49.7%) Consultee= 34 (11.1%) • Delirium= 66 (22%) Subsyndromal delirium= 28 (9%) • Pre-existing dementia= 20 (7%) n=11/20 had delirium/SSD • Blood banking= 243 (79%) Neuroimaging= 234 (76%) Frailty was more common and MoCA score was lower in the delirium/SSD group vs the no delirium group (Table). Table. Frailty and cognition by delirium status. <table><tr><th></th><th>Delirium/SSD</th><th>No delirium</th></tr><tr><td>Frailty*</td><td>69/94 (73%)</td><td>76/212 (36%)</td></tr><tr><td>MoCA* (median/IQR)</td><td>18 (13-22)</td><td>23 (20-26)</td></tr></table> Full MoCA was completed in 261 (85%). *p<0.001 for the between-group comparison.		Delirium/SSD	No delirium	Frailty*	69/94 (73%)	76/212 (36%)	MoCA* (median/IQR)	18 (13-22)	23 (20-26)	ORCHARD-PS participants comprise an older population with a high prevalence of physical and cognitive frailty, at overall high risk of dementia/accelerated cognitive decline. Delirium/SSD occurred in one-third of ORCHARD-PS participants. Our target sample of 620 will provide 190 delirium/SSD cases. Over three-quarters of participants completed blood banking and neuroimaging, enabling future multimodal biomarker studies of delirium and dementia in an under-represented population in whom data are currently limited.	1. Gan JM, Elderton L, Vijayakumar Sheela M, et al. Protocol for a prospective cohort study to determine the multimodal biomarkers of delirium and new dementia after acute illness in older adults: ORCHARD- PS. BMJ Open 2025;15:e102028. doi:10.1136/ bmjopen-2025-102028 CONTACT  jasmine.gan@ndnc.ox.ac.uk  ALZHEIMER'S ASSOCIATION AAIC>26
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