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# Alternatives to standard acute in-patient care in England: roles and populations served

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## Background

Key questions regarding residential alternatives to standard acute psychiatric care, such as crisis houses and short-stay in-patient units, concern the role that they fulfil within local acute care systems, and whether they manage people with needs and illnesses of comparable severity to those admitted to standard acute wards.

## Aims

To study the extent to which people admitted to residential alternatives and to standard acute services are similar, and the role within local acute care systems of admission to an alternative service.

## Method

Our approach combined quantitative and qualitative methods. Consecutive cohorts of patients in six residential alternatives across England and six standard acute wards in the same areas were identified, and clinical and demographic characteristics, severity of symptoms, impairments and risks compared. Semi-structured interviews with key stakeholders in each local service

system were used to explore the role and functioning of each alternative.

## Results

Being already known to services (OR=2.6, 95% CI 1.3–5.2), posing a lower risk to others (OR=0.49, 95% CI 0.31–0.78) and having initiated help-seeking in the current crisis (OR=2.2, 95% CI 1.2–4.3) were associated with being admitted to an alternative rather than a standard service. Stakeholder interviews suggested that alternatives have a role that is similar but not identical to standard hospital services. They can divert some, but not all, patients from acute admission.

## Conclusions

Residential alternatives are integrated into catchment area mental health systems. They serve similar, but not identical, clinical populations to standard acute wards and provide some, but not all, of the functions of these wards.

## Declaration of interest

None.

In-patient and residential alternatives to standard in-patient acute wards have a long history, and a recent survey established that such alternatives are relatively widespread in England.<sup>1</sup> There is considerable support among service users, policy makers and voluntary sector groups campaigning for mental health service improvement for models such as crisis houses.<sup>2</sup> Despite this, the evidence base regarding their role and outcomes is limited.<sup>3</sup> The papers in this supplement use a number of methods to address this gap. The lack of evidence is likely to result at least partly from the considerable methodological challenges inherent in evaluating services to which admission occurs at the time of a crisis.<sup>4</sup>

The aim of this study was to address two related questions about residential alternatives to admission: the extent to which people admitted to alternative services and those admitted to standard acute wards are similar, and the role that admission to an alternative unit has within local acute care systems. Little evidence is available on this topic. An investigation of the characteristics of 100 women admitted to a north London women's crisis house indicated that the large majority were already known to specialist mental health services and had a previous history of psychiatric hospital admission.<sup>5</sup> Subsequently, a comparison between women admitted to this crisis house and two other crisis houses in south London, and women admitted voluntarily to acute in-patient wards in the same catchment areas, found that those using the crisis house were less likely to be referred by the accident and emergency department, to have a diagnosis of a psychotic illness and/or to have a care coordinator in a community mental health team;<sup>6</sup> otherwise the two groups were diagnostically and demographically similar, although severity of symptoms was not assessed.

## Method

The findings reported here derive from the second phase of the Alternatives Study, which used a range of methods to examine service user characteristics, service user and carer views and experiences, content of care and service use and outcomes in six alternative services in England, comparing each of them with a standard acute service in the same locality. This paper focuses on the role of alternative services, presenting quantitative findings regarding differences between service users in the alternative and local comparison services, and a qualitative exploration of service managers' and stakeholders' views regarding the role of alternatives within catchment area service systems. The companion papers in this supplement examine service user experiences,<sup>7,8</sup> outcomes and costs,<sup>9,10</sup> and content of care.<sup>11</sup> The study was approved by the Metropolitan Research Ethics Committee.

## Identification of services

The study reported here followed on from the Alternatives Study phase 1, a survey that aimed to identify all residential and acute alternatives to admission in England.<sup>1</sup> Services were included if they met the following three criteria:

- (a) aimed to serve adults aged 18–65 years who would otherwise be admitted to an acute ward;
- (b) involved patients staying overnight at the service;
- (c) met at least one of the following criteria:
  - (i) based outside hospital;

- (ii) dedicated to a specific diagnostic or sociodemographic group;
- (iii) had a fixed maximum length of stay;
- (iv) had implemented a specific therapeutic model involving changes in the practice of more than one profession within the service.

We identified 131 alternative services, and have described the organisational characteristics of the 109 responding to our survey.<sup>1</sup> A cluster analysis identified eight types of alternative: four hospital-based and four community-based. The second phase of the study focused on five of these types: the other three were not included as they tended to serve wide catchment areas and narrow diagnostic or demographic groups, so that comparison with local standard acute wards was inappropriate. The five types represented in this study are described below.

#### Crisis team beds

Crisis team beds were characterised by small numbers of beds, short length of stay, staff without professional qualifications and close integration with the crisis resolution and home treatment teams that are now available throughout England providing home-based intensive assessment and treatment, most available 24 h a day 7 days a week, although sometimes with only an on-call or office-based service at night.<sup>12</sup>

#### Clinical crisis houses

Clinical crisis houses were community-based services that bore a greater resemblance to hospitals than other types of community service. The proportion of staff with nursing qualifications approached that in hospital wards, 'medical' interventions such as medication review and dispensing and physical investigations were more often available than in most other types of alternative service, and programmes of structured activity tended to be available.

#### Non-clinical alternative services

Non-clinical alternatives were the service type that appeared least similar to traditional hospital wards – most were managed by organisations outside the National Health Service (NHS), employed few staff with professional qualifications, and, in our national survey, had fewer residents on a census night who were experiencing psychotic symptoms or had a history of hospital admission than in other service types.

#### General therapeutic wards

General therapeutic wards were general acute wards characterised by the implementation of a specific therapeutic model affecting the practice of at least two disciplines within the staff team. The most frequently reported named acute treatment model was the Tidal Model,<sup>13</sup> which focuses on exploring patients' individual narratives and agenda for recovery. A ward implementing this model was therefore selected to represent this category in phase 2 of the Alternatives Study, and is subsequently referred to as the 'Tidal Model ward'.

#### Short-stay wards and general wards for specific groups

The final group emerging from the cluster analysis was slightly more heterogeneous than the others, but included a distinct subgroup of wards with a fixed brief admission length; a ward of this type was thus selected for phase 2 of the study and is referred to as the 'short-stay ward'.

One of each of the above types was included in the current study, with the exception of the non-clinical alternatives group, represented by two services. We chose to include two of the latter category as we decided that they were of particular interest as the type of alternative that appeared to differ most markedly from standard acute wards. One of the two non-clinical alternatives that we included was a specific service for people from Black ethnic groups, felt to be important because of the many reports of adverse experiences among users of the UK in-patient mental health system of African or Caribbean heritage.<sup>14</sup> In selecting the services for phase 2, we aimed to choose units that were relatively typical of their cluster on most major characteristics and also to represent a variety of regions and types of area.

### Included services

Data were collected from six alternative services. The crisis team beds were located in an industrial town in the north of England. Since 2003, four beds within a long-term rehabilitation hostel for people with severe mental illness had been dedicated to people currently under the care of the local crisis resolution and home treatment team.<sup>12</sup> The team managed the beds and controlled admissions to them. Most of the staff of the hostel hosting the beds were social care staff without professional qualifications, but considerable input was available from crisis team professionals with mental health qualifications. The clinical crisis house consisted of eight beds within a centre that also accommodated the local community mental health team, with close integration and sharing of staff with this team. It was located in a rural area in the Midlands. A distinctive feature was that, despite appearing to be and being described by all as a community facility, it was legally designated as a hospital and thus able to accept compulsory admissions. Both of the non-clinical alternatives were located in socially deprived and ethnically diverse inner-London boroughs, managed by voluntary sector organisations and mainly staffed by workers without mental health professional qualifications. Eight- and nine-bedded respectively, both collaborated closely with local NHS services, especially the local crisis resolution teams. Staff and service users from non-clinical alternative 2 were drawn from Black and minority ethnic (BME) groups, primarily people of Caribbean or African heritage: providing a culturally sensitive service to such service users was an explicit aim of the service and its commissioners. The Tidal Model ward was a 20-bed ward situated in an inner-city deprived area of a large city in the Midlands, receiving all local acute admissions. It had aimed to implement the Tidal Model since about 2001. Finally, the short-stay ward, established in 2005, was a 12-bedded ward based in a general hospital in a new town within the outer metropolitan area that surrounds London and accommodates its overspill. It had a maximum length of stay of 72 h and accepted only voluntary admissions, aiming to discharge as many as possible without requiring transfer to a standard acute ward through close collaboration with the local crisis resolution and home treatment team.

Comparison data for each alternative were collected from one or more local standard acute wards. Comparison standard services were identified as the main in-patient service for patients from the same or similar catchment areas as each alternative. These standard services comprised 18–25 beds and all were situated within the same NHS trust as the alternative service, with the exception of the comparison service for the short-stay ward, where, because most voluntary patients locally were initially admitted to the short-stay ward, a suitable comparison standard admission ward was not available in the same area. The selected

comparison wards for the short-stay ward were therefore two 20-bedded acute wards in a demographically similar conurbation also within the outer metropolitan area. The structure and service provision of the alternative and standard services included in the study are summarised in online Table DS1.

### Quantitative comparison of service user characteristics

We aimed to investigate the social and clinical characteristics of consecutive series of 35 people at each of the six alternative and six standard comparison services. Given that the study objectives required recording of data on a comprehensive sample at the time of admission and that this was not likely to be feasible if individual informed consent needed to be obtained from all, ethical approval was obtained for clinical staff to record simple data regarding all service users except where:

- (a) the service user had opted out of the study, or
- (b) admission was explicitly for a purpose other than management of a crisis (for example, respite for carers or initiation of new medication) or as a transfer from another ward for administrative reasons.

Information about the study and how to withdraw was provided in three ways: on posters prominently displayed round each unit, on an information sheet given to each person close to the point of admission and on a sheet given to the person close to discharge. Each of these explained the nature and purpose of the study, and invited patients to opt out of use of their data by speaking to a staff member or a researcher.

#### Data collection

Data were recorded on a standardised admission form by in-patient service staff for each patient. Researchers trained staff in recording the data and maintained close links with them, providing support and encouragement in completing the measures. As well as items regarding referral pathway, reasons for admission, and sociodemographic and clinical details, the admission form included three brief standardised measures with established psychometric properties: the Global Assessment of Functioning scale (GAF) in its two-scale version, eliciting global ratings of severity of symptoms and impairment of social functioning;<sup>15</sup> the Threshold Assessment Grid (TAG), included as a measure of severity of risk and needs;<sup>16</sup> and the Health of the Nation Outcome Scales (HoNOS), a measure of the severity of clinical and social problems.<sup>17</sup>

#### Statistical analysis

Our aim was to conduct an exploratory analysis of differences between the cohort admitted to alternative services and that admitted to standard services. Little previous research has investigated this topic, so we drew on a paper that reported a review of variables associated with admission to hospital rather than management by an intensive home treatment service, as well as on a new investigation of variables associated with management by a crisis team rather than an in-patient ward.<sup>18</sup> This allowed identification of a set of candidate variables that we anticipated might also be associated with being admitted to an alternative rather than a standard in-patient ward. The first step in the exploratory analysis was to conduct univariate tests of whether each of these variables was associated with being admitted to an alternative rather than an acute ward. As a second step, a logistic regression analysis was carried out, with admission to an alternative service rather than to hospital as the dependent

variable. The explanatory variables in this regression were variables associated with admission to an alternative service at a minimum significance of  $P=0.1$  on initial univariate tests. As a secondary analysis we explored differences on a pair-by-pair basis, comparing each alternative with its local standard comparison service (online Table DS2). The Tidal Model is not included for reasons discussed below.

Adjustment was made for lack of independence between observations within each service by using the cluster command in Stata version 10 for Windows to compute robust standard errors. Less than 10% of the data were missing, but exclusion of all cases with any missing data would nonetheless have resulted in substantial loss of data from regression analyses. To avoid this we used multiple imputation, which fills in the missing values based on values of other variables and a 'missing at random' assumption.<sup>19</sup> Unlike other methods of imputation, multiple imputation acknowledges uncertainty about the missing values by creating several imputed data-sets. Each imputed data-set is analysed separately and the results are combined in a way that correctly allows for uncertainty about the missing values.<sup>20</sup> In this instance we generated five imputed data-sets using the *ice* command in Stata,<sup>21</sup> and conducted a regression analysis on the imputed data using the *micombine* command.

### Qualitative investigation of stakeholder perspectives

The second element in our investigation of the role of the alternatives was a qualitative investigation of the perspectives of key stakeholders regarding the services' role and functioning within local catchment area systems. For each service a purposive sample of participants was interviewed regarding the service, selected to include the following:

- (a) the manager of the alternative service;
- (b) a senior member of staff at the local standard in-patient service;
- (c) the manager of the local crisis resolution team;
- (d) a senior clinician in the main local community team that referred to the alternative service, generally a consultant psychiatrist;
- (e) a senior manager within the local mental health trust;
- (f) a senior member of staff in the agency commissioning and funding the alternative service.

Where several suitable candidates for interview were available, we preferred to interview those who had been in post longest, aiming especially to include participants active in the local service network since before the introduction of the alternative service, and those who worked most closely with the alternative. We also sought to include staff from a range of professional backgrounds.

#### Data collection and analysis

A semi-structured interview schedule was developed and piloted for the study. Topics included how service users came to be admitted to the alternative rather than the standard service, what role the alternative service had in the local service system, and how far this resembled the role of standard acute in-patient units. The interviews were recorded digitally, transcribed verbatim and imported into the QSR NVivo 7 package ([www.qsrinternational.com](http://www.qsrinternational.com)) for analysis. Thematic analysis was then carried out:<sup>22</sup> transcripts were read by two coders (B.L.E. and N.M.) who developed a coding framework recording key emergent themes relevant to the study questions, also obtaining input from others of the authors regarding these themes.

## Results

In this investigation one model seemed not to fit well with the rest. This was the Tidal Model ward, which was the only alternative acting as the standard acute admission service for the catchment area in which it was located. All acute admissions from the sector were to this ward, so that it was not 'alternative' in the same sense as the other services, which all provided an additional form of acute care alongside standard acute wards. Examination of service user characteristics indicated no significant difference or trend towards difference between this ward and the sector ward for a neighbouring area that acted as the comparison. In qualitative interviews, referral pathways and clinical populations served were not seen by any interview participant as different from a standard acute ward, and there were substantial doubts as to the extent to which the model had been implemented as intended.<sup>11</sup> Thus our conclusion was that the Tidal Model ward was not in any way distinct from a standard acute ward, and should not be grouped

together with alternatives to such wards. For this reason we have omitted it from the reports of our findings that follow.

### Service user characteristics

Data were collected regarding a cohort of 176 admissions to the other five alternatives, and were compared with 183 admissions to the local standard comparison wards. These admissions were a consecutive series. The target number of 35 per service was reached in all the services except the clinical crisis house, where a slower than anticipated admission rate meant that this number could not be achieved during the study data collection period, even though this was extended. In the five centres from which we report data, 8 people were not included because they opted out and 23 because staff did not record data as requested.

Table 1 describes the characteristics of cohorts using the alternative and standard services, reporting results from univariate tests comparing these. Similarities were substantial on many measures: in both groups the majority of people

**Table 1** Differences between service users in five alternative and five local comparison services

Characteristics at time of admission	Standard services <sup>a</sup> <i>n</i> = 183	Alternative services <sup>a</sup> <i>n</i> = 176	Test	<i>P</i>
Age, years: mean (s.d.)	39.5 (12.8)	42.2 (13.3)	<i>t</i> = -1.89	0.060
Male gender, <i>n</i> (%)	101 (55)	86 (49)	$\chi^2 = 1.44$	0.23
Ethnic group, <i>n</i> (%)			$\chi^2 = 19.9$	0.001
White British	132 (72)	123 (70)		
White other	15 (8)	5 (3)		
Black or Black British (Caribbean)	11 (6)	27 (15)		
Black or Black British (African)	8 (4)	14 (8)		
Asian groups	11 (6)	2 (1)		
Other or mixed	6 (3)	5 (3)		
Born in UK, <i>n</i> (%)	134 (78)	149 (87)	$\chi^2 = 4.92$	0.027
Living alone, <i>n</i> (%)	76 (42)	90 (51)	$\chi^2 = 2.81$	0.093
In open market employment, <i>n</i> (%)	23 (13)	20 (12)	$\chi^2 = 0.20$	0.65
Currently known to mental health services (contact in previous 3 months), <i>n</i> (%)	102 (56)	125 (71)	$\chi^2 = 9.02$	0.003
Previous hospital admission, <i>n</i> (%)	107 (69)	92 (73)	$\chi^2 = 0.66$	0.42
Service user initiated help-seeking in current crisis, <i>n</i> (%)	29 (17)	53 (31)	$\chi^2 = 9.22$	0.002
Pathway to admission, <i>n</i> (%)				
A&E department	22 (13)	7 (4)	$\chi^2 = 8.37$	0.004
Police/criminal justice system	25 (14)	6 (4)	$\chi^2 = 12.80$	<0.0005
Compulsory admission, <i>n</i> (%)	51 (28)	13 (8)	$\chi^2 = 25.75$	0.0005
Self-harm in 2 weeks before admission, <i>n</i> (%)	39 (21)	26 (15)	$\chi^2 = 2.59$	0.11
Harm to others in 2 weeks before admission, <i>n</i> (%)	24 (13)	13 (7)	$\chi^2 = 3.18$	0.074
Psychotic symptoms present, <i>n</i> (%)	86 (47)	53 (30)	$\chi^2 = 10.77$	0.001
Depressive symptoms present, <i>n</i> (%)	52 (28)	71 (40)	$\chi^2 = 5.66$	0.017
Not adhering to prescribed medication, <i>n</i> (%)	52 (32)	34 (21)	$\chi^2 = 5.60$	0.018
Cooperative with staff when arranging the assessment that led to admission, <i>n</i> (%)	133 (75)	154 (92)	$\chi^2 = 18.12$	<0.0005
GAF scores				
Symptom score: mean (s.d.)	46.4 (20.6)	55.1 (17.4)	<i>t</i> = 4.32	<0.0005
Functioning score: mean (s.d.)	59.1 (19.3)	59.9 (17.7)	<i>t</i> = 0.40	0.69
TAG scores				
Self-harm: median (IQR)	1 (0–2)	1 (0–2)	$\chi^2 = 0.86^b$	0.35
Unintentional self-harm: median (IQR)	0 (0–1)	1 (0–1)	$\chi^2 = 0.35^b$	0.55
Harm to others: median (IQR)	1 (0–2)	0 (0–0)	$\chi^2 = 27.0^b$	0.0001
Harm to others: converted for multivariate analysis into binary score with $\geq 2$ indicating significant risk, <i>n</i> (%)	64 (35)	26 (15)	$\chi^2 = 19.49^b$	<0.0005
HoNOS total scores				
Behaviour problems: median (IQR)	3 (2–5)	2 (1–4)	$\chi^2 = 20.18^b$	0.0001
Behaviour problems converted for multivariate analysis into binary score with $\geq 5$ indicating significant problems, <i>n</i> (%)	61 (34)	28 (16)	$\chi^2 = 14.85^b$	<0.0005
Impairment: median (IQR)	1 (0–2)	1 (0–2)	$\chi^2 = 3.86^b$	0.050
Symptoms: median (IQR)	4 (3–6)	4 (2.7–6)	$\chi^2 = 0.66^b$	0.41
Social problems: median (IQR)	4 (1–6)	3 (2–5)	$\chi^2 = 0.01^b$	0.90

A&E, accident and emergency; GAF, Global Assessment of Functioning; HoNOS, Health of the Nation Outcome Scales; IQR, interquartile range; TAG, Threshold Assessment Grid.  
a. There are varying numbers of missing values for variables, ranging from 0 for ethnic group and gender to 77/359 for whether or not the service user had a history of hospital admission.  
b. Kruskal-Wallis test.

admitted were unemployed, known to mental health services and had a previous history of hospital admission. No significant difference was found in risk of intentional or unintentional self-harm, social functioning and social problems or recent self-harm. However, users of the alternative services were more likely to have depressive symptoms and less likely to have psychotic symptoms, and were less likely to be perceived as a risk to others. They were more likely to have referred themselves for help in the current crisis, and less likely to have been admitted through the general hospital accident and emergency department or the police and criminal justice system. The significant association with ethnic group is likely to be largely the result of the inclusion among the alternatives of a service dedicated to people from Black African and Black Caribbean backgrounds. As anticipated, there were also more compulsorily detained patients in the standard group: however, not admitting such patients was a core operational feature of four of the five services, and we thus judged that including this as an explanatory variable in a regression regarding determinants of admission would be relatively uninformative.

For indicators for which the alternative and standard services differed at at least the  $P=0.01$  level, we explored pair-by-pair differences between each alternative and its standard comparison. Lack of power needs to be noted as a limitation for all these analyses. A complex pattern emerged, with the extent and nature of differences between alternative and standard services varying considerably between areas (see online Table DS2). The cohorts admitted to the clinical crisis house, crisis team beds and short-stay ward appeared to resemble their local comparison services on most indicators, whereas the two non-clinical alternatives showed prominent differences on many variables. There were, however, also substantial variations among standard comparison services on indicators such as risk of harm to others, suggesting that the threshold for admission may well differ between areas.

Table 2 shows the results of a regression analysis exploring which characteristics are independently associated with being

admitted to an alternative rather than a standard ward. Adjustment is made for clustering by service: the result of this is that variables strongly associated with this outcome in only one or two services rather than across most of the areas tend not to emerge as significant. Three variables emerge as independently associated with admission to an alternative service after adjustment for all the other candidate variables: these are the service user being already known to mental health services, initiating help-seeking in the current crisis, and posing a lower risk of harm to others. Symptom severity and level of behavioural disturbance are also close to statistical significance, as is the increased odds of admission to an alternative for UK-born service users.

### Stakeholder views

All six managers of the alternative services were interviewed, together with 29 other stakeholders, purposively sampled as described above. The interview covered a variety of aspects of the alternatives' history, role, organisation and functioning: here we summarise the main themes that relate to the role of the alternative service (online Supplement 1 illustrates these with quotes).

#### Role of the alternatives

Four different roles were recurrently identified for the alternatives: acute admission, equivalent to a standard acute ward; subacute care, where a crisis was seen as imminent unless a major intervention was instituted; step-down care, allowing early discharge from hospital; and respite care. All the alternatives were seen as serving a mixture of these purposes, with views about which predominated differing between services and between stakeholders. Most participants did not see the role of the alternatives as identical to the local standard acute wards, but felt that they took pressure off these wards in a variety of ways, including acute

**Table 2** Variables associated with being admitted to an alternative service rather than to hospital on logistic regression (multiple imputation for missing values and adjustment for clustering by service)

Characteristic	Odds ratio (95% CI)	P
Age	1.013 <sup>a</sup> (0.997–1.030)	0.11
Gender	0.97 (0.48–1.97)	0.93
Ethnic group (White UK as reference group)		
White other	0.92 (0.16–5.33)	0.93
Black Caribbean	3.26 (0.30–35.6)	0.33
Black African	4.44 (0.79–24.8)	0.09
Asian	0.35 (0.06–1.89)	0.22
Other/mixed	1.78 (0.52–6.12)	0.36
Born in UK	1.80 (0.91–3.57)	0.091
Known to mental health services in past 3 months	2.60 (1.31–5.19)	0.007
Patient initiated help-seeking in current crisis	2.25 (1.18–4.30)	0.014
A&E on pathway to care	0.33 (0.07–1.63)	0.17
Police/criminal justice system initiated referral	0.44 (1.14–1.39)	0.16
Psychotic symptoms	0.63 (0.28–1.42)	0.27
Depressive symptoms	1.21 (0.47–3.08)	0.69
Not thought adherent to medication	1.03 (0.48–2.21)	0.95
Cooperative with assessment	1.56 (0.80–3.04)	0.20
GAF symptoms score	1.014 <sup>b</sup> (0.999–1.030)	0.07
TAG risk of harm to others (binary)	0.49 (0.31–0.78)	0.002
HoNOS behaviour problems (binary)	0.58 (0.33–1.02)	0.06

A&E, accident and emergency department; GAF, Global Assessment of Functioning; HoNOS, Health of the Nation Outcome Scales; TAG, Threshold Assessment Grid.  
a. Per year.  
b. Per point on scale.

admission diversion for some service users, and early discharge or pre-empting an imminent crisis for others. Each alternative service appeared to be valued by local stakeholders as a significant means of reducing pressure on standard in-patient wards and offering more choice in how to manage crises; if they took issue with the current role of the alternatives, this tended to be because they wanted them to do more rather than because they felt they were not performing a significant function at present. Several described alternatives as having reduced hospital bed use and the need for out-of-area placement: this applied especially to the short-stay ward, perceived as having resolved a major local overspill problem.

All the alternatives were closely linked with catchment area service systems, with most services users referred from and discharged to statutory mental health services. Close links with other community services were of central importance in allowing non-clinical alternatives to manage severe and acute mental health crises effectively, especially those related to psychosis. Crisis teams were especially important in providing clinical expertise in several alternatives, and in the clinical crisis house all service users were known to the community mental health team based on the same premises and were jointly managed with this team. For longer-established alternative services the introduction of crisis resolution teams was seen as having significantly enhanced the usefulness and broadened the role of the alternative service, as residential alternatives and crisis teams together could manage a greater range of crises than either type of service alone. Close links with crisis teams were also seen as enabling admissions to be brief.

Although resembling the community-based alternatives in many aspects of service user characteristics and care pathways, the short-stay ward had a distinctive role in that its main focus was on assessment. This was conducted intensively over a period of up to 3 days, and seemed to be valued highly by local stakeholders who reported that this often allowed a community-based treatment plan to be established rather than proceeding to admission to a standard acute ward.

#### Characteristics of service users

No distinct clinical group was seen as being the main target of the alternatives and no type of illness or symptoms precluded admission; rather, suitability for admission was determined by assessment of risks, level of behavioural disturbance and cooperation. The alternative services were seen by both managers and other local stakeholders as accepting a clinical population overlapping with, but not identical to, that in hospital services. All were seen as restricting the level of disturbance and risk that they could manage to a greater extent than standard acute wards: stakeholders tended to see this as largely a reflection of an appropriate awareness of the limits of the alternatives, as neither staffing levels and expertise nor layout of the community alternatives were suitable for containing situations of high risk. There was also some agreement that the alternative units were often more appropriate for known mental health service users, as information was already available about likely levels of risk and response to interventions. A few participants suggested that personality disorder might be better managed in alternative services than on acute wards, which were seen as often having a negative effect on this group.

There was ambivalence about whether compulsorily detained patients should be accepted, either from the community or as transfers from hospital on leave. Widening the range of potential in-patients eligible for an alternative was seen as an advantage, but the need to enforce treatment and presence of extremely disturbed and uncooperative patients were seen by some as threats to achieving a collaborative and non-coercive atmosphere. However,

local stakeholders in the catchment area of the clinical crisis house felt that this was a setting in which certain compulsory admissions were being managed successfully.

#### Referral pathways

In keeping with their high level of integration into catchment area mental health systems, most referrals in all services originated from local specialist mental health services, above all crisis teams. Views and practices varied regarding allowing self-referrals. Accessibility and increasing patient choice were put forward in their favour, but both self-referrals and general practitioner referrals were seen as tending to steer alternatives away from focusing on acute crises that would otherwise result in admission to a standard ward.

Decisions about who should be referred to an alternative rather than a standard service or crisis team varied between practitioners and teams within local areas: for example, some consultant psychiatrists were reported as being much more willing than others to manage acute illness in community residential settings. Some organisational barriers to access to the alternatives were, however, seen as unnecessarily restricting the range of crises that could be managed in this setting. Relatively complex referral procedures and lack of night-time staff meant that the community alternatives could not in general offer admission during the night or guarantee same-day admission when a bed was available. The referral procedures sometimes took 2–3 days to negotiate, and this was described by some referrers as a major obstacle to managing otherwise suitable acute crises within alternatives.

## Discussion

Both the quantitative and qualitative components of our study suggest that residential alternatives to acute wards are well integrated into local service networks and serve people with substantial needs and histories of mental health service use. Rather than engaging new groups with less severe mental health problems, the alternatives serve populations that resemble acute ward in-patients on most indicators. Indeed, they are more likely than people on standard acute wards to be already on mental health service case-loads. Qualitative data suggest that this is because referrers and staff in alternatives feel more confident that crisis management in an alternative service is feasible when information is available about likely treatment response and risks.

Despite similarities on many parameters, quantitative data indicate substantial differences in certain service user characteristics, and qualitative findings allow interpretation of these. Our quantitative data suggest that alternative service users are more likely to be active help-seekers who cooperate with care (although greater cooperation might be to some extent the result of more acceptable services). Risk of self-harm and impairment of social functioning are similar in standard and alternative settings, but risk and history of violence are uncommon in the alternative setting, and behaviour problems are less prevalent.

The perceptions of the alternatives' role that emerge from stakeholder interviews are congruent with these quantitative findings. Stakeholders did not always concur fully regarding the function of local alternatives, but most supported the idea that these services worked with a group that was distinct from but overlapped with the standard acute ward population, with some residents being acutely ill and others at risk of becoming so. However, those who were most unwell, uncooperative and of risk to others were seen as appropriate for the standard acute wards rather than the alternative services. Indeed, many of the interview participants attached considerable importance to the alternative

services knowing their limitations and avoiding admissions that they would not be able to manage. This restriction of the range of roles taken on by the alternative services was also seen as allowing them to sustain a different atmosphere and style of relationship between staff and service users. Despite serving a more restricted range of clients than the standard acute wards, the alternatives were perceived by key clinicians and managers in their catchment areas as serving a useful function in offering a different model of care and in taking pressure off the standard acute wards.

There was considerable heterogeneity among the services. Service users in the clinical crisis house and crisis team beds – each of which was closely integrated with an NHS mental health team – showed fewer differences from patients in standard acute wards than did residents of the other alternatives. This suggests that such integration and (in the case of the clinical crisis house) a more hospital-like service model may result in more similar clinical populations.<sup>1</sup>

Bowers *et al* have recently discussed the main distinctive components of acute in-patient care,<sup>23</sup> providing a framework for comparison between the roles of standard acute services and alternatives. Of these components, the alternative services resemble and perhaps surpass acute wards in providing ‘presence plus’, defined as continuous on-the-spot availability of staff which allows the development of warm relationships that may serve a variety of therapeutic ends. Delivery of forms of treatment and management that may not be available in community settings is a further role identified by Bowers and colleagues that may also be a component of alternatives. ‘Containment’ is defined as involving intrusion, in the form of 24 h supervision, separation from general society and restriction of freedom of movement and action, especially in order to reduce risk: alternatives tend to involve some of these functions, but to a lesser extent than hospital settings.<sup>10</sup> Finally, ‘legitimate authority and power’ is much less a component of the alternatives than of standard wards, especially where compulsory admissions are not accepted. Thus the observation that alternative services take on some, but not the full range, of the roles of standard wards may be understood as a result of the fact that some, but not all, of the distinctive components of acute in-patient wards are also present in the alternatives.

## Methodological issues

The strengths of this study are in its naturalistic nature, reporting on a sample closely resembling a routine clinical cohort, and in the triangulation of two different methods for investigating the role of alternatives: findings from the two methods could be combined to form a coherent picture. Most of the limited previous literature on residential alternatives reports only on a single service: a strength of the current study is its multisite nature, although this also introduces considerable heterogeneity among the alternatives. Replication of our study in a variety of alternatives would be valuable in assessing the generalisability of our findings. Limitations included the use of data recorded by clinical staff and of simple, global measures to distinguish between service user populations. Some differences may not have been captured: in particular, our study did not include a measure of the ‘acuteness’ of the crisis, so that we were unable to differentiate clearly between long-standing clinical and social difficulties and risks and those of recent onset. Most significantly, our methods did not yield a direct answer to the question of how many service users would have gone to hospital if they had not been admitted to the alternative. It is difficult to envisage a method that would directly address this.

## Implications of our findings

Our findings suggest that residential alternatives are functioning parts of local secondary mental health service networks, accepting people whose needs are long-term and severe, and are in general valued by local stakeholders as a useful part of the system. Thus far the study provides some support for such alternatives. The extent to which they divert people from acute admission cannot be directly gauged from this study: most of the alternatives were too long established and part of too complex a local service network for it to be possible to measure directly how far their introduction had resulted in reductions in acute bed use, and the far from fixed nature of thresholds for acute admission impedes judgements as to who would have been admitted in the absence of alternatives.<sup>23</sup> The wide variations among the standard services in service user characteristics supports the idea that admission thresholds vary widely even among standard catchment area acute wards, and that service availability is likely to be an important determinant of these.

Although there was some consensus among stakeholders within each catchment area regarding the role and purpose of local alternative services, there were also some variations, and it was striking that local policies did not clearly articulate these roles, nor was there evidence that the alternative units and standard wards formed part of coherent and explicit local acute care pathways. Establishing such explicit pathways is likely to result in clearer understanding of how best to make use of the residential alternatives and of the other components in local acute care systems among referrers, service users and staff within the services themselves.<sup>24</sup>

Some limitation of the populations served was seen as appropriate if the alternative services were to function safely and effectively. Research aimed at identifying the groups who benefited most from these alternatives (for example, people with personality disorder were seen by some stakeholders as poorly served on the wards and more effectively contained in community alternatives) may allow helpful development of specialist skills and programmes within the alternatives. However, administrative and organisational barriers were identified that may unnecessarily restrict capacity of the alternative services to manage crises, especially for example where admission procedures make same-day admission difficult to achieve. Removal of such barriers and the integration of alternatives as components in coherent local care systems is an appropriate focus for further service development and for research examining acute services from an organisational perspective. Further focuses for future applied research include outcomes of early discharge from acute wards to residential alternatives and of admissions intended to prevent subsequent development of a severe crisis, both forms of care that several alternative services reported delivering.

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## References

- 1 Johnson S, Gilbert H, Lloyd-Evans B, Osborn DPJ, Boardman J, Leese M, et al. In-patient and residential alternatives to standard acute psychiatric wards in England. *Br J Psychiatry* 2009; **194**: 456–63.
- 2 Davidson L, Miller R, Flanagan E. What's in it for me? The utility of psychiatric treatments from the perspective of the person in recovery. *Epidemiol Psychiatr Soc* 2008; **17**: 177–81.
- 3 Lloyd-Evans B, Slade M, Jagielska D, Johnson S. Residential alternatives to acute psychiatric hospital admission: systematic review. *Br J Psychiatry* 2009; **195**: 109–17.
- 4 Howard L, Leese M, Byford S, Killaspy H, Johnson S. Methodological challenges arising in evaluating the effectiveness of women's crisis houses compared with wards: findings from a pilot patient preference RCT. *J Nerv Ment Dis* 2009; **197**: 722–7.
- 5 Killaspy H, Dalton J, McNicholas S, Johnson S. Drayton Park, an alternative to hospital for women in acute mental health crisis. *Psychiatr Bull* 2000; **24**: 101–4.
- 6 Howard L, Rigon E, Cole L, Lawlor C, Johnson S. Admission to women's crisis houses or psychiatric wards: women's pathways to care. *Psychiatr Serv* 2008; **59**: 1443–9.
- 7 Gilbert H, Slade M, Rose D, Lloyd-Evans B, Johnson S, Osborn DPJ. Service users' experiences of residential alternatives to standard acute wards: qualitative study of similarities and differences. *Br J Psychiatry* 2010 (suppl 53): s26–31.
- 8 Osborn DPJ, Lloyd-Evans B, Johnson S, Gilbert H, Byford S, Leese M, et al. Residential alternatives to acute in-patient care in England: satisfaction, ward atmosphere and service user experiences. *Br J Psychiatry* 2010 (suppl 53): s41–5.
- 9 Slade M, Byford S, Barrett B, Lloyd-Evans B, Gilbert H, Osborn DPJ, et al. Alternatives to standard acute in-patient care in England: short-term clinical outcomes and cost-effectiveness. *Br J Psychiatry* 2010 (suppl 53): s14–9.
- 10 Byford S, Sharac J, Lloyd-Evans B, Gilbert H, Osborn DPJ, Leese M, et al. Alternatives to standard acute in-patient care in England: readmissions, service use and cost after discharge. *Br J Psychiatry* 2010 (suppl 53): s20–5.
- 11 Lloyd-Evans B, Johnson S, Morant N, Gilbert H, Osborn DPJ, Jagielska D, et al. Alternatives to standard acute in-patient care in England: differences in content of care and staff–patient contact. *Br J Psychiatry* 2010 (suppl 53): s46–51.
- 12 Johnson S, Needle J, Bindman J, Thornicroft G (eds). *Crisis Resolution and Home Treatment in Mental Health*. Cambridge University Press, 2008.
- 13 Barker P, Buchanan-Barker P. *The Tidal Model: A Guide for Mental Health Professionals*. Brunner-Routledge, 2005.
- 14 Department of Health. *Delivering Race Equality: A Framework for Action*. Department of Health, 2003 ([http://www.dh.gov.uk/en/Consultations/Closedconsultations/DH\\_4067441](http://www.dh.gov.uk/en/Consultations/Closedconsultations/DH_4067441)).
- 15 American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders* (3rd edn, revised) (DSM–III–R). APA, 1987.
- 16 Slade M, Powell R, Rosen A, Strathdee G. Threshold Assessment Grid (TAG): the development of a valid and brief scale to assess the severity of mental illness. *Soc Psychiatry Psychiatr Epidemiol* 2000; **35**: 78–85.
- 17 Wing JK, Beevor AS, Curtis RH, Park SB, Hadden S, Burns A. Health of the Nation Outcome Scales (HoNOS). Research and development. *Br J Psychiatry* 1998; **172**: 11–8.
- 18 Cotton MA, Johnson S, Bindman J, Sandor A, White IR, Thornicroft G, et al. An investigation of factors associated with psychiatric hospital admission despite the presence of crisis resolution teams. *BMC Psychiatry* 2007; **7**: 52.
- 19 Little RJA, Rubin DB. *Statistical Analysis With Missing Data*. Wiley, 2002.
- 20 Schafer J. *Analysis of Incomplete Multivariate Data*. Chapman & Hall, 1997.
- 21 Royston P. Multiple imputation of missing values. *Stata J* 2004; **4**: 227–41.
- 22 Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006; **3**: 77–101.
- 23 Bowers L, Chaplin R, Quirk A, Lelliott P. A conceptual model of the aims and functions of acute inpatient psychiatry. *J Ment Health* 2009; **18**: 316–25.
- 24 Healthcare Commission. *The Pathway to Recovery: A Review of NHS Acute Inpatient Mental Health Services*. Healthcare Commission, 2008.



## Data supplement

**Table DS1** Characteristics of six alternative and six standard comparison services in England

Service	Crisis team beds	Standard comparison service for team beds	Short-stay ward	Standard comparison service for short-stay ward	Clinical crisis house	Standard comparison service for clinical crisis house	Non-clinical alternative 1	Standard comparison service for non-clinical alternative 1	Non-clinical alternative 2 (BME clients)	Standard comparison service for non-clinical alternative 2	Tidal Model ward	Tidal Model ward comparison
Location	Northern town	Northern town	Town close to London	Town close to London	Midlands rural	Midlands town	Inner London	Inner London	Inner London	Inner London	Midlands inner city	Midlands suburban
Setting	Dedicated beds within rehabilitation hostel that also houses crisis team	Psychiatric hospital	Mental health unit in general hospital	Mental health unit in general hospital	Beds within community mental health team resource centre	Psychiatric hospital	Crisis house in residential street	Mental health unit in general hospital	Crisis house in residential street	Mental health unit in general hospital	Psychiatric hospital	Mental health unit in general hospital
Date established (alternatives)	2003	2005	2001	2001	2001	1996	1993	2001	1993	2001	2001	2001
Funding	NHS and social services	NHS	NHS	NHS	NHS	NHS	NHS and social services	NHS	NHS and social services	NHS	NHS	NHS
Managed by	NHS – integrated with crisis team	NHS	NHS	NHS	NHS	NHS	Voluntary sector organisation	NHS	Voluntary sector organisation	NHS	NHS	NHS
Number of beds	4	Two 25-bed wards	12	Two 20-bed wards	8	Two 18-bed and one 15-bed wards	9	Four 16-bed wards	8	Two 20-bed wards	20	22
24 h access	Limited at night	Yes	Yes	Yes	No	Yes	Limited at night	Yes	Limited at night	Yes	Yes	Yes
Self-referrals accepted	No	No	No	No	No	No	Yes	No	Yes	No	No	No
Compulsory admissions	No	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Mental health professionals on staff	No, but close link to crisis team staff	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Dedicated medical time	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Median length of stay, days	6	1	34	1	16	16	16	16	16	24	24	24
Time limit for admissions	No	No	3 days	No	No	No	6 weeks	No	4 weeks	No	No	No
Structured activity available	No	OT department in hospital	No	OT department in hospital	Daily groups	OT department in hospital	Some groups	OT department in hospital	Some groups	OT department in hospital	OT on ward	OT dept in hospital
Psychologist input within service	Sessional input from psychologist	No	No	Not known	No	Sessional input from psychologist	No	Not known	No, but counsellor on staff	No	No	No
BME, Black and minority ethnic; NHS, National Health Service; OT, occupational therapy.												

**Table DS2** Differences between alternative services and their local comparison services<sup>a</sup>

Variables (threshold for inclusion: $P < 0.1$ on overall standard v. alternative comparison)	Northern town			Town close to London			Midlands mixed rural/town			Inner London		
	Crisis team beds	Standard comparison service for crisis team beds	Short-stay ward	Standard comparison service for short-stay ward	Clinical crisis house	Standard comparison service for crisis house	Non-clinical alternative 1	Standard comparison service for non-clinical alternative 1	Non-clinical alternative 2 (BME clients) <sup>b</sup>	Standard comparison service for non-clinical alternative 2		
Age, years: mean (s.d.)	42.8 (13.3)	40.5 (13.9)	43.2 (11.5)	38.6 (16.1)	<b>48.8 (13.6)</b>	<b>39.0<sup>1</sup> (14.3)</b>	40.7 (9.6)	39.2 (12.8)	36.0 (12.7)	40.4 (10.1)		
Ethnic group, <i>n</i> (%)												
White British	32 (91)	28 (80)	32 (93)	32 (86)	31 (100)	33 (89)	23 (66)	24 (62)	<b>0 (0)</b>	<b>15 (43)</b>		
White other	1 (3)	0 (0)	0 (0)	1 (3)	0 (0)	1 (3)	4 (11)	7 (18)	<b>0 (0)</b>	<b>6 (17)</b>		
Black Caribbean	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	2 (5)	3 (9)	1 (3)	<b>24 (69)</b>	<b>7 (20)</b>		
Black African	0 (0)	0 (0)	1 (3)	1 (3)	0 (0)	0 (0)	2 (6)	3 (8)	<b>11 (31)</b>	<b>4 (11)</b>		
Asian	1 (3)	6 (17)	1 (3)	2 (5)	0 (0)	0 (0)	0 (0)	2 (5)	<b>0 (0)</b>	<b>1 (3)</b>		
Other	1 (3)	1 (3)	1 (3)	0 (0)	0 (0)	1 (3)	3 (9)	2 (5)	<b>0 (0)</b>	<b>2 (6)</b>		
Born in UK, <i>n</i> (%)	33 (94)	25 (86)	35 (88)	33 (92)	31 (100)	34 (94)	<b>28 (82)</b>	23 (61)	22 (69)	19 (56)		
Lives alone, <i>n</i> (%)	17 (49)	15 (43)	12 (31)	14 (38)	10 (32)	12 (32)	<b>30 (86)</b>	23 (61)	20 (57)	12 (35)		
Known to mental health services, <i>n</i> (%)	28 (80)	22 (63)	24 (60)	24 (65)	24 (77)	25 (68)	<b>29 (83)</b>	19 (49)	20 (57)	12 (34)		
Help-seeking initiated by service user, <i>n</i> (%)	9 (26)	8 (26)	15 (38)	10 (27)	3 (10)	2 (6)	<b>11 (32)</b>	5 (13)	<b>15 (43)</b>	<b>4 (13)</b>		
A&E approach for help, <i>n</i> (%)	1 (3)	4 (13)	6 (16)	5 (15)	0 (0)	1 (3)	<b>0 (0)</b>	8 (21)	<b>0 (0)</b>	<b>4 (12)</b>		
Police/criminal justice system referred, <i>n</i> (%)	2 (6)	2 (6)	3 (8)	7 (19)	1 (3)	5 (14)	<b>0 (0)</b>	9 (23)	0 (0)	2 (7)		
Committed physical assault in past 2 weeks, <i>n</i> (%)	2 (6)	2 (6)	3 (8)	6 (18)	5 (16)	2 (5)	2 (7)	8 (21)	<b>1 (3)</b>	<b>6 (17)</b>		
Psychotic symptoms, <i>n</i> (%)	<b>8 (23)</b>	<b>15 (43)</b>	<b>8 (20)</b>	<b>21 (57)</b>	<b>13 (42)</b>	<b>7 (19)</b>	<b>11 (31)</b>	<b>25 (64)</b>	13 (37)	18 (51)		
Depressive symptoms, <i>n</i> (%)	17 (49)	11 (31)	19 (48)	15 (41)	7 (23)	5 (14)	16 (46)	11 (28)	12 (34)	10 (29)		
Non-compliant with medication, <i>n</i> (%)	9 (28)	8 (30)	5 (14)	11 (31)	6 (21)	6 (18)	7 (21)	15 (43)	7 (22)	12 (41)		
Cooperative with assessment, <i>n</i> (%)	28 (93)	26 (79)	34 (87)	27 (75)	25 (89)	29 (81)	<b>34 (97)</b>	<b>27 (71)</b>	33 (94)	<b>24 (71)</b>		
GAF symptom score, mean (s.d.)	45.9 (19.6)	50.3 (13.5)	<b>35.8 (14.1)</b>	<b>54.2 (19.1)</b>	57.2 (20.1)	57.5 (21.1)	<b>57.1 (14.8)</b>	<b>45.6 (17.8)</b>	56.9 (18.0)	47.2 (24.5)		
TAG risk of harm to others (binary), <i>n</i> (%)	5 (14)	8 (23)	<b>8 (20)</b>	19 (51)	5 (16)	7 (19)	<b>3 (9)</b>	<b>16 (41)</b>	<b>5 (14)</b>	<b>14 (40)</b>		
HoNOS behaviour problems (binary), <i>n</i> (%)	9 (26)	9 (26)	10 (25)	18 (49)	3 (10)	9 (24)	<b>2 (6)</b>	<b>15 (38)</b>	4 (11)	10 (29)		

A&E, accident and emergency department; BME, Black and minority ethnic; GAF, Global Assessment of Functioning; HoNOS, Health of the Nation Outcome Scales; TAG, Threshold Assessment Grid.

a. Tidal Model ward and its comparison standard service excluded.

b. Belonging to Black minority ethnic group was an inclusion criterion for this service.

## Supplement 1

### Illustrative quotes from qualitative findings on the role of the alternatives within catchment areas

#### Role of the alternatives

'I think it is alternative, but as I say again it's not a ward in the community and it doesn't pretend to be so. I think there is a certain group of service users that can't be worked with in their home but don't necessarily need to be taken out of the community to be worked with and supported. And I think that group of service users is the service users we would work with. And if we weren't here then they would go in hospital, there is nowhere else for them to go.' (Manager, non-clinical alternative 1)

'So the role played here is to intervene early in order to prevent that person from going to deeper crisis that will result in a hospital admission. So we are here and we want people to know about us so that we can help our people out of crisis.' (Manager, non-clinical alternative 2, Black minority ethnic focus)

'Again I suppose when people are discharged from crisis beds into the community we don't just sort of wash our hands of them, we follow them up in the community with daily contact and visits, for what a week or two weeks or whatever. So we are throwing them out of crisis beds sooner because we've got that level of support, whereas a lot of people admitted to the ward, I mean some will get involved with the crisis team at discharge but a lot won't, so they do have to be that much better for discharge from the ward.' (Referring psychiatrist, crisis team beds)

'I guess if you've got someone who is being seen by a crisis team who have access to a psychiatrist and a doctor and a team of social workers and nurses, then you would be able to carry a slightly higher degree of risk in the crisis house and slightly more disturbed patients because you've actually got the fallback of getting someone from the crisis team to come and see that person at short notice.' (Senior manager in local mental health trust, non-clinical alternative 2)

#### Characteristics of service users

'I can't remember someone being turned down by [non-clinical alternative 1] because of symptoms of an illness, for example. As I said before, the only ones that you might get turned down were a significant risk to other people and I think in a good way they actually do turn down some people who they don't think need to be in there.' (Crisis team manager, non-clinical alternative 1 catchment area)

'It may well be that someone who is new, new to everybody, might be felt more appropriate to have an in-patient admission first of all. Whereas someone perhaps presenting similarly but is well known to the service, so they know what their triggers are, they know their behaviours can be predicted to some extent in the course of their relapse and recovery.' (Service commissioner, crisis team beds)

'I think that once somebody is detained if they are on Section 3, treatment section, for instance, it would mean that we would have to become the same people that we don't want to be. We will have to give them injections, if they refuse to take oral medication and I think that will lead to mistrust, it will undermine our credibility in terms of offering something different.' (Senior staff

member in voluntary organisation managing non-clinical alternative 2).

'Whereas if there's an incident up here it really is pretty worrying for staff. And also a long way from the physical care support services, so that you know it's a 15-mile trip to the local [accident and emergency] department so that's an issue.' (Referring consultant, crisis team beds)

#### Referral pathways

'So the [general practitioners] cannot refer, or self-referral can't be made because we would be inundated and not be able to do any work. So there's filters.' (Crisis team manager, short stay ward catchment area).

'There is a big difference in the sort of patients that you do get, and the willingness to take on therapeutic risks and take therapeutic risks compared, you know, between different consultants, between different teams, between different practitioners, be they nurses, or social workers or [occupational therapists] or, yeah massive variance there.' (Manager, standard in-patient service in crisis team beds catchment area)

'I feel at times a sort of defensive block, batting away cases at times, which I think is to do with threshold and attitude. But even where it is acceptable at times, I mean sometimes there is a delay of a day, or two or three and the person ends up in hospital because of that.' (Referring consultant, non-clinical alternative 1)

#### Specific functions of the short-stay ward

'If you have therapy to go in on the assessment unit, then 3 days is too short but if the therapy bit is divorced from the assessment, so the assessment is complete, 3 days is a fair amount.' (Referring psychiatrist, short-stay ward)

'But the advantage of the assessment unit was that it really provided an area of safety for clinicians to be able to make decisions in a joined-up robust way and for the initial crisis that created the need for the patient to come to [accident and emergency department] in the first place to be properly addressed.' (Trust manager, short-stay ward)

#### Tidal Model: difficulties in implementation

'Yeah, it is a time-consuming kind of process. Because you know it's a busy ward, you have to set time aside, you might not have that in a day. Due to work restraints you might get some of the nurses not doing it as often as they should, kind of putting it on the back burner and doing the more kind of, seen as the more kind of nursing activities like medication, well not just medication but writing up notes or doing this or doing that.' (Ward manager, Tidal Model ward)

'There were other nurses that have been quite cynical or actually didn't like it at all. Basically it seemed to me through cynicism and just seemed "what's the point to taking to people that are unwell and they're just going to keep coming back in again" and really having say not a very recovery-oriented or a positive view of what was going on. In other words they seemed to prefer the custodial role that they had, they found it easier and they found it less stressful for them.' (Tidal Model lead, Tidal Model ward)