Appendix 2: SNAP 3 Case Report Form

Below are the questions used in REDCap for the SNAP 3 study. For brevity, previously published, validated tools have not been replicated in this document. References for tools used in the SNAP 3 study can be found in the reference list of our accompanying paper.

1.0	**Participant details**				
1.1	Which country is your hospital based in?	England	Northern Ireland	Scotland	Wales
1.2	Which hospital site are you completing this form for?				
1.3	Is the potential participant having surgery AND 60 years or above?	Yes		No	
1.4	What is the planned date of surgery?				
1.5	Does the potential participant have the capacity to consent?				
1.6	Is there a consultee/Personal Legal Representative (PLR) to offer advice? This may be face to face or over the telephone.	Yes		No	
1.7	Is the participant's Consultee (England, Wales and Northern Ireland) or Personal Legal Representative (Scotland) available in person or over the telephone?	Yes		No	
1.8	Participant first name				
1.9	Participant surname				
1.10	Participant date of birth				
1.11	Participant NHS/CHI/H&C number				
1.12	Would the participant/Consultee/PLR be able to complete a survey at 4 months by email or telephone?	Yes by email	Yes by telephone	No	
1.13	Email address				
1.14	Telephone number				

2.0	**Frailty assessment**				
2.1	At any point during the participant's clinical pathway, were they assessed for frailty?	Yes		No	
2.2	Which frailty tool was used to assess the participant?	Clinical Frailty Scale /Rockwood Frailty Scale	Edmonton Frailty Scale (scored out of 17)	Reported Edmonton Frail Scale (scored out of 18)	Groningen Frailty Indicator
		Gait Speed Test	PRISMA-7	Risk Analysis Index-C	Timed Up and Go (TUG) Test
		Electronic Frailty Index	Hospital Risk Frailty Index	Grip Strength	Comprehensive Geriatric Assessment
2.3	What was the result of the frailty tool?				
2.4	Clinical Frail Scale (as completed by the clinical or research team)	1-9			
2.5	Reported Edmonton Frail Scale (as completed by the clinical or research team)	0-18			
2.6	Electronic frailty index	0-36			
3.0	**Demographics and ADLs**				
3.1	Postcode				
3.2	Ethnic group	Census categories			
3.3	Highest level of education	Degree level eg. degree, NVQ Level 4-5, Higher National Certificate, Higher National Diploma, BTEC Higher Level, professional	2+ A levels/VCEs, 4+ AS Levels, Higher School Certificate, NVQ Level 3, Advanced GNVQ, City and Guilds Advanced Craft, BTEC National, Scottish Higher	Apprenticeship	5 or more O Levels (passes)/CSEs (grade 1), School Certificate, 1 A Level, 2-3 AS Levels/VCEs, NVQ Level 2, Intermediate GNVQ, City and Guilds Craft, BTEC, Scottish Higher,

		qualifications (eg. teaching or nursing) or other equivalent higher education qualifications	National Diploma, Scottish Higher National Certificate, SVQ level 4+) or equivalent		Scottish Advanced Higher or equivalent qualifications
		O levels/CSEs (any grade), Foundation Diploma, NVQ level 1, Foundation GNVQ, O grade, Scottish Standard Grade or equivalent qualifications	No formal qualifications	Don't know	
3.4	Biological sex	Female		Male	
3.5	Weight				
3.6	Height				
3.7	BMI				
3.8	Source of admission	Own home	Sheltered housing, retirement complex	Residential home	Nursing home
		Rehabilitation facility (inpatient community unit or care home with the purpose of short term rehabilitation)	Homeless	Another secondary care hospital	Other, please specify

3.9	Help with activities of daily living (ADLs)	No, the participant receives no help with ADLs or the participant has help for lifestyle reasons only (would easily be able to do the tasks if needed).	Needs help with any of the following: transportation, shopping, managing finances, shopping, meal preparation, house cleaning, managing communication with others, managing medications.	Needs help with any of the following: ambulating, feeding, dressing, personal hygiene, continence, toileting.	
4.0	**Preoperative assessment**				
4.1	How was the participant assessed preoperatively?	Nurse (or AHP) led assessment on day of surgery only	Anaesthetist led assessment on day of surgery only	Nurse (or AHP) led clinic	Anaesthetist led clinic
		Physician (non geriatrician) led clinic	Geriatrician led clinic	MDT clinic	Other
		None of the above			
4.2	Urgency of surgery as per NCEPOD criteria	Emergency	Urgent	Expedited	Planned
4.3	Indication for surgery	Confirmed cancer	Possible cancer e.g. surgery with the aim of diagnosing possible cancer	Non-cancer	
4.4		ASA I	ASA II	ASA III	ASA IV

	Which ASA score would you give the participant?	ASA V			
4.5	Surgical Outcome Risk Tool (SORT) Version 2 (including procedure type and surgical speciality, as completed by the clinical or research team)				
5.0	**Comorbidities**				
5.1	Does the participant have any of the following comorbidities?	MI (history of MI based on patient history, notes, history of stent	Heart failure (dyspnoea that has responded to heart failure treatment)	AF (paroxysmal/permanent AF, not if successfully ablated)	Valvular heart disease
		Hypertension (even if treated, do not include those with one isolated episode)	Peripheral vascular disease (treated and untreated)	COPD (probable clinical diagnosis)	Other chronic lung disease
		OSA/obesity hypoventilation syndrome (symptomatic, not purely positive STOP-BANG)	Cerebrovascular disease with mild or no residual symptoms (includes TIA, intracerebral/subarachnoid haemorrhage and stroke diagnosed on CT with no symptoms)	Hemiplegia or paraplegia (from any cause)	Dementia
		Mild cognitive	Anxiety or depression	Parkinson's disease	Diabetes (not just

		impairment	(on treatment)	or parkinsonism	impaired glucose tolerance or if in remission)
		Moderate or severe renal disease (acute or chronic, stage 3A+, eGFR< 60)	Benign prostatic hypertrophy (can be self reported)	Liver disease (with or without portal hypertension)	Peptic ulcer disease (even if treated and not symptomatic)
		Malignancy	Lymphoma (of any type, acute or chronic)	Leukaemia (of any type, acute or chronic)	Connective tissue/rheumatological disease (systemic lupus erythematosus, polymyositis, mixed connective tissue disease, polymyalgia rheumatica, psoriatic arthropathy or rheumatoid arthritis)

		Osteoarthritis (include self reported)	AIDS	Hearing impairment (uses hearing aids or struggles to manage a conversation at usual volumes of speech)	Visual impairment (registered partially sighted)
5.2	Does the participant have complications from their diabetes?	Diabetes without chronic complication		Diabetes with chronic complication	
5.3	How severe is the participant's liver disease?	Mild liver disease (without portal hypertension)		Moderate or severe liver disease (with portal hypertension)	
5.4	Which type(s) of malignancy does the participant have/has had?	Any solid malignancy without metastases		Metastatic solid tumour	
5.5	When was participant's malignancy/malignancies first diagnosed?	≤ 5 years ago		> 5 years ago	
6.0	Investigations within 12 weeks				
6.1	Haemoglobin g/L				
6.2	White cell count 10^9/L				
6.3	Neutrophil 10^9/L				
6.4	Lymphocyte 10^9/L				
6.5	Sodium mmol/L				
6.6	Potassium mmol/L				
6.7	Creatinine micromol/L				
6.8	eGFR ml/min/1.73^2				

6.9	What is the participant's SARS-Cov-2 status preoperatively?	Tested positive or not tested and treated as positive	Tested negative or not tested and treated as negative	Don't know	
7.0	Day of procedure				
7.1	Date of operation				
7.2	Type of anaesthesia	General anaesthesia with volatiles	General anaesthesia with total intravenous anaesthesia (TIVA)	Neuraxial	Regional
		Sedation	Local infiltration	Don't know	
7.3	Was the participant catheterised?	No	Long-term/pre-admission catheter	Electively catheterised pre/intra-op	Catheterised post-op
7.4	What level of care did the participant receive postoperatively (on the day of surgery)?	Ward (level 0 or 1 care, including day case units)	Unplanned admission to PACU or equivalent (level 1.5 care)	Unplanned admission to PACU or equivalent (level 2/3 care)	Unplanned critical care admission (level 2 or 3 care)
		Planned admission to PACU or equivalent (level 1.5 care)	Planned admission to PACU or equivalent (level 2/3 care)	Planned critical care admission (level 2 or 3 care)	Don't know
7.5	Was the participant a day case patient who has been successfully discharged?	Yes, they have been discharged on the day of surgery	No, they are planned to be an inpatient OR they were intended to be day case but haven't been	Don't know	

			discharged on the day of surgery		
8.0	Day 3 follow up				
8.1	Postoperative Morbidity Survey (general/cardiac/fractured neck of femur, as completed by the research team)				
8.2	Documented new confusion or delirium	Yes		No	
8.3	4AT (if the participant isn't critically unwell, as completed by the clinical or research team)	0-12			
8.4	CAM-ICU (if the participant is critically unwell, as completed by the clinical or research team)	Negative		Positive	
8.5	Does the participant recall any symptoms of postoperative delirium or 'acute confusion'?	Yes		No	
9.0	Day 7 follow up				
9.1	Postoperative Morbidity Survey (general/cardiac/fractured neck of femur, as completed by the research team)				
9.2	Documented new confusion or delirium	Yes		No	
9.3	4AT (if the participant isn't critically unwell, as completed by the clinical or research team)	0-12			
9.4	CAM-ICU (if the participant is critically unwell, as completed by the clinical or research team)	Negative		Positive	
9.5	Does the participant recall any symptoms of	Yes		No	

	postoperative delirium or 'acute confusion'?				
10.0	Delirium notes review				
	SNAP 3 will use the validated 4AT and CAM-ICU to detect delirium in participants postoperatively. Due to its fluctuating nature, some participants will not be experiencing delirium at the time of their follow up even though they have had delirium. We would like to maximise the likelihood of detecting delirium by undertaking a notes review on day seven in addition to the validated assessment tools. The notes review will provide the study with an impression of whether or not a patient experienced delirium outside of the time of their delirium assessment. Based on existing literature, a notes review is more likely to detect delirium which occurs at night and hyperactive delirium, than a single assessment (such as CAM) alone. The diagnosis of delirium is often not clearly documented in patient's notes. Estimates of previously unrecognised delirium from retrospective notes are variable, ranging from 7-43%. Nursing notes are more likely than medical notes to document the presence of keywords indicating delirium. The use of DSM-V criteria expanded with words describing delirium have been selected based on previous literature and a priori knowledge. Please review the nursing and medical notes as below. Only record evidence from (up to and including) day seven postoperatively. If there is evidence of delirium occurring on day eight, then please do not report this. If you believe that you have identified a current diagnosis of unrecognised delirium from the notes then please pass these concerns to the clinical team. This is a requirement of good clinical and research practice.				
10.1	If the participant has a diagnosis of delirium documented either using a validated tool or as free text documentation of 'delirium' or 'delirious', then please select 'Positive diagnosis of delirium'	Positive diagnosis of delirium	No explicit diagnosis of delirium	Don't know	
	The following questions summarise the DSM-V criteria for the diagnosis of delirium and give examples of words frequently used to describe delirium in the clinical notes.				
10.2	<u>DSM criteria A</u>: Is there any documentation of the following? Inattention, inattentive, distractable Muddled Drowsy, drowsiness	Yes, phrases similar to the ones listed are used in the notes	No	Don't know	

	Unrousable, unresponsive Hypoactive Agitated, agitation Altered mental status Inability to count from 20-1 Inability to recite months of the year backwards				
10.3	DSM criteria B: Is there any documentation of the following? Acute confusion Fluctuating confusion Fluctuation in severity throughout the day Altered mental status, mental status change	Yes, phrases similar to the ones listed are used in the notes	No	Don't know	
10.4	DSM criteria C: Is there any documentation of the following? Confused, confusion Muddled Hallucination, hallucinating Reorientation, reorientated Disorientation, disorientated, Encephalopathy, encephalopathic, Agitated, agitation Inappropriate behaviour Restless, unsettled Aggressive Wandering Refusing observations/ interventions Uncooperative, not cooperating, Pulling lines out Combative Speaking nonsense Paranoid MoCA < 24 AMTS < 7	Yes, phrases similar to the ones listed are used in the notes	No	Don't know	

10.5	DSM criteria D1: Is the participant functioning at their cognitive baseline?	Yes (they are at their neurocognitive baseline according to available sources of evidence)	No	Don't know	
10.6	DSM criteria D2: If delirium is likely, could this disturbance be better explained by a severely reduced level of arousal or coma? *If suffering from delirium, are the participant's symptoms better explained by being severely obtunded, sedated or unconscious with a Richmond Agitation Sedation Scale of 4 or less?*	Yes	No	Delirium not likely	
	Positive diagnosis of delirium from notes review either from:	Documented diagnosis of delirium in notes	DSM criteria responses: Yes to 10.2, 10.3, 10.4 No to 10.5, 10.6		
11.0	4 month follow up				
11.1	EQ-5D-5L				
11.2	EQ-VAS	0-100			
11.3	From when you had your operation, until 120 days after surgery, how many days have you spent in any hospital? Please include any hospital admissions (including your initial admission for surgery) and rehabilitation in hospitals. If you have				

	been out of hospital since the day of surgery and the surgery was day case then write '0'	
11.4	From when you had your operation, until 120 days after surgery, how many days have you spent from home due to convalescing with family/friends/in residential homes. Don't include days spent socialising away from home or hospital admissions here. If you have been at home since the day of surgery and the surgery was day case then write '0'	