Participant flow

Two flow diagrams are provided showing participant flow. The first relates to the primary routine data cohort which informed the primary outcome of unplanned hospital readmissions at 30 days post discharge as well as other routine data outcomes such as unplanned readmissions at 60 and 90 days post discharge. The second relates to the nested follow-up study which provided data for most of our secondary outcomes (quality of transition, safety events, quality of life and resource use).
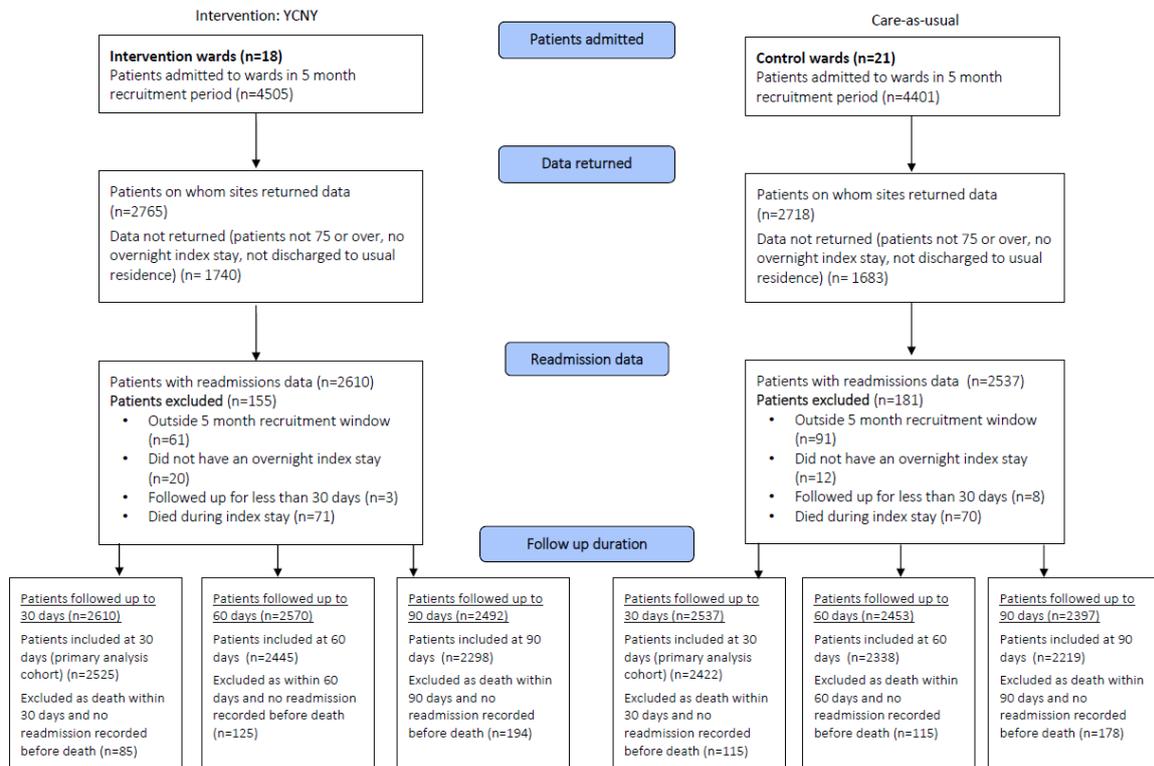

Figure 1: CONSORT flow diagram showing flow of patients in the primary cohort study
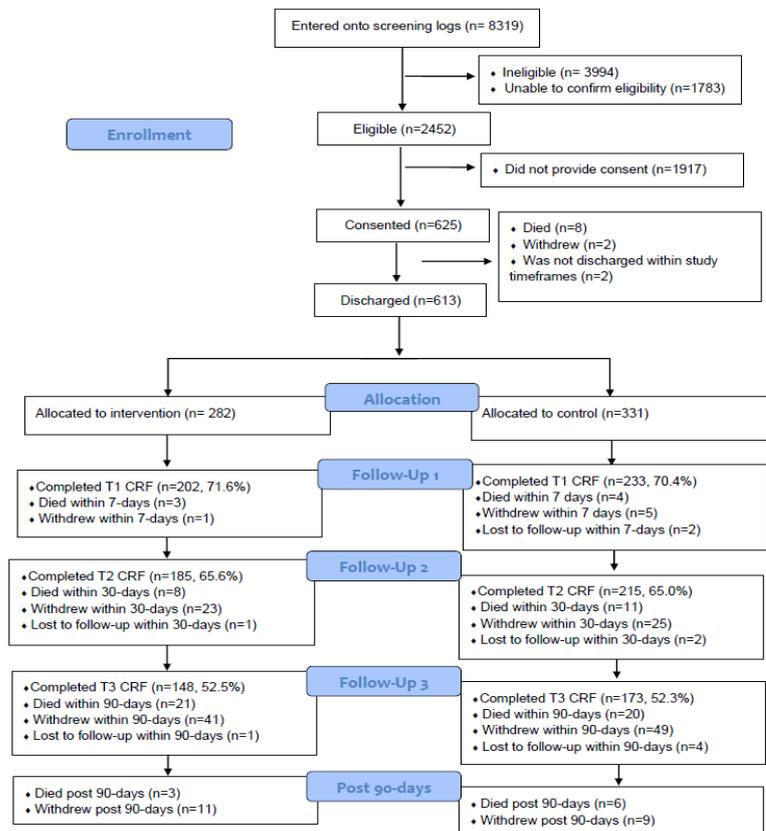
Figure 2: CONSORT flow diagram showing flow of participants in the nested cohort study

Participant characteristics

Baseline characteristics of patients (30 day primary cohort)

	YCNY (N=2525)	Care-as-usual (N=2422)	Overall (N=4947)
NHS Trust			
1	136 (5%)	91 (4%)	227 (5%)
2	379 (15%)	179 (7%)	558 (11%)
3	348 (14%)	276 (11%)	624 (13%)
4	136 (5%)	108 (4%)	244 (5%)
5	387 (15%)	214 (9%)	601 (12%)
6	372 (15%)	323 (13%)	695 (14%)
7	213 (8%)	170 (7%)	383 (8%)
8	183 (7%)	520 (21%)	703 (14%)
9	142 (6%)	357 (15%)	499 (10%)

10	131 (5%)	52 (2%)	183 (4%)
11	98 (4%)	132 (5%)	230 (5%)
Not reported	0	0	0
Type of ward			
Elderly Care	1317 (52%)	1284 (53%)	2601 (53%)
Orthopaedic	499 (20%)	319 (13%)	818 (17%)
Other	273 (11%)	199 (8%)	472 (10%)
Intermediate care	121 (5%)	179 (7%)	300 (6%)
Surgical	132 (5%)	109 (5%)	241 (5%)
Cardiology	0 (0%)	200 (8%)	200 (4%)
Stroke	183 (7%)	0 (0%)	183 (4%)
Respiratory Medicine	0 (0%)	132 (5%)	132 (3%)
Not reported	0	0	0
Patient age in years			
Mean (SD)	84.30 (5.73)	84.53 (5.76)	84.41 (5.75)
Median (Q1, Q3)	84.00 (80.00, 88.00)	84.00 (80.00, 89.00)	84.00 (80.00, 89.00)
Min - Max	75.00 - 105.00	75.00 - 106.00	75.00 - 106.00
Not reported	0	0	0
Sex			
Female	1465 (58%)	1457 (60%)	2922 (59%)
Male	1060 (42%)	965 (40%)	2025 (41%)
Not reported	0	0	0
Ethnicity			
White - British	1176 (88%)	1102 (90%)	2278 (89%)
White - Any other White background	63 (5%)	41 (3%)	104 (4%)
Not stated	22 (2%)	24 (2%)	46 (2%)
Asian or Asian British - Indian	26 (2%)	19 (2%)	45 (2%)
White - Irish	12 (1%)	9 (1%)	21 (1%)
Asian or Asian British - Pakistani	11 (1%)	8 (1%)	19 (1%)
Black or Black British - Caribbean	3 (0%)	9 (1%)	12 (0%)
Any other ethnic group	6 (0%)	4 (0%)	10 (0%)
Asian or Asian British - Bangladeshi	7 (1%)	2 (0%)	9 (0%)
Asian or Asian British - Any other Asian background	8 (1%)	0 (0%)	8 (0%)
Black or Black British - Any other Black background	3 (0%)	2 (0%)	5 (0%)
Asian or Asian British - Chinese	1 (0%)	2 (0%)	3 (0%)
Black or Black British - African	0 (0%)	2 (0%)	2 (0%)
Mixed - White and Asian	0 (0%)	2 (0%)	2 (0%)
Mixed - White and Black Caribbean	2 (0%)	0 (0%)	2 (0%)
Not reported	1185	1196	2381

Length of index stay (days)			
Mean (SD)	16.67 (16.33)	17.03 (18.10)	16.85 (17.22)
Median (Q1, Q3)	12.00 (6.00, 22.00)	12.00 (6.00, 22.00)	12.00 (6.00, 22.00)
Min - Max	1.00 - 142.00	1.00 - 209.00	1.00 - 209.00
Not reported	0	0	0

Baseline characteristics of nested cohort.

Variable	YCNY (n=282)	Care-as-usual (n=331)	Overall (n=613)
Method of Completion			
Participant	320 (96.7)	265 (94.0)	585 (95.4)
Carer	11 (3.3)	15 (5.3)	26 (4.2)
Not reported	0 (0.0)	2 (0.7)	2 (0.3)
Method of Admission			
Emergency	303 (91.5)	258 (91.5)	561 (91.5)
Elective	12 (3.6)	17 (6.0)	29 (4.7)
Other	16 (4.8)	5 (1.8)	21 (3.4)
Not reported	0 (0.0)	2 (0.7)	2 (0.3)
Age			
Mean (SD)	83.5 (5.5)	83.3 (5.5)	83.4 (5.5)
Median (IQR)	83.8 (8.9)	82.8 (8.5)	83.1 (8.7)
Min, Max	75.0, 100.0	75.1, 98.5	75.0, 100.0
Gender			
Male	132 (39.9)	126 (44.7)	258 (42.1)
Female	199 (60.1)	156 (55.3)	355 (57.9)
Ethnicity			
White British	318 (96.1)	261 (92.6)	579 (94.5)
White Irish	1 (0.3)	4 (1.4)	5 (0.8)
White (Other)	4 (1.2)	5 (1.8)	9 (1.5)
Asian or Asian British (Indian)	0 (0.0)	1 (0.4)	1 (0.2)
Black or Black British (Caribbean)	2 (0.6)	0 (0.0)	2 (0.3)
Prefer not to say	5 (1.5)	7 (2.5)	12 (2.0)
Not reported	1 (0.3%)	4 (1.4)	5 (0.8)
First Language			
English	320 (96.7)	272 (96.5)	592 (96.6)
Other[1]	5 (1.5)	3 (1.1)	8 (1.3)
Not reported	6 (1.8)	7 (2.5)	13 (2.1)
Live-in status			
Alone	110 (33.2)	82 (29.1)	192 (31.3)
Alone with regular support from family/friends	89 (26.9)	64 (22.7)	153 (25.0)
With spouse/partner	112 (33.8)	105 (37.2)	217 (35.4)
With son/daughter (in-law)	16 (4.8)	24 (8.5)	40 (6.5)
With brother/sister	0 (0.0)	1 (0.4)	1 (0.2)
Other[2]	3 (0.9)	3 (1.1)	6 (1.0)
Not reported	1 (0.3)	3 (1.1)	4 (0.7)
Has daily carers			
Yes	62 (18.7)	39 (13.8)	101 (16.5)
No	265 (80.1)	237 (84.0)	502 (81.9)
Not reported	4 (1.2)	6 (2.1)	10 (1.6)
How often per day? (Of those who said yes to daily carers)			
1	20 (32.3)	6 (15.4)	26 (25.7)
2	16 (25.8)	15 (38.5)	31 (30.7)

3	8 (12.9)	8 (20.5)	16 (15.8)
4+	17 (27.4)	8 (20.5)	25 (24.8.)
Not reported	1 (1.6)	2 (5.1)	3 (3.0)
Number of hospital admissions in the previous 12 months			
Mean (SD)	1.3 (2.0)	0.9 (1.2)	1.1 (1.7)
Median (IQR)	1.0 (2.0)	0.0 (1.0)	1.0 (2.0)
Min, Max	0, 18	0, 6	0, 18
Not reported	14 (4.2)	16 (5.7)	30 (4.9)

[1]Other languages included: Croatian (n=1); French (n=1); Hungarian (n=1); Punjabi (n=1); Spanish (n=1); Welsh (n=1); Not reported (n=2)

[2]Other living arrangements included; lives with friend (n=1); lives with grandson (n=1); lives with husband and daughter (n=1); lives with nephew (n=1); lives with spouse and son (n=1); sheltered accommodation (n=1)

Outcome measurements

Primary outcome

	n in model	Readmissions at 30 days		Odds ratio (95% confidence interval)	p-value
		YCNY n (%)	Care-as-usual n (%)		
Unplanned hospital readmission at 30 days post discharge					
Primary analysis model	4947	436 (17%)	459 (19%)	0.93 (0.78 – 1.10)	0.372

Secondary analyses including both the primary and nested cohorts

	n in model	YCNY	Care-as-usual	Estimate (95% confidence interval)	p-value
Primary analysis cohort					
Readmission at 60 and 90 days		N (%)	N (%)	Odds Ratio (95% CI)	
60 days	4783	612 (25%)	677 (29%)	0.85(0.70-1.03)	0.100
90 days	4517	692 (30%)	779 (35%)	0.82(0.67-1.01)	0.061
		Mean days to first readmission n (SD)	Mean days to first readmission n (SD)	Cox's proportional Hazard ratio (95% CI)	
Time to first readmission	5158	30.06 (25.17)	30.67 (24.86)	0.87 (0.75-1.01)	0.076
		Mean number of readmissions (SD)	Mean number of readmissions (SD)	Incidence date ratio (95% CI)	

		Mean duration of all readmissions in days (SD)	Mean duration of all readmissions in days (SD)	Adjusted difference in means (95% CI)	
Total readmissions	4517	0.39 (0.69)	0.46 (0.75)	0.87 (0.76 – 0.99)	0.039
Total duration of readmissions (days)	1179	14.71 (17.31)	17.02 (18.42)	-2.26 (-4.65 – 0.12)	0.063
Nested cohort					
CTM-3				Adjusted difference in means (95% CI)	
T1	392	66.96	63.75	3.21 (-0.91, 7.33)	0.127
T2	356	68.35	63.42	4.93 (0.46, 9.40)	0.031
T3	297	68.50	65.91	2.59 (-2.08, 7.27)	0.277
PACT-M (8-experience items)				Adjusted difference in means (95% CI)	
T1	407	20.23	19.55	0.68 (-0.50, 1.87)	0.260
T2	372	23.74	23.17	0.57 (-0.41, 1.56)	0.255
T3	309	24.24	23.77	0.47 (-0.66, 1.61)	0.409
PACT-M (7-safety items)				IRR (95% CI)	
T1	420			0.86 (0.66, 1.10)	0.231
T2	385			0.75 (0.57, 0.99)	0.039
T3	318			0.85 (0.69, 1.04)	0.120

Adverse events

A total of 50 deaths were recorded, 26 (52.0%) were within care-as-usual and 24 (48.0%) within the YCNY group. No deaths were determined to be related to YCNY or participation in the trial.