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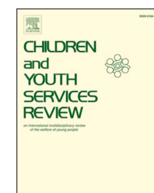

The prevalence of mental health disorders amongst care-experienced young people in the UK: A systematic review

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ABSTRACT

Care-experienced children and young people are more likely to experience poorer mental health relative to the general population. Some of the most highly cited literature in this area is becoming increasingly outdated, however, and as the gap between mental health service availability and provision is steadily growing, it is imperative that we understand the scale and nature of the mental health needs of this group. A systematic review of all literature published from the UK was conducted in March 2022 using APA PsycINFO, ASSIA, Cochrane Library, Medline, PubMed, Scopus, Social Policy and Practice, Social Services Abstracts, and Web of Science. Papers were included if they 1) sampled young people (aged 0 to 18 years) with care experience and, 2) used either a standard or non-standardised measurement tool, or health records to assess mental health prevalence rates (reported as a percentage). Risk of bias assessed used the QuADS tool (Harrison et al., 2021) and data was extracted. Thirty-nine studies were included and summarised. The estimated prevalence of mental health disorders of young people in care ranged from 1 to 82 %. The most frequently used tool to assess mental health was the Strengths and Difficulties Questionnaire (Goodman, 1997) and, while over half of studies utilised prevalence information from a comparator group, this was most commonly young people in the general population. The results of the systematic review demonstrate that estimates of mental health disorders among care-experienced young people in the UK vary considerably. Further consideration should be given toward what measures are used to assess mental health in this population and how we can optimally assess and characterise their support needs.

1. Introduction

The mental health outcomes of children and young people with care experience (also known as ‘Looked After Children’) are poor when compared to the general population (Meltzer et al., 2003; Meltzer et al., 2004a; Meltzer et al., 2004b; Ford et al., 2007). The presence of poor mental health has been shown to have multiple consequences for this group, including behaviours such as self-harm (Wadman et al., 2018), substance misuse (Ward et al., 2003), and risk-taking (Simkiss et al., 2013). The prevalence of attempted suicide by care-experienced young people is over four times higher than in non-care populations (3.6 % compared to 0.8 %) (Evans et al., 2017). Poor mental health has also been implicated in experiences in care including placement breakdown: one study found that, at the time to referral to a mental health service, young people had between one to seven placements in the 12 months to referral (with a mean of 3.5 moves) (Callaghan et al., 2004).

While there are several interventions aimed at alleviating and supporting the mental health of young people in care (Luke et al., 2014), to investigate and advise best practice in relation to treatment we must first understand what proportion of this population have experienced poor mental health. Recently published studies (Hiller & St. Clair, 2018; Quarmby et al., 2019; Cusworth et al., 2021) still cite seminal work on

Abbreviations: AA-PTSD, Alternative Algorithm for DSM-IV Post Traumatic Stress Disorder; AWS, Adolescent Well-being Scale; BAC-C, Brief Assessment Checklist for Adolescents; CAMHS, Child and Adolescent Mental Health Services; CBCL, Child Behavior Checklist; CRIES, Child Revised Impact of Events Scale; DAWBA, Development and Well-being Assessment; ECBI, Eyberg Child Behavior Inventory; HoNOSCA, Health of the Nation Outcomes for Children and Adolescents; K-SADS-PL, Kiddie Schedule for Affective Disorder and Schizophrenia – Present and Lifetime Version; MAYSI-2, Massachusetts Youth Screening Instrument – Second Version; RAD, Reactive Attachment Disorder; SDQ, Strengths and Difficulties Questionnaire; YSR, Youth Self-Report; WCHMP, Warwick Child Health and Morbidity Profile; YPBAS, Young Persons’ Behaviour & Attitudes Survey.

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prevalence rates (Meltzer et al., 2003, 2004a and 2004b; Ford et al., 2007), but this raises questions about some of the potential gaps in the evidence base for the past almost two decades. Meanwhile, Child and Adolescent Mental Health Services (CAMHS) across the UK are acknowledged to be under strain. This is characterised by a significant gap between the number of young people who need treatment, and the availability of treatment provision, with around only a third of young people with a diagnosable mental health condition being able to access care (Crenna-Jennings & Hutchinson, 2020). For care-experienced young people, the barriers to accessing treatment are even more substantial, with previous studies finding that wait times (York & Jones, 2017), placement moves (Beck, 2006a; National Institute for Health and Care Excellence [NICE], 2021), and obscure referral criteria (Callaghan et al., 2003) forming additional barriers to access.

Undiagnosed and unsupported mental health issues among care experienced young people can add to the adversities experienced by this group. Instruments for assessment can be helpful as they can provide good estimates of the prevalence of these conditions. However, while using subjective measures of mental health can be useful, they often only provide a broad picture of the needs of those who complete them and, in the case of care-experienced young people, may not be nuanced enough to fully capture the range and variety of complex issues and service needs (Kirkman et al., 2020). Consequently, the limited available resources of mental health services may not be deployed effectively or efficiently, with serious and/or enduring negative consequences for this population.

While there are studies that assess the prevalence of mental health disorders among the population of care-experienced young people in the UK, there has not been a synthesis and evaluation that includes an assessment of study quality. The study had three aims:

1) To estimate the current prevalence rates of mental health disorders among care-experienced children and young people (aged from 0 to 18 years old).
2) To establish what measures are being used to assess prevalence in this group.
3) To identify gaps in our knowledge base relating to regional data, sample population, sample size, as well as what comparator groups are used to provide context to these findings.

2. Material and methods

This review uses a narrative synthesis methodology and was designed and reported according to the PRISMA (2020) checklist (Page et al., 2021).

2.1. Eligibility criteria

Strict inclusion and exclusion criteria were stipulated and followed, and studies were only included in this review if they met these conditions. The inclusion criteria were as follows:

1) The population of interest was care-experienced young people (known more commonly as 'Looked After Children') aged between 0 and 18 years old. This group is defined as someone who has been provided accommodation from a local authority for a continuous period of more than 24 hours (definition derived from those of the four UK nations (Children Act, 1989; Children (Scotland) Act, 1995; The Children (Northern Ireland) Order 1995; Social Services and Well-being (Wales) Act, 2014). As such, studies that included adopted young people in their sample (where data for those not looked after could not be extracted) were excluded.
2) Mental health was assessed using either a standardised or non-standardised measure, or health records, and were completed by the young person themselves, their social worker, carer, teacher, or a mental health professional. Here, mental health was defined as "a clinically recognisable set of symptoms or behaviours associated in most cases with distress and with interference with personal functions" (World Health Organisation, 1992, p.5). As such, papers that investigated indicators of poor mental health, including self-harm, substance misuse, or risk-taking behaviour, among others, were not included.
3) All study designs were included, but estimations of prevalence could not originate from qualitative data.
4) Quantifiable prevalence rates must be reported, as a percentage.
5) Research was published and used data collected after the year 2000.
6) Research was conducted in the UK.
7) Research was published in English or had an English language abstract available.

Exclusion criteria included: Wrong population, wrong location, wrong topic, no reporting of numerical mental health prevalence rate, books, review, conference proceedings, or trial protocols/registrations.

2.2. Information sources

Nine bibliographic databases were searched, covering a range of disciplines. Searches were conducted between 21/03/2022 – 22/03/2022. The databases searched included: APA PsycINFO, Applied Social Sciences Index and Abstracts (ASSIA), Cochrane Library, Medline, PubMed, Scopus, Social Policy and Practice, Social Services Abstracts, and Web of Science.

2.3. Search strategy

For each database, the advanced search interface was employed, and the following keyword search terms used:

1. "Care-experienced" OR "looked after" OR "looked after child*"
2. "Mental health" OR mental* OR "mental disorders" OR "mental illness" OR "mental health need" OR "psychiatric disorder" OR "psychiatric diagnosis" OR "well-being" OR depression OR anxiety
3. "Young person" OR "young people" OR child* OR teen* OR adoles* OR youth

The Boolean operators 'AND' were used to connect keyword groupings 1,2 and 3. Limiters, including English Language and publication date (from 2000-present) were also utilised. Some minor adjustments were required depending on the level of detail the database interface would allow. Prior to searches, test sets were run to assess the proposed search strategy. Backward citation tracking of key literature was conducted via Google Scholar. As well as this, a search of publications from prominent authors in the field was also performed to further identify eligible studies. Finally, weekly alerts were set up via Scopus using a selection of the search terms to ensure new research on the topic could be screened for inclusion.

While many of the papers found used the term 'looked after' as a keyword, this is often not the preferred language of care-experienced young people. There has been a recent emphasis on the importance of language, especially in relation to those in care. Young people have reported disliking the term 'looked after child', often abbreviated to 'LAC', as it can have connotations of the children 'lacking' (TACT, 2019). As such, the term 'care-experienced' is being encouraged to be used, both by professionals and those with care experience (Goddard, 2021; Jacob-Thomson, 2021; Lewis, 2019). Despite this, common terminology was important for identifying studies for this review, and as such 'looked after child' was included in the search terms.

2.4. Selection process

Citations were exported into Microsoft Excel, with manual removal of duplicates. A first pass screening was conducted with the article title

and abstract reviewed for inclusion by the first author and a second screener. A second screening was conducted, with full texts being read by the first author to determine inclusion status. The proposed final set of publications for inclusion were all read again in full and reviewed by two screeners to confirm their eligibility. Any disagreements at each stage were discussed and resolved.

2.5. Data collection process

A standardised data extraction sheet was developed to extract study characteristics. The first author worked independently to extract data from included articles.

2.6. Risk of bias

Due to the range of study design of included studies, this review used the Quality Assessment with Diverse Studies (QuADS) tool (Harrison et al., 2021) to assess methodological, evidential, and reporting quality of studies. The QuADS tool is a refined version of the Quality Assessment Tool for Studies with Diverse Designs (Sirriyeh et al., 2012), which was originally designed for application in psychological research, but was found to be useful across broader health services research. The QuADS tool uses 13 criteria with each item being scored from zero to three. Scores are used to explore the extent to which each criterion is met, rather than as an indicator of high or low quality.

2.7. Synthesis methods

Due to the methodological diversity of the included studies, we decided that a narrative synthesis would be the most appropriate way of synthesising the findings. Popay et al.'s (2006) guidance on how to conduct a narrative synthesis was followed. We concluded a *meta*-analysis would be inappropriate due to the heterogeneity between studies, for example, differing study types, measurement tools and variability between participants (particularly study population placement type). This was also due to the nature of the data reported, which was mostly percentages relating to prevalence rates, rendering a *meta*-analysis unfeasible.

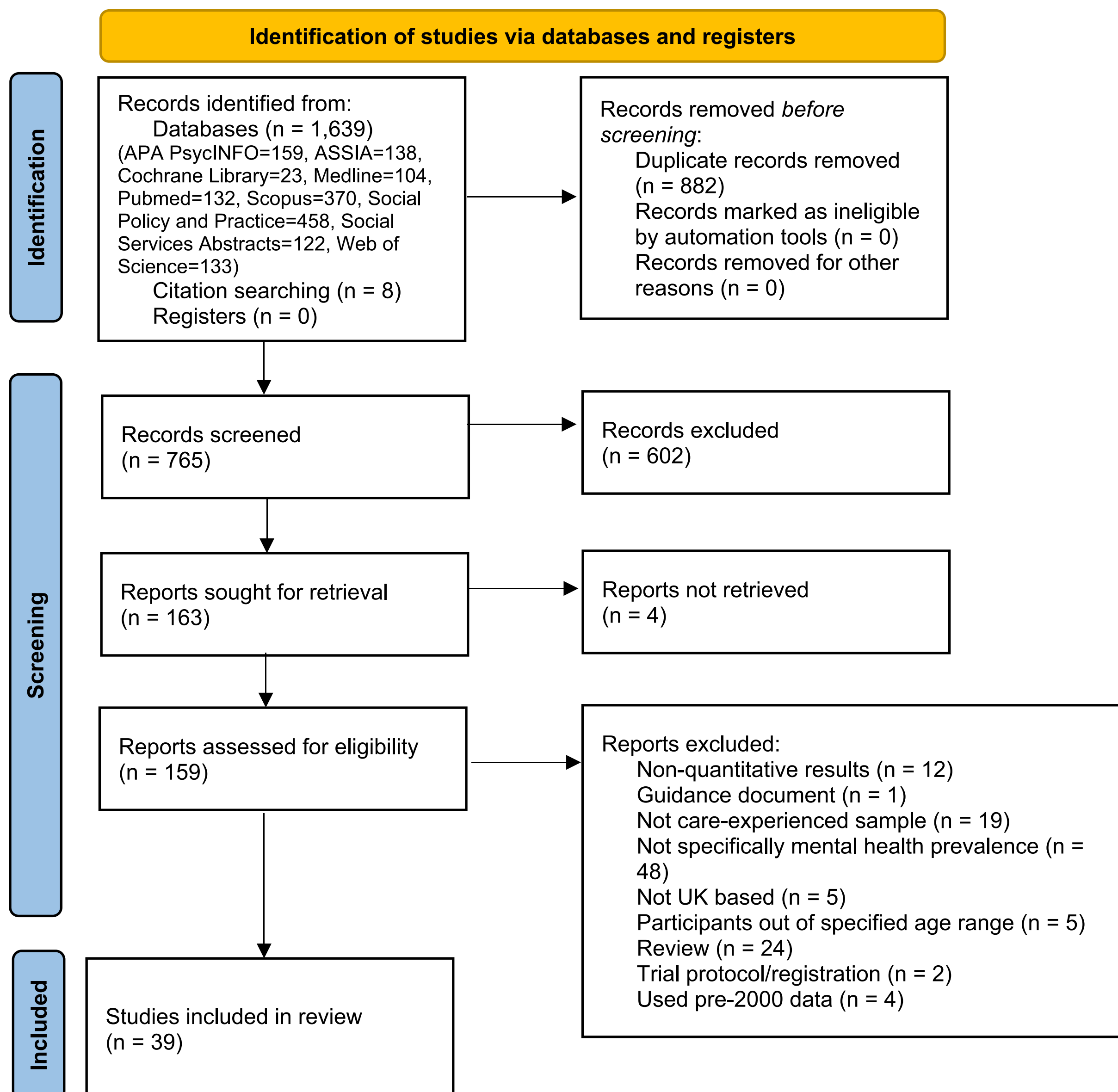

Fig. 1. PRISMA flow chart.

3. Results

3.1. Study selection

The search yielded 1,647 articles across database searches and hand searching. With duplicates removed, 765 articles were screened using their title and abstract, with 163 identified to be read in full. Of these, four were unable to be retrieved, leaving 159 to be assessed for eligibility, of which 120 were excluded because they did not meet the inclusion criteria. Thirty-nine studies were included in this review (Fig. 1). The main characteristics and results of all the included studies are summarised in Table 1.

3.2. Risk of bias in studies

The methodological, evidential, and reporting quality assessment of studies can be made available upon request. Most notably, many studies performed strongly in reporting recruitment data, as well as the method of analysis being appropriate to answer the research aims. However, few studies provided justification of why they elected to use certain measures over others or discussed the limitations of their chosen data collection tool. Furthermore, many studies scored low on their justification of the analytical method selected but this could be because of the nature of prevalence research and the lack of in-depth statistical analysis that was required as part of the chosen methodologies.

3.3. Results of synthesis

For many of the included studies (n = 23), investigating the mental health needs of care-experienced young people was the primary research aim. For others, an assessment of prevalence was just one facet, which included, among other things: 1) understanding how young people access and engage with mental health services and their experiences of these services; 2) understanding the outcomes of care-experienced young people more widely; 3) mental health was assessed as part of a wider assessment of a mental health intervention; 4) validation of a mental health screening tool. While many of the studied used either primary data or secondary administrative data, two of the 39 were new analyses of the Meltzer et al., (2003, 2004a & 2004b) original data (Ford et al., 2007; Hitchcock et al., 2021).

Estimates of overall mental health need ranged from 1.0 to 82.0 %, with prevalence rates in the most commonly reporting subgroups also showing wide ranging estimates: conduct disorders, 24.0–70.0 %, emotional disorders, 6.0–88.9 %, hyperactivity, 2.0–51.0 %. Comorbidity (the simultaneous presence of two or more conditions) was discussed in 12 (31.8 %) of the studies, but the extent varied from in-depth analysis to a passing line in either the results or discussion. As this paper does not focus on the issue of co-morbidity, we did not explore this further, but high levels of co-morbid mental health disorders within this population were apparent. In the remainder of the studies, comorbidity was not reported in the results.

3.3.1. Measures used to assess mental health

Standardised measurement scales were most used to assess mental health (n = 32, 82.1 %), with fewer studies using non-standard measures (n = 2, 5.1 %) or health record data (n = 5, 12.8 %). Measurements were completed either by the young person themselves (depending on their age), their carer, teacher, or a professional close to them. The most frequently used measurement was the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997), which was either used alone or in conjunction with other tools in 26 of the studies. Other measurement tools are listed in Table 1.

In the two studies that used non-standardised measures, mental health prevalence was often assessed using a single question set within a larger questionnaire or survey. In one paper, prevalence was measured by asking if carers felt they cared for any children or young people who they felt should have access to mental health support but were not yet receiving this service (Lawson & Cann, 2019). In a second, young people and carers were asked a question asking either broadly about any problems they were having (young person questionnaire), or more specifically about behavioural, emotional or social problems (carer questionnaire) (Beck, 2006b). Of the four studies that used health record data, two performed an analysis of referral letters made to CAMHS (Rao et al., 2010; Woolgar & Baldock, 2015), one completed an audit of young people's medical histories (Ogundele, 2020), and the last used data from four linked health databases (Fleming et al., 2021).

3.3.2. Regional information

Information around the location of where each piece of research took place can be found in Table 2. Geographic information was provided in 30 (76.9 %) of the studies; three were conducted using participants from across the UK, 11 were based in England, six in Northern Ireland, eight in Scotland, and two in Wales. Information at the local authority level (or a similar geographic range) were given in 33.3 % of the studies. The prevalence of mental health disorders varied across the four nations: England (15–81.5 %), Northern Ireland (11–61.5 %), Scotland (1–64 %) and Wales (49–62 %).

3.3.3. Sample information

Sample size varied across studies, from 13 (McDaniel et al., 2011) to almost 14,000 (Fleming et al., 2021). While many of the included studies sought to include all care-experienced young people in their study sample, others looked at those in specific placements. The population most often investigated were those in a foster placement, with young people in these arrangements being sampled either exclusively or alongside those in other named placements. Those in residential care and kinship care were also included in the sample populations.

3.3.4. Use of a comparator group

Over half (53.8 %) of the studies referenced mental health rates from a comparison group to provide additional context to their findings (Table 3). Children and young people from the general population were most frequently used as a comparator (n = 14, 66.7 %) and, within those studies that used this group as a comparator, nine used findings from Meltzer et al.'s (2000) research (or Ford et al.'s (2007) subsequent further analysis of this data). Aside from these, other studies used more specific comparison groups, including adopted children (Rao et al., 2010; Woolgar & Baldock, 2015), low-risk adolescents (Kay & Green, 2012), school children matched for deprivation category (Millward et al., 2006), and children more deprived than the general population (Minnis & Devine, 2001). Ford et al., (2007) used two distinct separate groups to provide comparisons, sampling both children living in private households and these living in disadvantaged private households.

4. Discussion

This systematic review included 39 studies and aimed to provide a comprehensive overview of the research base relating to the prevalence of mental health disorders in the population of care-experienced young people in the UK. Given that the population of children in care in the UK is around 106,000 (Rodgers & McCluney, 2021; Scottish Government, 2021; UK Government, 2021; Welsh Government, 2021), the wide range of estimates for the prevalence of mental health disorders identified in this review poses a problem for overall estimates and projection of support needs; taken together our findings reveal a concerning knowledge gap about the true extent of the mental health needs of this group.

Many of the included studies used standardised measurement tools to assess mental health, the most common of which was the SDQ. This is unsurprising, given that the SDQ is a highly validated measure that is often used to assess child psychopathology (Ford et al., 2007) and is routinely used to collected mental health data on children in state care (UK Government, 2021). There are distinct benefits to the use of such

Table 1
Characteristics and key findings of included studies measuring the prevalence of mental health disorders in care-experienced young people.

Authors, Year	Nation	Sample Size	Sample Population	Sampling method	Age Range, Years	Measure	Prevalence of Mental Health Disorders (%)
Anderson et al., 2004	Not specified	56	Young people in foster care	Stratified	6–12	SDQ	**41 %** (45 % conduct disorder; 29 % emotional disorder; 51 % hyperactivity)
Beck, 2006a	England	109 (young people); 162 (carers)	All young people looked after by the local authority	Not explicitly stated	>3	SDQ	**30 %** (25 % conduct disorder; 6 % emotional disorder; 2 % hyperactivity disorder)
Beck, 2006b	England	109 (young people); 162 (carers)	All young people looked after by the local authority	Not explicitly stated	>11	Self-report questionnaire	**22.9 %** (young people reported, feeling depressed or anxious) **13.6 %** (carer reported, feelings of depression of anxiety) **15.4 %** (carer reported, hyperactivity)
Blower et al., 2004	Scotland	48 (young people)	Young people in foster care, residential care, or local authority homes	Not explicitly stated	7–17	CBCL; YSR; K-SADS-PL	**56 %** (CBCL/YSR) **44 %** (K-SADS-PL)
Bonnet, 2004	England	275	All young people looked after by the local authority	Not explicitly stated	Not specified	SDQ	**81.5 %**
Bywater et al., 2011	Wales	29 (foster carers)	Young people in foster care	Not explicitly stated	2–15	SDQ; ECBI	**62 %*** (SDQ) **50 %*** (ECBI)
Callaghan et al., 2004	Not specified	45 (young people and carers)	Young people in foster care, residential care, or pre-adoptive placements	Not explicitly stated	4–17	SDQ; HoNOSCA	**77.8 %*** (SDQ. 68.9 % conduct disorder; 60 % emotional disorder) **88.9 %*** (HoNOSCA. Emotional symptoms) **71.1 %*** (HoNOSCA. Aggressive, antisocial, and disruptive behaviour)
Cousins et al., 2010	Northern Ireland	165 (young people)	Young people in foster care, residential care, or kinship care	Purposive	10–15	SDQ	**53.9 %**
Fargas-Malet & McSherry, 2017	Northern Ireland	233	Young people in foster care, residential care, kinship care, or living with parent(s)	Not explicitly stated	0–18+**	SDQ; WCHMP; YPBAS	**30 %** (ages 5–11) **11 %** (diagnosed emotional problem, ages 1–4) **29 %** (diagnosed emotional problem, ages 5–11) **41 %** (diagnosed emotional problem, ages 12–15) **51 %** (diagnosed emotional problem, ages 16–17)
Fleming et al., 2005	Northern Ireland	25	All young people looked after by the local authority	Stratified random	11–18	Case file analysis	**44 %**
Fleming et al., 2021	Scotland	13,898	All young people looked after by the local authority	Not explicitly stated	4–18	Health records	**1.0 %** (any mental health condition, under a category of special educational needs)
Ford et al., 2007***	England, Scotland, Wales	1,543	All young people looked after by the local authority	Random	5–17	SDQ; DAWBA	**45.3 %** (37.7 % conduct disorder; 12.4 % emotional disorder; 8.4 % hyperkinetic disorder) **46.4 %** (DAWBA)
Frogley, 2018	Not specified	191 (combined kinship carers and foster carers)	Young people in kinship or foster care, who have been in placement for at least four months	Not explicitly stated	4–11	SDQ; BAC-C	**69 %** (SDQ) **94.1 %** (BAC-C)
Hiller & St. Clair, 2018	England	207	Young people in out-of-home care	Not explicitly stated	4–18	SDQ	Year 1: 36 % conduct disorder; 18 % emotional disorder; 32 % hyperactivity Year 2: 43 % conduct disorder; 14 % emotional disorder; 48 % hyperactivity Year 3: 46 % conduct disorder; 20 % emotional disorder; 39 % hyperactivity Year 4: 46 % conduct disorder; 23 % emotional disorder; 42 % hyperactivity Year 5: 44 % conduct disorder; 22 % emotional disorder; 42 % hyperactivity
Hitchcock et al., 2021***	England, Scotland, Wales	137	All young people looked after by the local authority	Not explicitly stated	5–6	DSM-IV PTSD criteria; AA-PTSD	**1.2 %** (DSM-IV PTSD criteria) **14 %** (AA-PTSD)

(*continued on next page*)

Table 1 (*continued*)

Authors, Year	Nation	Sample Size	Sample Population	Sampling method	Age Range, Years	Measure	Prevalence of Mental Health Disorders (%)
Kay & Green, 2012	England	153	Young people in foster care and residential care	Not explicitly stated	10–16	DAWBA-RAD	**63 %**
Lawson & Cann, 2019	UK-wide	4,037 (foster carers)	Young people in foster care		Not specified	Survey	**48 %**
McCarthy et al., 2003	Not specified	70	Young people in foster care or residential care	Not explicitly stated	5–16	SDQ	**59 %**
McDaniel at al., 2011	Northern Ireland	13 (foster carers)	Young people in foster care	Not explicitly stated	6–12	ECBI	**61.5 %***
Meltzer et al., 2003	England	1,039 (carers and young people);757 (teachers)	All young people looked after by the local authority	Random	5–17	SDQ; DAWBA	**45 %** **37 %** conduct disorder (14.3 % socialised conduct disorder; 11.4 % oppositional defiant disorder) **12 %** emotional disorder (11 % anxiety disorders; 4.3 % depression) **7 %** hyperactivity disorder (6.7 % hyperkinesis)
Meltzer et al., 2004a	Scotland	355 (carers and young people);242 (teachers)	All young people looked after by the local authority	Random	5–17	SDQ; DAWBA	**45 %** **38 %** conduct disorder (12.9 % unsocialised conduct disorder; 11.8 % socialised conduct disorder;) **16 %** emotional disorder (13.4 % anxiety disorders; 5 % depression) **10 %** hyperactivity disorder (8.6 % hyperkinesis
Meltzer et al., 2004b	Wales	149 (carers and young people);119 (teachers)	All young people looked after by the local authority	Random	5–17	SDQ; DAWBA	**49 %** **42 %** conduct disorder (14.4 % unsocialised conduct disorder; 14.1 % oppositional defiant disorder;) **10 %** emotional disorder (9.7 % anxiety disorders; 2.9 % depression) **12 %** hyperactivity disorder (10.7 % hyperkinesis
Millward et al., 2006	West Dunbartonshire	82	Young people in foster care, residential care, or in residential schools	Not explicitly stated	4–16	SDQ	**53.0 %**
Minnis and Devine, 2001	Scotland	51 (foster families)	Young people in foster care	Not explicitly stated	5–16	SDQ	**>60 %** (60 % conduct disorder; 50 % hyperactivity; 45 % and 12 % emotional disorder, carer and teacher reported).
Minnis et al., 2006	Scotland	121 (foster families); 182 (young people)	Young people in foster care	Not explicitly stated	5–17	SDQ	**64.0 %** (66 %, 44 % conduct disorder, carer and young person reported; 45 %, 12 %, 30 % emotional disorder, carer, teacher, and young person reported; 54 %, 37 % hyperactivity, carer and young person reported)
Morgan & Baron, 2011	Not specified	58 (foster carers)	Young people in foster care	Not explicitly stated	14.23 (mean. Range not reported)	SDQ	**62 %**
Morris et al., 2015	England	28	All young people looked after by the local authority who had been identified as experiencing mental health difficulties	Not explicitly stated	13.6 (mean. Range not reported)	CRIES-8	**75 %**
Mount et al., 2004	England	50 (young people); 50 (carers)	Young people in foster care or residential care	Not explicitly stated	10–18	SDQ; AWS; ECBI	**70 %** (SDQ, carer reported. 70 % conduct disorder, 50 % emotional needs, 46 % hyperactivity) **20 %** (SDQ, young person reported. 42 % conduct disorder, 14 % emotional disorder, 34 % hyperactivity) **28 %** (AWS) **34 %** (ECBI)
Newlove-Delgado et al., 2012	England	18 (young people)	All young people looked after by the local authority	Not explicitly stated	4–16	SDQ; DAWBA	**53 %** (SDQ. Social worker reported) **56 %** (SDQ. Carer and teacher reported) **16 %** (SDQ. Young person reported) **80 %** (DAWBA)****
Ogundele, 2020	England	80	Children referred to the looked after children team fora statutory initial	Not explicitly stated	0–18	Retrospective review audit of medical history	**70 %** **32.5 %** (behaviour difficulties) **16.2 %** (emotional problems)

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Table 1 (*continued*)

Authors, Year	Nation	Sample Size	Sample Population	Sampling method	Age Range, Years	Measure	Prevalence of Mental Health Disorders (%)
			health (or adoption) assessment				
Rao et al., 2010	Not specified	29 (young people)	Young people looked after by the local authority who had been accepted for treatment by CAMHS	Not explicitly stated	5–17	Analysis of CAMHS referral letters	**41 %** (including depression, anxiety, psychosis, eating disorder, ADHD or autism)
Rees, 2013	Not specified	181 (young people); 188 (carers); 189 (teachers)	All young people looked after by the local authority, excluding those expecting imminent confirmation of adoption	Not explicitly stated	7–15	SDQ	**33 %** (young person reported) **47 %** (carer reported) **43 %** (teacher reported)
Reilly et al., 2019	Scotland	237	Young people in a residential and secure facility	Not explicitly stated	12–17	MAYSI-2	**39.0 %** (depression and anxiety)
Richards & Wood, 2006	England	41	Young people known to the local authority's permanent placement team	Not explicitly stated	4–16	SDQ	**43.9 %** (carer reported) **46.3 %** (teacher reported) **15 %** (young person reported)
Teggart & Menary, 2010	Northern Ireland	24 (young people); 52 (carers); 60 (teachers)	Young people in foster care or residential care	Not explicitly stated	4–16	SDQ	**46.7 %** (ages 4–10; 33.3 % conduct disorder; 6.7 % emotional disorder; 26.7 % hyperactivity disorder) **39.4 %** (ages 11–16; 33.3 % conduct disorder; 6.1 % emotional disorder; 15.2 % hyperactivity disorder)
Vincent & Jopling, 2018	Scotland	130	All young people looked after by the local authority	Not explicitly stated	11–18	Adapted health and well-being questionnaire	**11.1 %**
Whyte & Campbell, 2008	Northern Ireland	76 (carers); 64 (teachers); 31 (young people)	All young people looked after by the local authority	Not explicitly stated	>11	SDQ	**56 %** (carer reported) **39 %** (teacher reported) **30 %** (young person reported)
Wigley et al., 2011*****	Not specified	21	Young people in residential care	Not explicitly stated	8–18	SDQ; AWS	**20.8 %** (SDQ) **26.3 %** (Adolescent Well-being Questionnaire)
Woolgar & Baldock, 2015	Not specified	50 (young people)	Young people in foster care	Not explicitly stated	2–17	Analysis of CAMHS referral letters	**60.8 %** **45.1 %** (conduct disorder) **27.5 %** (hyperkinetic disorder)

Note: SDQ scores reported are those of a 'probable' mental health disorder; * For trials, prevalence rates used are for young people in the intervention group, at baseline; ** Results taken are those where age was specified. Grouped results not included as some participants were over 18 years of age; *** Re-analysis of the data collected in Meltzer et al., 2003, Meltzer et al., 2004a and Meltzer et al., 2004b; **** DAWBA completed for seven young people taken from a pool of those with either a 'possible' or 'probable' SDQ result; ***** Stage Two of this study was not included as the sample population included young people who were at risk of being looked after but were not yet in care.

measures, including that such measures are efficient and consistent use can allow comparisons of results across time, location, and sample. On the one hand, however, some have argued that standard tools can be considered unsuitable for young people with care experience, as this group can often present with difficulties that are not considered part of traditional diagnostic systems (Achenbach et al., 2003; Tarren-Sweeney, 2007; Luke et al., 2014). Conversely, others contend that standard diagnostic framework should remain central to formulation and professional support for young people, irrespective of their care experience (Hiller et al., 2022).

Furthermore, as can be seen in Table 1, estimates of mental health vary depending on reporter. Richards and Wood (2006) found that young people reported mental health prevalence rates of 15 %, while carer and teacher reports were closer to 44–46 %. Similar differences were also found by Newlove-Delago et al. (2012). Young people often report lower levels of mental health need (Mount et al., 2004; Richards & Wood, 2006) and it has been found that SDQ predictions are more accurate when reported by a carer or teacher, with self-reports by adolescents contributing little additional information (Goodman et al., 2004). However, with age-appropriate adjustments, young people can accurately report their own mental health (Truman et al., 2003; Sharp et al., 2005); carer reports may be inaccurate depending on the quality of their relationship with the young person (Chambers et al., 2010).

There are also differences in the way the SDQ is used in clinical practice, compared to when it is utilised in a research capacity. As was seen in many of the papers included in this review, the SDQ was often completed by multiple source (young person, teacher, or carer) and, in some cases, it was then followed on by a clinical assessment (Meltzer et al., 2003, 2004a, and 2004b). In comparison when used in a clinical setting, the SDQ is often used as part of an initial assessment (Youth in Mind, 2012) and is usually only completed by one party, depending on the age of the young person (Youth in Mind, 2022).

There is also a question around how well these prevalence rates represent the population of interest. In some cases, authors were sure their sample resembled the profile of the group and area they were interested in (Blower, 2004). Whereas in others, authors believed their study sample was not representative of the local authority population, but it did represent other facets of care experience, such as placement moves or stability (Beck, 2006b).

Many studies relied on participants to opt-in to the research, which can be problematic when researching mental health, as those who take part in research are often healthier than those who do not (Minnis et al., 2006). Furthermore, as there has been found to be a connection between poor mental health and the number of placement moves a young person experiences (Beck, 2006a), young people who are in unstable accommodation may be prevented from engaging in research.

This review also found that young people in foster care were most often sampled. This is unsurprising, given that over 70 % of children in care are in foster placements (UK Government, 2021), but research assessing the mental health of children living in other care arrangements is lacking. Few studies included young people in kinship care placements, which is one of the most common forms of alternative out-of-

Table 2
Geographical information of where included studies were conducted.

Study	Region	Subregion(s)
Beck, 2006a	England	Lambeth
Beck, 2006b	England	Lambeth
Bonnet, 2004	England	Sunderland
Hiller & St. Clair, 2018	England	Southwest England
Kay & Green, 2012	England	Unspecified
Meltzer et al., 2003	England	134 English local authorities
Morris et al., 2015	England	Unspecified
Mount et al., 2004	England	Southwest England
Newlove-Delgado et al., 2012	England	Southwark
Ogundele, 2020	England	North Somerset
Richards & Wood, 2006	England	Essex
Cousins et al., 2010	Northern Ireland	Unspecified
Fargas-Malet & McSherry, 2017	Northern Ireland	Unspecified
Fleming et al., 2005	Northern Ireland	Unspecified
McDaniel at al., 2011	Northern Ireland	Unspecified
Teggart & Menary, 2010	Northern Ireland	Banbridge & Craigavon
Whyte & Campbell, 2008	Northern Ireland	Unspecified
Blower et al., 2004	Scotland	West Dunbartonshire
Fleming et al., 2021	Scotland	Unspecified
Meltzer et al., 2004a	Scotland	32 Scottish local authorities
Millward et al., 2006	Scotland	West Dunbartonshire
Minnis and Devine, 2001	Scotland	Unspecified
Minnis et al., 2006	Scotland	17 Scottish local authorities
Reilly et al., 2019	Scotland	Unspecified
Vincent & Jopling, 2018	Scotland	Greater Glasgow and Clyde
Bywater et al., 2011	Wales	North and Mid-Wales
Meltzer et al., 2004b	Wales	21 Welsh local authorities
Ford et al., 2007	England, Scotland, Wales	Unspecified
Lawson & Cann, 2019	UK-wide	Unspecified
Hitchcock et al., 2021	England, Scotland, Wales	Unspecified
Anderson et al., 2004	Not specified	–
Callaghan et al., 2004	Not specified	–
Frogley, 2018	Not specified	–
McCarthy et al., 2003	Not specified	–
Morgan & Baron, 2011	Not specified	–
Rao et al., 2010	Not specified	–
Rees, 2013	Not specified	–
Wigley et al., 2011	Not specified	–
Woolgar & Baldock, 2015	Not specified	–

home care (Wijedasa, 2015). In England and Wales, the practice of placing young people on Special Guardianship Orders is also rising rapidly (Bilson & Martin, 2017) but we know little about the profile of mental health for this group.

Lastly, while over half of the included studies used a comparison group, the majority of these used young people from the general population. If studies were to utilise a more equivalent sample, such as young people from disadvantaged backgrounds, then we would have more information around how distinctly vulnerable young people in care are in comparison to their peers. Ford et al.'s (2007) work is an example of how these comparisons can add depth and context to findings. By employing appropriate comparators, recommendations would be able to be made around how much priority should be given to supporting the mental health needs of this care-experienced young people.

4.1. Limitations

This review is limited by its focus on young people who are under the care of a local authority, thereby excluding children who were once looked after but are not longer in care (either through adoption, reunification, or by aging out). This decision was intentional and made due to the already large volume of literature in this area, as well as the challenges children in the care system face. However, it would be of interest to investigate how the prevalence of mental health disorders differs between children still in care and those who have left.

While the search terms were tested and checked against other reviews in the evidence base, there is the potential that some items may have been missed from the search. The two most prominent aspects of this study – mental health and being care-experienced – come with a wide lexicon of associated terms. Just as it was not feasible to include every type of mental health diagnosis as part of the search strategy, neither would including every type of potential placement for young people in care, or all facets of legalities around being in care (e.g., 'care order' or 'accommodated child'). As such, any articles that included these specificities in their title, abstract, or key words may have been missed. Lastly, owing to limited time and resources, only the first author completed both the data extraction and the QuADS assessment. As such, is possible that some information is inconsistent or incomplete.

5. Conclusions

It is commonly understood that young people with care experience are likely to experience worse mental health when compared to those in the general population. However, this review shows high levels of variability in the estimates of prevalence across studies, showing that we do not have an accurate understanding of the true rates of mental health need. Differences in sampling and measurement further confound the capacity to draw out clear messages about the mental health needs of this group.

Local authorities in England routinely collect data relating to mental health using the SDQ, with completion rates as high as 80 % (UK Government, 2021). However, when used in research settings, these tools should not be used without acknowledgment of their limitations. There may be other validated tools that are better suited to the nuanced needs of care-experienced young people, or current tools might need adjustments to better suit this population. We continue to be limited to 'probable' groupings of disorders, rather than understanding the specific nuances of mental health and comorbidities. As Hiller at al. (2022) contend, the only way to find out if a young person has a diagnostic condition is to offer them a full diagnostic assessment.

Additionally, while there was some discussion by the UK Government around the Office for National Statistics producing a new report that would provide contemporary data around the mental health of looked after children and care leavers (Department for Education, 2016), the authors were unable to locate any published work relating to these findings.

This review has highlighted the discrepancies between estimates of mental health prevalence within care-experienced young people. The findings suggest that researchers need to consider what tools they use to collect data on the subject and to triangulate reporters where feasible, in recognition that young people and their carers each provide valuable information about a young person's health and support needs. The wide-ranging estimates of mental health symptoms and problems identified in this review highlight considerable ongoing uncertainty about the scale and nature of mental health difficulties that care experienced young people are contending with.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Table 3
Studies that included comparator groups in their analysis.

Study	Population of interest Sample	Mental health disorder prevalence	Comparison group Sample	Mental health disorder prevalence
Blower et al., 2004	Young people in foster care, residential care, or local authority homes	56.0 % (CBCL/YSR Questionnaire) 44.0 % (K-SADS-PL)	Young people living in private households (Meltzer et al., 2000)	10.0 % (SDQ; DAWBA)
Cousins et al., 2010	Young people in foster care, residential care, or kinship care	53.9 % (SDQ)	Young people living in private households (Meltzer et al., 2000)	10.0 % (SDQ; DAWBA)
Fleming et al., 2021	All young people looked after by the local authority	1.0 %	Not Looked After Children	0.2 %
Ford et al., 2007	All young people looked after by the local authority	45.3 % (SDQ) 46.4 % (DAWBA)	1. Children living in disadvantages private households 2. Children living in private households	14.6 % (DAWBA) 8.5 % (DAWBA)
Hitchcock et al., 2021	All young people looked after by the local authority	1.2 % (DSM-IV PTSD criteria) 14.0 % (AA-PTSD)	Children and young people in Great Britain (Meltzer et al., 2000; Green et al., 2005)	0.4 % (AA-PTSD)
Kay & Green, 2012*	Young people in foster care and residential care	13.4 (DAWBA-RAD)	Low-risk adolescents	3.5 (DAWBA-RAD)
Lawson and Cann, 2019	Young people in foster care	48.0 % (Survey)	Children aged 5–19 (Public Accounts Committee, 2019)	13.0 %
Meltzer et al., 2003	All young people looked after by the local authority	45.0 % (SDQ; DAWBA)	Young people living in private households (Meltzer et al., 2000)	10.0 % (SDQ; DAWBA)
Meltzer et al., 2004a	All young people looked after by the local authority	45.0 % (SDQ; DAWBA)	Young people living in private households (Meltzer et al., 2000)	10.0 % (SDQ; DAWBA)
Meltzer et al., 2004b	All young people looked after by the local authority	49.0 % (SDQ; DAWBA)	Young people living in private households (Meltzer et al., 2000)	10.0 % (SDQ; DAWBA)
Millward et al., 2006	Young people in foster care, residential care, or in residential schools	53.0 % (SDQ)	1. School children (matched for age, sex, and deprivation category)2. Children registered with a general practice	13.0 % (SDQ)
Minnis & Devine, 2001	Young people in foster care	<60.0 % (SDQ)	Children who were considered more deprived than the general population	Not reported
Minnis et al., 2006*	Young people in foster care	18.6 (RAD Questionnaire)	School children	12.74 (RAD Questionnaire)
Newlove-Delago et al., 2012*[1]	All young people looked after by the local authority	16.68, 19.26, 15.44	1. General population SDQ score norms2. Children looked after (Ford et al., 2007)	8.4, 6.6, 10.3 9.6, 13.83, 13.27
Ogundele, 2020**	Children referred to the looked after children team fora statutory initial health (or adoption) assessment	47.5 % (medical records)	General population	12.8 % (medical records)
Rao et al., 2010	Young people looked after by the local authority who had been accepted for treatment by CAMHS	41.0 % (Analysis of CAMHS referral letters)	Adopted children	17.0 % (Analysis of CAMHS referral letters)
Rees, 2013[1]	All young people looked after by the local authority, excluding those expecting imminent confirmation of adoption	47.0 %, 43.0 %, 33.0 % (SDQ)	Young people living in private households (Meltzer et al., 2000)	10.0 % (SDQ; DAWBA)
Richards & Wood, 2006*[1]	Young people known to the local authority's permanent placement team	14.8, 14.0, 12.6 (SDQ)	Young people from the general population	8.4, 6.6, 10.3 (SDQ)
Teggart & Menary, 2010	Young people in foster care or residential care	46.7 % (SDQ, ages 4–10 39.4 % (SDQ, ages 11–16)	Young people living in private households (Meltzer et al., 2000)	10.0 % (SDQ; DAWBA)
Vincent & Jopling, 2018	All young people looked after by the local authority	11.1 % (Adapted health and well-being questionnaire)	General population of young people using the 2010 Glasgow School Survey	Not reported
Woolgar & Baldock, 2015	Young people in foster care	60.8 % (Analysis of CAMHS referral letters)	1. Adopted children 2. Looked After Children (Ford et al., 2007)	67.3 % 46.4 %

Note: [1] Carer-reported, teacher-reported, self-reported, respectively; * Comparative percentages not provided, figures reported are mean measurement scores. **Emotional and behavioural problem.

Data availability

No data was used for the research described in the article.

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