Evaluation of a mental health outreach service for homeless families

V Tischler, P Vostanis, T Bellerby, S Cumella

Aims: To describe the characteristics of homeless children and families seen by the mental health outreach service (MHOS), to evaluate the impact of this service on the short term psychosocial functioning of children and parents, and to establish perceptions of, and satisfaction with, the service.

Methods: Twenty seven children from 23 families who were in receipt of the MHOS and 27 children from 23 families residing in other hostels where no such service was available were studied. The MHOS was delivered by a clinical nurse specialist with expertise in child mental health, who offered the following interventions: assessment and brief treatment of mental health disorders in children; liaison with agencies; and training of homeless centre staff.

Results: Children in the experimental group had a significantly higher increase in Strengths and Difficulties Questionnaire (SDQ) total scores. Having received the intervention was the strongest predictor of improvement in SDQ total scores. There was no significant impact on parental mental health (General Health Questionnaire) scores. Homeless families and staff expressed high satisfaction with the MHOS.

Conclusion: This MHOS for homeless families is an innovative intervention which meets the complex and multiple needs of a vulnerable population unable to access mainstream mental health services. The primary objective of the service was to improve child mental health problems; however, the service developed in a responsive way by meeting social and practical needs of families in addition to its clinical role.

The findings of earlier studies by the authors led to the development of a local interagency policy group and the dissemination of recommendations to housing and health providers and policy makers; findings also led to the establishment of a designated community psychiatric nursing post to provide outreach mental health cover to family hostels in Birmingham. The aim of this study was to evaluate the impact of a designated mental health service for this vulnerable population, by using quantitative and qualitative outcome measures.

METHODS

Participants were recruited consecutively over a period of one year and were seen in the hostels where the mental health outreach service was available within the first three weeks of admission. Families leaving the hostel within the first week of admission were excluded from the sample. Of the 44 families with 75 children who were admitted during this period, 23 (52.3%) families were offered and accepted the service, eight (18.2%) were offered but declined the service, and 13 (29.5%) were not considered in need of a mental health intervention. The experimental group therefore consisted of 23 families and 27 children. The children’s mothers completed all measures. They were interviewed again at six months, usually after rehousing had taken place. A number remained homeless and were seen again at the hostel. At least two attempts were made to trace families at follow up.

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Abbreviations: CPN, community psychiatric nurse; GHQ, General Health Questionnaire; MHOS, mental health outreach service; SDQ, Strengths and Difficulties Questionnaire
The control group were recruited during the same period from hostels with the same admission criteria but which did not receive the mental health outreach service. Thirty one families with 49 children who were admitted consecutively were recruited to the study. Both groups comprised families with children aged 3–16 years, as there is no reliable measure of child behavioural difficulties for children less than 3 years.

Staff
All staff working with homeless families, and who attended a training day on the mental health needs of homeless children and families, were invited to take part in the focus group to provide their views on the service. The group comprised ten staff from three agencies. These were two housing support workers, one housing department manager, two hostel workers, one family support worker (housing), one family support worker, one project worker (voluntary sector), and two health visitors.

Measures
The General Health Questionnaire (GHQ)
The GHQ\(^{26}\) is a standardised self report measure of psychiatric morbidity in the parents, with established norms in the general population. Its 28 item version was completed, with four scales (somatic symptoms, anxiety, social dysfunction, and depression), and a total 4/5 cut off score for psychiatric caseness, that is, requiring assessment for clinical treatment.

The Strengths and Difficulties Questionnaire (SDQ)
The SDQ\(^{25–27}\) is a standardised measure of children’s mental health problems. Of the 25 SDQ items, 14 describe perceived difficulties, 10 perceived strengths, and one is neutral (“gets on better with adults than with other children”). Each perceived difficulties item is scored on a 0–2 scale (not true, somewhat true, certainly true). The 25 SDQ items are divided in the scales of hyperactivity, emotional problems, conduct problems, peer problems, and prosocial scale (five items per scale). Cut off scores have been established in the UK (although not among ethnic minority groups) and other populations, for each scale and the total number of difficulties.\(^{26–29}\) The P3–4 (age 3–4 years) and P4–16 (age 4–16 years) versions of the SDQ were completed by parents in this study.

Semistructured interview
The interview gathered information including reasons for becoming homeless, recent use of health and social care services by children, and perceptions of and satisfaction with, the mental health outreach service.

Staff focus group
A topic schedule was used. Topics included mental health needs of homeless families, perceptions of the role of the mental health outreach service, and satisfaction with the mental health outreach service and training programme.

Analysis
At the time of first assessment, the Mann–Whitney non-parametric test was used to compare the two groups, as scores were not normally distributed; the $\chi^2$ test was used to compare differences in proportions. Changes in SDQ or GHQ scores were estimated between first and second assessment. Depending on the range and distribution of these data, the two groups were compared by $t$ test (total SDQ change scores), Mann–Whitney test (total GHQ change scores), or $\chi^2$ test (SDQ or GHQ subscales scores). Multiple regression was used to investigate the impact of the intervention or the predictive power of other variables on outcome.

The constant comparative method\(^{30}\) was used for analysis of semistructured interview data. The views of the control group were compared with those of the intervention group on a number of variables: satisfaction with services, mental health, type of help required, and behaviour of children. Thematic analysis\(^{31}\) was used to identify themes from the focus group.

RESULTS
Demographic characteristics
Table I shows the characteristics of the homeless children from both experimental and control samples. The characteristics below describe the experimental group unless specified.

The majority of families consisted of single mothers (16, 69.6%) with an average of three children (range 1–7). Almost
half the families (11, 47.8%) had been homeless before. Their mean length of stay at their previous residence was 50 months (range 1–240). Most parents (22, 87%) were unemployed. Their mean weekly family income was £149 (range £80–258).

The majority of families constituted single parents with children (16, 69%) while seven (30.4%) were couples with children. The control group included a larger proportion of single parents (27, 87.1%) and fewer couples (3, 9.7%).

The mean number of appointments was 6 (range 1–24). The mental health outreach service targeted children and families of the two groups (experimental and control) were compared on all variables at the time of first interview, and were not found to differ significantly on socio-demographic characteristics, or GHQ or SDQ scores (table 2).

There were 27 children in experimental families and 27 children in control families who completed the follow up assessment. There was no difference in resettlement at the time of follow up between the two groups (χ² = 0.00, p = 0.96).

The mental health outreach service targeted children and parents. Table 3 presents the types of interventions provided. The mean number of appointments was 6 (range 1–24).

### Table 2

**Behavioural and mental health problems and contact with services**

<table>
<thead>
<tr>
<th></th>
<th>Experimental group (n=44)</th>
<th>Control group (n=49)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Children’s SDQ scores above clinical cut off (caseness)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total difficulties</td>
<td>18</td>
<td>37.5</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>17</td>
<td>35.4</td>
</tr>
<tr>
<td>Hyperactivity problems</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>Emotional problems</td>
<td>14</td>
<td>29.2</td>
</tr>
<tr>
<td>Peer relationship problems</td>
<td>27</td>
<td>36</td>
</tr>
<tr>
<td>Mothers’ GHQ scores above clinical cut off scores (caseness)</td>
<td>18 (mean = 15.9)</td>
<td>24 (mean = 16.3)</td>
</tr>
<tr>
<td>Contact with services in previous 4 months (any member of the family)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Police</td>
<td>18</td>
<td>76.3</td>
</tr>
<tr>
<td>General practitioner</td>
<td>15</td>
<td>65.2</td>
</tr>
<tr>
<td>Hospital appointment</td>
<td>12</td>
<td>52.2</td>
</tr>
<tr>
<td>Social services</td>
<td>11</td>
<td>47.8</td>
</tr>
<tr>
<td>Voluntary organisation</td>
<td>9</td>
<td>39.1</td>
</tr>
<tr>
<td>Health visitor</td>
<td>6</td>
<td>26.1</td>
</tr>
<tr>
<td>Community psychiatric nurse</td>
<td>5</td>
<td>21.7</td>
</tr>
<tr>
<td>Education welfare officer</td>
<td>5</td>
<td>21.7</td>
</tr>
</tbody>
</table>

Data from families at first interview.

### Table 3

**Interventions provided to homeless children and families (n=23 families)**

<table>
<thead>
<tr>
<th>Type of intervention†</th>
<th>n*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advice/support (parent)</td>
<td>13</td>
</tr>
<tr>
<td>Counselling (child)</td>
<td>7</td>
</tr>
<tr>
<td>Mental health assessment (child)</td>
<td>6</td>
</tr>
<tr>
<td>Liaison with another agency</td>
<td>6</td>
</tr>
<tr>
<td>Behaviour management (child)</td>
<td>4</td>
</tr>
<tr>
<td>Advice re parenting skills</td>
<td>4</td>
</tr>
<tr>
<td>Referral to another agency</td>
<td>4</td>
</tr>
<tr>
<td>Family meeting</td>
<td>3</td>
</tr>
<tr>
<td>Social growth group (child)</td>
<td>2</td>
</tr>
<tr>
<td>Anger management (child)</td>
<td>2</td>
</tr>
<tr>
<td>Follow up visit after rehousing</td>
<td>2</td>
</tr>
<tr>
<td>Anxiety management (parent)</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
</tr>
</tbody>
</table>

†Focus of intervention—that is, child or parent is indicated in parentheses where relevant.

There was no significant difference between the groups (χ² = 3.3, df = 5, p = 0.65). As in the previous longitudinal study, a substantial proportion of participant families could not be traced, as they had moved to a first or second address not known to the housing department or any of the agencies involved. The attrition rate was significantly higher for the control group (36.8%) than for the experimental group: 18 of the 23 experimental families were followed up (78.3%), in contrast with 18 of the 27 control families (58.1%).
52.6% of controls improved (Fisher’s test = 0.43; risk estimate 1.16 (lower 0.66, upper 2.04)).

**Child mental health**
Changes in total SDQ scores were normally distributed within each group, therefore the two groups were compared using the $t$ test (equal variances not assumed, because of different standard deviations). Children who had used the mental health outreach service had a significantly higher reduction in SDQ scores than the control sample (mean scores: experimental $-2.64$, SD $7.26$; controls $1.88$, SD $4.30$; $t = 2.67$, $p = 0.011$; 95% CI $-7.93$ to $-1.11$). SDQ subscale scores were dichotomised into improved versus no change/deteriorated, and were compared by the $\chi^2$ test. There were higher proportions of experimental children who improved on the different SDQ subscales scores, although the difference did not reach statistical significance (table 4). When groups of children who improved or remained stable on SDQ scores were combined (versus those who deteriorated during the follow up period), a significantly higher proportion fell within the experimental group (88%) than the control group (60%) (Fisher’s exact test = 0.025; risk estimate 1.47 (lower 1.03, upper 2.08)).

The potential mediating effect of resettlement (rehousing before follow up interview) was also investigated. Being resettled was entered as the dependent variable in a stepwise logistic regression, with initial SDQ and GHQ scores, contact with a community psychiatric nurse (CPN), and previous reasons for becoming homeless, as the covariates. Reasons for homelessness were the strongest predictor of resettlement outcome (wald $15.31$, df $= 5$, $p = 0.009$), with children victims of neighbourhood harassment being less likely to be rehoused.

Change in SDQ subscales was then entered as the dependent variable, with contact with mental health outreach service, resettlement (now entered as covariate), and initial parent GHQ scores as covariates. Parental GHQ total score was the strongest predictor of conduct problems in children (wald $3.62$, df $= 1$, $p = 0.05$). Change in SDQ total scores had a wider range and was entered as the dependent variable in a linear regression. Being in the experimental group was significantly associated with improvement in SDQ total scores ($B$ $5.34$, $p = 0.011$).

### Qualitative outcome measures

**Parental semistructured interview**

*Satisfaction with mental health outreach service*

All participants in receipt of the mental health service stated that it was helpful and that they would recommend it to other homeless families. They indicated that the service was responsive to a variety of needs experienced by homeless families; indeed many were unaware that the service had a mental health focus. Respondents described service provision, including liaison with other agencies, transport, arranging childcare places, and writing reports for child protection conferences. Comments included:

She [CPN] has contacted the education department on my behalf and both kids have seen her to talk about their problems in private, it is counselling for them, it’s made a lot of difference to them.

She [CPN] has offered support, has come to talk to me, has liaised with Home Start to find a playgroup, and offered to take me to the DSS [Department of Social Security].

**Impact on parental mental health**

Many homeless parents felt that the service met their own emotional and psychological needs and were reassured by the regular visits to the hostel by the mental health outreach service. A number of respondents described feeling isolated, depressed, and anxious. Some parents expressed feelings of relief and calm if they had fled from a violent situation; others, however, suggested the lack of stability and conditions in the homeless centres worsened their mental state and led to symptoms such as insomnia and lack of appetite. Many also expressed guilt regarding the negative effects of homelessness on their children. The comment below reveals the impact of the service in response to the mental health problems of a homeless parent:

She [CPN] came and I got comfort from talking to her, it took the pressure off me because I was feeling suicidal, I was very paranoid.

**Impact on child mental health**

A number of respondents suggested that the service had positively benefited their children’s behaviour and mental health. Many acknowledged their children’s mental health needs and expressed concern about the impact of homelessness, especially if the period was prolonged, on their children’s behaviour and development. Their comments revealed the variety of interventions offered by the mental health outreach service including counselling, behaviour modification, and group work. The vignettes below show this:

### Table 4 Changes in children’s SDQ scores

<table>
<thead>
<tr>
<th>Change in SDQ scores</th>
<th>Experimental children</th>
<th>Control children</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total difficulties</td>
<td>Mean $-2.64$</td>
<td>Mean $1.88$</td>
<td>$t$ test $-2.67$</td>
</tr>
<tr>
<td></td>
<td>SD $7.26$</td>
<td>SD $4.30$</td>
<td>(95% CI $-7.93$ to $-1.11$)</td>
</tr>
<tr>
<td>% improved on conduct scores</td>
<td>42%</td>
<td>32%</td>
<td>Fisher’s test 0.19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Risk estimate 1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(95% CI $0.62$ to $2.73$)</td>
</tr>
<tr>
<td>% improved on hyperactivity scores</td>
<td>44%</td>
<td>28%</td>
<td>Fisher’s test 0.37</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Risk estimate 1.57</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(CI $0.73$ to $3.34$)</td>
</tr>
<tr>
<td>% improved on emotional scores</td>
<td>56%</td>
<td>44%</td>
<td>Fisher’s test 0.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Risk estimate 1.27</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(CI $0.72$ to $2.23$)</td>
</tr>
<tr>
<td>% improved on peer relationships scores</td>
<td>44%</td>
<td>20%</td>
<td>Fisher’s test 0.13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Risk estimate 2.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(CI $0.89$ to $5.41$)</td>
</tr>
</tbody>
</table>
She asked them about their [children’s] behaviour, asked if they were upset and about the violence that they had witnessed. It was good having someone to talk to. The boys were very upset when they came into the hostel.

She talked to [child] about his relationship with his dad and the abuse he had from him and what to do about it.

The work she has done has made a big difference, she ran a group with [children] and she said they did really well on it. I noticed that they grew in confidence and became more assertive after the group. They are more outgoing, they defend themselves and are more positive.

**Service needs**

Those families interviewed who were not in receipt of the mental health outreach service were more likely than the experimental group to request services to address child and adult mental health. Most stated that they felt hostel staff lacked training in order to meet these needs. These included day care facilities for children and counselling for mental or emotional problems (parents). Two such respondents commented:

There could be more services for the kids, there is nowhere for them to play and they’re bored.

The children need someone to talk to about what they have been through.

Respondents in both groups were critical regarding the lack of facilities and provision in homeless centres such as childcare, play areas, and toys.

**Staff satisfaction**

The findings revealed that the mental health service was well received by staff from a variety of agencies. Many were relieved that the service was available after managing mental health and behavioural problems in the hostels with little training or access to specialist agencies. Staff commented that the service was a valuable and easily accessible resource. The comments below illustrate this.

We see her role as another member of staff, she assists people who request her help and a lot do, they [homeless families] are crying out for someone to talk to, they want someone who’ll listen and who can do something for them, they’re very needy, it does help them.

Before she [CPN] came in, we didn’t know where to turn, no one was interested in mental health and behavioural problems. She is a vital link into the mental health services, she knows how to access other services, she has a vital role in that way.

Staff rated the training programme highly. Most felt more confident in identifying mental health problems and had increased their knowledge of specialist agencies to refer to. Respondents commented that the opportunity to network with staff from other agencies and to participate in small group workshops was especially useful.

**DISCUSSION**

The objectives of this mental health outreach service were to provide assessment and treatment to a vulnerable group of families who could not access mental health services, to liaise with appropriate agencies, and to train hostel staff. The evaluation of this service was faced with constraints and limitations, particularly the mobility and engagement of the population and the resulting sample size, the major environmental changes in the lives of these families during their contact with the service, hence their potentially confounding effect, and the need for an eclectic mental health intervention to meet the needs of children and their parents. For this reason, it was the impact of the service that was evaluated rather than a specific treatment modality such as parent training. The combination of quantitative and qualitative measures was selected to address some of these limitations, particularly regarding a service model with a health and social care interface.

The results indicate that the service was accessible to homeless families, and that it targeted a needy population, with high rates of mental health problems. In their review of child and adolescent mental health services, the Audit Commission highlighted the diversity of provision in the UK and the often indiscriminate referral of children and families to specialist services. Predominantly behavioural, but also other less complex mental health problems, can be successfully dealt with in primary care by a range of non-specialists. Needy and mobile populations such as homeless families or children looked after by local authorities require a rapid and flexible response, different to the “one route” referral to specialist services operating on a waiting list.

The intervention had a positive impact on a range of childhood mental health problems, which was sustained at six months, when most families had been rehoused. In contrast, it did not improve parents’ mental health problems, which it had not been set up to address in the first place. The high levels of parental mental health difficulties, however, show the need for joint service development between child and adult services. Staff training was a key component in the development of the service, as it raised awareness of mental health issues in children and adults, and developed skills to identify families with such difficulties and refer them to the service. The need for staff training is crucial as comprehensive interagency child and adolescent services expand.

The qualitative findings reveal the need to target interventions at a number of levels, by responding to the subjective needs of homeless families who are often in crisis. This requires flexibility and skill in multidisciplinary working. Interview data revealed the variety of interventions offered by the mental health outreach service, often outside the remit of a psychiatric provision. Emergent evidence suggested that meeting the patients’ expressed needs, whether practical or emotional, was an important precursor to clinical input, again emphasising the flexibility of the service. Weekly visits to the hostels ensured the accessibility of the service, close liaison with housing staff and other agencies (health visitor, general practitioner, local school, social services, and voluntary organisations), and regular monitoring of mental health problems. Parent interviews also showed the absence of comprehensive and multidisciplinary support, which could have enabled the service to focus on child and parental mental health.

Expansion of the service is necessary as it is currently delivered by a sole professional and therefore the impact of the service has been limited. Further service development would enable continuity of treatment after resettlement, when families are most vulnerable, not reintegrated in the community and not accessing mainstream services, and would also make the service more effective. Although there was no cost evaluation of the service, particularly compared to hypothetical referral to secondary or tertiary services, there may be a more cost effective model of deploying non-specialist staff, such as family support workers, for a larger number of children and parents, under the supervision of specialist mental health professionals. Such a model is currently being evaluated by the authors.
Future research could evaluate the specificity of specialist treatment interventions in larger samples, such as parent training for child behavioural problems, and cognitive or brief psychodynamic therapy. For children with post-traumatic stress disorders following exposure to violence,\(^5\) Other groups of socially excluded children and families, such as children looked after by local authorities and youth offenders, could also benefit from similar designated, accessible interagency mental health services.

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PV and SC had the original idea for the study and developed the design.

VT organised the project, collected and analysed data, and wrote the manuscript. PV contributed to the analysis and writing up. TB contributed to the organisation of the project and the data collection. PV is the guarantor.

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