

Predictors of moving on from mental health supported accommodation in England: national cohort study

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Background

Around 60 000 people in England live in mental health supported accommodation. There are three main types: residential care, supported housing and floating outreach. Supported housing and floating outreach aim to support service users in moving on to more independent accommodation within 2 years, but there has been little research investigating their effectiveness.

Aims

A 30-month prospective cohort study investigating outcomes for users of mental health supported accommodation.

Method

We used random sampling, accounting for relevant geographical variation factors, to recruit 87 services (22 residential care, 35 supported housing and 30 floating outreach) and 619 service users (residential care 159, supported housing 251, floating outreach 209) across England. We contacted services every 3 months to investigate the proportion of service users who successfully moved on to more independent accommodation. Multilevel modelling was used to estimate how much of the outcome and cost variations were due to service type and quality, after accounting for service-user characteristics.

Results

Overall 243/586 participants successfully moved on (residential care 15/146, supported housing 96/244, floating outreach 132/196). This was most likely for floating outreach service users (versus residential care: odds ratio 7.96, 95% CI 2.92–21.69, $P < 0.001$; versus supported housing: odds ratio 2.74, 95% CI 1.01–7.41, $P < 0.001$) and was associated with reduced costs of care and two aspects of service quality: promotion of human rights and recovery-based practice.

Conclusions

Most people do not move on from supported accommodation within the expected time frame. Greater focus on human rights and recovery-based practice may increase service effectiveness.

Declaration of interest

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Keywords

Mental health; supported accommodation; cohort; move on.

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Supported accommodation, serving around 60 000 people in England, is a key component of the 'whole system care pathway' for people with complex, longer-term mental health problems^{1,2}. Despite the substantial costs of providing these services, there is a dearth of empirical research evaluating their effectiveness. The most recent Cochrane Review in the field (updated 2010) identified no relevant randomised controlled trials of adequate quality.^{3,4} A recent trial in Canada showed benefits in housing stability for recipients of an outreach model targeting homeless people, but well-conducted studies of other models are rare.^{5,6} The QuEST (Quality and Effectiveness of Supported Tenancies for people with mental health problems) study was the first research programme to investigate the effectiveness of mental health supported accommodation services in England (www.ucl.ac.uk/quest). It comprised adaptation of a quality assessment tool,⁷ a national survey,⁸ a cohort study investigating longer-term outcomes, a qualitative investigation of staff and service-user experiences⁹ and a feasibility randomised trial comparing the effectiveness of two service types. This paper reports on the cohort study. Our national survey described the three main types of mental health supported accommodation in England: residential care, supported housing and floating outreach.⁸ Residential care homes comprise communal facilities, staffed 24 h, where day-to-day needs are provided (e.g. meals, supervision of medication and cleaning) and placements are not time limited. Supported housing is provided in shared or individual self-contained, time-limited tenancies with staff based on-site for up to 24 h a day. The staff assists

the residents in gaining skills to move on to less supported accommodation. Floating outreach services provide support to people living in time-unlimited, self-contained, individual tenancies. Staff are based off-site and visit for a few hours per week, providing practical and emotional support, with the aim of reducing support over time to zero. Staff are not mental health professionals but usually undertake relevant training (e.g. National Vocational Qualifications). In England, individuals often move from higher to lower supported accommodation every few years as their skills improve, with the goal of managing an independent tenancy. The aim of the cohort study was to assess the proportion of people who successfully moved on to more independent accommodation over 30 months, and to identify service and service-user factors (including costs) associated with this. Our specific research questions were:

- What proportion of residents moved on to more independent accommodation and sustained it for 30 months?
- How much of the outcome variation was due to service type and quality, before and after accounting for service-user characteristics (age, gender, diagnosis, length of stay, morbidity)?

Method

The study was approved by Harrow Research Ethics Committee (reference 12/LO/2009). The full protocol for the study is available

at www.ucl.ac.uk/quest/protocol. The cohort comprised all service users participating in the national survey component of the QuEST programme. Full details of the sample size calculation, sampling and recruitment are described elsewhere.⁸ In brief, between October 2013 and October 2014, we recruited 619 users of mental health supported accommodation across England (159 residential care, 251 supported housing, 209 floating outreach), randomly sampled from 87 services (22 residential care, 24 supported housing, 25 floating outreach). These services were randomly sampled from 14 nationally representative local authority areas, using an index developed by Priebe *et al*¹⁰ that includes characteristics relevant to mental health supported accommodation (e.g. mental health morbidity, social deprivation, provision of community mental healthcare, housing demand). A mean of seven service users were recruited per service. Written informed consent was obtained from all participants. The sample size was calculated to estimate the difference in proportion of people moving on from each of the three types of supported accommodation 30 months after recruitment to within 5%. Recruitment took place from 1 October 2013 to 31 October 2014.

The sample is fully described elsewhere.⁸ In summary, users of residential care and supported housing had more severe mental health problems than users of floating outreach (primary diagnosis of psychosis: 83% residential care, 72% supported housing, 52% floating outreach) and those in residential care had the highest needs and longest contact with mental health services (mean [range] years residential care 23 [15–33], supported housing 11 [5–20], floating outreach 15 [8–24]). Over half of all users were considered at risk of self-neglect (72% residential care, 52% supported housing, 50% floating outreach) and over a third vulnerable to exploitation (41% residential care, 37% supported housing, 36% floating outreach). At recruitment, each service's quality was assessed using the Quality Indicator for Rehabilitative Care – Supported Accommodation (QuIRC-SA) which rates seven domains: living environment, therapeutic environment, treatments and interventions, self-management and autonomy, social interface, human rights and recovery-based practice.⁷ Data on participants were collected from key staff as follows: clinical and risk history; challenging behaviours, using the Special Problems Rating Scale (SPRS);¹¹ needs, using the Camberwell Assessment of Needs Short Assessment Scale (CANSAS);¹² substance use, using the Clinician Alcohol and Drug Scale (CADS);¹³ and social functioning, using the Life Skills Profile (LSP).¹⁴ Sociodemographic details were collected from service-user participants along with ratings of their quality of life, using the Manchester Short Assessment of Quality of Life;¹⁵ autonomy, using the Resident Choice Scale;¹⁶ and satisfaction with services, using the Client Assessment of Treatment Scale.¹⁷

The primary outcome of having 'successfully moved on' was defined as the proportion of participants who moved to more independent accommodation without placement breakdown over the 30-month follow-up period. Since floating outreach is provided to people living in a permanent tenancy, the primary outcome for this group was defined as managing with fewer hours of support per week rather than moving home.

We also investigated a secondary outcome that was defined as the proportion who sustained the move to more independent accommodation for 30 months, without hospital admission/s (an indirect marker of community tenure).

Data collection

During follow-up, the researchers contacted services every 3 months to monitor participants' moves to other accommodation and hospital admissions. For any that moved to another supported accommodation, staff contact details at the new service were obtained. If

the service user moved on to fully independent accommodation, with no supported accommodation staff involvement, their care coordinator (where applicable) was contacted for ongoing monitoring.

At 30-month follow-up, the researchers completed telephone interviews with supported accommodation staff or care coordinators and corroborated details of any moves or hospital admissions, including the length of time in each accommodation and/or admission, during the 30 months. An overall assessment of the primary and secondary outcomes was made from this information. If a relevant staff member could not be identified (e.g. if the service user had moved to a fully independent tenancy and been discharged from mental health services), National Health Service case records were accessed to collect outcome data on moving on. Case notes of all participants were reviewed to clarify the number and length (in days) of any hospital admissions.

To estimate service use costs, information was collected from staff by using a short version of the Client Service Receipt Inventory¹⁸ on the frequency of the service user's contact with specific professionals in the previous 3 months and whether contacts were on a one-to-one basis or in groups. It was assumed that group sessions involved four participants on average. Total inpatient days during the whole 30-month follow-up were collected as described above. Other costs (based on the previous 3 months) were not extrapolated across the 30-month period.

Data analysis

Data were entered into a bespoke database. Data checks were completed on all records, comparing collected and entered data. After cleaning, data were transferred to Stata statistical software for analysis for Windows.¹⁹ Descriptive analyses were conducted for all variables.

Primary outcome

For the primary outcome (successful moving on), a logistic mixed-effects model was fitted, using xtmelogit, with a random intercept for service and a fixed effect for area as this was used in the sampling frame as a design variable. Univariate analysis was used to identify service and service-user variables with a significant association ($P < 10\%$) with the primary outcome. The QuIRC-SA therapeutic environment domain score was not included in the analysis because this domain and the recovery-based practice QuIRC-SA domain were very highly correlated (Spearman's rho 0.87) and the variance inflation factor exceeded ten. We chose to remove this domain as the recovery-based practice domain score had previously been shown to predict successful discharge from in-patient rehabilitation services.²⁰ The QuIRC-SA domains included in the univariable analysis were therefore restricted to treatments and interventions, self-management and autonomy, social interface, human rights and recovery-based practice. Living environment was excluded as it does not apply to floating outreach services. The following service-user variables were included in the univariable analysis: sociodemographic characteristics (age, gender), diagnosis (non-psychotic versus psychotic disorder), length of stay with supported accommodation service, social functioning (LSP), total unmet needs (CANSAS), substance misuse (CADs), challenging behaviours (SPRS), risk of self-neglect and/or vulnerability to exploitation, risk to others and risk of self-harm.

Sensitivity analyses

The following sensitivity analyses were conducted to address factors that may have influenced our primary outcome.

- We calculated propensity scores from the following variables: social function (LSP score) at recruitment, age, diagnosis of

psychosis/no psychosis and a composite risk variable (vulnerability to risk of exploitation ± risk to others ± self-harm in the past 2 years). We used inverse probability of treatment weighting based on these propensity scores to create a synthetic sample in which covariates were balanced between intervention and treatment groups, thus mimicking a trial population, and enabling us to estimate an Average Treatment Effect²¹ which was free of bias due to confounding.

- (b) Excluding participants who did not have a diagnosis of psychosis.
- (c) Replacing the geographical area variable with the geographic area sampling index score.¹⁰
- (d) Only categorising floating outreach service users as having a positive outcome if the number of hours per week of support had reduced by at least 50% since recruitment.
- (e) Comparing service users who had been in the supported accommodation for less than 9 months at recruitment with those who had been there for over 9 months.

Secondary outcome

A logistic mixed-effects model was fitted by using xtmelogit with a random intercept for service and a fixed effect for area to assess the secondary outcome by service type.

Costs of care

Care costs at 30-month follow-up were compared between the original service settings. This used a mixed-effects model with service settings entered as the main independent variables and adjustment made for background characteristics. These were sociodemographic characteristics (age, gender), diagnosis (non-psychotic versus psychotic disorder) and whether there were problems with alcohol or drug use. Cost data are usually skewed but mean costs are still relevant in economic evaluations and the sample size was large enough to produce robust results.

The association between primary outcome and costs was investigated in two ways. First, costs were compared for each service type for those who did and did not achieve the primary outcome. Second, multilevel models were used to investigate the relationship between costs and the primary outcome. We expected that movement to less supported accommodation would have lower costs and the model was therefore adjusted for participant characteristics to quantify

the impact more precisely. The variables included were as listed above.

Results

Participant flows in the cohort are shown in Supplementary Figure 1 available at <https://doi.org/10.1192/bjp.2019.101>. After accounting for withdrawals ($n = 7$) and deaths ($n = 26$), we followed 586/619 (95%) participants over 30 months (residential care 146, supported housing 244, floating outreach 196). There were very little missing primary or secondary outcome data.

Descriptive data

Participants' hospital admissions and risk incidents over 30 months by service type are shown in Table 1, along with the number (%) ready to move on but awaiting a suitable vacancy in a less supported service. Overall, 110/586 (18.8%) had a hospital admission during follow-up. Incidents of risk to others were highest among residential care service users (14.0% residential care, 11.5% supported housing, 4.1% floating outreach) and self-harm was most common among supported housing and floating outreach service users (4.2% residential care, 17.3% supported housing, 14.8% floating outreach). Around a third of supported housing service users who had not moved on were considered by staff as ready to do so (8.5% residential care, 30.5% supported housing, 6.9% floating outreach).

Primary outcome

Overall, 243/586 (41.5%) participants successfully moved on to less supported accommodation (residential care 15/146 [10.3%], supported housing 96/244 [39.3%], floating outreach 132/196 [67.3%]). The odds ratio of achieving the primary outcome for users of floating outreach versus residential care was 7.96 (95% CI 2.92–21.69, $P < 0.001$), for floating outreach versus supported housing service users it was 2.74 (95% CI 1.01–7.41, $P < 0.001$) and for users of supported housing versus residential care it was 2.90 (95% CI 1.05–8.04, $P = 0.04$).

The multivariable analysis identified positive associations between the primary outcome and service quality, specifically the QuIRC-SA domain scores for human rights (odds ratio 1.09, 95% CI 1.02–1.16, $P = 0.007$) and, marginally, recovery-based practice

Table 1 Service-user admissions and risk incidents at follow-up by service type

	Residential care <i>N</i> = 146 (%)	Supported housing <i>n</i> = 244 (%)	Floating outreach <i>n</i> = 196 (%)	Total <i>N</i> = 586 (%)
Number of psychiatric admissions	<i>n</i> = 144	<i>n</i> = 243	<i>n</i> = 196	<i>n</i> = 583
0	117 (81.3)	183 (75.3)	173 (88.3)	473 (81.1)
1	16 (11.1)	31 (12.8)	11 (5.6)	58 (9.9)
>1	11 (7.6)	29 (11.9)	12 (6.1)	52 (8.9)
Number of involuntary psychiatric admissions				
0	125 (86.8)	201 (82.7)	182 (92.9)	508 (87.1)
1	11 (7.6)	27 (11.1)	8 (4.1)	46 (7.9)
>1	8 (5.6)	15 (6.2)	6 (3.1)	29 (5.0)
Any episodes of being in prison?	<i>n</i> = 143	<i>n</i> = 243	<i>n</i> = 196	<i>n</i> = 582
	5 (3.5)	9 (3.7)	2 (1.0)	16 (2.7)
Any incidents of violence?	<i>n</i> = 143	<i>n</i> = 243	<i>n</i> = 196	<i>n</i> = 582
	20 (14.0)	28 (11.5)	8 (4.1)	56 (9.6)
Any episodes of self-harm?	<i>n</i> = 143	<i>n</i> = 243	<i>n</i> = 196	<i>n</i> = 582
	6 (4.2)	42 (17.3)	29 (14.8)	77 (13.3)
Any incidents of setting fires?	<i>n</i> = 142	<i>n</i> = 242	<i>n</i> = 196	<i>n</i> = 580
	1 (0.7)	4 (1.7)	1 (0.5)	6 (1.0)
Any incidents of sexual offending?	<i>n</i> = 141	<i>n</i> = 243	<i>n</i> = 195	<i>n</i> = 579
	4 (2.8)	4 (1.6)	0 (0.0)	8 (1.4)
For participants who have not moved on, are they considered ready to do so?	<i>n</i> = 94	<i>n</i> = 95	<i>n</i> = 72	<i>n</i> = 261
	8 (8.5)	29 (30.5)	5 (6.9)	42 (16.1)

(odds ratio 1.04, 95% CI 1.00–1.08, $P = 0.054$) assessed at recruitment. The QuIRC-SA social interface domain score was negatively associated with the primary outcome (odds ratio 0.95, 95% CI 0.91–0.98, $P = 0.001$). Total unmet needs of the service user, length of time in the supported accommodation service and a composite risk variable (vulnerability to exploitation \pm self-harm) at recruitment were also negatively associated with the primary outcome. See Table 2.

Sensitivity analyses

The results of the sensitivity analyses are shown in Supplementary Table 1. All showed a similar pattern of results to the main adjusted and unadjusted models.

Secondary outcome

Few (17/243, 7%) individuals who moved on to less supported services had a subsequent admission during the 30-month follow-up (0/15 residential care, 12/96 supported housing [12.5%], 5/132 floating outreach [3.8%]). The odds ratios associated with the secondary outcome show a similar pattern to the primary outcome results, with successful moving on and no subsequent admission being more likely for users of floating outreach than supported housing (odds ratio 1.65, 95% CI 0.97–2.33, $P < 0.001$) and residential care (odds ratio 3.15, 95% CI 2.28–4.02, $P < 0.001$), and more likely for users of supported housing than residential care (odds ratio 1.65, 95% CI 0.97–2.33, $P < 0.001$).

Costs of care

From the staff-reported service use information reported in Table 3 it can be seen that supported housing service users were more likely to have had care coordinator contacts in the 3-month period before the 30-month follow-up than users of residential care or floating outreach. Contacts with psychiatrists and other doctors were relatively common, although less so for floating outreach service users. Planned face-to-face and group contacts with supported accommodation staff were most likely for residential care service

users. During the 30-month follow-up period, supported housing service users were twice as likely as floating outreach service users to have a psychiatric admission. There was little difference in the proportions having in-patient stays due to physical health problems between the three service types and little difference in the intensity of service use among those in contact with services. The average number of planned face-to-face contacts with supported accommodation staff was highest for floating outreach service users. For those who had a psychiatric admission, the number of in-patient days over the 30-month period was highest for residential care service users.

Table 3 also shows the costs of care. Excluding in-patient days, care costs over the previous 3 months were around twice as high for residential care service users (£1434) compared with supported housing (£718) and floating outreach (£640), with the highest costs attributed to personal care, planned face-to-face contacts with supported accommodation staff and contacts with a doctor other than the psychiatrist. The standard deviations were very high which is common for cost data, with interquartile ranges of £298–1275 for residential care, £213–884 for supported housing and £0–572 for floating outreach. Among supported housing service users, the highest costs were for planned face-to-face contacts with supported accommodation staff followed by contacts with care coordinators. Planned face-to-face contacts with supported accommodation staff was also the highest service cost for floating outreach service users. After controlling for demographic and clinical variables in the multilevel regression model, users of residential care had costs that were on average £440 more than those for supported housing service users (95% CI, –£245 to £1124) and £601 more than floating outreach service users (95% CI, –£54 to £1257) but these differences were not statistically significant.

Psychiatric in-patient costs (assessed over the 30-month follow-up period) were similar for users of residential care and supported housing and about twice that of floating outreach service users. After controlling for demographic and clinical variables, residential care service users' in-patient costs were on average £5214 more than for supported housing (95% CI, –£2844 to £13 272) and £7481 more

Table 2 Results of the univariable and multivariable analyses of the primary outcome: moving on without subsequent placement breakdown

	Odds ratio	95% CI	P-value
Primary analysis – unadjusted			
Supported housing versus residential care	5.64	(2.30, 13.84)	<0.001**
Floating outreach versus residential care	28.81	(11.53, 72.02)	<0.001**
Floating outreach versus supported housing	5.11	(2.47, 10.57)	<0.001**
Primary analysis – adjusted ^a			
Supported housing versus residential care	2.90	(1.05, 8.04)	0.04*
Floating outreach versus residential care	7.96	(2.92, 21.69)	<0.001**
Floating outreach versus supported housing	2.74	(1.01, 7.41)	<0.001**
Association of service-user variables and primary outcome			
Age (years)	0.99	(0.97, 1.01)	0.373
Psychosis	0.63	(0.36, 1.09)	0.101
Length of stay with service (months)	0.99	(0.98, 0.99)	<0.001**
Social function (LSP total)	1.01	(0.99, 1.03)	0.498
Unmet needs (CANSAS total unmet)	0.81	(0.70, 0.94)	0.006*
Challenging behaviours (SPRS total)	0.98	(0.84, 1.13)	0.739
Drug use (CADS problematic use)	0.83	(0.39, 1.79)	0.642
Self-neglect and/or vulnerable to exploitation	0.58	(0.35, 0.98)	0.040*
Association of service variables and primary outcome			
QuIRC-SA social interface domain score	0.95	(0.91, 0.98)	0.001*
QuIRC-SA human rights domain score	1.09	(1.02, 1.16)	0.007*
QuIRC-SA recovery-based practice domain score	1.04	(1.00, 1.08)	0.054

All models fitted by using xtlogit with a random intercept for service and fixed effect for area and service type. LSP, Life Skills Profile; CANSAS, Camberwell Assessment of Needs Short Assessment Scale; SPRS, Special Problems Rating Scale; CADS, Clinician Alcohol and Drug Scale; QuIRC-SA, Quality Indicator for Rehabilitative Care – Supported Accommodation.

a. Adjusted for QuIRC-SA domains (social interface, human rights, recovery-based practice), participant age, whether the participant had psychosis, length of stay with service in months, LSP total at baseline, CANSAS unmet needs at baseline, SPRS total at baseline, drug use assessed by CADS at baseline, self-neglect and/or vulnerability to exploitation.

* $P < 0.05$, ** $P < 0.01$.

Table 3 Service use and costs at 30-month follow-up

Service	Residential care (n = 141)			Supported housing (n = 242)			Floating outreach (n = 193)		
	N (%) using services	Mean (s.d.) contacts by users	Mean (s.d.) cost (£)	N (%) using services	Mean (s.d.) contacts by users	Mean (s.d.) cost (£)	N (%) using services	Mean (s.d.) contacts by users	Mean (s.d.) cost (£)
External staff									
Care coordinator	65 (46)	3.2 (3.4)	55 (106)	144 (60)	4.0 (3.6)	91 (131)	48 (25)	4.2 (4.7)	40 (113)
Psychiatrist	55 (39)	1.2 (0.4)	49 (67)	101 (42)	1.2 (0.5)	55 (76)	42 (22)	1.3 (0.7)	30 (67)
Other doctor	92 (65)	3.1 (2.6)	91 (131)	124 (51)	2.7 (2.9)	59 (105)	84 (44)	3.0 (3.1)	57 (108)
Psychologist	7 (5)	2.3 (1.9)	16 (87)	8 (3)	1.8 (0.5)	6 (37)	6 (3)	3.3 (2.2)	14 (93)
Community mental health nurse	23 (16)	2.7 (1.9)	16 (46)	43 (18)	5.1 (4.6)	32 (99)	21 (11)	3.9 (2.5)	15 (53)
Occupational therapist	5 (4)	3.0 (1.9)	2 (14)	14 (6)	2.3 (2.9)	3 (19)	17 (9)	1.5 (0.6)	3 (10)
Social worker	14 (10)	1.9 (1.4)	7 (27)	18 (7)	2.4 (1.8)	7 (31)	10 (5)	3.9 (7.1)	8 (70)
Counsellor	2 (1)	7.0 (4.2)	2 (21)	3 (1)	6.7 (4.7)	2 (20)	5 (3)	8.8 (6.9)	3 (21)
Art therapist	7 (5)	6.7 (5.5)	20 (148)	5 (2)	11.0 (8.6)	10 (84)	5 (3)	6.6 (4.5)	8 (51)
Contact with supported accommodation staff									
Planned face-to-face session	98 (70)	12.2 (11.4)	240 (417)	144 (60)	16.6 (16.1)	344 (683)	81 (42)	22.8 (34.6)	445 (1470)
Group session	93 (66)	9.5 (11.4)	63 (91)	96 (40)	11.4 (11.4)	62 (172)	15 (8)	4.6 (6.8)	4 (24)
Personal care	41 (29)	70.1 (49.8)	849 (3356)	5 (2)	97.4 (51.6)	46 (395)	0 (0)	–	0 (0)
Total non-in-patient costs			1434 (3501)			718 (906)			640 (1584)
In-patient care									
Psychiatric in-patient	27 (18)	176.3 (211.1)	11 376 (39 336)	60 (25)	126.0 (149.1)	10 816 (31 900)	23 (12)	122.3 (175.5)	5011 (24 763)
Physical in-patient	20 (14)	8.4 (7.3)	671 (2286)	41 (17)	13.8 (27.0)	1352 (7068)	23 (12)	10.7 (23.2)	729 (4963)
Total in-patient costs			12 046 (39 356)			12 169 (32 281)			5739 (25 144)

than for floating outreach service users (95% CI, –£210 to £15 172) but again these differences were not statistically significant.

Table 4 shows the costs for users of each of the three service types at 30-month follow-up for those who did and those who did not achieve the primary outcome. Unsurprisingly, costs were lower for those who moved to less supported services. In the unadjusted multilevel regression model, not including the costs of in-patient care, those who achieved the primary outcome had mean (s.d.) service costs at follow-up of £388 (£700), whereas those who did not had mean (s.d.) costs of £1214 (£2594). After adjustment, those who moved on to less supported services had costs that were on average £427 lower than those who did not (95% CI, £43–£811). The mean (s.d.) in-patient costs for those who achieved the primary outcome were £2713 (£10 062) and for those who did not they were £15 142 (£40 463). The adjusted multilevel model revealed that in-patient costs for those who moved on were £14 608 less than for those who did not (95% CI, £8593–£20 624).

Discussion

We conducted the first national cohort study investigating outcomes for users of mental health supported accommodation in England. We achieved a high follow-up rate, collecting primary outcome data on 95% of participants at 30-month follow-up, enabling robust assessment of the proportion of participants who successfully moved on from residential care or supported housing to

more independent accommodation or, for those receiving floating outreach services, were able to manage with less support.

In our primary outcome analysis, 42% of participants successfully moved on (two-thirds of those receiving floating outreach services, a third of those in supported housing and one-tenth of those in residential care) and very few of those who moved on had a subsequent hospital admission (our secondary outcome). Our sensitivity analyses supported the findings of our primary outcome analyses. In England, most supported housing and floating outreach services are contracted to work with individuals for around 2 years, in keeping with the Government's 'short-term supported accommodation' model. Our results show a clear divergence between this expected time frame and reality which could pose a risk to individuals who require longer-term support, placing them and service staff under inappropriate pressure to move on prematurely.

Users of different services had similar levels of risk at the 30-month follow-up as at recruitment,⁸ with around a quarter of those living in supported housing and floating outreach considered at risk of self-harm. Service users with more unmet needs, more risks and longer length of stay in the service (all of which are indicators of greater morbidity) were less likely to successfully move on. After adjusting for these characteristics, floating outreach service users were more likely than those in residential care and supported housing to move on successfully, and those in supported housing were more likely to move on successfully than those in residential care. Although service costs between the three service types did not vary once sociodemographic and

Table 4 Mean (s.d.) costs by achievement of primary outcome

	Residential care		Supported housing		Floating outreach	
	Yes	No	Yes	No	Yes	No
Non-in-patient care	398 (317)	1552 (3676)	590 (713)	801 (1005)	240 (687)	1517 (2432)
In-patient care	0 (0)	13 426 (41 339)	4754 (12 955)	16 978 (39 433)	1537 (7747)	14 407 (41 458)

Costs are from 2013/14 and are in pounds.

clinical variables were accounted for, service costs for those who moved on were significantly lower than for those who did not, even after adjustment.

Successful moving on was positively associated with service quality, specifically the degree to which the service promoted service users' human rights and adopted recovery-based practice (as assessed by the QuIRC-SA). The human rights domain includes the degree to which the service protects service users' privacy and dignity, their legal rights and their access to advocacy. The recovery-based practice domain includes the degree to which the service promotes collaboration between staff and service users in care planning, involves service users in the running of the service, helps service users to gain independent living skills and holds a culture that embodies hope for service users to progress, which includes a maximum expected length of stay. The association between successful moving on and recovery-based practice concurs with a previous national cohort study in England that investigated service characteristics associated with successful community discharge from in-patient mental health rehabilitation services.²⁰ This therefore suggests that gaining skills in recovery-based practice is key for staff that work with this service-user group. The association between the promotion of human rights and our primary outcome highlights the importance of access to advocacy services and legal representation to assist progression through the supported accommodation system.



The negative association between the QuIRC-SA social interface score and successful moving on may seem paradoxical, but this domain includes the degree to which family members are involved in service users' care and to which the service engages service users with local community resources. It is possible that services that facilitate greater family engagement may experience greater resistance from family members for service users to move on to more independent accommodation, an issue identified in previous studies.²² Additionally, services that facilitate service users' engagement with local community resources may find them more reluctant to move to alternative accommodation in a different locality.

Almost a third of those in the supported housing user group (and 16% of the whole sample) were considered ready to move on by staff, suggesting that there is a national under-provision of supported accommodation.

Limitations

Our findings must be viewed in light of a number of limitations. First, successful moving on for floating outreach service users was operationalised as managing with fewer hours of support per week than that applied to users of residential care and supported housing services and thus the successful proportion found for floating outreach service users may have been overestimated. Nevertheless, our sensitivity analysis that reclassified floating outreach service users as having a successful outcome only if the number of hours of support they were receiving had reduced by at least half found similar results. Second, although we designed the study to ensure that primary and secondary outcomes could be collected from case notes (a strength of our design), this may have led to further overestimation of successful moving on, particularly for those in floating outreach. Specifically, since outcome data for service users who had been discharged from the supported accommodation service had to be collected from clinical case notes (as they no longer had a key staff member to report on their outcomes), it is possible that some of this group may have returned to some form of supported accommodation without being taken on again by clinical services and thus this would not be reported in their case notes. Third, for service users whose follow-up data could only be collected from case notes, other data – such as contacts with family (used in our costs of care

analysis) – could not be collected. Fourth, service use data provided by staff (also used in our health economic analysis) may have been prone to recall error. However, the period of interest was 3 months, short enough to mitigate against this possibility, and any recall bias would apply equally to all three service types.

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Supplementary material

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psychiatry in philosophy

John Stuart Mill: recurrent depressive disorder; bibliotherapy; happiness, altruism, compassion and empathy

Greg Wilkinson

J. S. Mill (1806–1873), pre-eminent political, economic and social philosopher of the 19th century, describes 'A crisis in my mental history' in his *Autobiography*. A Utilitarian, he held that happiness – intended pleasure and absence of pain – is the sole end of human action; famously, in *On Liberty* he wrote: 'The only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others'.

From the winter of 1821 his aim in life was to be a reformer of the world and his conception of his own happiness was identified with this object:

'But the time came [in autumn 1826] when I awakened from this as from a dream [...] I was in a dull state of nerves, such as everybody is occasionally liable to; unsusceptible to enjoyment or pleasurable excitement; one of those moods when what is pleasure at other times, becomes insipid or indifferent; [...] In this frame of mind it occurred to me to put the question directly to myself, "Suppose that all your objects in life were realized; that all the changes in institutions and opinions which you are looking forward to, could be completely effected at this very instant: would this be a great joy and happiness to you?" And an irrepressible self-consciousness distinctly answered, "No!" At this my heart sank within me: the whole foundation on which my life was constructed fell down. All my happiness was to have been found in the continual pursuit of this end. The end had ceased to charm, and how could there ever again be any interest in the means? I seemed to have nothing left to live for. [...] Hardly anything had power to cause me even a few minutes oblivion of it. For some months the cloud seemed to grow thicker and thicker' (*Autobiography*, chapter V).

Mill frequently asked himself if he could, or if he was bound to, go on living like that; and he generally answered that he did not think he could bear it beyond a year. However, after around 6 months:

'a small ray of light broke in upon my gloom. I was reading, accidentally, Marmontel's "Mémoires", and came to the passage which relates his father's death, the distressed position of the family, and the sudden inspiration by which he, then a mere boy, felt and made them feel that he would be everything to them – would supply the place of all that they had lost. A vivid conception of the scene and its feelings came over me, and I was moved to tears. From this moment my burthen grew lighter. The oppression of the thought that all feeling was dead within me, was gone. I was no longer hopeless [...] Relieved from my ever present sense of irremediable wretchedness [...] Thus the cloud gradually drew off, and I again enjoyed life: and though I had several relapses, some of which lasted many months, I never again was as miserable as I had been' (*Autobiography*, chapter V).

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