

Psychiatric disorder among British children looked after by local authorities: comparison with children living in private households

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Background Children looked after by local authorities are at higher risk of poor psychosocial outcomes than children living in private households, but nationally representative and random samples of the two groups of children have not previously been compared.

Aims To find explanations for the increased prevalence of psychiatric disorder in children looked after by local authorities.

Method We examined socio-demographic characteristics and psychopathology by type of placement among children looked after in Britain by local authorities ($n=1453$), and compared these children with deprived and non-deprived children living in private households ($n=10\,428$).

Results Children looked after by local authorities had higher levels of psychopathology, educational difficulties and neurodevelopmental disorders, and 'looked after' status was independently associated with nearly all types of psychiatric disorder after adjusting for these educational and physical factors. The prevalence of psychiatric disorder was particularly high among those living in residential care and with many recent changes of placement.

Conclusions Our findings indicate a need for greater support of this vulnerable group of children.

Declaration of interest None.

Children and young people who have been looked after by the local authority are at increased risk of poor outcome in terms of child and adult mental health, educational attainment, employment and criminality, yet studies from North America and Europe suggest that they often lack access to appropriate services (Rosenfeld *et al*, 1997; Geen *et al*, 2005; Viner & Taylor, 2005; Browne *et al*, 2006). Despite their high risk, children looked after by local authorities are often excluded from epidemiological studies owing to their high mobility and difficulties surrounding parental responsibility and informed consent (Rosenfeld *et al*, 1997). Understanding how the distribution of potential risk factors in children who are looked after compares with those in children living in private households may provide important clues about aetiology that can be used in targeting interventions (Jenkins, 2001). To our knowledge this is the largest epidemiological study of looked after children, and is unusual in using a random sample and including young people from the full range of placements. We examined the relationships of care-related variables and other correlates to psychiatric disorder and compared children looked after by UK local authorities with children living in private households to look for explanations for the increased prevalence of childhood psychiatric disorder.

METHOD

Samples

We combined data from three surveys of looked after British children and one survey of British children in private households; all these surveys were nationally representative and used the same instruments to assess psychopathology and some of its correlates (Meltzer *et al*, 2000, 2003, 2004a,b).

Children looked after by local authorities

Random samples of children (aged 5–17 years) looked after by local authorities were

selected from the relevant databases in England, Scotland and Wales (Fig. 1). A contact person in each administrative area was sent child summary forms for each child selected from that area. After obtaining whatever consent the local authority deemed necessary, the contact person was responsible for ensuring that the child's social worker completed the information on the child summary forms and for returning the completed forms to the Office for National Statistics.

Similar proportions of children from each country were deemed ineligible, and response rates among eligible children were very high. As previous analysis demonstrated that the prevalence rates of psychiatric disorders were not significantly different between the three countries (Meltzer *et al*, 2004a,b), and we were not trying to establish an accurate measurement of prevalence but were primarily interested in the association of disorder with correlates, we have combined data from all three surveys without weights. Analyses comparing the children looked after by local authorities with children living in private households excluded looked after children aged 16–17 years ($n=290$) to fit with the age range in the private household survey.

Private household sample

The child benefit register was used as the sampling frame for England, Wales and Scotland, and 14 250 children were sampled by postal sector. Information was collected on 10 438 (83%) of the 12 529 eligible children, aged 5–15 years 5.5% (790) were ineligible and 6.5% of families (931) opted out (Meltzer *et al*, 2000).

Measures

We used the Development and Well-Being Assessment (DAWBA; Goodman *et al*, 2000) to assess psychiatric disorder in all four surveys. This structured interview was administered by lay interviewers to the parents or carers of all children, and also to the children themselves if they were at least 11 years old, and the interviewers also recorded detailed verbatim descriptions of any problem areas. An abbreviated version was sent to the child's teacher. A small team of experienced clinicians used the information provided by all the informants, combining information as they would in the clinic, to make diagnoses according to ICD-10 criteria (World Health Organization, 1993). In the validation study, the DAWBA provided excellent

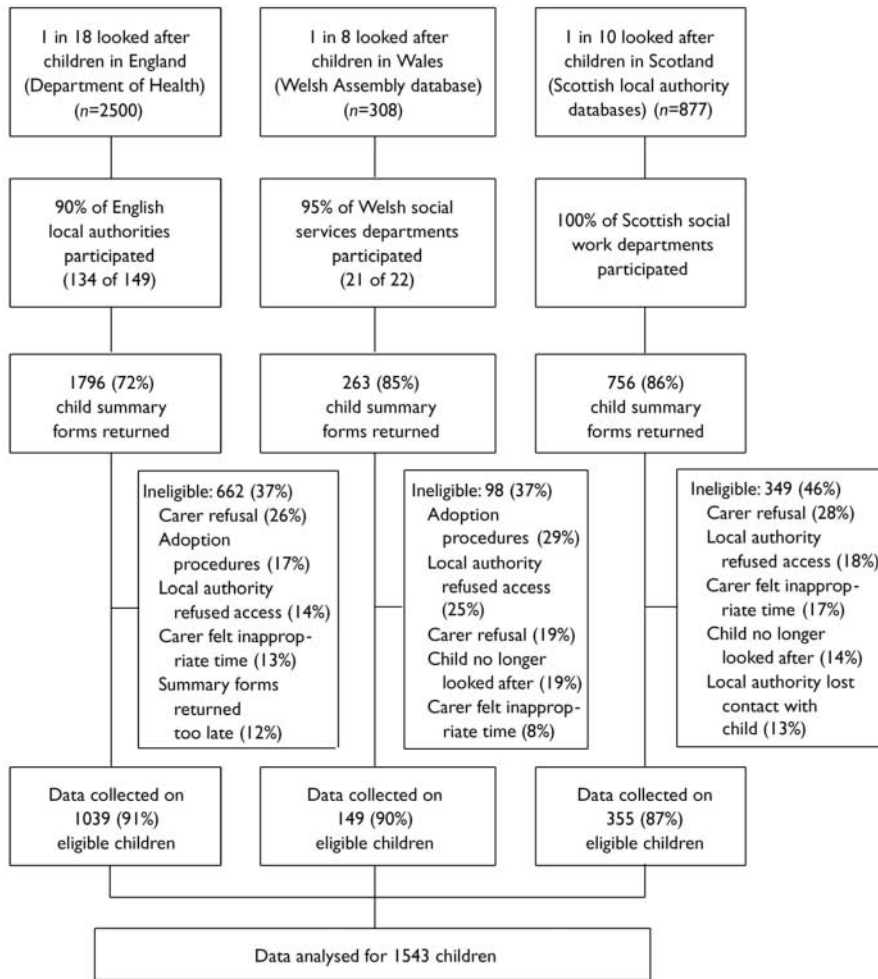


Fig. 1 Diagram illustrating the sample selection and response rate from the surveys of children looked after by local authorities in England, Wales and Scotland, listing the five main reasons for ineligibility in each country.

discrimination between community and clinical samples (Goodman *et al*, 2000). Within the community sample, children with DAWBA diagnoses differed markedly from those without such a diagnosis in external characteristics and prognosis, whereas there were high levels of agreement between the DAWBA and case notes among the clinical sample (Kendall's tau $b=0.47-0.70$).

Parents, teachers and children aged 11 years or over also completed the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001) a well-validated measure of common childhood psychopathology comprising the following scales: total difficulties, emotional symptoms, conduct problems, hyperactivity, peer problems, prosocial behaviour and impact. Parents or carers were asked whether their child suffered from a list of conditions, and the derived variable 'neurodevelopmental disorder' included children reported to have cerebral palsy, epilepsy, muscle disease or

weakness, or coordination problems. Teachers provided data on attainment, an estimate of mental age and reported whether the child had a Statement of Special Educational Needs. Social workers and carers of the children looked after by local authorities provided data on the child's care history.

Analysis

The analysis was conducted using Stata 8 and the Statistical Package for the Social Sciences (SPSS) version 12.01 for Windows. We tested differences in socio-demographic characteristics, diagnosis and placement history according to type of placement using chi-squared tests for categorical variables and one-way analysis of variance for continuous variables, in the whole population of children looked after by local authorities ($n=1543$). We classified children living in private households as disadvantaged if their parents had either never

worked or worked in unskilled occupations. We tested differences between the three groups using logistic regression to adjust for age and gender, because the children looked after by local authorities were significantly older and more likely to be boys (see Table 2) and the prevalence of childhood psychiatric disorder varied by both these characteristics (Meltzer *et al*, 2000, 2003). As psychological adjustment is more than the presence or absence of a psychiatric disorder, we used the bandings for the carer-completed SDQ to identify particularly well-adjusted children on the basis of scores within the normal range for all of the sub-scales. Finally, we explored the relationship between potential correlates of psychiatric disorder among children looked after by local authorities and the private household survey using logistic regression and used general linear modelling to examine the fit of the data to multiplicative and additive models.

RESULTS

Children looked after by local authorities

Children looked after by local authorities from different types of placement differed significantly in relation to socio-demographic characteristics (Table 1), with a higher proportion of boys in residential care, and of girls and children from Black and minority ethnic groups living independently. Black and minority ethnic children and children from England and Wales were the least likely to be living with their natural parents. Younger children tended to live with kinship carers (mean age 10.5 years, 95% CI 9.9–11.0), foster carers (11.8 years, 95% CI 11.5–12.0) or their natural parents (11.2 years, 95% CI 10.7–11.7), whereas adolescents were more likely to be living in residential settings (13.6 years, 95% CI 13.3–13.9) or independently (16.6 years, 95% CI 16.4–16.8); $F=55.4$, $P<0.001$. Placement type also varied by care history, with children who entered the care system in adolescence and more recently most likely to be living in residential care or independently, in contrast to children who were taken into care at a very early age or had been in care for several years, who were more likely to be living in a family placement.

There were also significant differences in the prevalence of psychiatric disorder according to the type of placement, with high

Table 1 Socio-demographic characteristics, care history and psychiatric disorder in British children (age 5–17 years) looked after by local authorities, according to type of placement

Characteristic (number of children with data)	Percentage of children in placement					Percentage of all children looked after by local authorities (n=1543)	P ¹
	Foster care (n=839)	Living with natural parents (n=206)	Kinship care (n=168)	Residential care (n=279)	Living independently (n=51)		
Gender (n=1543)							
Male	57.4	56.3	45.8	65.9	51.0	57.4	0.001
Female	42.6	43.7	54.2	34.1	49.0	42.6	
Country (n=1543)							
England	74.0	52.9	54.8	63.8	76.5	67.3	<0.001
Scotland	15.9	38.8	29.8	29.4	19.6	23.0	
Wales	10.1	8.3	15.5	6.8	3.9	9.7	
Ethnic group² (n=1529)							
White	89.5	96.6	92.9	90.7	80.4	90.7	0.008
Black	5.4	1.5	3.6	4.3	5.9	4.5	
Other	5.1	1.9	3.6	5.0	13.7	4.8	
Age when first looked after (n=1260)							
<5	31.2	32.7	38.8	16.5	7.9	29.0	<0.001
5–10	49.6	41.5	47.5	43.6	13.2	46.2	
11–15	18.6	25.8	13.7	39.0	68.4	24.0	
16–17	0.7	0	0	0.9	10.5	0.9	
Years in current placement (n=1411)							
<1	31.7	37.3	25.6	50.9	100	35.3	<0.001
1–1.9	22.6	22.2	15.5	24.0	0	22.0	
2–3.9	22.6	23.8	25.6	17.9	0	22.1	
≥4	23.2	16.7	33.3	7.2	0	20.6	
Placement changes last year (n=1417)							
0	28.1	25.0	30.9	16.3	12.5	25.5	<0.001
1	47.4	50.0	57.9	39.3	32.5	47.0	
2	17.3	18.3	7.2	25.0	25.0	17.9	
≥3	7.2	6.7	3.9	19.4	30.0	9.6	
Psychiatric disorder³ (n=1543)							
Yes	38.6	48.1	31.5	71.0	49.0	45.3	<0.001
No	61.4	51.9	68.5	29.0	51.0	54.7	
Emotional disorder (n=1543)							
Yes	9.7	18.0	7.7	18.6	17.6	12.4	<0.001
No	90.3	82.0	92.3	81.4	82.4	87.6	
Conduct disorder (n=1543)							
Yes	32.3	35.9	26.8	61.3	39.2	37.7	<0.001
No	67.7	64.1	73.2	38.7	60.8	62.3	
Hyperkinetic disorder (n=1543)							
Yes	8.5	9.2	6.0	10.0	2.0	8.4	0.26
No	91.5	90.8	94.0	90.0	98.0	91.6	

1. Chi-squared test.

2. Only 12 children were Asian, so this group was assigned to the 'other' category.

3. Psychiatric diagnoses were available for all children looked after by local authorities.

rates of emotional and conduct disorder among children in residential placements or living independently. Hyperkinetic disorder showed a similar trend and the failure to detect a significant association may relate to lack of power and/or the older age

of children living in this setting, who would be less likely to have these symptoms. Children with psychiatric disorder entered the care system later (mean age 7.7 years, 95% CI 6.7–7.3, *v.* 7.0 years, 95% CI 7.3–8.0; $F=8.6$, $P=0.003$), reported more

changes in placement within the past 12 months (1.4 changes, 95% CI 1.3–1.5, in those with a psychiatric disorder *v.* 1.0 changes, 95% CI 0.9–1.1, in those without, $F=39.4$, $P<0.001$), and had lived for less time in their current placement (2.4 years,

95% CI 2.3–2.6 *v.* 3.0 years, 95% CI 2.8–3.1, $F=30.4$, $P<0.003$). However, missing data about all three care-related variables varied systematically with the type of placement, in that children living with their natural parents or independently were particularly likely to have missing data (age first looked after $\chi^2=10.4$, *d.f.*=4, $P=0.03$; changes of placement within the past year $\chi^2=879$, *d.f.*=4, $P<0.001$; duration of current placement $\chi^2=27.0$, *d.f.*=4, $P<0.001$). Children with psychiatric disorder were also overrepresented among those

with missing data ($\chi^2=8.9$, *d.f.*=1, $P=0.003$).

Comparison of the two groups

Children looked after by local authorities had a higher prevalence of educational and neurodevelopmental difficulties than the disadvantaged and non-disadvantaged children living in private households (Table 2). After adjusting for age and gender, the prevalence of most psychiatric disorders was also significantly higher, whether the

comparison group was all children from private households or just the most disadvantaged children from private households. For most disorders, the highest prevalence was for the children looked after by local authorities and the lowest prevalence was for the non-disadvantaged children from the private households; disadvantaged children from private households generally had intermediate rates.

The proportion of children without a psychiatric disorder who were particularly well adjusted in terms of scoring in the

Table 2 Comparison of children looked after by local authorities with children living in private households

	OR (95% CI) ¹	Prevalence (%)		
		Children looked after by local authorities (n=1253)	Disadvantaged private household sample (n=761)	Remaining children from the private household sample (n=9677)
Socio-demographic variables				
Male		57.1*** ^{2,3}	45.9* ³	50.3
Older (11–15 <i>v.</i> 5–10)		59.0*** ^{2,3}	41.9	43.5
White (<i>v.</i> Black or minority ethnic)		91.6	89.8	91.5
Neurodevelopmental disorder		12.8*** ^{2,3}	4.5	3.3
Statement of special educational needs		23.0*** ^{2,3}	4.5*** ³	2.9
Carer report of learning difficulties		36.9*** ^{2,3}	12.2*** ³	8.3
Literacy or numeracy problems		34.3*** ^{2,3}	20.4*** ³	10.4
Mental age 60% or less of chronological age		10.7*** ^{2,3}	1.5	1.3
ICD-10 psychiatric diagnosis				
At least one diagnosis	4.92 (4.13–5.85)	46.4*** ^{2,3}	14.6*** ³	8.5
Any anxiety disorder	2.09 (1.58–2.76)	11.1*** ^{2,3}	5.5*** ³	3.6
Separation anxiety	1.92 (1.05–3.51)	2.0*** ³	1.7*** ³	0.7
Specific phobia		1.1	1.1	1.0
Social phobia		0.7	0.5	0.3
Panic disorder		0	0.1	0.1
Post-traumatic stress disorder	11.76 (4.98–27.76)	1.9* ^{2,***3}	0.5* ³	0.1
Obsessive–compulsive disorder		0.2	0.5	0.2
Generalised anxiety disorder	1.61 (0.78–3.32)	1.9*** ³	0.9	0.6
Other anxiety disorder	2.86 (1.86–4.39)	4.4*** ^{2,***3}	1.4	1.2
Depression	2.28 (1.34–3.88)	3.4* ^{2,***3}	1.2	0.9
Hyperkinesia	3.90 (2.80–5.42)	8.7*** ^{2,3}	1.3	1.1
Any behavioural disorder	7.53 (6.21–9.14)	38.9*** ^{2,3}	9.7*** ³	4.3
Oppositional defiant	3.60 (1.50–2.66)	12.2*** ^{2,3}	4.5*** ³	2.4
Conduct disorder ⁴	9.34 (7.26–12.03)	26.7*** ^{2,3}	5.3*** ³	1.9
Autistic-spectrum disorder	1.38 (0.68–2.81)	2.6* ^{2,***3}	0.1	0.3
Other disorders ⁵	1.22 (0.33–4.33)	0.6* ²	0.8*** ³	0.2

1. Adjusted odds ratios for looked after status in relation to living in a private household for disorders with significant differences in prevalence between the two samples, with 95% confidence intervals.
 2. Significantly different from disadvantaged children living in private households, using logistic regression to adjust for age and gender.
 3. Significantly different from non-disadvantaged children living in private households, using logistic regression to adjust for age and gender using logistic regression.
 4. Includes socialised conduct disorder, unsocialised conduct disorder, conduct disorder confined to the family context, or other conduct disorder; but does not include oppositional defiant disorder.
 5. Includes tic disorders, eating disorders, stereotypic movement disorders and selective mutism.
 * $P<0.05$, ** $P<0.01$, *** $P<0.001$.

normal range on all six SDQ sub-scales was 9% (58 of 670) among the looked-after sample as opposed to 41% (265 of 649) among the disadvantaged children and 53% (4619 of 8733) among the rest of the private household sample ($\chi^2=506$, d.f.=2, $P<0.001$).

Complete data on correlates were available for multivariate analysis on 72% of children, but children with a psychiatric disorder ($\chi^2=14.6$, d.f.=1, $P<0.001$) and children who were looked after ($\chi^2=32.7$, d.f.=1, $P<0.001$) were more likely to have missing data on correlates. The odds ratios in Table 2 indicate that looked after status was an independent correlate of all the psychiatric disorders that were more common in this group with the exception of autistic-spectrum disorders and generalised anxiety disorder, even after adjusting for other potential correlates. Looked after status had the strongest association with disorders in which environmental factors are believed to have a leading role, such as post-traumatic stress disorder and conduct disorder. Literacy and numeracy problems were correlates of all disorders except depression among children who were looked after, whereas global learning disability was related only to pervasive developmental disorders and generalised anxiety disorder (more details of this analysis are available from the authors). The relationship of age and gender varied with the different types of psychiatric disorder in the looked after children, as one would predict from epidemiological findings in children living in private households. Thus, older children were more likely to have generalised and other anxiety disorders, post-traumatic stress disorder, depression and conduct disorder, whereas younger children were more likely to have oppositional defiant disorder, hyperkinetic disorder and separation anxiety disorder. Girls were more likely to have post-traumatic stress disorder; boys were more likely to be diagnosed with hyperkinetic disorder, and conduct or oppositional defiant disorder.

Table 3 shows how the influence of looked after status interacted with other correlates in relation to the presence of psychiatric disorder. Looked after status interacted with learning difficulties in an additive way, with learning difficulties resulting in a similar percentage increase in the prevalence of psychiatric disorder in children who were and were not looked after. In contrast, looked after status interacted with gender and age in a

Table 3. Comparison of the impact of four risk factors on rates of psychiatric disorder in children looked after by local authorities and children in private households.

	Prevalence of any ICD-10 psychiatric diagnosis		Interaction	
	Looked after	Private household	Additive model	Multiplicative model
Gender				
Male, %	53.7	10.7		
Female, %	36.6	7.1		
Difference (male–female), %	17.1	3.6	$P<0.001$	
Odds ratio (male:female) (95% CI)	2.01 (1.60–2.52)	1.56 (1.36–1.79)		$P=0.07$
Age				
11–15 years, %	50.1	10.5		
5–10 years, %	41.1	7.6		
Difference (older–younger), %	9.0	2.9	$P=0.0001$	
Odds ratio (older:younger) (95% CI)	1.43 (1.15–1.81)	1.42 (1.24–1.63)		$P=0.9$
Neurodevelopmental difficulties				
Yes, %	58.4	31.8		
No, %	41.6	8.1		
Difference (yes–no), %	16.8	23.7	$P=0.002$	
Odds ratio (yes:no) (95% CI)	1.74 (1.25–2.44)	5.29 (4.18–6.70)		$P<0.001$
Carer-reported learning difficulties				
Yes, %	61.7	29.2		
No, %	37.4	7.1		
Difference (yes–no), %	24.3	22.1	$P=0.3$	
Odds ratio (yes:no) (95% CI)	2.69 (2.12–3.41)	5.41 (4.58–6.39)		$P<0.001$

multiplicative way, with similar odds ratios in children who were and were not looked after. The findings for neurodevelopmental difficulties were intermediate, with an interaction that was more than additive but less than multiplicative.

DISCUSSION

Our study suggests that British children who are looked after by the local authority have a higher prevalence of both psychosocial adversity and psychiatric disorder than the most socio-economically disadvantaged children living in private households, and that care-related variables are strongly related to mental health. The prevalence estimates from the surveys that provided data for this paper ranged from 45% to 49%, falling in the middle of the range of previous estimates of 17% to 89% from other studies conducted in Britain, America and Canada (Wolkind & Rutter, 1973; Stein *et al*, 1994; McCann *et al*, 1996; Quinton *et al*, 1998; Dimigen *et al*, 1999; Leslie *et al*, 2000, 2005; dosReis *et al*,

2001; Farmer *et al*, 2001; Garland *et al*, 2001; Meltzer *et al*, 2003, 2004a,b; Blower *et al*, 2004; Mount *et al*, 2004; Rodrigues, 2004; Costello *et al*, 2005). Some of the variation among the prevalence rates for children looked after by local authorities can be attributed to differences in the date, duration and size of the studies; the measures of psychopathology used; and the age and placement of the children studied. Since psychological adjustment is more than the absence of a psychiatric disorder, it is important to note that even after excluding children with a psychiatric disorder, fewer than one in ten children looked after by local authorities demonstrated particularly good psychological adjustment, compared with around one in two children living in private households. Whether judged categorically or dimensionally, our study showed that children looked after by local authorities had significantly poorer mental health than the most disadvantaged children outside the care system.

Our study also replicates and extends the findings of three North American

groups that have compared children in the public care system with disadvantaged children living in private households, all of which reported higher rates of psychopathology in the children looked after in public care (Stein *et al*, 1996; dosReis *et al*, 2001; Farmer *et al*, 2001). Stein *et al* (1996) compared children fostered by the Children's Aid Society with a clinical and a general population sample in Canada. The same correlates (socio-economic deprivation, parental criminality and male gender) predicted psychopathology regardless of group membership. Both our findings and those of Stein *et al* suggest that by the time children are in the care system they have experienced high levels of psychosocial adversity, which provides an explanation for the raised prevalence of some psychiatric disorders. dos Reis *et al* (2001) reported higher rates of mental health service use among children on Medicaid because they were in foster care (62%), compared with groups receiving Medicaid because of physical or psychological disability (29%) or poverty (4%). Fostered children had higher rates of attention-deficit hyperactivity disorder (ADHD), depression and adjustment disorders compared with the other groups. Differences in the types of psychiatric disorders prevalent in different groups of children in that study and in our study provide potential clues about aetiology. Developmental difficulties such as autism and ADHD may be more prevalent among children looked after by local authorities owing to the failure of services to provide adequate support to families trying to cope with these very demanding children. The increment in psychosocial adversity may partially explain the parallel increment in the more environmentally mediated disorders (post-traumatic stress disorder, depression, anxiety and conduct disorder) among the disadvantaged and looked after groups compared with the more advantaged children living in private households. Our findings suggest that age, gender and learning disability act in a similar manner in both populations, with age and gender multiplying the prevalence and learning disability increasing it by a fixed proportion. If these patterns of interaction are replicated by further studies, they may offer clues to psychopathological mechanisms; for example, additive effects may reflect causal pathways in parallel, whereas multiplicative effects may reflect causal pathways in series.

Strengths and limitations

The strengths of this study include data drawn from large population-based samples that used the same methodology and measures administered by the same team of researchers to nationally representative groups of children who were and were not looked after. The sample of children who were looked after included children living in all kinds of placement types, rather than just focusing on foster care, as found in other studies (Stein *et al*, 1996; Phillips, 1997; Quinton *et al*, 1998; Leslie *et al*, 2000; Farmer *et al*, 2001), and did not include children in contact with social services for other reasons (Garland *et al*, 2001; Burns *et al*, 2004).

Unfortunately there were few shared potential correlates between the children looked after by local authorities and those living with private households, limiting our comparison. Such lack of access to historical information is one of the common difficulties of working with and studying children looked after by local authorities, and also makes it difficult to draw conclusions about how far looked after status contributes directly to poor mental health. Children looked after by local authorities had higher levels of educational disadvantage than deprived children living in private households, so the relationship of looked after status to psychiatric disorder might be due to confounding by other aspects of social adversity that we were not able to control for. The fact that children living in residential care were more likely both to have a psychiatric disorder and to have had multiple placements within the past year indicates the problem of studying these factors in cross-sectional studies. Are children with psychiatric disorders more likely than other children to suffer multiple breakdowns in placement and end up in residential placements, or do multiple placements and/or communal living precipitate psychiatric disorder? Although psychological difficulties may be the result of placement instability, it is not unusual for children who are looked after to be referred to mental health services with an undetected psychiatric disorder (Rubin *et al*, 2004). We suspect that both processes are at work, but prospective longitudinal studies are needed to assess their individual impact. In addition, both the care-related variables and educational disadvantage may be markers of abuse, trauma or attachment difficulties that might explain both

the increased prevalence of psychiatric disorder and the poor educational attainment and care history in these children.

Between a third and a half of the original random samples were deemed ineligible, meaning that despite a high response rate respondents might not be representative of children looked after by local authorities. Children undergoing adoption or returned to their parents might be expected to have a lower prevalence of psychiatric disorder, whereas local authority or carer refusal to grant access may be an indicator of poor mental health, making it difficult to estimate how our findings might be influenced by our difficulty in accessing the children looked after by local authorities. Missing data on care-related variables for the looked after children varied systematically by the type of placement, with more missing data on young people living independently or with their natural parents, making the results less reliable in these groups. The disproportionate loss of data on possible correlates among looked after children with psychiatric disorders reduced our power to detect positive associations, but we can be confident of the associations that we have detected. Despite these limitations, our study is one of the largest and most systematic studies of children looked after by local authorities carried out to date.

Clinical and policy implications

Concerns about the unmet needs and poor outcomes of children in the care system in America led to the development of 'treatment foster care' and the increased use of kinship care (Rosenfeld *et al*, 1997; Chamberlain, 2003). Similar initiatives in Iceland, Norway, Slovenia and the UK aim to minimise the number of children in institutional care, but alternatives to institutional care are underutilised in much of the rest of Europe (Browne *et al*, 2006). In Britain, children looked after by local authorities are recognised by the children's National Service Framework (Department of Health, 2004) and *Every Child Matters* (Chief Secretary to the Treasury, 2003) as a group who are particularly vulnerable to psychological difficulties and are often denied access to services, leading to the development of dedicated mental health teams.

Our findings underline the need for services to ensure that the emotional and behavioural difficulties of children looked after by local authorities are understood by professionals working with these

children. In some cases, the diagnosis of a psychiatric disorder may provide access to evidence-based treatments and reduce the chance of a placement breaking down. In other cases it might be more appropriate to focus on changing the care or educational environment rather than labelling affected children as psychiatrically disordered. Specialist mental health services need to support other professionals working in this area to minimise the impact of being looked after and to allow a greater proportion of these children to fulfil their potential as adults. This study shows that residential social workers are dealing with many children with serious psychiatric disorders, and yet many have little training or support for the identification and management of these difficulties. Evaluations of treatment foster care suggest that foster carers and social workers could also benefit from this kind of input (Chamberlain, 2003). Given the high levels of educational disadvantage among children looked after by local authorities, and given that carer-reported learning difficulties were frequently an independent predictor of psychiatric disorder, professionals working with this population should try to ensure that these children are provided with suitable school placements and adequate additional support where necessary.

Future research

Our findings suggest that fewer than one in ten of the children looked after by local authorities had positively good mental health and that their substantially increased prevalence of psychiatric disorder was at least partially explained because they had also experienced particularly high levels of psychosocial and educational adversity. However, there was also a strong association between psychiatric disorder and care-related variables. Longitudinal studies of the mental health of children looked after by local authorities are required to tease apart the causal relationship of care-related variables, early physical and psychosocial adversity, and constitutional factors in the child.

REFERENCES

Blower, A., Addo, A., Hodgson, J., et al (2004) Mental health of children looked after by local authorities: a needs assessment. *Clinical Child Psychology and Psychiatry*, **9**, 117–129.

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Browne, K., Hamilton-Giachritsis, C., Johnson, R., et al (2006) Overuse of institutional care for children in Europe. *BMJ*, **322**, 485–487.

Burns, B. J., Phillips, S. D., Wagner, H. R., et al (2004) Mental health need and access to mental health services by youths involved with child welfare: a national survey. *Journal of the American Academy of Child and Adolescent Psychiatry*, **43**, 960–970.

Chamberlain, P. (2003) The Oregon multidimensional treatment foster care model: features, outcomes, and progress in dissemination. *Cognitive and Behavioral Practice*, **10**, 303–312.

Chief Secretary to the Treasury (2003) *Every Child Matters*. TSO (The Stationery Office).

Costello, E. J., Egger, H. & Angold, A. (2005) 10-year research update review: the epidemiology of child and adolescent psychiatric disorders: I. Methods and public health burden. *Journal of the American Academy of Child and Adolescent Psychiatry*, **44**, 972–986.

Department of Health (2004) *National Service Framework for Children, Young People and Maternity Services: The Mental Health and Psychological Well-being of Children and Young People*. TSO (The Stationery Office).

Dimigen, G., Del Priore, C., Butler, S., et al (1999) Psychiatric disorder among children at time of entering local authority care: questionnaire survey. *BMJ*, **319**, 675.

dosReis, S., Zito, J. M., Safer, D., et al (2001) Mental health services for youths in foster care and disabled youths. *American Journal of Public Health*, **91**, 1094–1099.

Farmer, E. M. Z., Burns, B. J., Chapman, M. V., et al (2001) Use of mental health services by youth in contact with social services. *Social Service Review*, **75**, 605–624.

Garland, A. F., Hough, R. L., McCabe, K. M., et al (2001) Prevalence of psychiatric disorders in youths across five sectors of care. *Journal of the American Academy of Child and Adolescent Psychiatry*, **40**, 409–418.

Geen, R., Sommers, A. & Cohen, M. (2005) *Medicaid Spending of Foster Children*. Child Welfare Program Brief No 2. Urban Institute; (http://www.urban.org/uploadedPDF/311221_medicaid_spending.pdf).

Goodman, R. (2001) Psychometric properties of the Strengths and Difficulties Questionnaire (SDQ). *Journal of the American Academy of Child and Adolescent Psychiatry*, **40**, 1337–1345.

Goodman, R., Ford, T., Richards, H., et al (2000) The Development and Well-Being Assessment: description and initial validation of an integrated assessment of child and adolescent psychopathology. *Journal of Child Psychology and Psychiatry*, **41**, 645–657.

Jenkins, R. (2001) Making epidemiology useful: the contribution of epidemiology to government policy. *Acta Psychiatrica Scandinavica*, **103**, 2–14.

Leslie, L. K., Landsverk, J., Loftstrom, R. E., et al (2000) Children in foster care: factors influencing

outpatient mental health service use. *Child Abuse and Neglect*, **24**, 465–476.

Leslie, L. K., Gordon, J. N., Meneken, L., et al (2005) The physical, developmental and mental health needs of young children in child welfare by initial placement type. *Developmental and Behavioral Pediatrics*, **26**, 177–185.

McCann, J., James, A., Wilson, S., et al (1996) Prevalence of psychiatric disorders in young people in the care system. *BMJ*, **313**, 1529–1530.

Meltzer, M., Gatward, R., Goodman, R., et al (2000) *Mental Health of Children and Adolescents in Great Britain*. TSO (The Stationery Office).

Meltzer, M., Gatward, R., Corbin, T., et al (2003) *The Mental Health of Young People Looked After by Local Authorities in England*. TSO (The Stationery Office).

Meltzer, H., Lader, D., Corbin, T., et al (2004a) *The Mental Health of Young People Looked After in Scotland*. TSO (The Stationery Office).

Meltzer, H., Lader, D., Corbin, T., et al (2004b) *The Mental Health of Young People Looked After in Wales*. TSO (The Stationery Office).

Mount, J., Lister, A. & Bennun, I. (2004) Identifying the mental health needs of looked after young people. *Clinical Child Psychology and Psychiatry*, **9**, 363–382.

Phillips, J. (1997) Meeting the psychiatric needs of children in foster care. *Psychiatric Bulletin*, **21**, 609–611.

Quinton, D., Rushton, A., Dance, C., et al (1998) *Joining New Families: A Study of Adoption and Fostering in Middle Childhood*. Wiley.

Rodrigues, V. C. (2004) Health of children looked after by the local authorities. *Public Health*, **118**, 370–376.

Rosenfeld, A. A., Pilowsky, D. J., Fine, P., et al (1997) Foster care: an update. *Journal of the American Academy of Child and Adolescent Psychiatry*, **36**, 448–457.

Rubin, D. M., Alessandrini, E. A., Feudtner, C., et al (2004) Placement stability and mental health costs for children in foster care. *Pediatrics*, **113**, 1336–1341.

Stein, E., Rae-Grant, N., Ackland, S., et al (1994) Psychiatric disorders of children 'in care': methodology and demographic correlates. *Canadian Journal of Psychiatry*, **39**, 341–347.

Stein, E., Evans, B., Mazumber, R., et al (1996) The mental health of children in foster care: a comparison with community and clinical samples. *Canadian Journal of Psychiatry*, **41**, 385–391.

Viner, R. M. & Taylor, B. (2005) Adult health and social outcomes of children who have been in public care: population-based study. *Pediatrics*, **115**, 894–899.

Wolkind, S. & Rutter, M. (1973) Children who have been 'in care' – an epidemiological study. *Journal of Child Psychology and Psychiatry*, **14**, 97–105.

World Health Organization (1993) *The ICD-10 Classification of Mental and Behavioural Disorders; Diagnostic Criteria for Research*. WHO.