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Public Health Collaborating
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Review E3: The effectiveness of interventions aimed at improving access to health and mental health services for looked after children and young people.

Commissioned by: NICE Centre for Public Health Excellence

Produced by: ScHARR Public Health Collaborating Centre

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1.1 About the ScHARR Public Health Collaborating Centre

The School of Health and Related Research (ScHARR), in the Faculty of Medicine, Dentistry and Health, University of Sheffield, is a multidisciplinary research-led academic department with established strengths in health technology assessment, health services research, public health, medical statistics, information science, health economics, operational research and mathematical modelling, and qualitative research methods. It has close links with the NHS locally and nationally and an extensive programme of undergraduate and postgraduate teaching, with Masters courses in public health, health services research, health economics and decision modelling.

ScHARR is one of the two Public Health Collaborating Centres for the Centre for Public Health Excellence (CPHE) in the National Institute for Health and Clinical Excellence (NICE) established in May 2008. The Public Health Collaborating Centres work closely with colleagues in the Centre for Public Health Excellence to produce evidence reviews, economic appraisals, systematic reviews and other evidence based products to support the development of guidance by the public health advisory committees of NICE (the Public Health Interventions Advisory Committee (PHIAC) and Programme Development Groups).

1.2 Contribution of Authors

Roy Jones was the systematic review lead and Roy Jones and Emma Everson-Hock were reviewers on the project. Louise Guillaume developed and undertook literature searches. Alejandra Duenas was the economic modeller. Elizabeth Goyder and Jim Chilcott were the senior leads.

1.3 Acknowledgements

This report was commissioned by the Centre for Public Health Excellence of behalf of the National Institute for Health and Clinical Excellence. The views expressed in the report are those of the authors and not necessarily those of the Centre for Public Health Excellence or the National Institute for Health and Clinical Excellence. The final report and any errors remain the responsibility of the University of Sheffield. Elizabeth Goyder and Jim Chilcott are guarantors.

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1 Executive summary

1.1 Background

In 2008, the Department of Health made a referral to NICE (National Institute for Health and Clinical Excellence) and SCIE (Social Care Institute for Excellence) to develop joint public health programme guidance on improving the physical and emotional health and wellbeing outcomes for looked after children and young people (LACYP). The present systematic review is the third in the series of three effectiveness reviews on this topic.

Compared with children and young people in the general population, LACYP are more likely to experience behavioural, physical and psychological problems (Meltzer et al. 2003). Consequently, LACYP are likely to have greater need of health and mental health services, to ensure that they have access to the same general healthcare as children living at home and to address any specific physical and mental health problems (McAuley & Young 2006). The Children Act states that arrangements for a health assessment should be made by the relevant local authority either before, or as soon as is practicable after a placement is made (Department Of Health 2002a). However, there is growing evidence that LACYP do not always have the same access to general health and mental health care as other children and young people, nor do they always receive treatment or support over and above mainstream services that is appropriate to their needs. UK research reported only around two-thirds (64%) of LACYP attended statutory medical examinations. The research reported that only 68% of LACYP are registered with a general practitioner (GP), compared with over 90% of children that are not looked after (Rodrigues 2004).

Several factors may contribute to this mismatch between need and service access: LACYP may not have advocates (birth parents or stable foster parents) that can request assessment and treatment when it is needed (Polnay, Glaser, & Rao 1996), and other professionals such as GPs or teachers that could act on their behalf may be absent at times of placement breakdown and transition (Arcelus, Bellerby, & Vostanis 1999). Frequent placement moves and/or poor information management between carers and professionals may also mean that LACYPs needs are not adequately addressed. Finally, availability of services (e.g. mental health services) may vary throughout the UK (National CAMHS Review 2008).

Improving access to services, either through increased provision of additional, specialist services, or through interventions that focus on improving access to

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services (or a combination of both) is, then, a key issue in tackling the inequalities in health and health care that LACYP experience.

This report presents the findings of a systematic review of this topic.

1.2 Purpose of the review

The following research question was addressed:

What is the effectiveness of interventions to improve access to specialist or universal services accessed by looked after children and young people and delivered during ongoing care on access to services and/or the physical and emotional health and wellbeing of looked after children and young people, compared with usual care/access?

1.3 Methods

The strategy adopted for this review combined systematic review searching undertaken by Janet Clapton, information specialist at SCIE, with supplementary searches undertaken by SchARR. Fifteen key databases were searched using terms relating to LACYP. In addition, searches of reference lists and citation searches were conducted on all relevant papers.

Retrieved citations were screened according to the inclusion and exclusion criteria described in Section 3.2. Overall, 4602 articles were rejected at the title stage, 485 articles were rejected at the abstract stage and 63 were examined for potential inclusion in the review. Of these, 56 were excluded at full paper stage, 2 were not received and five were included (see QUOROM diagram in Appendix 4).

Initially relevant information was extracted and papers were classified according to the services accessed. Study quality was assessed using the checklists and guidance provided in the NICE CPHE Methods Manual (National Institute for Health and Clinical Excellence 2006) and studies were graded with ++, + or – as recommended by NICE. Study quality did not determine inclusion into or exclusion from the review.

1.4 Results

A total of five studies were identified as meeting inclusion criteria: four US prospective cohort studies and one UK non-comparative study. The characteristics of the studies are displayed in the evidence table in Appendix 3 and full references for

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included studies and excluded studies are provided in Appendices 6 and 7, respectively.

The characteristics of each study and the intervention used are described individually in this section.

A US prospective cohort study aimed to improve access to mental health services by placing one full-time psychotherapist on-site at two foster care agencies in New York City (Collado & Levine 2007-). As well as providing a service to the children and young people the psychotherapists engaged with all officials and professionals engaged in the care of each LACYP. Team-building activities were organised and implemented, involving all support staff at all levels and linking mental health and foster care agencies together within a 'system' of care. Therapists trained foster carers and caseworkers on relevant mental health issues and the mental health treatment process as well as contributing to staff meetings. Access to services was not measured, however the effectiveness of the intervention on placement stability was evaluated.

A second US prospective cohort study aimed to improve access to mental health, medical, developmental and educational services among young children newly entering foster care by providing a comprehensive multidisciplinary assessment (Horwitz, Owens, & Simms 2000+). These assessments were provided by staff from five independent community agencies and involved an interview with the foster carer, a complete medical examination, developmental assessment, psychological assessment, speech and language assessment and motor evaluation. The comparison group received customary assessment (i.e. usual care). The study was set in one area of Connecticut where children entering foster care through one office of the Department of Children and Families received the intervention and children entering through another office served as the comparison sample. Access to services was defined as the number/percentage of the sample referred to a service who went on to received the service. The number and percentage of children referred to services was also compared across groups. Follow-up assessments were made at six and 12 months.

A third US study examined whether LACYP receiving a comprehensive programme of medical case management in Cook County Illinois were more likely receive health services than LACYP receiving usual care (Kienberger Jaudes et al. 2004+). The programme comprised initial health screening by a doctor within 24 hours of entering

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care and before foster home placement, along with a comprehensive health evaluation, including mental health, developmental, alcohol and substance abuse screening where appropriate, within 21 days of entering care. LACYP under the age of six received medical case management by community-based agencies and LACYP over six received this from their welfare worker. The study used computerised Medicaid-paid claims to analyse service use.

A fourth US study examined whether providing the medical professional undertaking initial health assessment of LACYP with all reasonably available medical information improved the provision and timeliness of health assessments (Risley-Curtiss & Stites 2007+). The study did not clearly state the process for information sharing, other than a data managing computer system was utilised. The study used computerised records to report the number and percentages of LACYP that had their initial health assessment at the time points 14 days after enter into care, 30 days after enter into care and at the end of the year-long study period.

Finally, one UK non-comparative study aimed to improve access to immunisations by providing social services with a detailed immunisation history for every looked after child where the details were known in a UK single urban unitary authority (Ashton-Key & Jorge 2003-). Access was measured in terms of immunisation uptake (number/percentage of children up to date with immunisations) and also number/proportion of children scheduled to receive immunisations who received them. There was no comparison group and measurements were taken at baseline and 12 months later to assess changes in immunisation uptake across the duration of the intervention.

Two US studies using computerised records had very large sample sizes, one reported a sample size of 2,507 (Risley-Curtiss & Stites 2007+) and the other a sample size of 47,031 (Kienberger Jaudes et al. 2004+). Three studies had similar sample sizes, varying from 108 to 136, although it should be noted that the size of the comparison group in one study was not reported (Collado & Levine 2007-). The ages of the children studied varied between the studies, with three US prospective cohort studies (Collado & Levine 2007-; Kienberger Jaudes et al. 2004+; Risley-Curtiss & Stites 2007+) and one UK non-comparative study (Ashton-Key & Jorge 2003-) reporting a broad age range up to the age of 18 and one US prospective cohort study reporting a much narrower age range focusing on younger children up to the age of six years. The setting, type of intervention and type of service accessed varied considerably and this made direct comparison and synthesis of data difficult.

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In addition, much information (e.g. mean age of LACYP, initial response rate and rate of attrition at follow-up) was not reported for at least one of the studies.

As stated previously the studies included in this review consisted of four US prospective cohort studies and one UK non-comparative study. No studies were rated ++, three US prospective cohort studies were rated + (Horwitz, Owens, & Simms 2000+; Kienberger Jaudes et al. 2004+; Risley-Curtiss & Stites 2007+), one US prospective cohort study was rated – (Collado & Levine 2007-) and one UK non-comparative study was rated – (Ashton-Key & Jorge 2003-) on the basis of the NICE CHPE checklists (National Institute for Health and Clinical Excellence 2006).

The four US prospective cohort studies and one UK non-comparative study varied considerably in terms of the services, interventions and outcomes reported, making data synthesis difficult.

1.4.1 Evidence statements

Evidence statement 1: Access to services in general

There is mixed evidence of reasonable quality from one US prospective cohort study on the effectiveness of a comprehensive multidisciplinary assessment compared with usual assessment on access to services in general (Horwitz, Owens, & Simms 2000+). This study reported that LACYP who received a comprehensive multidisciplinary assessment were more likely to be referred to a service than those who received usual assessments ($p=0.002$). This study also reported that LACYP who received a comprehensive multidisciplinary assessment and were referred to a service were more likely to have received a service at 6-month follow-up than those who received usual assessments and were referred to a service ($p=0.049$), however this difference was not apparent at 12-month follow-up ($p=0.128$). These findings may have limited applicability to the UK care system as this was a US study and was published nine years ago.

Evidence statement 2: Referral and access to mental health services

There is mixed evidence of reasonable quality from one US prospective cohort study to suggest no significant difference in referral rates to mental health services ($p=0.768$) between LACYP who received a comprehensive multidisciplinary assessment with an identified need for the specific service and those who received usual assessments with an identified need for the specific service (Horwitz, Owens, &

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Simms 2000+). These findings may have little applicability to the UK care system as this was a US study and was published nine years ago.

There is evidence of reasonable quality from one US study to suggest a mixed effect of a comprehensive medical case management programme. One US study reported that LACYP who received a comprehensive medical case management programme were more likely to receive psychiatric clinic services than those LACYP receiving usual service ($p < 0.01$), but slightly less likely to receive mental health services ($p < 0.01$) (Kienberger Jaudes et al. 2004+). This finding may be of moderate relevance to the UK care system as this was a US study published five years ago.

Evidence statement 3: Referral and access to general health services

There is mixed evidence of reasonable quality from one US prospective cohort study to suggest no significant difference in referral rates to medical services ($p = 0.326$) between LACYP who received a comprehensive multidisciplinary assessment with an identified need for the specific service and those who received usual assessments with an identified need for the specific service (Horwitz, Owens, & Simms 2000+). These findings may have little applicability to the UK care system as this was a US study and was published nine years ago.

There is evidence of reasonable quality from one US study to suggest that LACYP who received a comprehensive medical case management programme were more likely to receive physician services, hearing examinations and eye examinations services than those LACYP receiving usual care ($p < 0.01$) (Kienberger Jaudes et al. 2004+). This finding may be of moderate relevance to the UK care system as this was a US study published five years ago.

There is evidence of reasonable quality from one US study to suggest that providing all reasonably available medical records to the professional undertaking initial health assessment at entry into care increases uptake within 14 day, 30 day and 1 year periods (Risley-Curtiss & Stites 2007+). This finding may be of moderate relevance to the UK care system as this was a US study published two years ago.

There is evidence of poor quality from one UK non-comparative study to suggest no significant difference in immunisation uptake rates among looked after children and young people before and 12 months after providing social services with information on immunisation status (specific statistical test and p -value not reported) (Ashton-Key & Jorge 2003-). This finding may be moderately applicable to the UK care system as

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this was a UK study and was published six years ago, however there was no comparison group.

Evidence statement 4: Placement stability

There is evidence of poor quality from one US prospective cohort study to suggest that LACYP who were with an agency that had an onsite mental health clinician were less likely to have a placement transfer than those with agencies who had no clinician onsite (significance not reported) (Collado & Levine 2007-). This finding may be of moderate relevance to the UK care system as this was a US study and was published two years ago.

1.4.2 Applicability to the UK

One non-comparative study included in this review was conducted in the UK with four prospective cohort studies conducted in the US, which may have implications for the applicability of the review findings to the UK context, although there is likely to be much similarity in medical assessments for LACYP in the UK and US. Many of the studies had small sample sizes, which is a concern, as is the poor methodological quality of some of the studies. However, all studies included were conducted within the last nine years.

1.5 Discussion

A modest amount of evidence has been identified that examined the effectiveness of interventions to improve access to services on access to services and other LACYP outcomes. Only four effectiveness studies (all US prospective cohort studies) (Collado & Levine 2007-; Horwitz, Owens, & Simms 2000+; Kienberger Jaudes et al. 2004+; Risley-Curtiss & Stites 2007+) and one UK non-comparative study comparing access before and after the intervention (Ashton-Key & Jorge 2003-) were identified. Some conclusions can be drawn from the findings of these studies, however because of the overall poor methodological and reporting quality and wide variation in services, interventions and outcomes reported, the findings of this review must be interpreted with extreme caution.

In addition, none of the evidence reviewed attempted to address more than one or two points on the care pathway and processes of access that may be usefully targeted by an intervention (entry into care; statutory health assessment; referral pathways; leaving care) as a whole. Thus the evidence may only present part of the overall access picture. The five studies reviewed focused on entry into care, the

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statutory health assessment (Horwitz, Owens, & Simms 2000+; Kienberger Jaudes et al. 2004+; Risley-Curtiss & Stites 2007+) and referral pathways (Ashton-Key & Jorge 2003-; Collado & Levine 2007-). The findings of this review suggest that comprehensive multidisciplinary assessments at the point of entry into care can be effective in increasing access to services overall compared with usual medical assessments, although this effect did not persist at the 12-month follow-up (Horwitz, Owens, & Simms 2000+).

Information sharing may also be an important element of any intervention to improve access to services right from the start of the placement, although evidence elsewhere (National Institute for Health and Clinical Excellence 2007) suggests that provision of information alone is not sufficient to ensure changes in behaviour, or professional practice. Likewise, the effectiveness of providing more intensive assessments on increasing access to services may depend on other factors, such as attendance at assessments. For example, LACYP are entitled to refuse to consent to a statutory annual medical assessment if they have sufficient understanding as stated in the amendments to the Children's Act, although a definition of understanding is not given (Department Of Health 2002a).

Similarly, it is likely that the nature of the service itself affects access – factors such as inconvenient opening times or locations, perceptions about the nature of the service or the staff and attitudes of the staff themselves may all impact on service access and use (Social Care Institute 2005). The personnel providing the service and LACYP's preferences for service staff may therefore be key in determining access. Once barriers to service use have been identified, it may be possible to improve access by tackling those barriers. For example, LACYP believe that a health interview from a nurse would be an acceptable alternative to an annual health assessment with a GP (Dunnett & Payne 2000; Richardson 2002). Other barriers to accessing health care for LACYP may include frequent placement moves or changes of social worker, resulting in discontinuity of primary health care provision and schooling.

The present review has highlighted several gaps in the evidence. Firstly, there is an overall lack of any evaluative evidence about the effectiveness of any interventions aimed at improving access to services for LACYP. The needs of specific populations such as LACYP from black, minority and ethnic groups, unaccompanied young asylum seekers or LACYP with disabilities have not been considered in the research literature identified. Furthermore, the evidence did not examine whether different

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types of placement have a differential impact on access, nor have any long term studies been undertaken. Similarly, no research has been identified that examined the impact placement stability on levels of service access or, conversely, the impact of appropriate and comprehensive health and mental health service access on placement stability. No interventions attempted to take an approach that spanned the care pathway. Likewise, no research identified examined interventions aimed at improving access to services by intervening at the level of the service itself, for example by addressing perceptions towards the service/s concerned or by examining the effectiveness of a range of professionals (e.g. nurses vs. usual GPs) on attendance at medical assessments and subsequent access to services.

1.5.1 Conclusions

It appears that the evidence base for the effectiveness of interventions aimed at improving health and mental health service access for LACYP is at a very early stage, as little appropriate evidence has been identified by this review. The five included studies provide limited support for the effectiveness of a limited range of interventions: Provision of multidisciplinary assessment may increase service access in the short- to medium- term (but the longer-term); placing a mental health professional on-site with a foster agency appeared to have a beneficial effect on placement stability; a comprehensive medical case management programme appeared to increase access to services; providing all reasonably available medical records to the professional undertaking initial health assessment at entry into care appeared to increase uptake; and providing social services with information on immunisation status did not appear to improve immunisation uptake. The findings must be interpreted with caution due to the methodological limitations of the studies.

LACYP are a vulnerable population, who often have increased need of health, mental health, developmental and educational services (Meltzer et al. 2003). Provision of appropriate access and the delivery of services to LACYP and their carers are likely to require good service design, integration and information sharing between all agencies involved in the care of LACYP. In addition, access to services should be considered in the context of the whole 'system' of care that a child or young person passes through and the key points along their pathway where intervention – and appropriate service access – could help to improve their outcomes.

2 Introduction

2.1 Background

In 2008, the Department of Health made a referral to NICE (National Institute for Health and Clinical Excellence) and SCIE (Social Care Institute for Excellence) to develop joint public health programme guidance on improving the physical and emotional health and wellbeing outcomes for looked after children and young people (LACYP). In order to identify specific factors and outcomes of pertinence to LACYP in the literature, a correlates review was conducted, which led to the production of three effectiveness reviews focused on LACYP, examining the effectiveness of: (1) transitional support services; (2) training and support for carers, professional and volunteers; and (3) improving access to services, on the outcomes of LACYP. The present systematic review is the third in the series of three effectiveness reviews.

Children and young people are placed outside their parents' homes for many reasons. These include physical abuse, sexual abuse, emotional or psychological abuse, various types of neglect and other circumstances that prevent parents from adequately caring for their children. Most LACYP will have been exposed to multiple risks before entering care and these risks are associated with poor long-term outcomes. Compared with children and young people in the general population, LACYP are more likely to experience educational, behavioural, physical and psychological problems (Meltzer et al. 2003). Consequently, they are likely to have greater need of health and mental health services – not only to ensure that they have access to the same general healthcare as children living at home, but to also address any specific physical and mental health problems. A UK study of the mental health needs of 80 LACYP aged 5-18 years reported that those LACYP identified as 'high need' were more likely to be living in residential settings than those identified (using indicators designed by the research team which emphasised interpersonal and social behaviour rather than clinical diagnosis) as 'medium/variable need' and 'low need' (Stanley, Riordan, & Alaszewski 2005).

There is growing evidence that LACYP do not always have the same access to general health and mental health care that other children and young people enjoy, nor do they always receive treatment or support over and above mainstream services that is appropriate to their needs. For example, the Children Act says that a responsible authority should make arrangements for a health assessment either before, or as soon as is practicable after a placement is made (Department Of Health 2002a) and regular annual health checks for LACYP is a Government objective

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(Department Of Health 2002b), yet one study of the case notes of a sample of LACYP in one local authority (n=136) reported that only 64% had a medical examination in the previous year and only 68% were registered with a general practitioner (GP) compared with over 90% of children that are not looked after (Rodrigues 2004).

At the point of entry into care, it is possible that children and young people's health and mental health care needs may not be assessed or identified, or that information on current service use/contact is not passed over to carers. Interventions to improve access to services might usefully involve information sharing, for example between professionals involved in various aspects of the care of the LACYP and the carers. This would enable the continuity of any existing access to services and also aid the health assessment and the identification of any new service needs. Another possibility for intervention at this point could include comprehensive needs assessment.

At the annual health assessment there is the possibility that a specific need, particularly for mental health, developmental or educational services, may be missed. Interventions here might include needs assessment and referral to/provision of (including multidisciplinary) assessments that can help to identify concerns beyond those of general physical condition.

Incomplete medical histories can mean that common physical and mental health problems are not identified or adequately managed. In addition, few LACYP view annual medical assessments in a positive light and once they are judged to have 'sufficient understanding' may refuse to attend, as stated in the 2002 amendments to the Children's Act, although a definition of understanding is not given (Department Of Health 2002a). LACYP who are excluded from school may lose out on any health or mental health service access that is provided there (including social, health and personal education), and broken placements can result in fractured health information and treatment as children and young people move between GPs (Richardson 2002).

LACYP may be identified for referral to mental health services because of problems directly related to their current placement, such as aggressive behaviour or specific behaviour such as soiling. The primary reasons for referral to UK child mental health care services have been reported as difficult behaviour, depression, self-harm ideas/acts, abuse, or assessment (Arcelus, Bellerby, & Vostanis 1999). Referrals

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may also result from informal or statutory review meetings where the LACYP's case is discussed and the LACYP's current behaviour and emotions are linked with their history. In one local authority referrals were made directly by residential units, social workers of LACYP or other agencies involved in their care, however, the referral procedure requires the agreement of the LACYP (age not specified) and their parents (Arcelus, Bellerby, & Vostanis 1999). Generally the person or agency initiating the referral should provide information on the LACYP's history, the reasons for concern and the LACYP's care plan. LACYP may not have advocates (birth parents or stable foster parents) that can request assessment and treatment (Polnay, Glaser, & Rao 1996). Other professionals such as GPs or teachers that could act on their behalf may be absent at times of placement breakdown and transition (Arcelus, Bellerby, & Vostanis 1999). Thus the proportion of LACYP accessing services they need, both specialist and universal, is likely to be lower than among the general population of children and young people.

Availability of services may vary throughout the UK. In some areas accessing Child and Adolescent Mental Health Services (CAMHS) can be a lengthy process, while in other areas there is a lack of agreement about priorities for access to services. A recent review of CAMHS reported that access to CAMHS services is variable across the country and in some areas services are only provided in a crisis (National CAMHS Review 2008).

Since access to services is poor among LACYP and service access is variable throughout the UK, improving access to services among LACYP is a priority. There are a number of key points along the care pathway where interventions to improve access to services can be effective and there are also characteristics of the process of access that could be usefully targeted by an intervention, such as:

- Entry into care
- Statutory (annual) health assessment
- Point of referral (when referral to a specific service is made)
- Change in placement/care
- Preparation for leaving care

At the point of referral there is the potential for access to services to be hampered by lack of information, or communication between referrer and services. Interventions at this referral pathway point could involve systems for information sharing between

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different professionals and also between professionals and carers, to ensure that the child or young person is referred promptly to the most appropriate service for their need.

The LACYP's perception of the service could have implications for access. For example, if the service is stigmatising then access will be low, whereas if the service is attractive to LACYP levels of access will be higher. Interventions at this stage could therefore focus on making the service seem attractive to LACYP and removing or reducing any stigma associated with accessing the service.

Finally, it would be useful to assess evidence on the effectiveness of multi-component interventions or programmes that span the whole care 'pathway'. These would most likely operate at system or policy level, and attempt to integrate efforts around information, care and access at all points.

No previous attempt has been made to synthesise evidence on access to services in LACYP. This report presents the findings of a systematic review of the evidence on the effectiveness of interventions aimed at improving health and mental health service access for LACYP.

2.2 Purpose of the review

The review aimed to identify and synthesise evidence that evaluated the effectiveness of these types of interventions to improve access to specialist or universal (available to any child or young person) services and that were delivered during ongoing care. The main outcomes under consideration were: access to services, physical health, emotional health and placement stability.

The following research question was addressed:

What is the effectiveness of interventions to improve access to specialist or universal services accessed by looked after children and young people and delivered during ongoing care on access to services and/or the physical and emotional health and wellbeing of looked after children and young people, compared with usual care/access?

3 Methods

3.1 Search strategy

The strategy adopted for this review combined systematic review searching undertaken by Janet Clapton, information specialist at SCIE with supplementary searches undertaken by SchARR. This approach was considered to be appropriate because SCIE have considerable expertise in this area, having developed a database of records relating to LACYP. SCIE also have access to certain specialist databases that are available on subscription, most notably ChildData, that are not available to SchARR. In addition, SCIE have a great deal of knowledge and expertise around developing search strategies for social care literature, which the SchARR review team were keen to utilise.

The substantive proportions of searches for this review, then, were carried out by information specialists at SCIE. Where appropriate, additional targeted searching was undertaken by the SchARR information specialist.

3.1.1 SchARR searching

In addition to the systematic search outlined in section 3.1.2 below, searches of reference lists and citation searches were conducted on all relevant papers included in a previous correlates review of factors associated with outcomes for looked after children and young people. Following the sift of references supplied by SCIE (outlined below), the reference lists of included papers were searched by hand and citation searching was undertaken on all included papers. Citation searching was undertaken in Web of Science Cited Reference Search and Google Scholar (which covered all papers) and was not limited by date, language, place of publication or study type. This process resulted in 36 retrieved citations, of which none were included.

3.1.2 SCIE searching

An extensive search for references relating to the population of LACYP was undertaken by Janet Clapton for this project (see Appendix 1). This search strategy was externally validated by an independent information specialist (Alan Gomersall, of the Evidence Network).

Fifteen key databases were searched using terms relating to LACYP (the search strategies for each database with search dates are in Appendix 1). Searches were limited to 1990 onwards and were not restricted by language, study type or place of

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publication. Records were downloaded into Endnote (reference management software). The total number of records was 20,000.

This Endnote population database of LACYP was then searched using terms relating to this review (see Appendix 2). The search terms for this review were drawn up by the SchARR systematic reviewers and the SchARR and SCIE information specialists based on the papers included in the correlates review and knowledge of the review area. Terms for staff were combined with terms for training and support. A search for terms relating to programmes was also undertaken (see Appendix 2).

The search output from the Endnote population database was supplied as an RIS (Research Information Systems) file, which was then imported the records into Reference Manager for sifting by the systematic reviewers.

3.1.3 Other search activities

Consultation with the Programme Development Group (PDG) was undertaken in order to identify key literature, with an emphasis on grey literature. No additional papers were identified in this way.

3.1.4 Inclusion and exclusion procedure

As described within the NICE methods for development of public health guidance (National Institute for Health and Clinical Excellence 2006), retrieved citations were screened according to the inclusion and exclusion criteria described in Section 3.2 below, in order to exclude irrelevant material. Exclusion was undertaken initially at title and/or abstract and then full paper level. Study selection was made by one reviewer, however a random selection of abstracts and full papers (28 records or 5% of the records whose abstracts were inspected) were sifted independently by two reviewers (RJ and ESEH). No differences were found between reviewers. Overall, 4602 articles were rejected at the title stage, 485 articles were rejected at the abstract stage and 63 were examined for potential inclusion in the review. Of these, 58 were excluded at full paper stage and five were included (see QUOROM diagram in Appendix 4). A full reference list of included papers is supplied in Appendix 6.

A number of potentially relevant studies investigating the effects of training and support for carers, professionals and volunteers on the physical and emotional health and well-being outcomes of LACYP were excluded at the full paper review stage (of which there are 58), for a number of reasons. Full details are available in the QUOROM diagram in Appendix 4. The reasons for excluding papers were:

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1. No intervention was reported (16 studies)
2. No data were reported (16 studies)
3. The intervention reported was not access to services (14 studies)
4. The study did not report LACYP access or physical and emotional health and wellbeing outcomes (3 studies)
5. The paper was unobtainable (3 studies)
6. The study was qualitative (2 studies)
7. The paper reported a review (2 studies)
8. The population were not exclusively LACYP (2 studies)

Studies obtained at full paper stage and then excluded are listed in Appendix 5 with the reason for exclusion. A reference list of these papers is provided in Appendix 7. Although some evaluation, cross-sectional or descriptive studies were excluded at abstract or full paper stage because they did not meet the criteria, they are referred to in the discussion section as they provided useful contextual information surrounding the issues raised in this review.

3.2 Inclusion and exclusion criteria

The following inclusion criteria were applied to retrieved citations in order to identify relevant studies for inclusion:

Population

The population comprised LACYP, including retrospective or cross-sectional studies with study populations of adults who were LACYP if information on their access to services in childhood was collected.

Intervention

The focus was on any intervention designed with the purpose of improving access to any specialist or universal service accessed by LACYP during their time in care. Treatment foster care (also described as therapeutic foster care), which typically includes approaches aimed at enhancing access to services, was not included.

Comparison

The comparison group comprised LACYP or former LACYP with usual or no access. Non-comparative studies (studies where baseline and post-intervention measures were taken but had no comparison group) were also included.

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Outcomes

The main outcome examined was access to the service in question. Also considered were outcomes relating to the physical and emotional health and well-being of LACYP and longer-term outcomes in adult life and intermediate outcomes (including placement stability), as reported by studies.

Other

Only English language papers have been included.

Study types

Study types to be considered were: randomised controlled trials, non-randomised controlled trials, case control studies, prospective cohort studies, retrospective cohort studies and non-comparative studies. Since this review is an effectiveness review, qualitative studies have been excluded. Qualitative studies will be reported in a separate review, undertaken by EPPI-Centre.

3.3 Study quality

Study quality was assessed using the checklists and guidance provided in the NICE CPHE Methods Manual (National Institute for Health and Clinical Excellence 2006), which assesses studies according to various aspects of design, sampling, measurement, analysis and reporting. Studies were graded with ++, + or – as recommended by NICE (see Table 1). Greater consideration was given to the performance of the study on criteria fundamental to the robustness of the findings. Study quality did not determine inclusion into or exclusion from the review. Study quality was assessed by both reviewers and there was no disagreement on the grading of studies.

Table 1: Study quality

Grade	Criteria
++	All or most of the criteria have been fulfilled. Where they have not been fulfilled the conclusions are thought very unlikely to alter.
+	Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or adequately described are thought unlikely to alter the conclusions.
–	Few or no criteria have been fulfilled. The conclusions of the study are thought likely or very likely to alter.

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3.4 Data extraction and data synthesis

Initially relevant information was extracted and papers were classified according to the service accessed and then the outcomes measured. Because of the considerable variation in variables, methods and measures used it was not possible to conduct a meta-analytical review. The outcome variables measured in each study were examined and reported prior to reporting the findings (see Table 3).

3.5 Applicability to the current UK context

Country of origin of all included studies was noted and applicability is discussed in section 4.6.

4 Results

4.1 Summary of included studies

From 540 potentially relevant papers, a total of five studies were identified as meeting inclusion criteria: four US prospective cohort studies and one UK non-comparative study. The characteristics of the studies are displayed in Table 2 and in full in the evidence table in Appendix 3. Full references for included studies and excluded studies are provided in Appendices 6 and 7, respectively. Findings for the effectiveness of improving access to specialist or universal services on access and LACYP outcomes are presented in Section 4.3.

4.2 Intervention characteristics

Due to the considerable variation in services and interventions examined, detailed comparison of intervention characteristics is not possible. Instead, the characteristics of each study and the intervention used are described individually in this section, with a brief summary of intervention and study characteristics. Characteristics of the interventions and studies are summarised in Table 2. The outcome variables measured in each study are summarised Table 3.

Table 2: Intervention and study characteristics by study

Characteristic	Cohort studies				Non-comparative studies
	Collado -	Horwitz +	Kienberger Jaudes +	Risley-Curtiss +	Ashton-Key -
<i>Year</i>	2007	2000	2004	2007	2003
<i>Country</i>	US	US	US	US	UK
<i>Sample size</i>	108 (just intervention)	120	47,031	2,507	136
<i>Design</i>	Prospective cohort	Prospective cohort	Prospective cohort	Prospective cohort	Prospective pre-post
<i>Control condition</i>	Overall figures within the same city	Children received evaluation but results not shared	Customary medical examinations	Information not shared	N/A
<i>Age range of LACYP</i>	4-17 years	11-76 months	0-16 years	Up to 18 years	16 months-17 years
<i>Mean age of LACYP</i>	NR	NR	NR	NR	NR
<i>Type of service</i>	Mental health	Mental health, medical, developmental & educational services as needed	Physician, psychiatric clinic and mental health services, as well as hearing and eye examinations as needed	Initial health examination	Immunisation
<i>Setting</i>	2 foster care sites within New York City	Entry into foster care in 1 town in Connecticut	Entry into foster care in 1 county in Illinois	Entry into foster care in four US counties	Single urban unitary authority area
<i>Intervention</i>	Placing mental health clinicians onsite at foster care agencies	Care provided in a comprehensive foster care clinic staffed by a specialist multidisciplinary team	Comprehensive health evaluation and case management	Providing information on all reasonably available medical records to the medical provider	Providing social services with immunisation status of LACYP
<i>Initial response / inclusion rate</i>	NR	100%	100%	100%	54.0% (136/252)
<i>Rate of attrition at final follow-up</i>	NR	NR	NR	NR	0%

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Table 3: Measurement used for outcomes by each study

Outcome	Controlled studies				Non-comparative
	Collado -	Horwitz +	Kienberger Jaudes +	Risley-Curtiss +	Ashton-Key -
<i>Access to services</i>		Number who received services, percentage of those for whom services were recommended who received the service (both overall and for mental health, medical, developmental & educational services)	Percentage who received services, (physician services, psychiatric clinic services, mental health services, hearing examinations and eye examinations), through computerised Medicaid paid claims	Number and percentage of children receiving health examination within 14 days and 30 days after entering care and at end of the year long study period (though computerised records)	Number and percentage of children up to date with immunisation
<i>Referral to Services</i>		Number and percentage of children referred to a services			
<i>Placement stability</i>	Number and percentage of children experiencing placement transfer				

One US prospective cohort study aimed to improve access to mental health services by placing mental health clinicians on-site at two foster care agencies in New York City (Collado & Levine 2007-). The placing of clinicians on-site (one full-time psychotherapist at each site) was complemented by a clinical mental health model (therapists first trained foster parents and caseworkers before assessing and treating children, they also engaged with school officials, agency administrators and others involved in meeting LACYP's needs), an administrative model (building relationships between agencies, negotiation and team-building involving all support staff at all levels and including mental health in case management) and a structural model (mental health and foster care agencies linked in to a 'system' of care). Therapists trained foster carers and caseworkers on mental health issues in foster care and the mental health treatment process (both formally and informally), including addressing misconceptions about mental health in foster care and working to improve communication between themselves and the foster family. Therapists also

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contributed to the biweekly staff meetings and monthly grand rounds. Access to services was not measured, however the effectiveness of the intervention on placement stability was considered. Placement stability was assessed using placement transfer figures and the placement transfer figures of study participants were compared with New York City Administration for Children's Services transfer rates, which may make interpretation of the findings problematic. In addition, baseline levels of access were not reported.

A second US prospective cohort study aimed to improve access to mental health, medical, developmental and educational services among young children newly entering foster care by providing a comprehensive multidisciplinary assessment (Horwitz, Owens, & Simms 2000+). These assessments were provided by staff familiar with the special needs of looked after children, from five independent community agencies and involved an interview with the foster carer, a complete medical examination, developmental assessment, psychological assessment, speech and language assessment and motor evaluation. Referrals for services were made to the community agencies involved in the assessment. The comparison group received customary assessment (i.e. usual care). The study was a prospective cohort study using a quasi-experimental design set in one area of Connecticut with two separate offices of the Department of Children and Families, where children entering foster care through one office received the intervention and children entering through the other office served as the comparison sample. Access to services was defined as the number/percentage of the sample referred to services (mental health, medical, developmental or educational) who received the service in terms of overall service access. The number and percentage of children referred to services was also compared across groups. Follow-up assessments of access were made at six and 12 months. Although assessments were made at the three time points, longitudinal comparisons were not made; data were only compared between groups at each time point separately and not between groups across time.

A third US study examined whether LACYP receiving a comprehensive programme of medical case management in Cook County Illinois were more likely receive health services than LACYP receiving usual care (Kienberger Jaudes et al. 2004+). The programme comprised initial health screening by a doctor within 24 hours of entering care and before foster home placement, along with a comprehensive health evaluation, including mental health, developmental, alcohol and substance abuse screening where appropriate, within 21 days of entering care. LACYP under six

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receive medical case management by community-based agencies and LACYP over six receive this from their welfare worker. Outcomes were reported using adjusted odds ratios (OR) based on computerised Medicaid-paid claims. The study gave no indication on the completeness of the database of Medicaid-paid claims or on missing data.

A fourth US study examined whether providing the medical professional undertaking initial health assessment of LACYP with all reasonably available medical information improved the provision and timeliness of health assessments (Risley-Curtiss & Stites 2007+). The study did not clearly state the process for information sharing, other than a data managing computer system was utilised. Computerised records were used to report on LACYP having their initial health assessment at the time points 14 days after enter into care, 30 days after enter into care and at the end of the year long study period. Although assessments were made at the three time points, longitudinal comparisons were not made; data were only compared between groups at each time point separately and not between groups across time. Furthermore, as the study relied on computerised records, accuracy was dependent on the diligence of those recording the data.

Finally, one UK non-comparative before and after study aimed to improve access to immunisations by providing social services with a detailed immunisation history for every looked after child where the details were known in a UK single urban unitary authority (Ashton-Key & Jorge 2003-). Access to immunisation was measured in terms of immunisation uptake (number/percentage of children up to date with immunisations) and also number/proportion of children scheduled to receive immunisations who received them. The intervention had no significant impact on immunisation uptake, however there was no comparison group and measurements were taken at the baseline and 12 months later to assess changes in immunisation uptake across the duration of the intervention. This may make interpretation of the findings problematic as factors other than the intervention (confounding factors) could have influenced immunisation uptake during the intervention period.

Two US studies using computerised records had very large sample sizes. One reported a sample size of 2,507 (Risley-Curtiss & Stites 2007+) and the other a sample size of 47,031 (Kienberger Jaudes et al. 2004+). Three studies had similar sample sizes, varying from 108 to 136, although it should be noted that the size of the comparison group in one study was not reported (Collado & Levine 2007-). The ages of the children studied varied between the studies, with three US prospective

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cohort studies (Collado & Levine 2007-; Kienberger Jaudes et al. 2004+; Risley-Curtiss & Stites 2007+) and one UK non-comparative study (Ashton-Key & Jorge 2003-) reporting a broad age range up to the age of 18 and one US prospective cohort study reporting a much narrower age range focusing on younger children up to the age of six years. The setting, type of intervention and type of service accessed varied considerably and make direct comparison and synthesis of data difficult. In addition, much information (e.g. mean age of LACYP, initial response rate and rate of attrition at follow-up) was not reported for at least one of the studies.

4.3 Effectiveness of improving of access to specialist and universal services

As demonstrated in the previous section and in Tables 2 and 3, the four US prospective cohort studies and one UK non-comparative study varied considerably in terms of the services, interventions and outcomes reported, making data synthesis difficult. One US prospective cohort study reported that an intervention aimed at improving access to a range of services (including mental health, medical, developmental and educational) by providing specialised multidisciplinary assessments for children entering the care system (compared with usual medical assessments) gave positive results when access to all services was considered (Horwitz, Owens, & Simms 2000+). Not only were a greater proportion of the intervention group referred to services relative to the comparison group (71.0% vs. 43.1%; $p=0.002$), of those referred to services, a greater proportion of intervention group participants than comparison group participants had received the relevant service at 6-month follow-up (68.2% vs. 44.0%; $p=0.049$). However, this effect was not significant at 12-month follow-up (77.3% vs. 60.0%; $p=0.128$) (see Table 4). These findings are in contrast to baseline levels of access, where a significantly smaller proportion of the intervention group were receiving any service than the comparison group (38.7% vs. 62.1%; $p=0.011$). However because statistical analysis of the data did not compare the groups over time the precise impact of baseline levels of access on access to services at 6- and 12-month follow-up cannot be assessed.

Table 4: Summary of outcomes

Outcome	IG fared better than CG	No difference / no effect	CG fared better than IG
Referred to a service	<ul style="list-style-type: none"> 71.0% (44/62) IG participants were referred to at least one service at baseline, compared with 43.1% (25/58) in the CG ($X^2=9.52, p=0.002$) (Horwitz, Owens, & Simms 2000+) 	<ul style="list-style-type: none"> 43.5% (10/23) IG participants who were referred to mental health services at baseline subsequently received services compared with 37.5% (3/8) CG participants ($X^2=0.09, p=0.768$) (Horwitz, Owens, & Simms 2000+) 26.3% (5/19) IG participants who were referred to medical services at baseline subsequently received services compared with 40.9% (9/22) CG participants ($X^2=0.97, p=0.326$) (Horwitz, Owens, & Simms 2000+) 42.9% (15/35) IG participants who were referred to developmental services at baseline subsequently received services compared with 0% (0/5) CG participants ($X^2=3.43, p=0.064$) (Horwitz, Owens, & Simms 2000+) 21.0% (4/19) IG participants who were referred to educational services at baseline subsequently received services compared with 7.1% (1/14) CG participants ($X^2=1.21, p=0.270$) (Horwitz, Owens, & Simms 2000+) 	
Access to any service	<ul style="list-style-type: none"> 68.2% (30/44) IG participants who were referred to a services at baseline received services at T2 (6-month follow-up), compared with 44.0% (11/25) CG participants ($X^2=3.87, p=0.049$) (Horwitz, Owens, & Simms 2000+) Of all children that were referred to services, those in the intervention group were 3.67 times more likely to receive services (significant in regression, p-value not reported) (Horwitz, Owens, & Simms 2000+) 	<ul style="list-style-type: none"> 77.3% (34/44) IG participants who were referred to services at baseline received services at T3 (12-month follow-up), compared with 60.0% (15/25) CG participants ($X^2=2.31, p=0.128$) (Horwitz, Owens, & Simms 2000+) 	
Access to mental health	<ul style="list-style-type: none"> 5.5% of IG participants received psychiatric clinic services compared to 4.1% of CG participants (adjusted OR 1.49, $p<0.01$) (Kienberger Jaudes et 		<ul style="list-style-type: none"> 14.3% of IG participants received mental health services compared to 14.5% of CG participants (adjusted

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Outcome	IG fared better than CG	No difference / no effect	CG fared better than IG
services	al. 2004+)		OR 1.28, $p < 0.01$) (Kienberger Jaudes et al. 2004+)
Access to general health service	<ul style="list-style-type: none"> • 71.1% of IG participants received physician services compared to 50.7% of CG participants (adjusted OR 2.20, $p < 0.01$) (Kienberger Jaudes et al. 2004+) • 13.5% of IG participants received hearing examination compared to 10.7% of CG participants (adjusted OR 1.22, $p < 0.01$) (Kienberger Jaudes et al. 2004+) • 18.9% of IG participants received eye examination compared to 16.8% of CG participants (adjusted OR 1.27, $p < 0.01$) (Kienberger Jaudes et al. 2004+) • 58.0% (573/988) of IG participants in urban counties received their health examination within 14 days compared to 13.4% (194/1447) of CG participants (χ^2=not reported, $p < 0.001$) and 64.1% (75/117) of IG participants in rural counties received their health examination within 14 days compared to 10.8% (7/65) of CG participants (χ^2=not reported, $p < 0.001$) (Risley-Curtiss & Stites 2007+) • 76.0% (751/988) of IG participants in urban counties received their health examination within 30 days compared to 16.0% (232/1447) of CG participants (significance not reported) and 80.3% (94/117) of IG participants in rural counties received their health examination within 30 days compared to 13.8% (9/65) of CG participants (significance not reported) (Risley-Curtiss & Stites 2007+) • 92.0% (909/988) of IG participants in urban counties received their health examination within the one year study period compared to 34.2% (495/1447) of CG participants (χ^2=not reported, $p < 0.001$) and 88.0% (103/117) of IG participants in rural counties received their health examination within the one year 	<ul style="list-style-type: none"> • 60.3% (82) IG participants were up to date on their immunisations & 39.7% (54) were not up to date at baseline (T1), whereas 55.9% (76) were up to date & 44.1% (60) were not up to date at 12 months 2000 (T2) (not significant, specific statistical test not reported) (Ashton-Key & Jorge 2003-) 	

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Outcome	IG fared better than CG	No difference / no effect	CG fared better than IG
	study period compared to 50.8% (33/65) of CG participants (χ^2 =not reported, $p<0.001$) (Risley-Curtiss & Stites 2007+)		
Placement stability	<ul style="list-style-type: none"> 6.5% IG participants experienced placement transfer, compared with 30.3% CG participants at T2 (significance not reported) (Collado & Levine 2007-) 		

IG = intervention group; CG = comparison group; OR = Odds Ratio

4.3.1 Access to mental health services

A US prospective cohort study examining the effectiveness of providing a comprehensive multidisciplinary assessment compared with customary assessments found that a non-significantly greater proportion of those in the intervention condition with an identified need was referred to mental health services than in the comparison condition (43.5% vs. 37.5%, $p=0.768$), although access to mental health services specifically was not measured (Horwitz, Owens, & Simms 2000+). A second US prospective cohort study examining the effectiveness of providing a comprehensive medical case management programme reported that those receiving such a programme were more likely to receive psychiatric clinic services than those receiving usual care (5.5% vs. 4.1%, adjusted OR 1.28, $p<0.01$). (Kienberger Jaudes et al. 2004+). However, this study reported that those receiving such a programme were also more likely to receive mental health services, when using odds ratios, despite a slightly smaller percentage of the intervention group receiving mental health services than the comparison group, (14.3% vs 14.5%, adjusted OR 1.49, $p<0.01$). The study authors do not fully explain why this is so. For the purpose of this review, it will be taken that the intervention group fared worse, based on proportions of LACYP receiving mental health services.

Interventions aimed at improving access to mental health services appear mixed in terms of effectiveness. The two types of intervention (providing comprehensive assessments delivered by a multidisciplinary team of professionals and a comprehensive case management programme) cannot be directly compared in terms of effectiveness, since difference outcomes were measured (referral to services where a need was identified and receiving a service). Therefore, these findings should be interpreted with caution.

4.3.2 Access to general health services

A US prospective cohort study examining the effectiveness of providing a comprehensive multidisciplinary assessment compared with customary assessments found that a non-significantly smaller proportion of those in the intervention condition with an identified need were referred to medical services than in the comparison condition (26.3% vs. 40.9%, $p=0.326$) (Horwitz, Owens, & Simms 2000+). The same study found that a greater proportion of those in the intervention condition with an identified need were referred to developmental services than in the comparison condition (42.9% compared with 0%), however this difference did not reach statistical significance ($p=0.064$) (Horwitz, Owens, & Simms 2000+). A second US prospective

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cohort study examining the effectiveness of providing a comprehensive medical case management programme reported that those receiving such a programme were more likely to receive physician services than in those receiving usual care (71.1% vs. 50.7%, adjusted OR 2.20, $p < 0.01$) as well as being more likely to receive hearing examinations (13.5% vs. 10.7%, adjusted OR 1.22, $p < 0.01$) and eye examinations (18.9% vs 16.8%, adjusted OR 1.27, $p < 0.01$) (Kienberger Jaudes et al. 2004+).

A UK non-comparative study examining whether providing social services with information on immunisation status for LACYP improves uptake reported that immunisation uptake rates were worse 12 months post-intervention than they were at baseline (60.3% vs. 55.9%), although this difference was not statistically significant (specific statistical test and p -value not reported). However these findings should be interpreted with caution due to the lack of a comparison condition (Ashton-Key & Jorge 2003-).

A US prospective cohort study examining whether providing the professional undertaking initial health assessments upon entry into care with all reasonably available medical records found that LACYP in the intervention group were more likely to receive their initial health assessment within 14 days than those in the control group, both for urban areas (58.0% vs. 13.4%, $p < 0.01$) and rural areas (64.1 % vs. 10.8%, $p < 0.01$) (Risley-Curtiss & Stites 2007+). Similar results were reported for receiving initial health assessment within 30 days (urban 76.0% vs. 16.0%, $p < 0.01$; rural 80.3% vs. 13.8%, $p < 0.01$) and health examinations completed by the end of the year-long study period (urban 92.0% vs. 34.2%, $p < 0.01$; rural 88.0% vs. 13.8%, $p < 0.01$).

This suggests while that an intervention aimed at improving access by providing comprehensive assessments delivered by a multidisciplinary team of professionals is not effective in improving referral to general health services, a comprehensive medical case management programme can improve access to general health services. It also suggests that while providing social services with information about immunisation uptake has little impact on access to immunisation services, providing all reasonably available medical records can increase uptake of initial health assessments.

4.3.3 Access to educational services

A US prospective cohort study examining the effectiveness of providing a comprehensive multidisciplinary assessment compared with customary assessments

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found that a slightly greater proportion of those in the intervention condition with an identified need was referred to educational services than in the comparison condition (21.0% vs. 7.1%), however this difference was not statistically significant ($p=0.270$) (Horwitz, Owens, & Simms 2000+). Thus it seems that providing a comprehensive medical assessment may have a small impact on referral to special educational services specifically, although this should be interpreted with caution as only one study was identified, access to educational services specifically was not measured, no baseline data were reported and the numbers in each subsample were small.

4.3.4 Placement stability

One US prospective cohort study examined the placement of mental health clinicians onsite at foster care agencies with the aim of improving access to services, however the impact of this intervention on access was not measured (Collado & Levine 2007-). Those in the intervention condition had fewer placement transfers than those in the comparison condition (6.5% vs. 30.3%), although no statistical analysis to determine the significance of this effect was reported.

4.4 Study quality

As stated previously the studies included in this review consisted of four US prospective cohort studies and one UK non-comparative study. No studies were rated ++, three US prospective cohort studies were rated + (Horwitz, Owens, & Simms 2000+; Kienberger Jaudes et al. 2004+; Risley-Curtiss & Stites 2007+), one US prospective cohort study was rated – (Collado & Levine 2007-) and one UK non-comparative study was rated – (Ashton-Key & Jorge 2003-) on the basis of the NICE CHPE checklists (National Institute for Health and Clinical Excellence 2006).

Although there was inconsistency in the quality of reporting and the methodological quality of the studies, some general trends were observed. In particular, details of baseline characteristics/comparisons were poorly reported, details of statistical methods were poorly reported and where reported often appeared inappropriate. However the source populations and interventions were relatively well described. Appendix 3 displays the included studies along with details of study quality.

4.5 Evidence statements

Evidence statement 1: Access to services in general

There is mixed evidence of reasonable quality from one US prospective cohort study on the effectiveness of a comprehensive multidisciplinary assessment compared with usual assessment on access to services in general (Horwitz, Owens, & Simms

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2000+). This study reported that LACYP who received a comprehensive multidisciplinary assessment were more likely to be referred to a service than those who received usual assessments ($p=0.002$). This study also reported that LACYP who received a comprehensive multidisciplinary assessment and were referred to a service were more likely to have received a service at 6-month follow-up than those who received usual assessments and were referred to a service ($p=0.049$), however this difference was not apparent at 12-month follow-up ($p=0.128$). These findings may have limited applicability to the UK care system as this was a US study and was published nine years ago.

Evidence statement 2: Referral and access to mental health services

There is mixed evidence of reasonable quality from one US prospective cohort study to suggest no significant difference in referral rates to mental health services ($p=0.768$) between LACYP who received a comprehensive multidisciplinary assessment with an identified need for the specific service and those who received usual assessments with an identified need for the specific service (Horwitz, Owens, & Simms 2000+). These findings may have little applicability to the UK care system as this was a US study and was published nine years ago.

There is evidence of reasonable quality from one US study to suggest a mixed effect of a comprehensive medical case management programme. One US study reported that LACYP who received a comprehensive medical case management programme were more likely to receive psychiatric clinic services than those LACYP receiving usual service ($p<0.01$), but slightly less likely to receive mental health services ($p<0.01$) (Kienberger Jaudes et al. 2004+). This finding may be of moderate relevance to the UK care system as this was a US study published five years ago.

Evidence statement 3: Referral and access to general health services

There is mixed evidence of reasonable quality from one US prospective cohort study to suggest no significant difference in referral rates to medical services ($p=0.326$) between LACYP who received a comprehensive multidisciplinary assessment with an identified need for the specific service and those who received usual assessments with an identified need for the specific service (Horwitz, Owens, & Simms 2000+). These findings may have little applicability to the UK care system as this was a US study and was published nine years ago.

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There is evidence of reasonable quality from one US study to suggest that LACYP who received a comprehensive medical case management programme were more likely to receive physician services, hearing examinations and eye examinations services than those LACYP receiving usual care ($p < 0.01$) (Kienberger Jaudes et al. 2004+). This finding may be of moderate relevance to the UK care system as this was a US study published five years ago.

There is evidence of reasonable quality from one US study to suggest that providing all reasonably available medical records to the professional undertaking initial health assessment at entry into care increases uptake within 14 day, 30 day and 1 year periods (Risley-Curtiss & Stites 2007+). This finding may be of moderate relevance to the UK care system as this was a US study published two years ago.

There is evidence of poor quality from one UK non-comparative study to suggest no significant difference in immunisation uptake rates among looked after children and young people before and 12 months after providing social services with information on immunisation status (specific statistical test and p -value not reported) (Ashton-Key & Jorge 2003-). This finding may be moderately applicable to the UK care system as this was a UK study and was published six years ago, however there was no comparison group.

Evidence statement 4: Placement stability

There is evidence of poor quality from one US prospective cohort study to suggest that LACYP who were with an agency that had an onsite mental health clinician were less likely to have a placement transfer than those with agencies who had no clinician onsite (significance not reported) (Collado & Levine 2007-). This finding may be of moderate relevance to the UK care system as this was a US study and was published two years ago.

4.6 Applicability to the UK

One non-comparative study included in this review was conducted in the UK with four prospective cohort studies conducted in the US, which may have implications for the applicability of the review findings to the UK context, although there is likely to be much similarity in medical assessments for LACYP in the UK and US. Many of the studies had small sample sizes, which is a concern, as is the poor methodological quality of some of the studies. However, all studies included were published within

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the last nine years, which may somewhat increase the applicability of the findings of this review.

5 Discussion

A modest amount of evidence has been identified that examined the effectiveness of interventions to improve access to services on access to services and other LACYP outcomes. Only four effectiveness studies (all US prospective cohort studies) (Collado & Levine 2007-; Horwitz, Owens, & Simms 2000+; Kienberger Jaudes et al. 2004+; Risley-Curtiss & Stites 2007+) and one UK non-comparative study comparing access before and after the intervention (Ashton-Key & Jorge 2003-) were identified. Some conclusions can be drawn from the findings of these studies, however because of the overall poor methodological and reporting quality and wide variation in services, interventions and outcomes reported, the findings of this review must be interpreted with extreme caution.

In addition, none of the evidence reviewed attempted to address more than one or two points on the care pathway and processes of access that may be usefully targeted by an intervention (entry into care; statutory health assessment; referral pathways; leaving care) as a whole. The studies reviewed focused on entry into care, the statutory health assessment (Horwitz, Owens, & Simms 2000+; Kienberger Jaudes et al. 2004+; Risley-Curtiss & Stites 2007+) and referral pathways (Ashton-Key & Jorge 2003-; Collado & Levine 2007-).

Although evaluation, cross-sectional or descriptive studies were excluded at abstract or full paper stage because they did not meet the inclusion criteria for this review, a number of these are referred to in this section. These papers have not been systematically retrieved or reviewed. They were selected on the basis that they provide context to the discussion of key issues in access to services and highlight some gaps in the evidence.

5.1 Effectiveness of improving of access to specialist and universal services

According to the one US prospective cohort study that examined overall access to any service, the intervention to improve access (providing a multidisciplinary health assessment) was effective at the six-month follow-up, however the effect did not persist at 12-month follow-up (Horwitz, Owens, & Simms 2000+). Undoubtedly, the findings of this study will have been complicated by the greater number of participants in the comparison group than the intervention group who were receiving a service at baseline and also by the greater proportion of intervention group participants than comparison group participants who were referred to a service.

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The concept of gaining access to services is problematic. Particular problems can include identification of need for a service, length of waiting time to receive the service and the role of foster carers and other agents (e.g. social workers, teachers, mentors, other advocates) in the whole process (including how information is shared among agents). In terms of need, there is some evidence to suggest that the level of service provision among LACYP does not match the level of need in this population. With particular reference to mental health services, the need is often greater than the provision of service (Barth et al. 2004). For example, Australian research has identified that while a majority of LACYP needed professional help only half of those LACYP received mental health services within six months (Sawyer et al. 2007). Similarly, US research found that the need for a service was only partly related to mental health service use/receipt, with other factors such as anxiety, child abuse history and time in care also related to service use (Shin 2005).

The length of waiting time involved in accessing a service can also be an issue, particularly for mental health assessments. For example, UK research has reported that waiting time for an assessment with the child and adolescent psychiatry service was up to a year (Addo et al. 2004). It is likely that a child's health may deteriorate further during this waiting period, therefore this issue needs to be considered when examining access.

Finally, the role of foster carers and other agents (e.g. social workers, teachers, mentors, other advocates) in the whole process can be a pertinent issue in examining service use. This is of particular importance for services such as mental health services, if the therapist wishes to work with the caregiver as well as the child. For example, US research examining the role of foster carers in improving LACYP well-being identified that while accessing medical care could be difficult, it was possible (even if such care had to be accessed using hospital emergency departments), but mental health services were much more difficult to access (Mayers Pasztor 2006). Another concern was that full information on the LACYP's physical and mental health crucial for their care should be shared with the carer and not withheld because of issues of confidentiality (although this issue may be specific to the US care system). There was also a need identified for competency-based training for carers to manage the health and mental health issues facing LACYP (Mayers Pasztor 2006). To support any psychological assessment there are a number of essential requirements, such as the support of social services, particularly in providing background information about LACYP, and foster carers who have a

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balanced view of the LACYP's strengths and difficulties can help to refer children directly to appropriate therapeutic services (Bonnett & Welbury 2004). It is crucial to be able to obtain a referral to appropriate services otherwise the assessment would have been of little real use. Thus it seems that information sharing can be an important element of any intervention to improve access to services right from the start of the placement.

5.2 Access to mental health services

One US prospective cohort study looked at providing a comprehensive medical assessment by a multidisciplinary team of professionals familiar with the needs of LACYP compared with customary medicals (Horwitz, Owens, & Simms 2000+). A variety of health services were examined. With particular reference to mental health services, only a slightly greater proportion of those in the intervention condition with an identified need were referred to mental health services than in the comparison condition (a difference of 6%, which was not statistically significant). Thus it seems that providing a comprehensive multidisciplinary assessment has little impact on referral to mental health services specifically, although this should be interpreted with caution as no baseline data were reported specifically relating to mental health services. It should also be noted that referral does not constitute access to a service, it is only part of the process of access. Since access itself to mental health services was not measured in this study (only access to services overall was measured) it is difficult to make any judgement about the effectiveness of the intervention on access to mental health services.

However, a large US prospective cohort study examining a comprehensive medical case management programme did measure access to mental health services along with access to psychiatric clinic services, and reported that those LACYP receiving such a programme had greater odds of receiving psychiatric clinic services than those LACYP in the comparison group (Kienberger Jaudes et al. 2004+). Those LACYP in the intervention group were 49% more likely to receive psychiatric clinic services than LACYP in the comparison group. Therefore it appears that providing a comprehensive medical case management programme increases access to psychiatric clinic services. This study also reported that a slightly smaller percentage of the intervention group received mental health services than the comparison group (14.3% vs 14.5%) yet reported that the intervention favoured the intervention group when using adjusted odds ratio, although the authors did not explain this discrepancy.

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In general, mental health assessment (particularly early assessment) has been described as having two objectives: (1) to provide a comprehensive mental health screening and assessment to identify emerging problems as soon as possible; (2) to lessen the potentially negative impact of placement, according to a US discussion paper (Schneiderman 1998). Consistent with two key studies reviewed (Horwitz, Owens, & Simms 2000+; Kienberger Jaudes et al. 2004+), a common intervention approach to improve access to mental health services/psychiatric clinic services appears to be to provide more intensive assessments. The general research literature has identified many perceived advantages of such efforts to improve access. For example, an evaluation of a UK dedicated mental health team for LACYP consisting of primary mental health workers, psychiatric nurse, psychologists, family support workers and a psychiatrist suggested that this could address the needs of a LACYP, helping to prevent delays in implementing their care plans and reducing the need for mental health assessments (Callaghan 2003). Furthermore, such a structure allowed social workers to concentrate on their role, such as assessment of parenting capacity and placement, and CAMHS teams who previously saw LACYP as part of their generic caseload were freed from some complex and time-consuming cases (Callaghan 2003). Another evaluation of a UK mental health service for young people in the care of a local authority reported that a direct access mental health service addressed some of the LACYP's needs (Arcelus, Bellerby, & Vostanis 1999).

This type of intervention also has some perceived disadvantages. For example, although some advantages were reported, an evaluation of a UK mental health service for young people in the care of a local authority reported difficulties in engagement and joint agency working (Arcelus, Bellerby, & Vostanis 1999). In addition, a recent UK study of 48 LACYP examined the feasibility of integrating assessment tools into care planning to improve the detection of psychiatric disorder (Addo et al. 2004). This study found that in general LACYP's difficulties were well recognised by their carers and professionals and adding a formal mental health screening into the care planning process would constitute a further burden, although this may have been a local phenomenon and not typical of the national picture.

5.3 Access to general health services

The US prospective cohort study that examined the effectiveness of comprehensive medical assessment provision by a multidisciplinary team of professionals familiar with the needs of LACYP compared with customary medicals on referral rates appeared to indicate that this intervention was not effective at increasing referral with

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particular reference to medical/general health services (Horwitz, Owens, & Simms 2000+). A slightly smaller proportion of those in the intervention condition with an identified need were referred to medical services than in the comparison condition (a difference of 14.6%), although this difference was not statistically significant. Thus it seems that providing a comprehensive medical assessment has little impact on referral to medical or physical health services specifically, although again this should be interpreted with caution as no baseline data were reported specifically relating to medical services. It should also be noted that referral does not constitute access to a service, it is only part of the process of access. Since access itself to medical/general health services was not measured in this study (only access to services overall was measured) it is difficult to make any judgement about the effectiveness of the intervention on access to general health services.

The same US prospective cohort study also examined the effectiveness of providing a comprehensive multidisciplinary assessment on referral to developmental services (including occupational therapy, physical therapy and speech therapy) (Horwitz, Owens, & Simms 2000+). A far greater proportion of those in the intervention condition with an identified need were referred to developmental services than in the comparison condition (42.9% compared with 0%), however this difference was not statistically significant. Thus it seems that providing a comprehensive medical assessment has some impact on referral to developmental services specifically, although again this should be interpreted with caution as no baseline data were reported that specifically related to developmental services. It could be that the result was non-significant on the X^2 statistical analysis because of the small size of the sub-sample in the comparison condition who had an identified need (i.e. five children). It should also be noted again that referral does not constitute access to a service, it is only part of the process of access. Since access itself to developmental services was not measured in this study (only access to services overall was measured) it is difficult to make any judgement about the effectiveness of the intervention on access to developmental services.

The large US prospective cohort study examining a comprehensive medical case management programme did measure access to physician services along with access to hearing and eye examinations, and reported that those LACYP receiving such a programme had greater odds of receiving these services than those LACYP in the comparison group (Kienberger Jaudes et al. 2004+). LACYP that received such a programme were over twice as likely to receive physician services and just

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over 20% more likely to receive hearing or eye examinations, than those LACYP receiving usual care. It would seem that providing a comprehensive medical case management programme increases access to general health services.

A UK non-comparative study examining whether providing social services with information on immunisation status for LACYP improves uptake reported that immunisation uptake rates were worse following the intervention than they were beforehand, although this was not statistically significant (Ashton-Key & Jorge 2003-). This suggests again that providing social services with information about immunisation uptake has little impact on access to immunisation services, however these findings should be interpreted with caution due to the lack of a comparison condition.

Information sharing may also be an important element of any intervention to improve access to services - right from the start of the placement, although evidence elsewhere suggests that provision of information alone is not sufficient to ensure changes in behaviour, or professional practice (National Institute for Health and Clinical Excellence 2007). Likewise, the effectiveness of providing more intensive assessments on increasing access to services may depend on other factors, such as attendance at assessments. For example, LACYP are entitled to refuse to consent to a statutory annual medical assessment if they have sufficient understanding, which can result in a low uptake of medicals. Reported UK figures for uptake appear to vary considerably from 25% (Butler & Payne 1997) to 64% (Rodrigues 2004), although the reason for this variation is not clear.

Similarly, it is likely that the nature of the service itself affects access. Factors such as inconvenient opening times or locations, perceptions about the nature of the service or the staff, and attitudes of the staff themselves may all impact on service access and use (Social Care Institute 2005). The personnel providing the service and LACYP's preferences for service staff may therefore be key in determining access. Once barriers to service use have been identified, it may be possible to improve access by tackling those barriers, for example, according to a UK survey examining service use for LACYP (n=182), after social workers (used by 93% of LACYP), the most frequently used service was GPs (55%) followed by community paediatricians (32%); child psychologists and child psychiatrists were the least used service at 13% and 8% respectively (Minnis et al. 2006). If presenting to the GP for a medical assessment is a barrier to attendance then it may be possible to improve access by offering a medical assessment conducted by another health professional. Indeed, UK

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non-effectiveness research evidence suggests that this may be desirable. For example, a nurse-based system of health interviews appears to be acceptable to LACYP, with six of 17 LACYP surveyed stating a preference for a nurse, one preferring a GP and ten having no preference (Dunnett & Payne 2000). A report by the Mental Health Foundation also suggests that a nurse should be considered for an annual assessment (Richardson 2002).

5.4 Access to educational services

The US prospective cohort study examining the provision of a comprehensive medical assessment by a multidisciplinary team of professionals familiar with the needs of LACYP compared with customary medicals also assessed the effectiveness of the intervention on referral to special educational services (Horwitz, Owens, & Simms 2000+). According to this study, a greater proportion of those in the intervention condition with an identified need were referred to special educational services than in the comparison condition (almost triple the percentage; 21.0% vs. 7.1% a difference of 13.9%), however this difference was not statistically significant. Thus it seems that providing a comprehensive medical assessment has little impact on referral to special educational services specifically, although this should be interpreted with caution as no baseline data were reported that related to educational services in particular. It should also be noted again that referral does not constitute access to a service, it is only part of the process of access. Since access itself to educational services was not measured in this study (only access to services overall was measured) it is difficult to make any judgement about the effectiveness of the intervention on access to educational services.

Again, as with access to other services, information sharing can be potentially important in access to educational services. According to US research, 29% of foster carers did not know about the LACYP's school activities prior to their current placement, nor did a larger proportion know about leisure activities (40%), social activities (38%) or family activities (43%), prior to the current placement (Fong, Scwab, & Armour 2006). The same research reported that the LACYP group that had the same level of school activities before and after their current placement had the highest well-being score, suggesting that consistency in school activities is associated with improved well-being. Therefore information sharing may be a worthwhile component of any intervention to improve access to educational services. Similarly, a review of recent international literature on the implications of access to

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extra curricular and spare time activities suggests that participation in such activities may contribute to positive educational progress for LACYP (Gilligan 2007).

5.5 Placement stability

Although it may seem logical to suppose that placement stability could improve access to a wide range of services for LACYP, no research was been identified that examined the impact placement stability on levels of service access or, conversely, the impact of appropriate and comprehensive health and mental health service access on placement stability.

Placement stability may be defined in terms of disruption of or breakdown of the current placement (Chamberlain et al. 2006; James 2004; Oosterman 2007; Sallnas, Vinnerljung, & Westermark 2004), or in terms of the context of number of placement moves (Unruh & Hodgkin 2004; Webster, Barth, & Needell 2000). The evidence and reports referred to in this section use number of placement moves to denote stability.

One US prospective cohort study examined placing mental health clinicians onsite at foster care agencies with the aim of improving access to services, however the impact of this intervention on access was not measured (Collado & Levine 2007-). Those in the intervention condition had fewer placement transfers than those in the comparison condition, which suggests that this intervention had a positive impact on placement stability. This finding should be interpreted with extreme caution, however, as no baseline data were reported and the control condition data comprised normative data collected for the whole city, with no indication of the size of the sub-sample.

The Mental Health Foundation have reported that stability and continuity of care are important protective factors, linked with positive outcomes in respect to relationship skills, good education and employment outcomes (Richardson 2002). A lack of stability and continuity of care can also be related to poor access to services among LACYP with a high level of need. A UK study of 80 LACYP aged 5 to 18 years reported that being classed as having 'high level mental health needs' was associated with low levels of placement stability, and while this group were more likely to receive CAMHS services than the rest of the study population, two-thirds of the high-need group did not receive longer-term intervention from CAMHS following initial assessment (Stanley, Riordan, & Alaszewski 2005).

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UK research has suggested that one of the main reasons for poor access to CAMHS is lack of placement stability, with complaints from social service staff that CAMHS will not accept LACYP until their placement is stable, or the service would only work with the carer and child together (Callaghan 2003; Richardson 2002; Street & Davies 2002). Considering that the emotional and mental health of LACYP can contribute to the breakdown of a placement (Oosterman 2007; Sallnas, Vinnerljung, & Westermark 2004) there is a vicious circle of LACYP with emotional and behavioural problems not receiving CAMHS services until they are in a stable placement, but unless they receive help will continue to experience placement disruption because of their emotional and behavioural problems. Similarly, a recent UK study reported that LACYP who move placement frequently are less likely to access mental health services than LACYP in more stable placements (Beck 2006). Even if a LACYP is on a waiting list for an appointment with CAMHS, if the current placement and subsequent placements breakdown the LACYP and their new carers may not be made aware of appointment details or the LACYP has to be re-referred and may lose their place on the waiting list (McAuley & Young 2006; Richardson 2002).

5.6 Barriers to access

Barriers to accessing health care for LACYP could be frequent placement moves or changes of social worker, resulting in discontinuity of primary health care provision and schooling (see Section 4.3.1). According to UK qualitative research on the health needs of LACYP that aimed to obtain the views of a variety of stakeholders (GPs, social workers, community paediatricians, residential home managers, a school nurse and an educational psychologist), information on LACYP is not typically shared among social services, education and healthcare personnel, thus hampering coordination of services regarding access to health services (Rodrigues 2004). In addition, inadequate immunisation status was identified as a problem among LACYP, background information on the LACYP was reported as not always available at the time of the medical examination, and obtaining appointments for specialist services was identified as a problem (Rodrigues 2004). These barriers were raised in another UK study, along with multiple placement moves, high turnover of social workers and lack of proper mental health training for staff in all agencies working with LACYP (Richardson 2002).

5.7 Gaps in the evidence

The present review has highlighted several gaps in the evidence. There is an overall dearth of evaluative evidence about the effectiveness of any interventions aimed at

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improving access to services for LACYP. This review did not identify any studies meeting inclusion criteria that focused on LACYP from ethnic minorities, unaccompanied young asylum seekers or LACYP with disabilities. Indeed, unaccompanied young asylum seekers may be a particularly important group to study as there is evidence to suggest that they have difficulty in accessing health services and education, with language barriers, lack of knowledge about their history and inadequate health assessment at the point of entry being particular problems in access (Fiddy 2003). Furthermore, the evidence did not examine whether different types of placement (local authority carers, private fostering agency carers, residential homes) have a differential impact on access, nor have any long-term studies been undertaken.

5.8 Interventions involving the service itself

No interventions attempted to take an approach that spanned the care pathway. Likewise, no research identified examined interventions aimed at improving access to services by intervening at the level of the service itself, for example by addressing perceptions towards the service/s concerned or by examining the effectiveness of a range of professionals (e.g. nurses vs. usual GPs) on attendance at medical assessments and subsequent access to services.

Similarly, since the nature of the service itself may affect access, then the personnel providing the service and LACYP's preferences for service staff may therefore be key in determining access. There is non-effectiveness evidence to suggest that a range of health professionals, in particular nurses, are preferred by LACYP for conducting medical assessments (Dunnett & Payne 2000).

5.9 Conclusions

It appears that the evidence base for the effectiveness of interventions aimed at improving health and mental health service access for LACYP is at a very early stage, as little appropriate evidence was identified by this review. Good quality research on LACYP is sparse as researchers wishing to include LACYP in their study often have to obtain consent from a number of 'gatekeepers', (e.g. directors and managers of social services departments, social workers) before contacting the LACYP, and even then rates of sample attrition may be high (Heptinstall 2000).

The five included studies provide limited support for the effectiveness of a limited range of interventions: provision of multidisciplinary assessment may increase

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service access in the short- to medium- term (although the effect did not persist at 12 month follow-up and was not evident when examined by service); placing a mental health professional on-site with a foster agency appears to have a beneficial effect on placement stability (although several confounding factors make interpretation of this study difficult); a comprehensive medical case management programme appears to increase access to services; providing all reasonably available medical records to the professional undertaking initial health assessment at entry into care increases uptake; and providing social services with information on immunisation status does not appear to improve immunisation uptake (although this was a weak study design). The findings must be interpreted with caution due to the wide range of limitations of the studies.

LACYP are a vulnerable population, who often have increased need of health, mental health, developmental and educational services (Meltzer et al. 2003). Provision of appropriate access and the delivery of services to LACYP and their carers is likely to require good service design, integration and information sharing between all agencies involved in the care of LACYP. In addition, access to services should be considered in the context of the whole 'system' of care that a child or young person passes through, and the key points along their pathway where intervention – and appropriate service access – could help to improve their outcomes.

6 Acknowledgements

The development of this review has been informed by the extensive scope development work already undertaken by colleagues at NICE and SCIE. Colleagues at NICE and SCIE provided extensive input both to the searching strategy and the identification of relevant evidence and to the development of this review through provision of feedback on earlier drafts. We would particularly like to thank Janet Clapton of SCIE for conducting an extensive search for references relating to this review. We would also like to thank colleagues at NICE for their guidance and feedback. We are also grateful to Jo Cooke of SchARR for her advice and guidance.

Appendix 1: Search strategy for population

The following section provides information on the keywords and search strategy for each database and web source searched as part of the scoping study. All searches were limited to publication years 1990-2008, in English language only.

The keywords used in the searches, together with a brief description of each of the databases searched, are outlined below.

The following conventions have been used: (ft) denotes that free-text search terms were used and * denotes a truncation of terms. (+NT) denotes that narrower subject terms have been included (where available).

Applied Social Sciences Index and Abstracts (ASSIA)

(searched via CSA Illumina 27/08/08)

ASSIA is an index of articles from over 500 international English language social science journals.

- | | | | |
|-----|---|-----|---|
| #1 | looked after child* (ft) | #11 | care orders |
| #2 | child* in care (ft) | #12 | special guardianship (ft) |
| #3 | foster care (+NT) | #13 | leaving care (ft) |
| #4 | adoption (+NT) | #14 | care leaver* |
| #5 | kinship care (ft) | #15 | secure accommodation |
| #6 | children (+NT) or adolescents (+NT) or young people (+NT) | #16 | unaccompanied asylum seeking child* (ft) |
| #7 | residential care (+NT) | #17 | placement (ft) and #6 |
| #8 | #6 and #7 | #18 | #1 or #2 or #3 or #4 or #5 or #8 or #10 or #11 or #12 or #13 or #14 or #14 or #15 or #16 or #17 |
| #9 | group homes (+NT) | | |
| #10 | #6 and #9 | | |

Australian Family and Society Abstracts

(searched via Informit 13/11/08)

- | | | | |
|----|-----------------------------|----|-----------------------|
| #1 | child* (ft) | #4 | residential childcare |
| #2 | adopt* (ft) or foster* (ft) | #5 | looked after children |
| #3 | #1 and #2 | #6 | #3 or #4 or #5 |

British Education Index (BEI)

(searched via Dialog 11/11/08)

BEI provides information on research, policy and practice in education and training in the UK. Sources include over 300 journals, mostly published in the UK, plus other material including reports, series and conference papers.

- | | | | |
|----|--------------------------------|-----|--|
| #1 | looked after children (ft) | #9 | residential child care (ft) |
| #2 | child* looked after (ft) | #10 | residential care and (child* (ft) or children) |
| #3 | child* in care (ft) | #11 | care order* (ft) |
| #4 | orphan* (ft) | #12 | special guardian* (ft) |
| #5 | orphans | #13 | care leav* (ft) |
| #6 | adopted children | #14 | leav* care (ft) |
| #7 | foster (ft) | #15 | secure accommodation (ft) |
| #8 | foster care or foster children | | |

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#16 unaccompanied asylum seeking child* (ft)
#17 placement* (ft) and (child* (ft) or children)

#18 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17

Campbell Collaboration C2 Library

(searched 14/10/08)

The Campbell Collaboration Library of Systematic Reviews contains systematic reviews and review protocols in the areas of education, criminal justice and social welfare.

The Education and Social Welfare sections were browsed but no relevant records were found.

CERUK Plus

(searched 11/11/08)

The CERUK Plus database provides access to information about current and recently completed research, PhD level work and practitioner research in the field of education and children's services.

#1 (looked after children) or (care leavers)

ChildData

(searched via NCB Inmagic interface, 01/09/08)

ChildData is the National Children's Bureau database, containing details of around 35,000 books, reports and journal articles about children and young people.

#1 children in care
#2 looked after child* (ft)
#3 child* looked after (ft)
#4 orphans
#5 foster care or foster carers or foster children
#6 kinship care
#7 adoption or adopted children
#8 residential care or residential care staff
#9 group home* (ft)
#10 children's homes

#11 care orders
#12 special guardianship
#13 leaving care
#16 care leaver* (ft)
#17 unaccompanied asylum seeking child* (ft)
#18 placement
#19 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18

Cochrane Library

(searched via Wiley Interscience 09/09/08)

#1 child, institutionalized (+NT)
#2 looked after child* (ft)
#3 child* in care (ft)
#4 child, orphaned
#5 orphanages
#6 foster home care
#7 kinship care (ft)
#8 adoption (+NT)

#9 residential child care (ft)
#10 group homes (+NT)
#11 care order* (ft)
#12 special guardianship (ft)
#13 care leaver* (ft)
#14 secure accommodation (ft)
#15 unaccompanied asylum seeking child* (ft)

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#16 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15

Cumulative Index to Nursing and Allied Health Literature (Cinahl Plus)

(searched via EBSCO Host 29/08/08)

CINAHL Plus provides indexing for 3,802 journals from the fields of nursing and allied health.

#1	looked after child* (ft)	#9	leaving care (ft)
#2	child* in care (ft)	#10	care leaver* (ft)
#3	“orphans and orphanages” (+NT)	#11	secure accommodation (ft)
#4	foster home care (+NT)	#12	unaccompanied asylum seeking child* (ft)
#5	kinship care (ft)	#13	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12
#6	adoption		
#7	residential child care (ft)		
#8	special guardianship (ft)		

EMBASE

(searched via Ovid SP 05/09/08)

The Excerpta Medica database (EMBASE) is a major biomedical and pharmaceutical database. There is selective coverage for nursing, dentistry, veterinary medicine, psychology, and alternative medicine.

#1	looked after child* (ft)	#9	care orders (ft)
#2	child* in care (ft)	#10	special guardianship (ft)
#3	orphanage (+NT)	#11	leaving care (ft)
#4	foster care (+NT)	#12	care leaver* (ft)
#5	adoption (+NT) or adopted child (+NT)	#13	secure accommodation (ft)
#6	residential home (+NT) and (child* or adolescen* (ft))	#14	unaccompanied asylum seeking child* (ft)
#7	group homes (ft) and (child* or adolescen* (ft))	#15	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14
#8	children’s homes (ft)		

Health Management Information Consortium (HMIC)

(searched via Ovid SP 03/09/08)

The Health Management Information Consortium (HMIC) database is a compilation of data from two sources, the Department of Health's Library and Information Services and King's Fund Information and Library Service. Topic coverage is on health services.

#1	looked after child* (ft)	#8	(adoption or adopted children or adoptive parents) (+NT)
#2	child* in care (ft)	#9	residential child care (+NT)
#3	children in care	#10	children’s homes (ft)
#4	orphans	#11	care orders
#5	disabilities (+NT)	#12	special guardianship (ft)
#6	(foster care or foster children or foster parents) (+NT)	#13	former children in care or care leavers
#7	kinship care (ft)	#14	secure accommodation

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- | | |
|--|---|
| #15 unaccompanied asylum seeking child* (ft) | #17 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 |
| #16 placement (ft) and children (+NT) | |

International Bibliography of the Social Sciences (IBSS)

(searched via EBSCO Host, 05/09/08)

- | | |
|---|--|
| #1 looked after child* (ft) | #10 care order* (ft) |
| #2 children in care | #11 special guardianship (ft) |
| #3 orphanages | #12 leaving care (ft) |
| #4 orphans | #13 care leaver* (ft) |
| #5 (foster care or foster child* or foster parent) (ft) | #14 secure accommodation |
| #6 kinship care (ft) | #15 unaccompanied asylum seeking child* (ft) |
| #7 adopted children | #16 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 |
| #8 residential child care (ft) | |
| #9 children's homes (ft) | |

JSTOR

(searched 14/11/08)

JSTOR is an international archive of journal articles and grey literature.

- | |
|--------------------------|
| #1 children in care (ft) |
|--------------------------|

Medline

(searched via Ovid SP 27/08/08)

MEDLINE is the primary source of international literature on biomedicine and health care.

- | | |
|--------------------------------|--|
| #1 looked after children (ft) | #13 unaccompanied asylum seeking child* (ft) |
| #2 child* in care (ft) | #14 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 |
| #3 looked after child* (ft) | #15 child (+NT) or adolescent |
| #4 child, orphaned (+NT) | #16 group homes (+NT) |
| #5 orphanages (+NT) | #17 #15 and #16 |
| #6 foster home care (+NT) | #18 #14 or #17 |
| #7 kinship care (ft) | |
| #8 adoption (+NT) | |
| #9 residential child care (ft) | |
| #10 special guardianship (ft) | |
| #11 leaving care (ft) | |
| #12 secure accommodation (ft) | |

PsycInfo

(searched via Ovid SP 05/09/08)

PsycInfo contains more than 2.5 million records on psychological and behavioural science.

- | | |
|-----------------------------|---------------------|
| #1 looked after child* (ft) | #3 orphans (+NT) |
| #2 child* in care (ft) | #4 orphanages (+NT) |

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- | | |
|---|--|
| #5 foster children (+NT) or foster care (+NT) or foster parents (+NT) | #14 secure accommodation (ft) |
| #6 kinship care (ft) | #15 unaccompanied asylum seeking child* (ft) |
| #7 adoption (child) (+NT) | #16 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 |
| #8 adopted children (+NT) | #17 child (+NT) or adolescent |
| #9 residential child care (ft) | #18 group homes (+NT) |
| #10 care orders (ft) | #19 #17 and #18 |
| #11 special guardianship (ft) | #20 #16 or #19 |
| #12 leaving care (ft) | |
| #13 care leaver* (ft) | |

Social Care Online

(searched 21/08/08)

Social Care Online is the Social Care Institute for Excellence's database covering an extensive range of information and research on all aspects of social care. Content is drawn from a range of sources including journal articles, websites, research reviews, legislation and government documents and service user knowledge.

- | | |
|-------------------------------|--|
| #1 looked after children | #12 care leaver* (ft) |
| #2 children looked after (ft) | #13 secure accommodation and (children or young people) |
| #3 child* in care (ft) | #14 unaccompanied asylum seeking child* (ft) |
| #4 foster care (+NT) | #15 placement and (children or young people) |
| #5 foster children | #16 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 |
| #6 adoption (+NT) | |
| #7 adopted children | |
| #8 residential child care | |
| #9 care orders | |
| #10 special guardianship | |
| #11 leaving care | |

Social Services Abstracts

(searched via CSA Illumina 02/09/08)

Social Services Abstracts is an international database covering social work, social welfare and social policy.

- | | |
|---|--|
| #1 looked after child* (ft) | #14 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 |
| #2 child* in care (ft) | |
| #3 orphans | |
| #4 foster care or foster children | |
| #5 adoption (+NT) | |
| #6 adopted children (+NT) | |
| #7 residential care (ft) and (children (+NT)) | |
| #8 children's homes (ft) | |
| #9 special guardianship (ft) | |
| #10 care leaver* (ft) | |
| #11 secure accommodation (ft) | |
| #12 unaccompanied asylum seeking child* (ft) | |
| #13 placement and (child (+NT)) | |

Social Work Abstracts

(searched via Ovid SP 03/09/08)

Social Work Abstracts covers material published in primarily US-based journals with social work relevance.

- #1 looked after child* (ft)
- #2 child* in care (ft)
- #3 orphan* (ft)
- #4 foster* (ft)
- #5 kinship care (ft)
- #6 adoption (ft)
- #7 residential child care (ft)
- #8 children's homes (ft)
- #9 care orders (ft)
- #10 special guardianship (ft)
- #11 care leaver* (ft)
- #12 leaving care(ft)
- #13 secure accommodation (ft)
- #14 unaccompanied asylum seeking child* (ft)
- #15 placement and (child* (ft))
- #16 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15

Zetoc

(searched via British Library 03/09/08)

Zetoc provides access to the British Library's electronic table of contents of journals and conference proceedings. This search interface has quite limited functionality

- #1 looked after children (ft)
- #2 foster care (ft) and health (ft)
- #3 adopted children (ft) and health (ft)
- #4 residential child care (ft)
- #5 children's homes (ft)
- #6 special guardianship (ft)
- #7 care leaver (ft)
- #8 care leavers (ft)
- #9 secure accommodation (ft)
- #10 placement (ft) and children (ft) and care (ft)
- #11 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10

Appendix 2: Access to services terms

Once the search outlined in Appendix One had been undertaken, this resulted in a database of approximately 20000 records. This database was then searched using the search terms below. Search terms which are followed with a * were truncated within Endnote i.e. a search for Counsel* would retrieve all words with Counsel at the start e.g. Counsellor, Counselor, Counselling.

A and E
Accident and emergency
CAMHS
CBT
Child and Adolescent Mental Health Service
Cognitive behavioural therapy
Connexions
Contracep*
Counsel*
Dentist*
Employment
Extra curricular activit*
General practitioner
GP
Health assessment
Health service
Immuni*
Job club
Leisure activit*
Mental health
Mental health service
Mentor
Patient*
Probation
Referral*
Rehabilitation
School club
Sexual health
Sexual health service
Smoking cessation
Spare time activit*
Specialised assessment
Specialized assessment
Statutory assessment
Stop smoking
Therap*
Truancy
Youth club

Appendix 3: Evidence Table

Study details	Population and setting	Method of allocation to intervention/control	Outcomes and methods of analysis	Results	Notes
<p>Authors: Collado & Levine</p> <p>Year: 2007</p> <p>Citation: Reducing transfers of children in family foster care through onsite mental health interventions. <i>Child Welfare</i>, 86(5), 133-150.</p> <p>Aim of study: Pilot study to make mental health services more accessible, investigate the feasibility of this and the effect of this on placement stability</p> <p>Study design: Prospective</p>	<p>Source population/s: LACYP at two foster care sites (agencies) in New York City, which covered 500 boys and girls aged 5-12 years, 95% black/Hispanic, 5% white/interracial/ other.</p> <p>Eligible population: Those at high risk for replacement (multiple past replacements, sexualised behaviour, family history of mental health problems, substance abuse). Children aged 7-17 were eligible. Recruitments methods not totally clear; it appears that all LACYP in each of the two</p>	<p>Method of allocation: LACYP with two fostering agencies (Good Shepherd Services and Seamen's Society for Children and Families) received the intervention; all LACYP in New York City during the same time period formed the comparison group.</p> <p>Intervention/s description: Placement of mental health clinicians on-site at two foster care agencies. This involved:</p> <ul style="list-style-type: none"> • A clinical mental health model (individual and family therapy provided to children, foster parents & biological parents, with therapists also engaging with school officials, agency administrators & others involved in meeting LACYP's needs) • An administrative model (building relationships between agencies, negotiation & team-building involving all support staff at all levels & including mental health in case management) • And a structural model (mental health & foster care agencies linked in to a 'system' of care) • Therapists trained foster carers & 	<p>Primary outcomes: Access not reported</p> <p>Secondary outcomes: Placement stability, determined by number and percentage who experienced placement transfers.</p> <p>Follow-up periods: 2.5-3 years (T2)</p> <p>Methods of analysis: Frequencies reported.</p>	<p>Primary outcomes: Access not reported</p> <p>Secondary outcomes: 6.5% IG participants experienced placement transfer, compared with 30.3% CG participants at T2 (significance not reported)</p> <p>Attrition details: Not reported</p>	<p>Limitations identified by author:</p> <ul style="list-style-type: none"> • None reported <p>Limitations identified by review team:</p> <ul style="list-style-type: none"> • Very little detail about the intervention and comparison groups reported • No detail on access to mental health services reported • No statistical methods used to compare groups • No baseline data reported & no longitudinal comparisons made <p>Evidence gaps and/or recommendations for future research: None</p>

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Study details	Population and setting	Method of allocation to intervention/control	Outcomes and methods of analysis	Results	Notes
<p>cohort</p> <p>Quality score: -</p> <p>Applicability: This study was conducted in the US so has reduced applicability, however it was published two years ago, which increases applicability</p>	<p>agencies were recruited.</p> <p>Selected population: Inclusion criteria and rate not reported.</p>	<p>caseworkers on mental health issues in foster care and the mental health treatment process (formally and informally), including addressing misconceptions about mental health in foster care & working to improve communication between themselves & the foster family</p> <ul style="list-style-type: none"> • Therapists also contributed to the biweekly staff meetings & monthly grand rounds (precise definition not reported) <p>Control/comparison/s description: Placement disruption rates for New York City overall, over the same period of time</p> <p>Sample sizes: Total n=not known Intervention n=108 Comparison n=not known</p>			<p>reported</p> <p>Source of funding: Four private foundations; details not reported.</p>
<p>Authors: Horwitz, Owens & Simms</p> <p>Year: 2000</p> <p>Citation: Specialized assessments for children in foster</p>	<p>Source population/s: LACYP aged 11-74 months newly entering care in region V in Connecticut, of mixed ethnic origin.</p> <p>Eligible</p>	<p>Method of allocation: Quasi-experimental design – those placed in care through the Waterbury office of the Department of Children and Families were enrolled into the intervention condition and those placed in care through the Danbury/Torrington office of the Department of Children and Families were enrolled into the</p>	<p>Primary outcomes: Access to services, measured in terms of number/proportion of LACYP who were recommended services receiving ≥ 1 service. Number/proportion of LACYP for whom</p>	<p>Primary outcomes: Significantly more LACYP in the intervention group (71.0%, 44/62) were recommended at least one service at baseline, compared with the comparison group (43.1%, 25/58) ($X^2=9.52$, $p=0.002$).</p> <p>At T2, LACYP for whom a</p>	<p>Limitations identified by author:</p> <ul style="list-style-type: none"> • None reported <p>Limitations identified by review team:</p> <ul style="list-style-type: none"> • No longitudinal methods of data

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Study details	Population and setting	Method of allocation to intervention/control	Outcomes and methods of analysis	Results	Notes
<p>care. <i>Pediatrics</i>, 106(1), 59-66.</p> <p>Aim of study: To investigate the differences between children newly entering foster care who received a comprehensive multidisciplinary assessment and those who received a customary assessment on health problems identified and health services received.</p> <p>Study design: Prospective cohort study</p> <p>Quality score: +</p> <p>Applicability: This study was conducted in the US which limits its applicability to</p>	<p>population: All LACYP entering care in region V in Connecticut were recruited into the study.</p> <p>Selected population: All LACYP in eligible population were selected to participate and all participated. A potential source of study bias is the lack of randomisation in allocation to groups.</p>	<p>comparison condition.</p> <p>Intervention/s description: Provision of a comprehensive multidisciplinary assessment</p> <ul style="list-style-type: none"> • Provided by staff familiar with the needs of LACYP, from five community agencies • Involved an interview with the foster carer, complete medical examination, developmental assessment, psychological assessment, speech & language assessment & motor evaluation. • Referrals for services were made by the community agencies involved in the assessment <p>Control/comparison/s description: Customary medical assessments</p> <p>Sample sizes: Total n=120 Intervention n=62 Comparison n=58</p>	<p>services were recommended was also reported.</p> <p>Secondary outcomes: None reported.</p> <p>Follow-up periods: Following baseline (T1) assessment, measurements were taken at 6 months (T2) and 12 months (T3)</p> <p>Methods of analysis: χ^2 analyses were conducted to compare groups at each time point. No analysis to compare groups across time was conducted.</p>	<p>service was recommended in the intervention group (68.2%, 30/44) were more likely to have received ≥ 1 service than those in the comparison group (44.0%, 11/25) ($\chi^2=3.87$, $p=0.049$)</p> <p>However, at T3 there was no significant difference between the proportion of LACYP for whom a service had been recommended in the intervention group (77.3%, 34/44) and in the comparison group (60.0%, 15/25) ($\chi^2=2.31$, $p=0.128$).</p> <p>When the outcome of access was broken down by the type of service received, there were no significant differences between the groups on mental health services (43.5% [10/23] vs. 37.5% [3/8], $\chi^2=0.09$, $p=0.768$), medical services (26.3% [5/19] vs. 40.9% [9/22], $\chi^2=0.97$, $p=0.326$), developmental services (42.9% [15/35] vs. 0% [0/5], $\chi^2=3.43$, $p=0.064$) or educational services (21.0% [4/19] vs. 7.1% [1/14], $\chi^2=1.21$, $p=0.270$). This may be due to lack of power as some subgroups were small.</p>	<p>analysis used</p> <p>Evidence gaps and/or recommendations for future research: None reported.</p> <p>Source of funding: National Institute of Mental Health (in the US)</p>

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Study details	Population and setting	Method of allocation to intervention/control	Outcomes and methods of analysis	Results	Notes
<p>the UK care context, likewise it was published nine years ago which may also limit applicability</p>				<p>It should also be noted that significantly more LACYP in the comparison group (62.1%) than the intervention group (38.7%) were receiving services at baseline ($X^2=6.54$, $p=0.011$)</p> <p>Secondary outcomes: None reported.</p> <p>Attrition details: Not reported explicitly but figures reported suggest attrition from baseline to 12 months was 0%</p>	
<p>Authors: Ashton-Key & Jorge</p> <p>Year: 2003</p> <p>Citation: Does providing social services with information and advice on immunisation status of “looked after children” improve uptake? <i>Archives of Disease in Childhood</i>, 88,</p>	<p>Source population/s: Single urban unitary authority area, total population of 190,000, 46,600 of whom were aged 0-18 years, mixed deprivation levels. LACYP in the area were mainly white (4.7% other ethnicity).</p> <p>Eligible population: All LACYP within the</p>	<p>Method of allocation: All eligible LACYP assigned to intervention condition since the study was on-comparative.</p> <p>Intervention/s description: Social services were provided with a detailed immunisation history for every LACYP where immunisation status has been assessed.</p> <ul style="list-style-type: none"> • Included detailed of all immunisations that had been recorded as received • Also included details of immunisations needed to ensure that each child had received all recommended immunisations 	<p>Primary outcomes: Immunisation status of LACYP (immunisations received, up to date with immunisations in those scheduled to receive immunisations)</p> <p>Secondary outcomes: None reported.</p> <p>Follow-up periods: 1 year (T2) after baseline (T1)</p>	<p>Primary outcomes: 60.3% (82) LACYP were up to date on their immunisations & 39.7% (54) were not up to date at baseline (T1), whereas 55.9% (76) were up to date & 44.1% (60) were not up to date at 12 months 2000 (T2) (not significant, specific statistical test not reported)</p> <p>Secondary outcomes: None reported</p> <p>Attrition details: 0%</p>	<p>Limitations identified by author:</p> <ul style="list-style-type: none"> • Possibility of immunisations received not being recorded • Sample characteristics such as placement moves, discontinuity of medical care and schooling and changes in social worker may have affected results

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Study details	Population and setting	Method of allocation to intervention/control	Outcomes and methods of analysis	Results	Notes
<p>299-301.</p> <p>Aim of study: To assess the impact of providing social services with information on the immunisation status of a LACYP cohort on uptake rates.</p> <p>Study design: Non-comparative study (single group before and after study)</p> <p>Quality score: -</p> <p>Applicability: This study was conducted in the UK, which increases applicability to the UK context, however it was published six years ago which may limit applicability</p>	<p>unitary authority area on 31 March 1999 looked after continuously until 31 March 2000.</p> <p>Selected population: Those whose names could be matches to their health records and were looked after continuously throughout the 1-year study period – 54.0%% LACYP (136/252). Sources of bias could reflect methods of reporting of health records.</p>	<p>Control/comparison/s description: No comparison group</p> <p>Sample sizes: Total n=136 Intervention n=136 Comparison n=N/A (non-comparative)</p>	<p>Methods of analysis: Statistical comparison between pre- and post-intervention scores (precise statistical tests used not reported)</p>		<p>Limitations identified by review team:</p> <ul style="list-style-type: none"> • No control condition; many confounding factors between T1 & T2 could have affected results • Recording errors or incompleteness could have led to exclusion of potentially eligible participants <p>Evidence gaps and/or recommendations for future research: None reported</p> <p>Source of funding: None reported</p>

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Study details	Population and setting	Method of allocation to intervention/control	Outcomes and methods of analysis	Results	Notes
<p>Authors: Kienberger Jaudes, Bilaver, Goerge, Masterson & Catania</p> <p>Year: 2004</p> <p>Citation: Improving Access to Health Care for Foster Children: The Illinois Model. <i>Child Welfare,</i> <i>83, 215-228</i></p> <p>Aim of study: To investigate the health service use between foster child receiving the HealthWorks Initiative and those foster children not receiving the HealthWorks Initiative.</p> <p>Study design: Prospective</p>	<p>Source population/s: Integrated Database on Children Services, a database of information on children in foster care or on public assistance</p> <p>Eligible population: All children entering Illinois state foster care.</p> <p>Selected population: All children in foster care in Cook County, Illinois during a one year period. A potential source of study bias is the lack of randomisation in allocation to groups</p>	<p>Method of allocation: Quasi-experimental design – those foster children enrolled in the HealthWorks were compared to foster children not enrolled in HealthWorks within Cook County, Illinois.</p> <p>Intervention/s description: Community based medical case management (HealthWorks), which involved:</p> <ul style="list-style-type: none"> • Initial health screening by a doctor within 24 hours of entering care and before foster home placement • Comprehensive health evaluation , including mental health, developmental, alcohol and substance abuse screening where appropriate, within 21 days of entering care • Foster carers select a primary care physician from a network of participating providers • Specialty and subspecialty care, including, dental care, optometric care and other paediatric subspecialty care as arranged via the primary care physician • Medical case management, children under six receive medical case management by community- 	<p>Primary outcomes: The author's measures health service use, by analysing Medicaid- paid claims for the population of children who had been in foster care for at least one year during the fiscal year 1997. These services included, general physician services, psychiatric clinic services, mental health services, hearing examinations and eye examinations</p> <p>Secondary outcomes: None reported</p> <p>Follow-up periods: One data collection point at end of 1 year</p> <p>Methods of analysis: Logistic regression model, adjusted odds ratio (OR) reported.</p>	<p>Primary outcomes: Foster children enrolled in Health Works were more likely to received physician services than foster children not enrolled in HealthWorks, (71.1% vs 50.7%, OR 2.20, $p<0.01$). Foster children enrolled in Health Works were slightly more likely to received psychiatric clinic services than foster children not enrolled in HealthWorks, (5.5% vs 4.1%, OR 1.49, $p<0.01$). Foster children enrolled in Health Works were slightly more likely to received mental health services than foster children not enrolled in HealthWorks, (14.3% vs 14.5%, OR 1.28, $p<0.01$). Foster children enrolled in HealthWorks were slightly more likely to received hearing examinations than foster children not enrolled in HealthWorks, (13.5% vs 10.7%, OR 1.22, $p<0.01$). Foster children enrolled in Health Works were slightly more likely to received eye examinations than foster children not enrolled in HealthWorks, (18.9% vs 16.8%, OR 1.27, $p<0.01$).</p>	<p>Limitations identified by author:</p> <ul style="list-style-type: none"> • Differences in baseline characteristics between the groups. <p>Limitations identified by review team:</p> <ul style="list-style-type: none"> • No information given on completeness of Medicaid-paid claims or any missing data. • No information on how allocation to intervention and control groups was undertaken. <p>Evidence gaps and/or recommendations for future research: None reported</p> <p>Source of funding:</p>

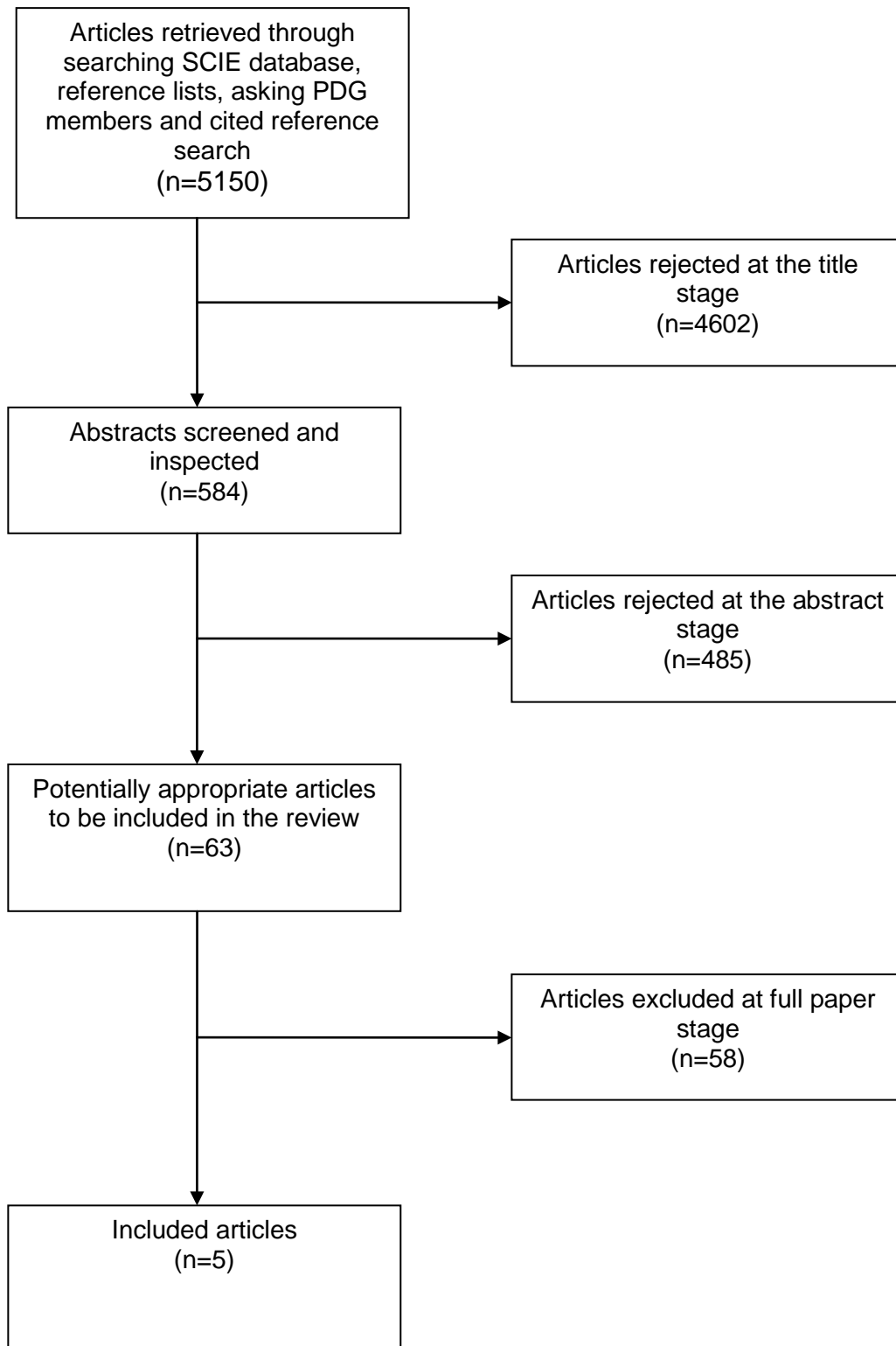
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Study details	Population and setting	Method of allocation to intervention/control	Outcomes and methods of analysis	Results	Notes
<p>cohort study</p> <p>Quality score: +</p> <p>Applicability: This study was conducted in the US which limits its applicability to the UK care context, likewise it was published five years ago which may also limit applicability</p>		<p>based agencies, children over six receive this from their welfare worker</p> <ul style="list-style-type: none"> Health passport with information about each child's medical problems, past medical and family history, immunisation records, recorded in a standardised format. <p>Control/comparison/s description: Customary medical assessments</p> <p>Sample sizes: Total n=47,031 Intervention n=28,844 Control n=18,187</p>	<p>However there appears to be an inconsistency in mental health service use, with the proportions favouring the control group and the odds ratio favouring the intervention group.</p>	<p>Secondary outcomes: None reported</p> <p>Attrition details: Not reported</p>	<p>None reported</p>
<p>Authors: Risley-Curtiss & Stites</p> <p>Year: 2007</p> <p>Citation: Improving Healthcare for Children Entering Foster Care. <i>Child Welfare, 84, 123-144</i></p> <p>Aim of study:</p>	<p>Source population/s: All children up to the age of 18 who entered foster care in four US Counties (two rural and two urban)</p> <p>Eligible population: All LACYP entering care in the four counties were recruited into the</p>	<p>Method of allocation: Quasi-experimental design – one state was mandated by new law to establish a pilot for getting timely health examinations for children entering care Those placed in care in one urban County and one rural County were enrolled into the intervention condition. Two comparison Counties (one urban, one rural) comprised the comparison condition.</p> <p>Intervention/s description: In pilot counties, all of the child's</p>	<p>Primary outcomes: Health examination completed within 14 days of entering care</p> <p>Secondary outcomes: Health examination completed within 30 days of entering care. Health examination completed by the end of the study period.</p> <p>Follow-up periods: Health examinations</p>	<p>Primary outcomes: Significantly more LACYP in the intervention group had their health examination completed within 14 days of entering care than LACYP in the comparison group, both in urban counties (58.0% [573/988] vs 13.4% [194/1447], χ^2 statistic not reported, $p < 0.001$) and in rural counties (64.1% [75/117] vs 10.8% [7/65], χ^2 statistic not reported, $p < 0.001$).</p> <p>Secondary outcomes:</p>	<p>Limitations identified by author:</p> <ul style="list-style-type: none"> Study relied on computerised records, accuracy of data was dependant on diligence of case managers. <p>Limitations identified by review team: It was not reported</p>

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Study details	Population and setting	Method of allocation to intervention/control	Outcomes and methods of analysis	Results	Notes
<p>To improve the provision and timeliness of health examinations for children entering care.</p> <p>Study design: Prospective cohort Study</p> <p>Quality score: +</p> <p>Applicability: This study was conducted in the US so has reduced applicability, however it was published two years ago, which increases applicability</p>	<p>study.</p> <p>Selected population: All LACYP in eligible population were selected to participate and all participated. A potential source of study bias is the lack of randomisation in allocation to groups</p>	<p>reasonably available medical records were to be provided to the medical provider at the time of or prior to the examination.</p> <p>Control/comparison/s description: Usual service</p> <p>Sample sizes: Total n=2,507 Intervention n=1,060 (954 urban, 106 rural) Control n=1,447 (1,385 urban, 62 rural)</p>	<p>completed at end of the one year study period</p> <p>Methods of analysis: χ^2 analyses were conducted to compare groups on health examination completed within 14 days and health examinations completed by the end of the study period. Data calculated using placement episodes as children could have more than one entry into care during the study year.</p>	<p>More LACYP in the intervention group had their health examination completed within 30 days of entering care than LACYP in the comparison group, both in urban counties (76.0% [751/988] vs 16.0% [232/1447], significance not reported) and in rural counties (80.3% [94/117] vs 13.8% [9/65], significance not reported).</p> <p>Significantly more LACYP in the intervention group had their health examination completed within the 1 year study period than LACYP in the comparison group, both in urban counties (92.0% [909/988] vs 34.2% [495/1447], χ^2 statistic not reported, $p < 0.001$) and in rural counties (88.0% [103/117] vs 50.8% [33/65], χ^2 statistic not reported, $p < 0.001$).</p> <p>Attrition details: Not reported</p>	<p>how these comparison counties were selected.</p> <p>Evidence gaps and/or recommendations for future research: None reported</p> <p>Source of funding: None reported</p>

Appendix 4: QUOROM diagram



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Appendix 5: Studies excluded after review of full paper

Author	Reason for exclusion
(Anon. 2007)	No data reported
(Ayasse 1995)	No data reported
(Bynoe 1997)	No data reported
(Byrne 2003)	No data reported
(Clyman, Harden, & Little 2002)	No data reported
(Cregeen 2008)	No data reported
(Cross 2006)	No data reported
(Fiddy 2003)	No data reported
(Gilliland, Gallagher, & Growcott 2005)	No data reported
(Mather 1999)	No data reported
(Payne 2006)	No data reported
(Sobel & Healy 2001)	No data reported
(Street & Davies 2002)	No data reported
(Teenage Pregnancy Unit 2004)	No data reported
(Wotherspoon, O'Neill-Laberge, & Pirie 2008)	No data reported
(Kurtz & James 2005)	No data reported
(Barnes 2006)	No intervention reported
(Blumberg et al. 1996)	No intervention reported
(Collins 2007)	No intervention reported
(English & Grasso 2000)	No intervention reported
(Halfon, Mendonca, & Berkowitz 1995)	No intervention reported
(Minnis et al. 2006)	No intervention reported
(Ngwane & Gladstone 1999)	No intervention reported
(Osborne 2003)	No intervention reported
(Poynor & Wellbury 2004)	No intervention reported
(Richardson 2002)	No intervention reported
(Ryan et al. 2005)	No intervention reported
(Schneiderman et al. 2007)	No intervention reported
(Smithgall & Mason 2004)	No intervention reported
(Ward & Rose 2002)	No intervention reported
(White & Stancombe 2004)	No intervention reported
(Williams et al. 2001)	No intervention reported
(Ahrens et al. 2008)	Not access to services
(Butler & Vostanis 1998)	Not access to services
(Calder & Cope 2003)	Not access to services
(Calder & Cope 2004)	Not access to services
(Callaghan 2003)	Not access to services
(Campbell 2004)	Not access to services
(Charman 2006)	Not access to services
(Cocker & Grietens 2004b)	Not access to services
(Cocker & Grietens 2004a)	Not access to services
(Craven & Lee 2006)	Not access to services
(Gilligan 1998)	Not access to services
(Minnis & Del Priore 2001)	Not access to services
(Vostanis 2007)	Not access to services
(Waldman 1994)	Not access to services
(Holden et al. 2007)	Population
(Parsons et al. 2003)	Population
(Dunnett & Payne 2000)	Qualitative study
(Oliver, Knight, & Candappa 2006)	Qualitative study
(Sipe 2002)	Review
(Unrau 2006)	Review
(Berkowitz, Halfon, & Klee 1992)	Outcomes
(Brown, Bonnett, & Welbury 2005)	Outcomes

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Author	Reason for exclusion
(McCollam & Woodhouse 2007)	Outcomes
(Brunt 1999)	Unobtainable
(Hanna & McRoy 2007)	Unobtainable
(Anon. 2002)	Unobtainable

Appendix 6: List of included studies

Ashton-Key, M. & Jorge, E. 2003, "Does providing social services with information and advice on immunisation status of "looked after children" improve uptake?", *Archives of Disease in Childhood*, 88(4), 299-301.

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No Author 2002, "A project that recruits young people to talk to looked-after children about sexual health", *Community Care* 44.

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