Centre of expertise on child sexual abuse

The role and scope of medical examinations when there are concerns about child sexual abuse

A scoping review

April 2019

Dr Michelle Cutland

csacentre.org.uk

Acknowledgements

Grateful thanks to Dr Ann White, consultant community paediatrician and clinical lead for Sussex Children's Sexual Assault Referral Centre (SARC), and Dr Emmeline Brews-Graves, forensic medical examiner (FME) at the Havens SARCs in London and clinical lead for Bristol SARC, for their input in abstract selection and review.

Additional thanks to the team at the Centre of expertise on child sexual abuse, to Dr Anne Livesey (consultant community paediatrician), Dr Adele Wolujewicz (consultant in integrated sexual health) and Ray McMorrow (independent child safeguarding and mental health nurse), for their input in reviewing the content of this review.

Thanks too to Dr Emilia Wawrzkowicz (designated doctor for safeguarding children, Cambridgeshire and Peterborough Clinical Commissioning Group), Jo Procter (head of service, Cambridgeshire and Peterborough Safeguarding Adults and Children Boards) and Gaynor Mansell (education lead for Peterborough City Council) for sharing their survey findings detailed in Appendix 1.

About the author

Dr Michelle Cutland is a consultant paediatrician and the practice improvement adviser for health at the Centre of expertise on child sexual abuse. She has professional experience around child sexual abuse in previous and current roles within health-based child sexual abuse assessment services, as well as wider safeguarding experience including a prior role as a named doctor for safeguarding children.

About the Centre of expertise on child sexual abuse

The Centre of expertise on child sexual abuse (CSA Centre) wants children to be able to live free from the threat and harm of sexual abuse. Our aim is to reduce the impact of child sexual abuse through improved prevention and better response.

We are a multi-disciplinary team, funded by the Home Office and hosted by Barnardo's, working closely with key partners from academic institutions, local authorities, health, education, police and the voluntary sector. However, we are independent and will challenge any barriers, assumptions, taboos and ways of working that prevent us from increasing our understanding and improving our approach to child sexual abuse.

To tackle child sexual abuse we must understand its causes, scope, scale and impact. We know a lot about child sexual abuse and have made progress in dealing with it, but there are still many gaps in our knowledge and understanding which limit how effectively the issue is tackled.

Contents

Summary

This report aims to help professionals involved in advising and referring children, young people and families, so that they better understand the role and purpose of a medical examination in situations where child sexual abuse (CSA) has been disclosed or is suspected.

It presents evidence of the likelihood that medical examinations can:

- obtain evidence of CSA (such as DNA or physical findings of CSA) or of other categories of abuse
- benefit health and wellbeing more broadly, such as by identifying sexually transmitted infections, blood-borne infections, the need for emergency contraception and other unmet physical and mental health needs.

It also reviews the limited evidence on how medical examinations are experienced by CSA victims and survivors, and considers the perspectives of non-abusing parents and carers, siblings and wider family.

The report will be of interest to frontline practitioners in social care, police and health – particularly those who engage with children and young people prior to a possible referral for medical examination – and to leaders and those responsible for the professional development and education of professionals in these sectors.

Key messages from the evidence

Most children are not referred for medical examination

The available evidence indicates that most children (a term used in this report to encompass all individuals aged under 18) who come to the attention of police and/or social care owing to concerns about CSA are *not* referred for medical examination.

The reasons for this are not well understood. Evidence from the limited relevant studies suggests that children are not referred because of professionals' concerns about causing harm through examination, or beliefs that examination is not necessary – particularly where circumstances indicate that forensic evidence is unlikely to be obtained.

Some professionals have concerns about harm through examination

The view that medical examinations for CSA are themselves harmful to children is not well supported by the limited available evidence of children's experiences. More research is needed, particularly in the UK, but the existing evidence indicates that most children exhibit a level of fear in line with that felt about other types of medical examination, and this fear diminishes over the course of the examination. There is some evidence that children and carers experience anxiety about medical examinations for CSA, which can be mitigated by careful preparation. Research suggests that a small minority of children report pain during examination, mainly adolescents and those in studies involving outdated examination procedures.

Most children reflect on the medical examination as a positive experience

There is evidence that the child's experience depends on the clarity of information and advice they receive before the examination, how supportive and sensitive practitioners are perceived to be, the examiner's skill, and the involvement of carers in the process. Significantly, most children report the medical examination as a positive experience on reflection, and most report feeling better after an examination – although, as with professionals, children appear to view examinations largely in terms of supporting 'their case'.

The evidence from research highlights the holistic role and purpose of medical examinations, and they should be viewed in this light

The evidence from research also highlights the wide-ranging forensic and evidential benefits of a CSA medical examination, which include the following:

- **The collection of forensic samples which may identify semen or DNA following recent sexual abuse.**
  There is a reasonable chance of obtaining potentially useful samples, which decreases as time passes. Where samples are submitted for analysis, DNA findings are positive in 15% to 49% of cases, although research outside the UK has found that many samples are *not* submitted for analysis. Early examination greatly increases the likelihood of gathering positive samples; non-body samples such as clothing are especially valuable, particularly in cases involving children under 11.
- **The identification of physical anogenital injuries which may support an allegation or suspicion of abuse.**
  In most medical examinations, no physical anogenital injuries – either recent or healed – are found (although this does not mean that no abuse has occurred). The timing of the examination is vital, with positive findings more likely in children seen soon after the last episode of abuse.
- **The identification of injury outside the anogenital area.**
  When children are examined within seven days of an episode of CSA, studies report that 11% to 52% are found to have an injury outside the anogenital area, which may support an account of CSA or be a medical need in itself.
- **The identification of physical features or concerns from the wider consultation which suggest the child has experienced other categories of abuse.**
  Studies report that these features or concerns are seen in 15% to 26% of children examined. This may have an impact on immediate and follow-up medical care, and/or on safeguarding measures, criminal investigative pathways or family court processes.

The perception of the medical examination as solely a forensic and evidential intervention does not, however, reflect its broader purposes and benefits, which are evidenced by this review. The examination has a valuable place in the holistic assessment of the health and wellbeing of children who have experienced sexual abuse, by delivering benefits including the following:

- **Feedback and reassurance to children and carers from the health professional after the examination.**
  Feedback can help to provide reassurance and reduce wider feelings of fear and anxiety about the physical impact of abuse.
- **The identification of unmet general health needs that may be unrelated to sexual abuse.**
  Reports suggest that these needs are identified in up to 47% of children undergoing an examination.
- **The identification of one or more sexually transmitted infections.**
  These infections are identified in up to 16% of children, although incomplete screening was commonly reported in studies.
- **The provision of emergency contraception or the early identification of pregnancy.**
  Studies report pregnancy rates of up to 2% in UK settings when children are seen for a medical examination.
- **Screening for blood-borne infections such as HIV.**
  No cases of HIV were reported in studies from England, Wales or USA in children seen for a medical examination, and other blood-borne infection rates were very low; incomplete testing was common, however.
- **The involvement of carers throughout the medical examination process.**
  This is valued by children, but studies report carers and children feeling unprepared for the examination and wanting more information.
- **Risk assessments, including for self-harm and suicide.**
  Sensitive risk assessments at the time of the medical examination frequently elicit mental health needs, especially in the adolescent age group. In many cases there has been no prior mental health input, indicating the value of routine enquiry and enabling onward care to be organised.

1. Introduction

In situations where a child or young person has alleged sexual abuse, or where child sexual abuse (CSA) is suspected, a medical examination – also known as a paediatric forensic examination or assessment – may be used to seek evidence of that abuse and evaluate the child's general health and wellbeing.

Guidance for use in the UK, published jointly by the Royal College of Paediatrics and Child Health (RCPCH) and the Faculty of Forensic and Legal Medicine of the Royal College of Physicians (FFLM), describes a medical examination for CSA as:

> "…[a] comprehensive assessment considering the physical development and emotional well-being of the child or young person against the background of any relevant medical, family or social history … This enables a full evaluation of the degree of significant harm suffered, or likely to be suffered by the child … Evaluating significant harm in sexual abuse includes not only the documentation of any genital and or anal injury but also any accompanying physical injury, the possibility of a sexually transmitted infection or pregnancy and the short/long term psychological or psychiatric sequelae. This assessment must also lead the planning of any ongoing investigation or treatment required by the child and appropriate reassurance for the child and family." (RCPCH/FFLM, 2012)

The guidance notes that "the health needs of the child are paramount in approaching any medical examination, whatever the alleged circumstances leading to the need to gather forensic evidence".

A medical examination will be required whenever a child has made an allegation of sexual abuse, sexual abuse has been witnessed (because, for example, the child has been identified from online images of abuse), or a referring agency suspects abuse has occurred. Presentations that may not involve disclosure but may lead agencies to suspect CSA are wide-ranging, and include the following (RCPCH, 2015):

- Health
  - Pregnancy in a child under 16 years of age.
  - Sexually transmitted infection.
  - Anogenital trauma with an absent or implausible explanation.
- Behavioural
  - Harmful sexual behaviour.
  - Self-harm, anxiety and other mental health presentations.
  - Psychosomatic symptoms.
- Other
  - Siblings of victims of CSA.
  - A child living with an adult who poses a risk to children or is in contact with a sexual offender.

The above list is not exhaustive.

"Guidance notes that "the health needs of the child are paramount in approaching any medical examination""

An overview of what happens during a medical examination is provided in Chapter 2.

This scoping review presents up-to-date evidence from published research about the role and purpose of medical examinations for CSA, in order to provide an evidence-informed overview of their usefulness and benefits. It also examines the findings from research into the lived experience of undergoing a medical examination, and the impacts of such examinations on children, young people and their carers.

Intended primarily for multi-agency frontline professionals (and senior decision-makers) within social care, police and health, it aims to assist those making decisions or providing advice on whether to refer children and young people for medical examinations in cases where CSA has been alleged or suspected. These professionals – who may or may not have a background in health –play a crucial role in providing information and advice to CSA victims and to non-abusing parents and carers.

Owing to a wide variety in research methodologies and the limited evidence available on many topics, the report does not pursue a comparative assessment of evidence quality for each study drawn on. It does, however, prioritise evidence from peer-reviewed literature, and draws its strongest conclusions where multiple peer-reviewed studies exist.

The review also considers 'grey literature' (e.g. organisational and policy literature). This is important for providing insight into more recent and current practices, as evidence published in academic journals can sometimes reflect historical rather than current practices.

Overall, the focus is on recent literature, supplemented by landmark studies of enduring importance.

Much of the published research is from outside the UK, and indeed outside Europe, being predominantly from the USA. Although the referral pathways and systems may be different in these countries, the physical components of the medical examination are very similar, providing a high degree of relevance to UK practice.

1.1 Why are medical examinations carried out infrequently in cases of suspected/disclosed CSA?

The true scale of CSA is largely unknown, but recent prevalence data suggests that 15% of girls and young women and 5% of boys and young men experience some form of sexual abuse before the age of 16 (Kelly and Karsna, 2017). Collection of data relating to CSA varies between and even within agencies, making direct comparison difficult.

It is recognised that children known to one service (such as the police) in the context of CSA may not be known to other services (and particularly health services). The available agency data shows that the number of offences counted in the police crime data of serious child-related sexual offences far exceeds the number undergoing medical examinations for CSA in the same time period (Goddard et al, 2015); although these numbers would not be expected to tally entirely, the discrepancy is large.

For example, in London during 2013/14 a total of 2,485 cases of serious sexual offences (limited to contact offences involving rape or sexual assault) against under-16s were reported to the police, but only approximately 650 medical examinations were performed on this age group (Goddard et al, 2015). In Humberside in 2016/17, there were 330 such offences recorded and only 68 examinations (unpublished data). In both London and Humberside, the data included acute (recent) and non-acute (historical) cases.

The figures are likely to be subject to regional variation across England and Wales, reflecting local practice, perceptions and service availability. It should be noted, however, that the data available from agencies is imperfect and offers limited scope for direct comparisons.

Research outside England and Wales has made comparable findings. Using similar extrapolated data with similar limitations in New Zealand, Everitt et al (2012) revealed that only 38% of children and young people in 'substantiated' CSA cases had undergone a medical examination, with wide regional variations and inconsistencies. Patterson and Campbell (2009) detailed a number of previous studies from the USA, in which the numbers of children receiving medical examinations when

CSA had been alleged or suspected ranged from 22% of children in a court case setting to 66% in a children's advocacy centre setting.

It is likely, therefore, that many children who are known or suspected to have been victims of CSA and are known to the police and/or social care are not brought for a medical examination. The reasons for this are likely to be wide-ranging:

- Some professionals perceive the medical examination as harmful (Everitt et al, 2012; Rachamim and Hodes, 2011); limited, small scale research found that eight of the 21 police officers working in one child abuse investigation team, and two out of 17 social workers, shared this view (Rachamim and Hodes, 2011). This may have an impact on early decision-making about medical examinations by frontline professionals after a child discloses CSA or concerns arise.
- The medical assessment may be declined by older children, and consent may not be provided by carers of younger children (Hotton and Raman, 2017).
- The focus may be on the use of the medical examination for forensic evidential reasons, such as DNA retrieval; where the timescales for this have passed, the perception among agencies may be that the examination has little to add (Rachamim and Hodes, 2011). This view was held by half of the police officers working in one child abuse investigation team (Rachamim and Hodes, 2011). Data indicates that 54% of CSA-related crimes known to the police fall outside this 'forensic window' (Children's Commissioner for England, 2015).
- There may be inadequate numbers of suitably trained staff to undertake these examinations and a lack of cooperative working (RCPCH/FFLM, 2015).

A small-scale, national multi-agency practitioner survey undertaken in 2018 by the CSA Centre confirmed that many of these reasons still apply in current practice. The survey found that:

- the evidential aspects of the medical examination were ranked as most important by professionals across all agencies

> It is likely that many children suspected or known to be victims of CSA are not brought for a medical examination

- the elements of the medical examination considered least important included support for carers and siblings, and signposting to or highlighting the role of the independent sexual violence adviser (ISVA).

The survey also explored practitioner perceptions around medical examinations, as did a similar survey undertaken in Cambridgeshire and Peterborough in 2017. Most respondents to the CSA Centre survey agreed that all suspected victims of CSA should be offered a medical examination, but this was not the case in the Cambridgeshire and Peterborough survey; reasons commonly cited by those who disagreed were related to concerns about harm caused by the examination and cases that are outside the 'forensic window'.

The CSA Centre survey and Cambridge and Peterborough surveys' respondents cited barriers to medical examination including:

- refusal by children, young people or their carers
- availability of and coordination with medical staff
- practitioner concerns about harm or distress caused by the examination.

They also identified a number of factors which have an impact on decision-making:

- Child-related factors – children who present without a disclosure, non-verbal children, and children who are looked after were all reported as being less likely to have an examination.
- Practitioner-related factors – these included the lack of health involvement in strategy discussions and perceptions of harm through examination.
- Type of abuse – historical abuse and peer-on-peer cases were reported as being less likely to result in an examination.

Further detail about both surveys is included in Appendix 1.

1.2 Aims and purpose

We know CSA is under-reported. We also know that some children and young people who are known to the police or social care in the context of mainly contact CSA do not undergo CSA-specific medical examinations.

This scoping review sought to provide an evidence-informed overview, so that a professional deciding whether a medical examination should take place is apprised of its purpose, scope and benefits (or otherwise) – and are aware of how it feels to undergo an examination. This should also enable professionals to answer common questions that children and young people, their carers and other professionals may have about the examination.

With this is mind, the scoping review sought to answer the following questions:

- What findings does a medical examination provide to support disclosure/confirm suspicions of CSA?
  - What is the likelihood of obtaining evidence of DNA/semen (which may be a supportive finding) in acute[1] cases of alleged CSA?
  - What is the likelihood of making supportive physical anogenital findings in acute and non-acute cases?
  - What is the likelihood of making supportive physical non-genital findings in acute cases?
  - What is the likelihood of making supportive findings which may indicate that the child has experienced other types of abuse?
- What health benefits does a medical examination provide?
  - What is the likelihood of identifying a sexually transmitted infection?
  - What is the likelihood of identifying a blood-borne infection?
  - What is the likelihood of identifying other unmet health needs, not necessarily related to CSA?
  - What is the likelihood of identifying pregnancy or the need for emergency contraception?
  - What is the likelihood of identifying mental health concerns?
- Does the medical examination have benefits or other impacts for the carer, siblings or wider family?
- What are children's and their carers' experiences of the medical examination?

The findings relating to these questions are set out in Chapters 4–7.

In the remainder of this report, the term 'child' is used to refer to any individual aged under 18 undergoing a medical examination for CSA.

> Some professionals perceive the medical examination as harmful, or focused on finding forensic evidence

1 Seven days is used here as the definition for 'acute', as this reflects definitions used in the majority of published research.

2. How are medical examinations carried out?

Guidance and service standards referred to in this chapter apply to medical examinations for CSA in England and Wales. Much of the guidance is also recognised guidance applicable to practice in all four nations of the UK.

2.1 What happens at a medical examination?

This section aims to set out in simple terms what may happen during an examination. A short professional resource providing a more detailed visual overview is available online at https://youtu.be/gOWX1xxnTWg

The guidance on medical examinations from the RCPCH and the FFLM is broad in nature, acknowledging that regional variations in England and Wales exist; additionally, the approach may vary according to the age of the child, how recent the last abusive episode was, and a number of other factors individual to that particular child's circumstances. The core principles of the medical examination are the same throughout England and Wales, however, and are comparable to both US and European practice.

Referral for a medical examination generally occurs via statutory services – namely the police or social care in England and Wales – although in some areas self-referral (particularly in young people aged over 16) does occur.

The examination is carried out by specially trained health professionals who will ensure that the child understands what will happen and that they can choose what they want to include in their examination. They are usually assisted by one or two other professionals such as crisis workers or play specialists. All and any part of the examination is optional for the child or young person. They can choose (including on the day) which parts of the examination they want, and can change their mind at any time. They can also choose who accompanies them.

> "In most cases it is not necessary for the child to remove all their clothes or wear a gown"

The duration of a health consultation and examination varies, but can be at least two hours. Before the child is seen, there is usually an exchange of information between the health professional and the referrer, detailing the nature of the concerns or allegation. This exchange of information often happens face to face if a social worker or police officer accompanies the child.

A crisis worker, advocate, play specialist or nurse will meet the child, and the carer if present, and explain the process. The stages of the examination will be explained to the child. They will be reassured that they are in control and they can take breaks, skip a step or stop the examination at any time.

The health professional will introduce themselves; in acute cases (where recent abuse is suspected or alleged), they may be dressed in special hygienic clothes. A comprehensive assessment of current and past health will be taken from the child, and/or the carer, about their general health, development, family history, vaccinations and who they live with.

The examination usually starts with some basic health checks including height, weight, and having a look at the child's ears, throat, and skin.

In most cases it is not necessary for the child to remove all their clothes or wear a gown. If they prefer, they can take one piece of clothing off at a time and put it back on before the next is taken off.

The next stage is the anogenital examination. To make this easier, more comfortable and standardised, the child may be asked to lie in a certain position; very young children can be examined on someone's lap.

During the anogenital examination, nothing will be inserted or 'put inside' a young child. Older girls, past puberty, may have a small swab or the tip of a small soft plastic catheter put just inside their vaginal opening past the hymen, if they are able to tolerate it and only if they consent. The hymen is the thin fleshy tissue around the opening to the vagina. A speculum, which is a plastic medical tool that may be put inside the vagina to enable a closer look inside the vagina and to do some forensic sampling in cases of penetrative vaginal abuse, is considered only in acute cases involving older girls, and never if they find it uncomfortable or do not want it used.

Boys never have any swabs put inside their penises. While it is uncommon for any swabs to be put inside the anus, this may be considered (but only if allowed and tolerated) when anal abuse is suspected or alleged.

A magnifying light with a camera on it (known as a colposcope) will usually be used to help examine the child's genitals and anus. Consent and permission is sought from the child and carer explicitly for this. This piece of equipment does not touch the child.

Forensic swabs (similar to cotton buds) may be taken in acute cases to collect any trace evidence of semen, saliva, blood and DNA. These swabs may be collected from the child's skin, mouth, external genitals, and – where it is indicated and if the child can tolerate it – the internal genitals and anus.

Different swabs from some of the same areas may be taken to check for infections, although boys and some girls may be tested for infections using urine tests only.

The child can pause or stop the examination at any time. In many cases, older children can take the swabs themselves; this can help them feel more in control, and enable testing of those who may otherwise decline an examination.

After the examination and when the child is ready, the health professional will ask them and their carer whether they would like to know the findings of the examination

The final stage, for some but not all children, may include:

- taking blood to check for blood-borne infections such as human immunodeficiency virus (HIV) and Hepatitis B and C – this may or may not occur on the same day
- providing vaccinations
- providing pregnancy testing or emergency contraception
- risk assessments, including assessment of the risk of suicide or self-harm and exploitation –appropriate actions may follow on from this.

The child and their carer will be given advice and information about what will happen next, and will have the opportunity to ask questions. A number of follow-up contacts may be arranged, depending on the child's needs.

The referring professional will usually be given some feedback on the day in terms of findings and recommendations. This may have an impact on their investigations and safeguarding actions, and may include suggestions for siblings or other children.

> "Forensic swabs may be taken in acute cases to collect trace evidence of semen, saliva, blood and DNA"

2.2 Service specification for providers of medical examinations

The definition of a service offering clinical evaluation of children who have experienced sexual abuse is taken from the RCPCH/FFLM (2015). These services have regional variability but all will include holistic assessment and healthcare for children referred whenever there is an allegation of sexual abuse, sexual abuse has been witnessed, or there is a suspicion by the referring agency that sexual abuse has occurred – whether the case is acute or non-acute.

The available guidance and service specification do not provide strict criteria in a prescriptive format on which children should be seen. This allows local flexibility of service responses in cases when there may be no disclosure – such as children who have displayed harmful sexual behaviour, who have unexplained genital trauma, or who are not verbally communicative.

The service specification states that all services "will ideally see children up to their 18th birthday, but definitely up to their 16th birthday"; this allows some flexibility for 16–17-year-olds to be seen in adult settings. There is wide regional variation in what this looks like at a local level, however.

Acute or recent cases of CSA

The definition of what constitutes an 'acute' case is complex and subject to regional negotiations among commissioners and service planners.

The service specification highlights that clinical, forensically important findings may be present up to 21 days after assault – but that forensic sampling of intimate body swabs (such as vaginal swabs) for semen or DNA, for example, is rarely productive more than seven days following an allegation of sexual assault. Additional published resources advise that forensic sampling timescales vary within this seven-day 'window' according to the age of the child and the nature of the assault (FFLM, 2018a; RCPCH/FFLM, 2016a and 2016b).

The service specification envisages that specialist medical advice from a doctor with paediatric sexual offences medicine competences will be sought within an hour of a complaint or allegation. This is to confidently provide advice on forensic sampling and general health needs, and to provide guidance on timescales for examination when indicated.

> Specialist medical advice should, in acute cases, be sought within an hour of a complaint or allegation

It also states that a multi-agency discussion (a strategy meeting, for example) must take place face to face or via the telephone, and should include input from the health professional likely to conduct the medical examination where possible.

Non-acute or non-recent cases

The definition of what constitutes a 'non-acute' case will be informed by the local management of 'acute' cases. In practice it will involve children in whom the last episode of abuse took place at least seven days earlier, including abuse that last occurred months or years previously.

The service specification states that the procedure in such cases may vary according to clinical need and the child's or carer's wishes, but it envisages that such children will be seen within two weeks of a decision being made that such an examination is required, usually following achieving best evidence (ABE) interviews.

Quality standards

A number of quality standards that cover clinician competencies, safeguarding, the integrity of forensic samples, peer review and the management of intimate images are referenced in the service specification (FFLM, 2017; RCPCH, 2015; RCPCH/FFLM, 2012, 2015, 2016a and 2016b). The service specification also highlights the need to address issues of consent and confidentiality, chaperones, the environment and the use of a colposcope, for example.

Implications for practice

Early advice and/or multi-agency discussions should involve a local health professional with paediatric sexual offences competences, in both acute and non-acute cases.

2.3 The role of puberty and the terms 'pre-pubertal' and 'post-pubertal'

A number of resources and studies identify children as 'pre-pubertal' or 'post-pubertal' but do not define these categories (Al-Jilaihawi et al, 2017; RCPCH/FFLM, 2016a and 2016b; RCPCH, 2015; Rogstad et al, 2010). Some studies have classified children as pre-pubertal by age; Girardet et al (2011), for example, used 10 years as the cut-off point. In clinical practice, 'pre-pubertal' is often taken to mean 'under the age of 13 years'.

Puberty is the time in life when a boy or girl becomes physically sexually mature. It starts between the ages of 8 and 14, and usually earlier in girls than boys (NHS Choices, 2018). Puberty is a continuum that occurs over a time span of 12–24 months and can be described in a standardised way known as 'Tanner staging' (Harding, 2015). In girls, breast development occurs at the start and periods nearer the end. It is only possible to state that children aged 8 and under are truly pre-pubertal and those aged 14 and over who have started their periods are truly post-pubertal (although a few children with specific conditions do not fit these criteria either).

In relation to medical examinations for CSA, whether a child is pre-pubertal or post-pubertal has significance:

1. A girl cannot become pregnant until she begins to produce eggs – this usually occurs after periods commence and on average is age 12 in the UK (range 10 to 14 years). Periods typically start two years after first breast development. Whether pregnancy is a possibility after sexual abuse clearly affects the medical need for timely emergency contraception and pregnancy testing.
2. As puberty progresses, the genitalia of both sexes change considerably. In girls this affects which samples can be physically taken. The 'pre-pubertal hymen', for example, is very sensitive to touch and so taking any internal vaginal samples is painful, not tolerated and not recommended.

Taking this into account, the definition of a pre-pubertal child is in the larger part individual rather than chronological. When professionals are making decisions about medical examinations, forensic sampling strategies and medical needs based upon whether a child is pre-pubertal or post-pubertal, the physical development and the age of the child should be taken into account together.

Any female child, regardless of age, who has commenced her periods will be 'post-pubertal' and at risk of pregnancy.

Implications for practice

When professionals are making decisions about medical examinations, forensic sampling strategies and medical needs based on whether a child is pre-pubertal or post-pubertal, the physical development as well as the age of the child should be taken into account.

It is recommended that an appropriately knowledgeable health professional is involved in all strategy discussions to advise upon health needs and forensic sampling strategies in relation to individual children's pubertal status.

3. Method

This chapter outlines the search strategies used in selecting the literature to be reviewed, and identifies some limitations of the published literature.

A total of 83 articles and resources were identified as being suitable for review.

3.1 Searches on MEDLINE

Three searches were run on the MEDLINE database in December 2017, using the Ovid interface and limited to publications in the English language and published since January 2000. The search terms were intentionally wide, to capture all articles that might address the questions posed in this scoping review.

The second and third searches were undertaken specifically to identify research around forensic sampling (DNA and semen/sperm). Acid phosphatase is present in semen, and its presence is widely used as a presumptive test for semen.

All abstracts and other documents were independently assessed for inclusion by two reviewers. Where there was a disagreement, the abstracts in question were assessed by a third reviewer.

Search 1

Search terms: Medical examination OR pediatric examination OR paediatric examination OR forensic examination OR genital examination OR health assessment AND CSA OR child sexual abuse OR sexual abuse OR child rape OR rape

495	abstracts
– 422	excluded on assessment of abstract (349 irrelevant, 10 duplicates, 30 involving adults only, 8 methods descriptions, 24 single case discussions)
= 73	kept for full text analysis
– 33	excluded on full text analysis (14 irrelevant, 5 focusing on psychological symptoms not at the time of the medical examination, 1 book review, 3 review articles, 2 legal outcomes research, 1 involving adults only, 7 already considered in in RCPCH (2015)[2])
= 40	**full text articles included**

Search 2

Search Terms: DNA AND forensic AND child rape OR sexual assault OR CSA OR child sexual abuse OR sexual abuse

303	abstracts
– 294	excluded on assessment of abstract (209 irrelevant, 7 duplicates, 7 involving adults only, 62 methods descriptions, 9 single case discussions)
= 9	kept for full text analysis
– 6	excluded on full text analysis (3 methods only, 1 adults only used in analysis, 1 duplicate, 1 irrelevant)
= 3	**full text articles included**

Search 3

Search terms: Acid phosphatase AND child rape OR sexual assault OR CSA OR child sexual abuse OR sexual abuse

18	abstracts
– 14	excluded on abstract (3 irrelevant, 2 involving adults only, 9 methods descriptions)
= 4	kept for full text analysis
– 1	excluded on full text analysis (adults only)
= 3	**full text articles included**

2 Owing to the high quality of this systematic review, studies looking at physical signs and published between 1996 and 2014 were excluded as they were felt to have already been through a process of analysis.

3.2 Other sources

Other sources used as the basis for searches included relevant websites, grey literature, consultation with experts and snowballing of references.

The websites searched were those of:

- the Royal College of Paediatrics and Child Health
- the Faculty of Forensic and Legal Medicine
- the UK Association of Forensic Nurses and Paramedics
- the British Association for Community Child Health
- Barnardo's
- NSPCC
- the British Association of Social Workers
- Mothers of Sexually Abused Children (MOSAC)
- Parents against Child Sexual Exploitation
- NWG
- Coram
- Research in Practice
- The Children's Society
- the Children's Commissioners for England and Wales.

The snowballing of references identified a number of articles published before January 2000 but specifically concerned with the lived experience of children. As the research in this area was limited, these pre-2000 articles were included in the review.

56	additional resources identified
– 19	excluded on full text analysis (15 irrelevant, 2 newer versions available of guidance, 1 duplicate of information in another format, 1 review article)
= 37	**resources included**

3.3 Limitations

A separate search was not created for each individual question listed in section 1.2; instead, broad search terms were used and then each abstract was analysed for its relevance to each of the individual questions. It is possible that some abstracts were not identified using this method.

Much of the published research reviewed is from outside England and Wales, and indeed outside Europe, being predominantly from the USA. However, although referral pathways and strategic structures differ across health and justice systems globally, the components of the medical examination itself are comparable.

The studies included also span a period of change in the sophistication of scientific techniques such as DNA identification or screening for sexually transmitted infections. The impact of this is discussed in each relevant section.

Although many US studies include a number of black American children, Asian and other minority ethnic groups are generally not well represented in the published research, and girls form the overwhelming majority of those studied.

There remain many gaps in the research base. These include but are not limited to a lack of recent (or, in some cases, any) research on:

- the lived experience of children, particularly in UK settings and in lesser-heard communities
- the lived experience of children in relation to separate components of the medical examination
- the impact on and role of carers in the context of medical examinations
- forensic sampling submissions and analysis results for children in the UK
- the presence and relevance of physical findings, particularly in boys, and anal findings in all genders
- the prevalence of sexually transmitted infections and blood-borne infections in UK settings.
- mental health needs of children following risk assessments during medical examination
- the lived experience of children throughout the investigative and safeguarding process following an allegation or suspicion of CSA, and the impact of a medical examination within this.

4. Do medical examinations provide supportive evidence that CSA has taken place?

This chapter addresses the following questions relating to findings that a medical examination may provide to support disclosure/confirm suspicions of CSA:

- What is the likelihood of obtaining evidence of DNA/semen (which may be a supportive finding) in acute cases of alleged contact CSA?
- What is the likelihood of making supportive physical anogenital findings in acute and non-acute cases?
- What is the likelihood of making supportive physical non-genital findings in acute cases?
- What is the likelihood of making supportive findings which may indicate that the child has experienced other types of abuse?

4.1 Evidence of DNA/semen in acute cases

Forensic sampling broadly involves looking for evidence of semen, saliva or blood, and extracting DNA from these samples. Samples may be taken from the body (including the skin, the mouth, and external or internal genitalia) and from non-body sites (including underwear, other clothing, bed linen and toilet tissue).

The findings below should be read bearing in mind that there is a lack of published research on forensic sampling findings in the context of CSA:

- All of the existing research is from practice outside the UK, and largely outside Europe, and its application to practice and forensic science services in England and Wales is therefore limited.
- Some of the research looks at pre-pubertal children only, some presents the findings from children mixed with adults, and much of the research and available guidance on adolescents is extrapolated from adults rather than being the result of separate study.
- Boys and young men are greatly under-represented in published research, and research into the differences in forensic findings between samples taken from different body sites in children is also lacking.

Appendix 2 gives an overview of the demographics of the primary research studies discussed in this section.

When samples taken from all sources (body and non-body) were analysed:

- Sperm or semen was identified in between 2% (of 230 cases) and 47% (of 277 cases) (Gray-Eurom et al, 2002; Cattaneo et al, 2007; Christian et al, 2000; Silva and Barroso-Junior, 2017; Hornor et al, 2011; Girardet et al, 2011). The factor that influenced identification rates the most was timing, with lower rates of 2% and 3% seen in studies where most samples were from children seen more than 72 hours since the last contact (Cattaneo et al, 2007; Silva and Barroso-Junior, 2017); additionally, some of the studies looked only at samples from body sources.
- The number of samples from which DNA could be extracted varied from 15% of 83 samples submitted to 49% of 1,595 previously unsubmitted samples (Campbell et al, 2015; Hornor et al, 2011; Patterson and Campbell, 2009; Girardet et al, 2011). The higher rates were seen in the studies that included both children and adults in their analysis, compared to the purely paediatric study of Patterson and Campbell (2009), which furthermore looked only at body DNA.

The research suggests that samples from non-body sites such as bedding and underwear are very important, and the most likely to yield positive results for semen or DNA – especially in children aged under 11 (Girardet et al, 2011; Christian et al, 2000; Hornor et al, 2011).

Samples collected during medical examinations may also produce positive evidence. Internal vaginal swabs are the body swabs most likely to be positive for semen or DNA in girls over 12 years of age following penile-vaginal penetration (Girardet et al, 2011; Morgan, 2008).

The timing of the sampling greatly affects the likelihood of obtaining positive samples from all sites, and particularly body sites. Positive findings are much more likely in all samples taken within 24 hours of the last contact, and the time frame is probably shorter in body samples taken from children under 10 years of age (Christian et al, 2000; Girardet et al, 2011; Silva and Barroso-Junior, 2017). Published guidance in the UK (RCPCH/FFLM, 2015; FFLM, 2018a) notes that the forensic sampling of intimate body sites is rarely productive more than seven days following an allegation of sexual assault.

However, studies also reported that, in between 7% and 44% of cases, forensic samples taken acutely were not analysed (Hornor et al, 2011; Patterson and Campbell, 2009). The police might not submit a sample for analysis, for example, because they doubted its evidentiary use for reasons such as lack of a suspect or a decision to take no further action (Campbell et al, 2015). No published information was found that enables us to determine whether similar rates of non-submission are seen in England and Wales, but this information may be available to local agencies.

Implications for practice

Acute cases of disclosed/suspected CSA, and especially those involving children who present within 24 hours of a suspicion or disclosure, should be managed as time-critical. Early decision-making should prioritise the forensic sampling strategy (but not above the child's medical needs) and involve professionals who can advise assuredly on this.

Although the timeframe for obtaining positive findings is probably shorter in children under 10 years of age, in practice it is rarely productive to examine a younger child overnight: in determining the timing of the examination, consideration should be given to the child's age and to their and their carer's wishes.

Only if it is acceptable to the child, *and* if the pubertal hymenal status of the genitalia makes it possible, should internal vaginal swabs be taken in post-pubertal girls who present acutely following penile-vaginal penetration abuse.

The expectations of the child and their carer should be carefully managed with regard to forensic samples, taking into account the possibility of samples not being submitted for analysis and, where samples are submitted, the likelihood of negative findings in at least half of all cases.

Separate from the medical examination, early seizure of non-body samples (such as clothing and linen) should be considered in all cases.

It is advisable that services providing acute CSA medical examinations liaise with their local police and forensic science providers to develop understanding about local sample analysis submission policies and sampling positivity rates.

4.2 Physical anogenital findings in acute and non-acute cases

The consensus in published research is that, for children of all ages who have experienced sexual abuse of any kind at any time, an anogenital examination will commonly find no signs of injury (Sapp and Vandeven, 2005; Mollen et al, 2012; RCPCH, 2015).

Although positive physical findings may support a legal case and contribute to a criminal prosecution, convictions also occur in the absence of any findings (RCPCH, 2015).

The RCPCH has undertaken several comprehensive systematic reviews, at regular intervals, on published research into the physical signs of child sexual abuse. The most recent (RCPCH, 2015) considered all published

> Positive findings of DNA/semen are much more likely in samples taken within 24 hours of the last contact

research since 1948 and subjected it to a robust critical appraisal, considering several potential physical findings individually and scrutinising the evidence base:

- Acute injuries in the genitals of girls and young women – which may include erythema (redness), genital bruising and lacerations (splits) to the hymen – were reportedly seen in 1% to 53% of female children who alleged penile-vaginal penetration.
- Non-acute genital findings in girls and young women – such as hymenal transections (discontinuities in the hymen) which are healed injuries – were seen in 3% to 18% of post pubertal girls who alleged penile-vaginal penetration.
- The evidence base for physical genital signs in boys and young men was limited.
- The limited evidence base for physical signs of anal injury in male and female children indicated that acute signs such as bruising or lacerations were seen 1% to 15% of children reporting anal abuse.
- Non-acute signs like anal scars were seen in up to 32% of children reporting anal abuse, and dilation of the anal opening is seen in 10% to 30%. Some physical findings such as constipation might be seen in other situations or conditions unrelated to CSA, making interpretation of physical findings challenging.

The likelihood of observing signs of a physical genital or anal injury at a medical examination depends on a number of factors. Studies report that assault by penetration is more likely than other types of assault to leave physical signs (Drocton et al, 2008; RCPCH, 2015), and an early examination after the abuse is more likely to yield physical findings (Watkeys et al, 2008; Feeney et al, 2017; Murphy et al, 2010; Drocton et al, 2008; Adams, 2008; RCPCH, 2015). Examination within 72 hours is likely to give the highest rates of injury detection.

The method of examination may affect the likelihood of identifying an injury, with several studies stating that injury detection rates were increased with the use of a magnifying camera light (colposcope) (Murphy et al, 2010; Sapp and Vandeven, 2005).

It is unclear whether the position of the child during the medical examination affects the likelihood of identifying an injury (Adams, 2008), and there is conflicting evidence as to whether the relationship between the child and the perpetrator (stranger vs intra-familial) is more or less likely to result in injury (Feeney et al, 2017; Murphy et al, 2010).

The age of the child may have a bearing on the likelihood of an injury being identified, with some studies reporting greater injury rates in acute cases of older children (Murphy et al, 2010; Watkeys et al, 2008).

Two studies noted that anogenital injury was more likely to be seen in adolescents over 12 who experienced memory impairment – that is, they could not recall all aspects of the alleged assault (Feeney et al, 2017; Drocton et al, 2008). This finding could not be explained in these studies, although many factors may contribute to it.

Implications for practice

Anal and genital injuries in the main heal quickly and may leave no trace of trauma, so a medical examination is best carried out as soon as practicable (within 72 hours of the last contact, where possible).

But some clinical signs persist, and there is value in undertaking an examination at any stage.

An inability in children over 12 to recount the details or nature of the assault should not, in isolation, be taken to be a reason *not* to have an examination.

Given that a medical examination will often find no sign of anogenital injury, the expectations of children, their carers and professionals should be carefully managed – and child protection agencies should also focus on the wider assessment of and decision-making around the reported history of abuse (if disclosed) and associated child and family-related factors.

4.3 Physical non-anogenital findings in acute cases

An anogenital examination after sexual assault commonly finds no signs of injury, but signs of physical injury outside the anogenital area are often present; in addition to potentially supporting a child's account of abuse, these may indicate the need for medical care. Studies have reported that non-anogenital injuries were observed in numbers ranging from 11% of 176 children, to 52% of 278 adults and children, seen within seven days of an alleged sexual assault (Morgan et al, 2017; Nesvold et al, 2008; Read et al, 2005).

Few studies have reported on this, and only one has described injuries in detail: a London-based study of 176 children under 12 (Morgan et al, 2017) in which injuries were reported more often in girls than in boys. Most of the non-anogenital injuries were bruises and abrasions to arms, legs or back in both sexes, and facial injuries in girls. One boy's non-anogenital injuries were multiple and severe, requiring hospitalisation.

Generally boys were under-represented in the limited research addressing this question. Appendix 3 gives an overview of the demographics of the primary research studies that explore non-anogenital findings.

Physical injuries outside the anogenital area have been reported as being more likely to be seen in cases of stranger assault and in adolescent victims (Feeney et al, 2017; Murphy et al, 2010).

Implications for practice

When acute medical examinations are undertaken, health professionals should look carefully for injury outside the anogenital area.

Medical examinations should be undertaken by health professionals capable of identifying, documenting and treating or arranging treatment of non-genital injuries.

4.4 Findings that may indicate other types of abuse

A comprehensive medical examination may identify findings (during the examination itself or when taking the child's history immediately beforehand) that may suggest non-sexual maltreatment. It can also have a role in prioritising medical care, and enabling safeguarding activity or criminal investigative and family court processes.

The Children's Commissioner for England (2015) reported that 887 children known to the police as victims of CSA had been placed on child protection plans in a two-year period. In 80% of these cases, however, the latest 'abuse' category on the plan was not solely sexual abuse; rather it was neglect (in 32% of cases), emotional abuse (29%), physical abuse (5%) or multiple abuse categories (14%). This does not tell us about the role of the medical examination in identifying other features of abuse or harm, but it illustrates that polyvictimisation is a considerable issue

> All professionals must be aware that victims of CSA often experience other forms of harm

whereby children who are sexually abused often experience other forms of harm.

Studies have reported that non-sexual abuse maltreatment concerns were identified in between 15% and 26% of children seen for a CSA medical examination (Kirk et al, 2010; Hotton and Raman, 2017), although the studies did not describe those concerns in detail.

Child sexual exploitation

Most of the research involving medical examinations in children is concerned with those who have experienced contact CSA; those recognised specifically as victims of child sexual exploitation (CSE) are not explicitly described in the literature in this context, although holistic medical examinations should consider the risk of CSE in all cases (RCPCH/FFLM, 2015).

Two studies on sexually exploited women and young girls, although not explicitly around medical examinations nor entirely comparable to the English and Welsh populations as a whole, are worthy of note owing to the richness of information they provide in relation to these groups' specific health needs (see overleaf). Chapter 5 describes how a medical examination can identify many of these health needs (see overleaf).

Implications for practice

All professionals must be aware of polyvictimisation in the context of CSA, and tailor services around this.

Medical examinations are best undertaken by health professionals who are able to appreciate, define and manage findings that may indicate other categories of abuse.

Sensitive enquiry around sexual exploitation should be undertaken as part of the medical examination, with appropriate action (such as referral into the National Referral Mechanism) to follow.

Health needs of sexually exploited women and girls

Lederer and Wetzel (2014) studied 107 girls and women aged 14–60 who were survivors of sex trafficking. Geynisman-Tan et al (2017) studied 24 women, mostly aged over 18 and including some who were still actively exploited. Both studies took place in the USA, and explored past and current health needs.

Physical health needs

Many physical health problems were reported by the trafficking survivors in Lederer and Wetzel (2014), but the largest group were neurological: reported symptoms included headache, insomnia, poor concentration and dizziness.

Uncontrolled or poorly managed underlying chronic health conditions including diabetes, sickle cell disease, high blood pressure and inflammatory bowel disease were present in six of the 24 women in the study by Geynisman-Tan et al (2017).

Lederer and Wetzel (2014) found that tooth loss was reported by 43% of their sample; one of the 24 women studied by Geynisman-Tan et al (2017) had required multiple dental extractions.

Physical violence was commonly encountered. Geynisman-Tan et al (2017) reported that one woman had permanent hearing loss from previous beatings, and two had a previous history of traumatic brain injury. Lederer and Wetzel (2014) found head and face injuries to be the most common injury among the 69% who reported injury during trafficking.

Lederer and Wetzel (2014) also explored dietary health: disordered eating was widely reported, with severe weight loss in 43% of the women and girls, malnutrition in 35%, loss of appetite in 47% and eating disorders in 36%.

Psychological and mental health needs

Psychological symptoms were almost universal in the Lederer and Wetzel (2014) study. These symptoms all reduced after trafficking ended, but did not disappear. Suicide had been attempted by 42% of the women and girls, with one reporting nine such attempts.

Sexually transmitted infections and blood-borne infections

One of the 24 women studied by Geynisman-Tan et al (2017) was HIV-positive; 15% of the sample in Lederer and Wetzel (2014) had Hepatitis C infection. Neither study established whether these blood-borne infections were the result of sex trafficking.

Two-thirds (67%) of the women and girls studied by Lederer and Wetzel (2014) said they had contracted one or more sexually transmitted infections during the period of trafficking.

Pregnancy

Pregnancy, terminations and multiple pregnancies are a significant risk in older adolescents and women experiencing trafficking

Among the 66 women and girls who told Lederer and Wetzel (2014) about their experiences of pregnancy during trafficking, more than two-thirds (47) reported at least one pregnancy and14 reported five or more pregnancies; more than half (37) reported at least one termination, and 20 reported multiple terminations.

Health contact

The vast majority of victims were known to health services. Lederer and Wetzel (2014) found that 88% of their sample had accessed a healthcare service during the period of trafficking; this was most often in the emergency setting (63%), but the women and girls were also likely to visit their regular doctors (23%) or attend planned parenthood clinics. And 20 of the 24 women in the Geynisman-Tan et al (2017) study said they had seen a physician during the time they were exploited.

5. What health benefits does a medical examination provide?

This chapter addresses the following questions relating to health benefits of a medical examination:

- What is the likelihood of identifying a sexually transmitted infection?
- What is the likelihood of identifying a blood-borne infection?
- What is the likelihood of identifying other unmet health needs, not necessarily related to CSA?
- What is the likelihood of identifying pregnancy or the need for emergency contraception?
- What is the likelihood of identifying mental health concerns?

It is important that all professionals supporting children in the context of a medical examination have some awareness of the likelihood of these specific health needs being identified. This is because:

- children and their carers may have specific worries or concerns and may seek information about them from professionals
- knowledge and understanding about health needs will have an impact on local pathways and provision of physical and therapeutic care, before and after medical examinations, within wider health services
- knowledge and understanding about health needs may influence local commissioning of services.

5.1 Identification of sexually transmitted infections

Sexual contact carries the risk of transmission of a sexually transmitted infection (STI); examples of STIs include Chlamydia (CT), Gonorrhoea (GC), Trichomonas vaginalis (TV), herpes simplex virus (HSV) causing genital herpes, and human papillomavirus (HPV) causing anogenital warts.

Syphilis, HIV and Hepatitis are discussed in section 5.2 on blood-borne infections. Vaginal candidiasis and bacterial vaginosis are not classified as STIs; furthermore, there is no strong evidence of any relationship between CSA and these infections (RCPCH, 2015).

This section concentrates on the data available within studies for children with genital CT, GC or TV who are seen for a medical examination. This is because these infections are more prevalent, often without symptoms, and there is little doubt that in children with these genital infections the mode of transmission will predominantly have been sexual contact (Reading et al, 2014; Whaitiri and Kelly, 2011; Rogstad et al, 2010; Manikam et al, 2012; Sapp and Vandeven, 2005; RCPCH, 2015). For HPV and HSV, other modalities of transmission are possible (Reading and Rannan-Eliya, 2007; RCPCH, 2015).

The risk of transmission of an infection depends on factors including the prevalence of STIs in the relevant population, the organism itself, the type and site of the assault, the presence of genital tract injuries and condom or other barrier contraception use.

> It is important that professionals are aware of the likelihood that these specific health needs will be identified

For comparison, it is sensible to consider STI rates in the general population of young people who may have been consensually sexually active. These rates are low, although young people aged 15–24 represent the highest rate of new diagnoses (Hagell et al, 2017). Available statistics give STI rates of either CT or GC of 0.009% in males and 0.09% in females under 15 years of age, and 0.9% in males and 2% in females aged 15–19 (Hagell et al, 2017).

Among 74 young people aged 14–16 in a Sheffield genitourinary clinic, Rogstad et al (2003) reported that six had GC, 23 had CT and seven had TV. However, young people who had experienced abuse or assault were included in the analysis, meaning that separate prevalence rates for abused and non-abused young people could not be identified.

This is likely to be the case in many studies – and, as the majority of CSA cases are never disclosed, it is not possible to state accurately the rates of STIs in the non-abused but consensually sexually active population of young people.

Studies looking at rates of STI identification at the time of a CSA medical examination have been conducted over a period during which technology for identification has developed significantly, from glass slides and microbiological cultures to wider use of highly sensitive and more user-friendly urine and swab nucleic acid amplification tests (NAATs). For this reason, data from these studies cannot easily be pooled, and it likely that more recent studies involving NAATs reflect the current rates of STI identification more accurately.

In the studies exploring STI rates among children seen for a medical examination, most participants were female and from white or black backgrounds; non-black minority ethnic groups were not well represented. Appendix 4 gives an overview of the demographic details of the primary research studies exploring STI rates.

Across all of the studies, the rates of infection with one or more STIs in children seen for a CSA medical examination varied from 0.3% to 16% (Al-Jilaihawi et al, 2017; Adlington and Browne, 2011; Bechtel et al, 2008; Girardet et al, 2006; Kawsar et al, 2008; Brown et al, 2000; Kelly and Koh, 2006; Black et al, 2009). The most recent studies, involving the use of NAATs, found STI rates of between 2.5% and 9% in girls, with boys included in the studies infrequently if at all (Al-Jilaihawi et al, 2017; Adlington and Browne, 2011; Bechtel et al, 2008; Black et al, 2009). Several studies took place in England, although most were from the USA. One English study found STIs in 23 of 88 girls tested, but this included HPV infection and non-specific pelvic inflammatory disease; at least 12 of the girls were infected with CT, GC and/or TV (Kawsar et al, 2004).

> The health value of screening remains important, regardless of how the STI was transmitted

CT was the most common STI identified, and dual infection was sometimes identified: studies reported that between 2% and 8% were infected with both CT and GC (Kawsar et al, 2004; Kawsar et al, 2008; Kelly and Koh, 2006; Black et al, 2009). One US study reported that six (1.3%) of 451 children undergoing a medical examination had an STI, but four of these were dual infected (Brown et al, 2000).

Identification of an STI was more likely in girls over 13 and those who had sexual contact prior to experiencing CSA. In one study, 20% of the post-pubertal girls infected with CT had not had such prior sexual contact, so the assumption was that the abuse contact had been the mode of transmission (Kawsar et al, 2004). Most studies, however, did not specify details around consensual sexual activity, so the presence of an STI in older adolescents might have been the result of prior consensual sexual activity.

The health value of screening remains important, regardless of how the STI was transmitted. An unrecognised and untreated STI such as CT may result in long-term problems including pelvic inflammatory disease and infertility in all genders. It can also be transmitted to others, including newborns during delivery, with health consequences for them.

One study's authors intimated that, in a case where a girl was dual infected with CT and GC, the subsequent criminal conviction was assisted by the matched findings of GC in both the child and the suspect (Kawsar et al, 2008).

Incomplete screening for STIs during medical examinations was apparent in several studies (Al-Jilaihawi et al, 2017; Bechtel et al, 2008; Kawsar et al, 2004; Kelly and Koh, 2006): when stated, the proportion of children being screened varied between 46% and 97%. This may have been due to children declining aspects of the medical examination or infection testing (Kawsar et al, 2004). Other reasons for incomplete screening include non-availability of these testing services, which has been reported in a number of SARC settings in the UK (Dhairyawan et al, 2017).

Following sexual contact, it can be two weeks before an infection can be identified; repeated testing is therefore often needed, and it may be that some facilities delay initial screening because of this. The guidance, however, is clear and in consensus that it is best practice to screen when first seen and repeat if indicated (Seña et al, 2015; Rogstad et al, 2010; RCPCH, 2015).

Implications for practice

STI screening for children who have alleged CSA or in whom there are suspicions about CSA should be opportunistic and undertaken when the child is first seen for a medical examination.

Children in whom one STI has been identified should be offered screening for other STIs.

If a medical examination is not undertaken in a case of suspected/alleged CSA, professionals supporting the child should seek to facilitate appropriate STI testing regardless.

5.2 Identification of blood-borne infections

Sexual contact risks transmitting blood-borne infections (BBIs), namely HIV, Hepatitis B and C, and Syphilis. The likelihood of this transmission through CSA is affected by a number of variables, including:

- the nature of the abuse – penetrative abuse, particularly penile-anal abuse, carries the greatest risk
- the number of exposures or episodes of abuse
- the presence of injuries which disrupt the surface of the skin

> In limited English and Welsh studies, testing for HIV was incomplete and the numbers tested were small

- the use of condoms and other barrier contraception
- the likelihood that the perpetrator has an infectious BBI, which in turn is related to:
  - their country of birth
  - their gender and sexuality
  - their age and where they live
  - any behaviour that increases their own risk, such as intravenous drug use
  - if they are known to be HIV positive, whether their viral load is detectable.

All of these factors are taken into consideration, given the information available, when a child is risk-assessed at a medical examination.

BBIs can also be acquired vertically (passed from mother to child during pregnancy or childbirth).

The studies reviewed here involved predominantly female children, and non-black minority ethnic groups were not well represented. Appendix 5 gives an overview of the demographics of the primary research studies that explored BBI rates.

Limited studies in England and Wales reported no cases of HIV in those tested following sexual abuse (Kawsar et al, 2004; Adlington and Browne, 2011). However testing was incomplete, and the numbers tested were small and included some adults. In the larger study, of 65 individuals, one case of Hepatitis B was identified, but it was not clear whether this was in a child or an adult, nor whether it was acquired as a result of the sexual abuse (Adlington and Browne, 2011).

Two studies from the USA, looking at 114 and 34 children respectively, also reported no cases of HIV, Hepatitis B or C or Syphilis; a very small number of the children in the smaller study had been assaulted by perpetrators known to be HIV positive (Bechtel et al, 2008; Schremmer et al, 2005). Initial and follow-up testing was incomplete, however, and appropriate post-exposure prophylaxis for HIV following sexual exposure (PEPSE) was used in some cases.

Three studies undertaken in African or South Asian settings reported HIV rates of between 5.1% and 38%, and Syphilis rates of 0.2% (Silverman et al, 2007; Amenu and Hiko, 2014; Birdthistle et al, 2011). The findings must be taken in the context of the demographic groups studied, which are not generalisable to the collective English and Welsh population.

One of these studies reported on 287 Nepalese girls and women repatriated to Nepal from other South Asian locations following sex trafficking (Silverman et al, 2007). Rates of HIV infection were 38% overall, but were much higher in children first trafficked between the ages of 7 and 14 years (60%), and higher the longer they had been subject to what the study described as 'brothel servitude'. This suggests that children experiencing CSA from multiple perpetrators from a younger age have a greater risk of BBI acquisition.

Some of those testing positive for HIV in the African and South Asian studies may have acquired it vertically (from infected mothers) or from sexual contact unrelated to the assault. The mode of BBI transmission may have legal and evidential importance in a sexual abuse case, but arguably more important is that the medical assessment enabled identification of a chronic infection. Early HIV treatment and care, for example, can dramatically affect an individual's life expectancy and wellbeing, and reduces the risk of HIV transmission to future sexual partners and any children.

Incomplete BBI screening was observed in several studies (Kawsar et al, 2004; Bechtel et al, 2008; Birdthistle et al, 2011; Schremmer et al, 2005). Not all these studies documented the reasons for this, but possible explanations provided included children, young people or carers declining blood tests (Kawsar et al, 2004); clinician decision-making and non-attendance at subsequent appointments if the tests were not undertaken when the child was first seen; and a lack of testing facilities at many SARC services (Dhairyawan et al, 2017).

Modern HIV tests on a blood sample, performed in a laboratory, will detect the majority of individuals who have been infected with HIV at four weeks after exposure. Some facilities delay initial screening because of this. The guidance, however, is clear and in consensus that best practice is to screen when first seen (Seña et al, 2015; RCPCH, 2015).

Implications for practice

BBI screening for children should be opportunistic and undertaken when a child is first seen for a medical examination.

BBI infection following sexual abuse is rare in England and Wales but each child's individual likelihood of this risk needs careful consideration.

If a medical examination is not undertaken in a case of suspected/alleged CSA, professionals supporting the child should consider whether testing for BBIs should be facilitated regardless.

5.3 Identification of other unmet health needs

Guidance from the RCPCH/FFLM (2015) on the purpose of the medical examination is clear that the process is holistic and the general wellbeing of the child should be assessed in depth. This section seeks to identify what unmet health needs – many of which may be unrelated to CSA – are elicited through a thorough medical examination.

In studies, between 26% and 47% of children undergoing medical assessments for CSA had at least one unmet health need, possibly unrelated to sexual abuse, identified at the time of the assessment (Al-Jilaihawi et al, 2017; Girardet et al, 2006; Hotton and Raman, 2017; Kirk et al, 2010).

> In studies, up to 47% of children undergoing medical assessments for CSA had at least one unmet health need

These needs were wide-ranging and included dental caries, growth concerns, incomplete immunisations, hearing issues, missed vision screening, pneumonia, skin infections, gastroenteritis, anaemia, asthma, pinworm infestation, heart murmurs and psoriasis.

Learning, behavioural or developmental concerns were noted at the time of the medical assessment in between 12% and 20% of children (Morgan et al, 2017; Al-Jilaihawi et al, 2017; Hotton and Raman, 2017; Kirk et al, 2010). Some of these were prior diagnoses, including autistic spectrum disorder or specified learning difficulties, but others were felt to be learning needs previously unrecognised (Hotton and Raman, 2017).

Most studies did not explore causation, so their findings highlighted solely that learning and behavioural needs were present at the time of a medical examination. They did not indicate whether the needs predated the sexual abuse (and might therefore have increased the child's vulnerability to abuse) or followed it.

One study reported that additional health needs were three times more likely to be identified when the child was seen as a joint assessment between a CSA specialist and a community paediatrician (Hotton and Raman, 2017). It was not clear whether these children had already been flagged as having additional needs prior to the assessment, *prompting* the decision to hold a joint assessment, or whether the additional expertise of a community paediatrician made identification of a health need more likely.

Appendix 6 outlines the demographic details of the primary research studies that have explored health and learning needs.

Implications for practice

Medical examinations are best undertaken by professionals who are able to appreciate, define and signpost or refer appropriately for the wide range of unmet health needs that may be present.

5.4 Identification of pregnancy or the need for emergency contraception

Penile-vaginal penetrative abuse carries the risk of pregnancy in girls in whom puberty has commenced. The risk of pregnancy depends on:

- condom and other barrier contraception use by the perpetrator(s) of the abuse
- the pubertal status of the victim and the perpetrator(s)
- any background of long-acting contraceptive use by the victim
- the nature, timing and frequency of the abuse
- whether the perpetrator(s), if male, have had surgical sterilization.

Published research does not tell us how many unintended pregnancies are prevented by the use of emergency contraception within the context of the medical examination.

Data on levels of emergency contraception provided to victims of CSA at the time of a medical examination is not readily available, although this data is likely to be accessible in local areas.

British, Norwegian, US and Brazilian studies indicate that up to 2% of all female victims of CSA may be pregnant when seen for a medical examination (Watkeys et al, 2008; Adlington and Browne, 2011; Girardet et al, 2006; Nesvold et al, 2008; Silva and Barroso-Junior, 2017). The youngest pregnant girl observed in these studies was 11 years old (Silva and Barroso-Junior, 2017). The studies did not provide detail confirming whether the pregnancies were a direct consequence of sexual abuse.

> "Identification of health needs was more likely if the child was seen by a CSA specialist and a community paediatrician"

African studies have reported much higher rates of pregnancy, of 13% to 18% (Amenu and Hiko, 2014; Birdthistle et al, 2011). This may be linked to the use and availability of emergency contraception within African populations.

Implications for practice

Pregnancy testing and emergency contraception should be considered in a timely manner in all girls and young women in whom CSA is suspected or alleged.

The pubertal status of the girl is an important consideration when considering pregnancy testing; if in doubt, it may be sensible to consider testing all girls over the age of 10.

Risk of pregnancy is likely to be linked to population behaviours of barrier contraception and long-acting contraception use.

5.5 Identification of mental health concerns

A holistic medical assessment should, as routine, enquire about any existing mental health diagnoses and include an age-appropriate risk assessment regarding the likelihood of self-harm or suicide. This section explores the evidence base for the likelihood that these enquiries elicit findings.

Research has highlighted the high prevalence of mental health difficulties – in particular, deliberate self-harm (DSH) – in children who have experienced CSA (Martin et al, 2004).

In three studies and one review article addressing this issue, mental health difficulties were frequently elicited when a full and holistic medical examination was undertaken; the most common reported were past or current DSH including suicidal attempts, anxiety, depression and disordered eating (Kawsar et al, 2004; Morgan et al, 2017; Danielson and Holmes, 2004; Goddard et al, 2015). Reported rates of past DSH were 5.7% of 176 children under 12 (Morgan et al, 2017) and 36% of approximately 1,400 16-year-olds (Goddard et al, 2015).

While males were under-represented in the research, one study exploring suicidality and gender generally in CSA (not exclusive to a medical examination setting) suggested that male victims of CSA were more likely to experience suicidal intent and attempts (Martin et al, 2004). Appendix 7 provides

> Mental health difficulties were frequently elicited when a full and holistic medical examination was undertaken

the demographic details of primary research studies that explored mental health concerns

Another study reported that 28 of 98 girls with mental health concerns, including active DSH, had no prior contact with mental health services – meaning that the CSA medical examination was where appropriate referral and aftercare was initiated (Kawsar et al, 2004).

Recent research has suggested that adolescents who have made a previous suicide attempt without disclosure have higher levels of suicidal ideation and distress compared to those who have disclosed (Levi-Belz et al, 2018). This again highlights the importance of enquiry.

Many of the above studies did not explore the timeframes and relationships between the sexual abuse and mental health symptoms, nor any confounding factors such as exposure to other adversities. Causation has therefore not been established, and we can only highlight the link.

Additionally, the published research sheds no light on whether enquiries made as part of a CSA medical examination will affect the likelihood of a victim of CSA developing mental health difficulties in later life.

Implications for practice

Sensitive risk assessments for self-harm and suicide remain a vital component of the medical examination.

Clear and timely pathways for subsequent mental health support, which consider the spectrum of presenting difficulties, are needed for all services that undertake medical examinations

If a medical examination is not undertaken in a case of suspected/disclosed CSA, professionals supporting the child should consider undertaking risk assessments for self-harm and suicide, and should action these as needed.

6. Does the medical examination have benefits or other impacts for the carer, siblings or wider family?

Very little information on this topic was identified in the literature, and therefore little can be concluded about the benefit or otherwise of the medical examination for carers, siblings and the wider family.

In one study of 249 medical examinations, 3% of them resulted in concerns being raised that led to the assessment of other children, in particular siblings, and 6% of parents of children having medical examinations were recognised as requiring professional help for anxiety symptoms (Al-Jilaihawi et al, 2017).

While two studies examined carer stress or psychological distress before the examination (Marks et al, 2009; Hébert et al, 2007), neither investigated whether the medical examination had any impact on this. Hébert et al (2007) did, however, identify some potentiators of psychological distress in carers, suggesting areas in which support (provided during or in association with a medical examination) could be beneficial. The study found that mothers of CSA victims were more likely to experience clinical levels of psychological distress if the abuse had been intra-familial, if they had experienced recent physical partner violence, and if they reported their own history of CSA.

Unwin and Stephens-Lewis (2016) found that many parents experienced an impact on their general and mental health. In their study involving 53 parents of sexually exploited children, 44 agreed that their and their children's experiences around CSE had affected their general health, 15 had self-harmed or considered self-harming, 19 had considered suicide, and 21 had visited their GP more frequently since the onset of CSE. The medical examination may be a point of contact with health services where the impact on parents' and carers' health could be considered.

Implications for practice

The time of medical assessment might be an opportunity to influence discourse within the family and identify carers' support needs.

The access to and referral on for therapeutic support facilitated at these health assessments should consider the wider family as a matter of routine.

> The examination may be a point where CSA's impact on the health of parents and carers could be considered

7. Views of children and their carers

Few studies have been conducted regarding children's experience of having a medical examination for CSA. The literature that exists is largely from outside the UK, originating primarily from the USA or elsewhere in Europe. Its relevance to local practices must be considered with this in mind.

Male adolescents, children with physical disabilities, and black, Asian and minority ethnic (BAME) groups aside from those from a black African-American background, are not well represented in the existing research. Appendix 8 gives an overview of the demographics of the primary research studies discussed in this section.

Several studies predating 2000 were included in this analysis, as the content was felt to be highly relevant even though medical processes have evolved: most notably, the techniques and technology for STI screening and the more standard use of the magnifying camera light (colposcope) have evolved in this time, which may have an impact on the victims' experience.

This section is divided into the four themes of children's expectations, their preparation, their experience and mitigating factors, with the key subthemes of each identified. The experiences of carers are included in this section, as they are advocates and representatives for their children in addition to being victims in the broader context of CSA.

> "Two studies in England identified preparation for the examination as an area that could be improved"

7.1 Expectations

Three resources addressed the theme of 'expectation'. In the French study by Denis et al (2016), the expectation of 232 children and adults accessing a health provider in the context of sexual abuse was one of physical or psychological care such as physical trauma care (reported by 44% of those surveyed), emergency contraception or STI testing (28%) or psychological therapy (31%), rather than forensic or legal aid (21%). Several victims in this study had more than one expectation.

Most carers in an Australian study expected that a medical examination would involve a check-up, genital examination, tests or counselling, with only one of 71 carers expecting validation that the child had been sexually abused (Marks et al, 2009).

There may be a perception among some young people that a medical examination will strengthen evidence. In England, Warrington et al (2017) reported that the association between forensic examinations and strengthening evidence was mentioned by four of 53 young people who had experienced CSA, and two other young people voiced frustration that in their cases no forensic examination was undertaken; they perceived that this had weakened the cases against their perpetrators. Of the 10 young people who discussed sexual assault referral centres (SARCs), six perceived the examination as important in strengthening evidence.

7.2 Preparation

There is limited data on preparation prior to attending a facility for medical examination. In the UK and the USA, preparation is likely to be undertaken by the referring social worker, child protective services (in the USA) or law enforcement agencies, and not by health professionals (Lagnado, 2017; Steward et al, 1995). Five resources were identified as covering the theme of 'preparation', and their findings suggested that preparation is lacking (Lagnado, 2017; Messham et al, 2015; Marks et al, 2009; Steward et al, 1995; Waibel-Duncan and Sanger, 1999).

Using the same feedback tool to evaluate two separate English children's SARCs, Lagnado (2017) and Messham et al (2015) both identified preparation for the medical examination as an area that could be improved. Among 22 children completing feedback across both studies, 16 felt well-prepared and one felt not at all prepared for the examination. Of 29 carers completing feedback across both studies, 17 felt well-prepared and one felt not at all prepared.

In Australia, Marks et al (2009) found that nine out of 53 carers did not know or were unsure of what the examination entailed. This knowledge deficit was associated with significant levels of parental stress before the medical examination, but seemed to be associated with their children being less likely to be scared *during* the medical examination. The authors of the study questioned whether this raised issues about the timing and content of the information provided, including its accuracy, but did not explore the issue.

The US study by Waibel-Duncan and Sanger (1999) revealed preparation to be lacking, with 15 of 24 carers not receiving enough information and all 24 wanting more information about the examination. Half of the carers told their child nothing about the examination, citing barriers such as their own lack of knowledge and an inability to communicate medical information. Preparation was similarly felt to be lacking by the 30 children in the study, with 25 of them feeling they had not had enough information and 26 wanting more information about the medical examination. In contrast to the Marks et al (2009) study, this lack of preparation and knowledge was associated with higher levels of self-reported child distress and staff perceptions of child distress.

Steward et al (1995) reported on preparation and distress levels in 43 girls and their mothers before and after medical examination for suspected CSA. They found that 17 of the girls did not know why they were there, and only 18 of mothers reported being told about the examination in detail. When the girls were asked how a theoretical friend should be prepared for the same examination the next day, 19 of them felt they should either be the one to talk with that friend or be 'helping [the] adults' to provide the preparation; 12 suggested the mother should provide the preparation, and nine suggested a doctor should do it.

7.3 Experience

A number of the reviewed resources included children's and carers' descriptions of their feelings about the medical consultation and examination experience, under three subthemes.

i) Anxiety and fear

Studies in the USA and Norway have suggested that few children (from 3% of 159 children in one study to 18% of 175 children in another) will be *extremely* anxious before an examination, but many will experience *some* anxiety (Hornor et al, 2009; Mears et al, 2003; Gulla et al, 2007). However, these studies used different means of measuring anxiety with children, making direct comparison difficult.

Many children are fearful, or their carers perceive them to feel fear, before the examination. In three studies, this was reported by 13 of 50 carers, 34 of 77 adolescents, and 47 of 71 carers (Allard-Dansereau et al, 2001; Mears et al, 2003; Marks et al, 2009). All three studies found, however, that these feelings of fear reduced dramatically during and after an examination.

One study reported an association between clinically significant anxiety which persisted through the examination and a pre-existing chronic medical or mental health diagnosis. It also reported higher levels of persistent clinically significant anxiety in children from whom anal or genital samples were taken (Hornor et al, 2009)

Two studies identified factors that reduce feelings of fear and anxiety, including the presence of a carer (although this may not apply to adolescents); the explanation given by health professionals; the clinician's behaviour and perceived kindness; and feedback from the clinician after the examination (Marks et al, 2009; Allard-Dansereau et al, 2001).

Other studies explored factors associated with increased feelings of fear and anxiety for children, including a lack of information about

> Studies found that children's feelings of fear reduced dramatically during the examination

the examination (Waibel-Duncan and Sanger, 1999). These studies also suggested that older adolescents may experience more anxiety and fear (Mears et al, 2003; Marks et al, 2009), as may children with intellectual disability (although the term 'intellectual disability' was not always defined) (Hornor et al, 2009; Mears et al, 2003; Marks et al, 2009).

One study looked at whether a psychoeducational video had an impact on short-term anxiety in relation to the medical examination and longer-term distress. Compared to a control group who received standard explanations, those carers who watched the video demonstrated more accurate overall knowledge and reported lower rates of distress on watching their children have an examination (Rheingold et al, 2013). The drop in anxiety levels as the examination continued, and the follow-up anxiety levels at six weeks (which were low) were no different between the two groups, however.

ii) Embarrassment

In a US study of 77 adolescents (Mears et al, 2003), 40 of them found the examination or appointment embarrassing. No other studies or resources explored the feeling of embarrassment.

iii) Pain and discomfort

Several studies explored whether the examination was felt to be painful. The results were variable, and many factors need to be considered in their interpretation.

These studies explored pain from different perspectives – the child's and, in some cases, the carer's (in terms of their perception of whether their child was experiencing pain). In all studies it was difficult to establish whether pain, if felt, related to the examination alone, to medical tests carried out (including swabs, blood tests, injections and speculum use), or a combination of both (Mears et al, 2003; Lazebnik et al, 1994; Marks et al, 2009).

Four studies explored solely the child's experience of pain. In Mears et al (2003), 25 of 77 adolescents said that the examination was painful, but provided no detail on the use or otherwise of any swabs, speculum or blood tests; additionally, the study allowed them only to agree or disagree with each statement provided, with no grading of pain.

Lazebnik et al (1994) reported that 14 of 99 children undergoing a medical examination experienced a lot of pain and were 'very frightened' in association with the examination. In this study, however, no colposcope was used and all pubertal females had a speculum examination; this does not necessarily reflect current practice. Furthermore, the study design suggests that all children had an internal swab taken, which again is outdated practice. The study also found that 16 of the children reported being 'very frightened' by ordinary visits to the doctor.

In the USA, Steward et al (1995) attempted to quantify pain in a usable language. When 43 children were asked how a theoretical friend should be prepared for the examination they had undergone, 23 thought the friend should know that it would not hurt, 18 would report a 'gentle touch' and just one would say that it hurt.

Gulla et al (2007) described a Norwegian study of 158 children aged 5–6 who had not been sexually abused but had undergone an anogenital examination; 7.7% children rated the examination negatively. The aspects that were disliked were swabs (disliked by 12%), exposing private parts (5.6%) and touching labia (5%). To put this in context, 3% disliked examination of the mouth, which is a common undertaking by many health professionals seeing children; some reported this as worse than the anogenital examination.

Two studies looked at the carer's perspective on pain. In Canada, Allard-Dansereau et al (2001) reported on the perceptions of 50 mothers: nine believed their children felt some pain in association with the examination, and one believed they felt a lot of pain. In Marks et al (2009), 62 of 71 parents in Australia anticipated that the examination would be painful for the child, but following the examination the number thinking it had been painful for their child reduced to 34.

Overall, studies varied in what children and their carers associated with pain throughout the medical examination. Three studies reported negative comments referring to injections and blood tests or swabs, rather than to the anogenital phase of the examination (Marks et al, 2009; Lagnado, 2017; Allard-Dansereau et al, 2001).

It is likely, therefore, that a very small but important minority of children report pain during examination, although experiences of pain are most commonly reported in studies involving outdated examination procedures and are often expressed in relation to blood tests or injections. For most children, the anogenital phase of the examination is not painful or is at most a 'light touch'.

7.4 Mitigating factors

Seven types of factor contributing to children's and carers' experience of medical examination were distinguished in the literature.

i) Clinician behaviour and expertise

Marks et al (2009) reported that the clinician's behaviour had an influence on the child's degree of distress. This study also found that an examination by a paediatric trainee clinician (as opposed to a non-paediatric clinician such as a general practitioner or an emergency care clinician, although the study was unclear with regard to this) was associated with less parental stress and child's pain, suggesting that the clinician's expertise and/or specific training add value.

Several studies and resources highlighted the value placed by victims on the sensitivity to their needs demonstrated by the professionals carrying out the examination (Lagnado, 2017; Messham et al, 2015; Campbell et al, 2013). Similarly, two studies found that victims value the compassion and care of those carrying out the examination (Lewis-O'Connor and Chadwick, 2015; Campbell et al, 2013). Allard-Dansereau et al (2001) found that anxiety about an examination was inversely associated with the physician's perceived kindness, although this association was not statistically significant.

ii) Involvement of multiple professionals

In the USA, Lewis-O'Connor and Chadwick (2015) reported that many victims were dismayed at having to tell their story many times – seemingly the result of a disjointed model of care, with multiple professionals having responsibility for different aspects of the examination (e.g. separate professionals undertaking the specimen collection and the medical/infection care, in addition to advocates, social workers and police officers). This is not directly applicable to the model of care in all settings, but illustrates the importance of joined-up working, information-sharing and the benefit of a one-stop service – which is in part the ethos of the 'Barnahus' model, used elsewhere in Europe and in development in some parts of England[3] (Children's Commissioner for England, 2016).

On a more general level, one victim in the English study by Warrington et al (2017) made negative references to the numbers of people in the room during the examination.

iii) Feedback

Two studies reported that victims and carers value feedback after the medical examination (Marks et al, 2009; Allard-Dansereau et al, 2001). Examples of this feedback included assurance "that I was normal like any other person" and "that the doc told me I was okay" (Marks et al, 2009).

iv) Belief and validation

Although professionals carrying out medical examinations do not have the role of legal fact-finders, the theme of victims feeling believed at the medical examination was present in two resources (Goddard et al, 2015; Campbell et al, 2013). This was echoed in research by Smith et al (2015) into adult survivors of intra-familial CSA, who rated SARC services the highest of all agencies – both statutory and non-statutory – for being believed and heard.

v) Support for carers

Therapeutic support for family members would appear to be highly valued by victims (Warrington et al, 2017). More than half of the 53 children and young people questioned in this research highlighted a need for professional support for family members. They identified that family members need support, both in their own right and in order to enable them to better support their child.

> "Children valued the sensitivity to their needs demonstrated by the professionals carrying out the examination"

3 A pilot project called 'The Lighthouse', based on the Barnahus model, opened in autumn 2018 and is delivering support services for children and families in five London boroughs. For more information, see www.uclh.nhs.uk/our-services/find-service/children-and-young-peoples-services/lighthouse

The participants in that study described their sense of physical safety being supported by verbal and physical reassurances from non-abusing parents and carers – this was not specific to medical examinations, but children and young people did highlight the value of parents and carers attending meetings and appointments such as medical examinations. One young woman described her mother's support with health visits, explaining: "I got my mum to ask [the questions] even though I was in the room with her, I wanted to be there to know what's going on but I wanted her to say [that I had been abused]."

vi) Facilities and infrastructure

Although these factors are not part of the medical examination process, both Messham et al (2015) and Lagnado (2017) reported observations by some children and their carers that factors such as directions to the facility, car parking, air conditioning and the toys available could be improved. Although seemingly minor, these considerations are all important in reducing stress and anxiety around the medical examination.

vii) Reflection

A number of studies found that, on reflection, children believed the medical examination to be a generally positive experience (Lagnado, 2017; Goddard et al, 2015; Messham et al, 2015; Campbell et al, 2013; Mears et al, 2003). Although the Mears et al (2003) study featured adolescents reporting higher levels of embarrassment, fear, discomfort and distress than participants in the other studies, large majorities of these adolescents felt the examination made them feel better and was helpful, and almost all said that seeing the doctor was a good idea.

Implications for practice

Children and their carers should be prepared in advance of a medical examination. The professional doing this, whether health-based or not, must be well-informed and accurate.

Professionals who prepare, accompany and support children and carers through a medical examination, and clinicians who undertake medical examinations, should be mindful of the range of experiences that the carer and child may have in relation to the examination – and how these can be influenced by a number of factors which may be specific to the child (e.g. their age, intellect and level of preparation), the carer (whether they are present or not, their own anxiety levels, and their knowledge about the examination) or the environment (clinician expertise, the number of people present, and which procedures are indicated).

Medical examinations should be centred on the child's wishes, concerns and expectations.

Carers or parents should be encouraged to accompany children, while adolescents should be provided with choices about being seen alone.

Clinicians undertaking medical examinations must have the appropriate level of expertise with children of all ages.

Clinicians undertaking medical examinations should be mindful that their behaviours can affect the experience for the child, both positively and negatively.

All medical examinations should include provision of some immediate feedback to the child and their carer.

Facilities and infrastructure should be considered and provided in ways that have a positive or at least a neutral impact on children's and carers' feelings of anxiety.

Children described their sense of physical safety being supported by verbal and physical reassurances from non-abusing parents and carers. This is a simple concept that could be easily be encouraged by professionals at the time of a medical assessment.

It is recommended that services explore ways to sensitively and constructively obtain user feedback which can inform service development.

8. Discussion and conclusions

This scoping review highlights the role and scope of medical examinations in detail, based upon current published research. It highlights that the examination should be viewed holistically, to reflect the wide role and scope evidenced by this review.

Published research shows that, in terms of the collection and identification of physical evidence, a medical examination can have the following benefits:

- **The collection of forensic samples which may identify semen or DNA following acute sexual abuse.**
  There is a reasonable chance of obtaining potentially useful samples, which decreases as time passes. Where samples are submitted for analysis, DNA findings are positive in 15% to 49% of cases, although research outside the UK has found that many samples are *not* submitted for analysis. Early examination greatly increases the likelihood of gathering positive samples; non-body samples such as clothing are especially valuable, particularly in cases involving children under 11.
- **The identification of physical anogenital injuries which may support an account of abuse.**
  In most medical examinations, no physical anogenital injuries – either recent or healed – are found (although this does not mean that no abuse has occurred). The timing of the examination is vital, with positive findings more likely in children seen soon after the last episode of abuse.
- **The identification of injury outside the anogenital area.**
  When children are examined within seven days of an episode of CSA, studies report that 11% to 52% are found to have an injury outside the anogenital area, which may support an account of CSA or be a medical need in itself.
- **The identification of physical features or concerns from the wider consultation which suggest the child has experienced other categories of abuse.**
  Studies report that these features or concerns are seen in 15% to 26% of children examined. This may have an impact on immediate and follow-up medical care, and/or on safeguarding measures, criminal investigative pathways or family court processes.

It also highlights medical examinations' valuable place in the holistic assessment of the health and wellbeing of children who have experienced sexual abuse, with wider benefits which include the following:

- **Feedback and reassurance to children and carers from the health professional after the examination.**
  Feedback can help to provide reassurance and reduce wider feelings of fear and anxiety about the physical impact of abuse.
- **The identification of unmet general health needs that may be unrelated to sexual abuse.**
  Reports suggest that these needs are identified in up to 47% of children undergoing an examination.

> Medical examinations have a valuable place in the holistic assessment of abused children's health and wellbeing

- **The identification of one or more sexually transmitted infections.**
  STIs are identified in up to 16% of children, although incomplete screening was commonly reported in studies.
- **The provision of emergency contraception or the early identification of pregnancy.**
  Studies report pregnancy rates of up to 2% in UK settings when children are seen for a medical examination.
- **Screening for blood-borne infections such as HIV.**
  No cases of HIV were reported in studies from England, Wales or USA in children seen for a medical examination, and other blood-borne infection rates were very low; incomplete testing was common, however.
- **The involvement of carers throughout the medical examination process.**
  This is valued by children, but studies report carers and children feeling unprepared for the examination and wanting more information.
- **Risk assessments, including for self-harm and suicide.**
  Sensitive risk assessments at the time of the medical examination frequently elicit mental health needs, especially in the adolescent age group. In many cases there has been no prior mental health input, indicating the value of routine enquiry and enabling onward care to be organised.

A key finding of this review is that many gaps remain in the research base. Much of the research is on a small scale and there is a paucity of larger data analysis of children in a UK setting. There is a notable lack of research around forensic sampling submission rates and results, and research involving lesser-heard communities. There also remains a lack of recent research (in the UK and globally) exploring children's experiences of medical examinations in general, how the different components are experienced, and how this relates to their wider safeguarding and criminal justice journey.

> Globally, there is a lack of recent research exploring children's experiences of medical examinations

It is clear that, to potentiate the value added by medical examinations, the health professionals carrying them out need to have considerable expertise and experience. Their competencies should not be limited to forensic sampling or sexual health alone, but should encompass communication with children of all ages, general paediatrics, mental health, child development and safeguarding. If they do, this has been shown to have a strongly positive effect on the experiences of children and carers.

The review highlights that a comprehensive, sensitive and holistic assessment can enhance the scope for support and care of the child and the wider family – and that undertaking medical examinations more commonly than they are at present could provide equitable services to all victims of CSA.

References

Adams, J. (2008) Guidelines for medical care of children evaluated for suspected sexual abuse: An update for 2008. *Current Opinion in Obstetrics and Gynecology*, 20(5):435–441.

Adlington, R. and Browne, R. (2011) Management of patients seen post-sexual assault at a north London inner city genitourinary medicine clinic 2005–2008. *International Journal of STD & AIDS*, 22(5):286–287.

Al-Jilaihawi, S., Borg, K., Maguire, S. and Hodes, D. (2017) The value of paediatric assessment in historic child sexual abuse. *Archives of Disease in Childhood*, 102(6):550–555.

Allard-Dansereau, C., Hébert, M., Tremblay, C. and Bernard-Bonnin, A. (2001) Children's responses to the medical visit for allegations of sexual abuse: Maternal perceptions and predicting variables. *Child Abuse Review*, 10(3):210–222.

Amenu, D. and Hiko, D (2014) Sexual assault: Pattern and related complications among cases managed in Jimma University Specialized Hospital. *Ethiopian Journal of Health Sciences*, 24(1):3–14.

Bechtel, K., Ryan, E. and Gallagher, D. (2008) Impact of sexual assault nurse examiners on the evaluation of sexual assault in a pediatric emergency department. *Pediatric Emergency Care*, 24(7):442–447.

Birdthistle, I., Floyd, S., Mwanasa, S., Nyagadza, A., Gwiza, E. and Glynn, J. (2011) Child sexual abuse and links to HIV and orphanhood in urban Zimbabwe. *Journal of Epidemiology & Community Health*, 65(12):1075–1082.

Black, C., Driebe, E., Howard, L., Fajman, N., Sawyer, M., Girardet, R., Sautter, R., Greenwald, E., Beck-Sague, C., Unger, E., Igietseme, J. and Hammerschlag, M. (2009) Multicenter study of nucleic acid amplification tests for detection of Chlamydia trachomatis and Neisseria gonorrhoeae in children being evaluated for sexual abuse. *Pediatric Infectious Disease Journal*, 28(7):608–613.

Brown, S., Rowe Peck, K. and Day Watts, D. (2000) Routine pharyngeal cultures may not be useful in pediatric victims of sexual assault. *Journal of Emergency Nursing*, 26(4):306–311.

Campbell, R., Fehler-Cabral, G., Pierce, S., Sharma, D., Bybee, D., Shaw, J., Horsford, S. and Feeney, H. (2015) *The Detroit Sexual Assault Kit (SAK) Action Research Project (ARP), Final Report*. East Lansing, MI: Michigan State University.

Campbell, R., Greeson, M. and Fehler-Cabral, G. (2013) With care and compassion: Adolescent sexual assault victims' experiences in sexual assault nurse examiner programmes. *Journal of Forensic Nursing*. 9(2):68–75.

Cattaneo, C., Ruspa, M., Motta, T., Gentilomo, A. and Scagnelli, C (2007) Child sexual abuse: An Italian perspective. *American Journal of Forensic Medical Pathology*, 28(2):163–167.

Children's Commissioner for England (2016) *Barnahus: Improving the Response to Child Sexual Abuse in England*. London: CCE.

Children's Commissioner for England (2015) *Protecting Children from Harm: A Critical Assessment of Child Sexual Abuse in the Family Network in England and Priorities for Action*. London: CCE.

Christian, C., Lavelle, J., De Jong, A., Loiselle, J., Brenner, L. and Joffe, M. (2000) Forensic evidence findings in prepubertal victims of sexual assault. *Pediatrics*, 106(1):100–104.

Danielson, C. and Holmes, M. (2004) Adolescent sexual assault: An update of the literature. *Current Opinion in Obstetrics and Gynecology*, 16(5):383–388.

Denis, C., Seyller, M. and Chariot, P. (2016) Expectations and perceptions of care among victims of sexual assault who first seek care from emergency, primary care and gynaecological doctors. *Emergency Medicine Journal*, 33(2):134–138.

Dhairyawan, R., Shardlow, K., Carroll, M. and Sacks, R. (2017) A national survey of facilities for complainants of sexual assault. *International Journal of STD & AIDS*, 28(5):512–519.

Drocton, P., Sachs, C., Chu, L. and Wheeler, M. (2008) Validation set correlates of anogenital injury after sexual assault. *Academic Emergency Medicine*, 15(3):231–238.

Everitt, R., Reed, P. and Kelly, P (2012) Medical assessment for child sexual abuse: A post-code lottery? *Journal of Paediatrics and Child Health*, 48(5):389–394.

Faculty of Forensic and Legal Medicine (2018a) *Recommendations for the Collection of Forensic Specimens from Complainants and Suspects*. London: FFLM.

Faculty of Forensic and Legal Medicine (2018b) *Recommendations for the Collection of Forensic Specimens from Complainants and Suspects – The Evidence.* London: FFLM.

Faculty of Forensic and Legal Medicine (2017) *Quality Standards for Doctors Undertaking Paediatric Sexual Offence Medicine (PSOM)*. London: FFLM.

Feeney, H., Chiaramonte, D., Campbell, R., Greeson, M. and Fehler-Cabral, G (2017) Anogenital and physical injuries in adolescent sexual assault patients: The role of victim-offender relationship, alcohol use, and memory impairment. *Journal of Forensic Nursing*, 13(2):52–61.

Geynisman-Tan, J., Taylor, J., Edersheim, T. and Taubel, D. (2017) All the darkness we don't see. *American Journal of Obstetrics and Gynaecology*, 216(2):135.e1–135.e5.

Girardet, R., Bolton, K., Lahoti S., Mowbray, H., Giardino, A., Isaac, A., Arnold, W., Mead, B. and Paes, N. (2011) Collection of forensic evidence from paediatric victims of sexual assault. *Paediatrics*, 128(2):233–238.

Girardet, R., Giacobbe, L., Bolton, K., Lahoti, S. and McNeese, M. (2006) Unmet health care needs among children evaluated for sexual assault. *Archives of Pediatric and Adolescent Medicine*, 160(1):70–73.

Goddard, A., Harewood E. and Brennan, L. (2015) *Review of Pathway following Sexual Assault for Children and Young People in London*. Leeds: NHS England.

Gray-Eurom, K., Seaberg, D. and Wears, R. (2002) The prosecution of sexual assault cases: Correlation with forensic evidence. *Annals of Emergency Medicine*, 39(1):39–46.

Gulla, K., Fenheim, G., Myhre, A. and Lydersen, S. (2007) Non-abused preschool children's perception of an anogenital examination. *Child Abuse & Neglect*, 31(8):885–894.

Hagell, A., Shah, R. and Coleman, J. (2017) *Key Data on Young People 2017*. London: Association for Young People's Health.

Harding, M. (2015) *Normal and Abnormal Puberty.* [online] Available at https://patient.info/doctor/normal-and-abnormal-puberty [Accessed 6 June 2018].

Hébert, M., Daigneault, I., Collin-Vézina, D. and Cyr, M. (2007) Factors linked to distress in mothers of children disclosing sexual abuse. *Journal of Nervous and Mental Disease*, 195(10):805–811.

Hornor, G., Scribano, P., Curran, S., Stevens, J. and Roda, D. (2009) Emotional response to the ano-genital examination of suspected sexual abuse. *Journal of Forensic Nursing*, 5(3):124–130.

Hornor, G., Thackeray, J., Scribano, P., Curran, S. and Benzinger, E. (2011) Pediatric sexual assault nurse examiner care: Trace forensic evidence, ano-genital injury, and judicial outcomes. *Journal of Forensic Nursing*, 8(3):105–111.

Hotton, P. and Raman, S. (2017) Analysis of acute presentations for child protection medical assessments in a large, culturally diverse metropolitan setting. *BMJ Paediatrics Open*, 1:e000120.

Kawsar, M., Anfield, A., Walters, E., McCabe, S. and Forster, G. (2004) Prevalence of sexually transmitted infections and mental health needs of female child and adolescent survivors of rape and sexual assault attending a specialist clinic. *Sexually Transmitted Infection*, 80:138–141.

Kawsar, M., Long, S. and Srivastava, O. (2008) Child sexual abuse and sexually transmitted infections: Review of the joint genitourinary medicine and paediatric examination practice. *International Journal of STD & AIDS*, 19(5):349–350.

Kelly, L. and Karsna, K. (2017) *Measuring the Scale and Changing Nature of Child Sexual Abuse and Child Sexual Exploitation: Scoping Report*. Barkingside: Centre of expertise on child sexual abuse.

Kelly, P. and Koh, J. (2006) Sexually transmitted infections in alleged sexual abuse of children and adolescents. *Journal of Paediatrics and Child Health*, 42(7–8):434–440.

Kirk, C., Lucas-Herald, A. and Mok, J. (2010) Child protection medical assessments: Why do we do them? *Archives of Disease in Childhood*, 95(5):336–340.

Lagnado, A. (2017) *Service Evaluation of the Sussex Children's Sexual Assault Referral Centre*. Unpublished research.

Lazebnik, R., Zimet, G., Ebert, J., Anglin, T., Williams, P., Bunch, D. and Krowchuk, D. (1994) How children perceive the medical examination for suspected sexual abuse. *Child Abuse & Neglect*, 18(9):739–745.

Lederer, L. and Wetzel, C. (2014) The health consequences of sex trafficking and their implications for identifying victims in healthcare facilities. *Annals of Health Law*, 23(1):61–91.

Levi-Belz, Y., Gavish-Maron, T., Barzilay, S., Apter, A., Carli, V., Hoven, C., Sarchiapone, M. and Wasserman, D. (2018) Psychosocial factors correlated with undisclosed suicide attempts to significant others: Findings from the Adolescent SEYLE study. *Suicide and Life-Threatening Behavior*, 49(3):759–773.

Lewis-O'Connor, A. and Chadwick, M. (2015) Engaging the voice of patients affected by gender based violence: Informing practice and policy. *Journal of Forensic Nursing*, 11(4):240–249.

Manikam, L. Rogstad, K., Singh, G. and Lakhanpaul, M. (2012) Management of sexually transmitted infections in pubertal children. *Archives of Disease in Childhood – Education and Practice*, 97(4):132–142.

Marks, S., Lamb, R. and Tzioumi, D. (2009) Do no more harm: The psychological stress of the medical examination for alleged child sexual abuse. *Journal of Paediatrics and Child Health*, 45(3):125–132.

Martin, G., Bergen, H., Richardson, A., Roeger, L. and Allison, S. (2004) Sexual abuse and suicidality: Gender differences in a large community sample of adolescents. *Child Abuse & Neglect*, 28(5):491–503.

Mears, C., Heflin, A., Finkel, M., Deblinger, E. and Steer, R. (2003) Adolescents' responses to sexual abuse evaluation including the use of video colposcopy. *Journal of Adolescent Health*, 33(1):18–24.

Messham, L., Peers, L. and Alison, L. (2015) Feedback for Sheffield Children's Hospital Sexual Assault Referral Centre: Are we getting it right? *Res Medica*, 23(1):63–72.

Mollen, C., Goyal, M. and Frioux, S. (2012) Acute sexual assault: A review. *Pediatric Emergency Care*, 28:584–593.

Morgan, J. (2008) Comparison of cervical os versus vaginal evidentiary findings during sexual assault exam. *Journal of Emergency Nursing*, 34(2):102–105.

Morgan, L., Khadr, S. and Bewley, S. (2017) Child sexual assault reported to an acute sexual assault referral centre in London. *Archives of Disease in Childhood*, 102(2):165–169.

Murphy, S., Potter, S., Stapleton, J., Wiesen-Martin, D. and Pierce-Weeks, J. (2010) Findings from sexual assault nurse examiners (SANE): A case study of New Hampshire's pediatric SANE database. *Journal of Forensic Nursing*, 6(4):163–169.

Nesvold, H., Friis, S. and Ormstad, K. (2008) Sexual assault centers: Attendence rates, and differences between early and late presenting cases. *Acta Obstetricia et Gynecologica*, 87(7):707–715.

NHS Choices (2018) *Stages of Puberty: What Happens to Boys and Girls*. [online] Available at www.nhs.uk/live-well/sexual-health/stages-of-puberty-what-happens-to-boys-and-girls/ [Accessed 6 June 2018].

Patterson, D. and Campbell, R. (2009) A comparative study of the prosecution of childhood sexual abuse cases: The contributory role of pediatric forensic nurse examiner (FNE) programs. *Journal of Forensic Nursing*, 5(1):38–45.

Rachamim, E. and Hodes, D. (2011) Attitudes and knowledge held about the role of the paediatrician in cases of child sexual abuse (CSA): A comparison between the police, paediatricians and social workers. *Archives of Disease in Childhood*, 96(suppl 1):A97.

Read, K., Kufera, J., Jackson, M. and Dischinger, P. (2005) Population-based study of police-reported sexual assault in Baltimore, Maryland. *American Journal of Emergency Medicine*, 23(3):273–278.

Reading, R. and Rannan-Eliya, Y. (2007) Evidence for sexual transmission of genital herpes in children. *Archives of Disease in Childhood*, 92(7):608–613.

Reading, R., Rogstad, K., Hughes, G. and Debelle, G. (2014) Gonorrhoea, chlamydia, syphilis and trichomonas in children under 13 years of age: National surveillance in the UK and Republic of Ireland. *Archives of Disease in Childhood*, 99(8):712–716.

Rheingold, A., Danielson, C., Davidson, T., Self-Brown, S. and Resnick, H. (2013) Video intervention for child and caregiver distress related to the child sexual abuse medical examination: A randomized controlled pilot study. *Journal of Child and Family Studies*, 22(3):386–397.

Rogstad, K., Holkar, S. and Dewdney, A. (2003) Sexual health needs of the under-16s attending an STI clinic: What are they and are they being addressed? *International Journal of STD & AIDS*. 14(4):266–269.

Rogstad, K., Thomas, A., Williams, O., Forster, G., Munday, P., Robinson, A., Rooney, G., Sherrard, J., Tenant-Flowers, M., Wilkinson, D. and Lazaro, N. (2010) *United Kingdom National Guideline on the Management of Sexually Transmitted Infections and Related Conditions in Children and Young People – 2010*. Macclesfield: British Association for Sexual Health and HIV.

Royal College of Paediatrics and Child Health (2015) *The Physical Signs of Child Sexual Abuse: An Evidence-based Review and Guidance for Best Practice*. London: RCPCH.

Royal College of Paediatrics and Child Health/ Faculty of Forensic and Legal Medicine (2016a) *Sexual Offences. Pre-Pubertal Complainants*. London: FFLM.

Royal College of Paediatrics and Child Health/ Faculty of Forensic and Legal Medicine (2016b) *Sexual Offences. Post-Pubertal Complainants*. London: FFLM.

Royal College of Paediatrics and Child Health/ Faculty of Forensic and Legal Medicine (2015) *Service Specification for the Clinical Evaluation of Children and Young People Who May Have Been Sexually Abused.* London: RCPCH.

Royal College of Paediatrics and Child Health/ Faculty of Forensic and Legal Medicine (2012) *Guidelines on Paediatric Medical Examinations in Relation to Possible Child Sexual Abuse*. London: FFLM.

Sapp, M. and Vandeven, A. (2005) Update on childhood sexual abuse. *Current Opinion in Pediatrics*, 17(2):258–264.

Schremmer, R., Swanson, D. and Kraly, K. (2005) Human immunodeficiency virus postexposure prophylaxis in child and adolescent victims of sexual assault. *Pediatric Emergency Care*, 21(8):502–506.

Seña, A., Hsu, K., Kellogg, N., Girardet, R., Christian, C., Linden, J., Griffith, W., Marchant, A., Jenny, C. and Hammerschlag, M. (2015) Sexual assault and sexually transmitted infections in adults, adolescents, and children. *Clinical Infectious Diseases*, 61(suppl 8):S856–S864.

Silva, W. and Barroso-Junior, U. (2017) Child sexual abuse confirmed by forensic examination in Salvador, Bahia, Brazil. *American Journal of Forensic Medical Pathology*, 38(1):54–58.

Silverman, J., Decker, M., Gupta, J., Maheshwari, A., Willis, B. and Raj, A. (2007) HIV prevalence and predictors of infection in sex-trafficked Nepalese girls and women. *JAMA*, 298(5):536–542.

Smith, N., Dogaru, C. and Ellis, F. (2015) *Hear Me. Believe Me. Respect Me. A Survey of Adult Survivors of Child Sexual Abuse and Their Experiences of Support Services*. Ipswich: University Campus Suffolk.

Steward, M., Schmitz, M., Steward, D., Joye, N. and Reinhart, M. (1995) Children's anticipation of and response to colposcopic examination. *Child Abuse & Neglect*, 19(8):997–1005.

Unwin, P. and Stephens-Lewis, D. (2016) *Evaluating the Health Implications of Child Sexual Exploitation on Parents*. Worcester: National Centre for the Study and Prevention of Violence and Abuse.

Waibel-Duncan, M. and Sanger, M. (1999) Understanding and reacting to the anogenital exam: Implications for patient preparation. *Child Abuse & Neglect*, 23(3):281–286.

Warrington, C., Beckett, H., Ackerley, E., Walker, M. and Allnock, D. (2017) *Making Noise: Children's Voices for Positive Change after Sexual Abuse – Children's Experiences of Help-seeking and Support after Sexual Abuse in the Family Environment*. Luton: University of Bedfordshire.

Watkeys, J., Price, L., Upton, P. and Maddocks, A. (2008) The timing of medical examination following an allegation of sexual abuse: Is this an emergency? *Archives of Disease in Childhood*, 93(10):851–856.

Whaitiri, S. and Kelly, P. (2011) Genital gonorrhoea in children: Determining the source and mode of infection. *Archives of Disease in Childhood*, 96(3):247–251.

Appendix 1

Practitioner surveys

Research aims and scope

This appendix sets out some of the findings from a survey undertaken by the CSA Centre in early 2018, and a similar survey undertaken in 2017 in Cambridgeshire and Peterborough.

The aim of the survey undertaken by the CSA Centre was to explore the understanding and perceptions of the medical examination for CSA among:

- frontline staff in policing and social care who act as the 'gatekeepers' to the service
- frontline health professionals who undertake examinations.

The survey was intended to support the scoping and development of the CSA Centre's literature review and the supporting informative practitioner resource. Barriers to medical examination were explored, as were perceptions and confidence levels among those who explain the examination process.

The aim of the survey undertaken in Cambridgeshire and Peterborough was to explore confidence, experience and training provided in CSA among multi-agency professionals across the safeguarding partnership. These included health, social care, education and the police. The survey also sought to explore perceptions of medical examinations, and in particular to explore whether professionals felt medical examinations were a traumatic experience for the child.

The findings included in this appendix are those most relevant to the scoping review, and are not a full analysis of all results.

Acknowledgements

Grateful thanks to Dr Emilia Wawrzkowicz (designated doctor for safeguarding children, Cambridgeshire and Peterborough Clinical Commissioning Group), Jo Procter (head of service, Cambridgeshire and Peterborough Safeguarding Adults and Children Boards) and Gaynor Mansell (education lead for Peterborough City Council) for sharing the data from their regional survey. Additional thanks to Evelyn Sharples (Senior Research and Evaluation Officer at the CSA Centre) for her considerable input into the CSA Centre survey design and analysis.

Method

Sampling and recruitment

The CSA Centre practitioner survey was hosted on an online survey platform. It was shared by CSA Centre staff with targeted networks of practitioners across England and Wales who undertake or refer children for medical examinations where there are concerns of child sexual abuse. The networks – including the Principal Social Worker Network and the National Network of Designated Healthcare Professionals for Safeguarding Children (NNDHP) – were identified by the CSA Centre's practice improvement advisors for health, social care, police and multi-agency working.

The survey was also shared through the CSA Centre social media channels and its newsletter, and cascading of the survey was invited. Owing to this cascading, the number of people who received the survey is not known. The survey was available for completion between April and June 2018.

During the design of the survey, a similar survey undertaken in 2017 in Cambridgeshire and Peterborough was identified, and the authors were approached to share the findings of that survey.

The Cambridgeshire and Peterborough 2017 survey was also hosted on an online survey platform, and was publicised to all agencies across the safeguarding partnership. These included all named safeguarding professionals within policing, education and social care in the Cambridgeshire and Peterborough Combined Authority. Cascading of the survey to all staff was invited via email through agency leads. It was advertised on the Cambridgeshire

and Peterborough Safeguarding Adults and Children Boards website and at various safeguarding meetings. Owing to the cascading, the exact numbers of people who received the survey is unknown.

Research questions

The broad research questions addressed by the CSA Centre survey were:

- What are the perceptions of the role of the medical examination among key agencies (police, social care and health)?
- How are decisions made about which children are and are not offered formal medical examinations when there are concerns about CSA?
- How confident are practitioners in explaining the role and purpose of the medical examination to children and young people?
- What are the barriers to facilitating and undertaking medical examinations for children and young people?

The Cambridgeshire and Peterborough survey covered the same broad questions, in addition to others.

Responses

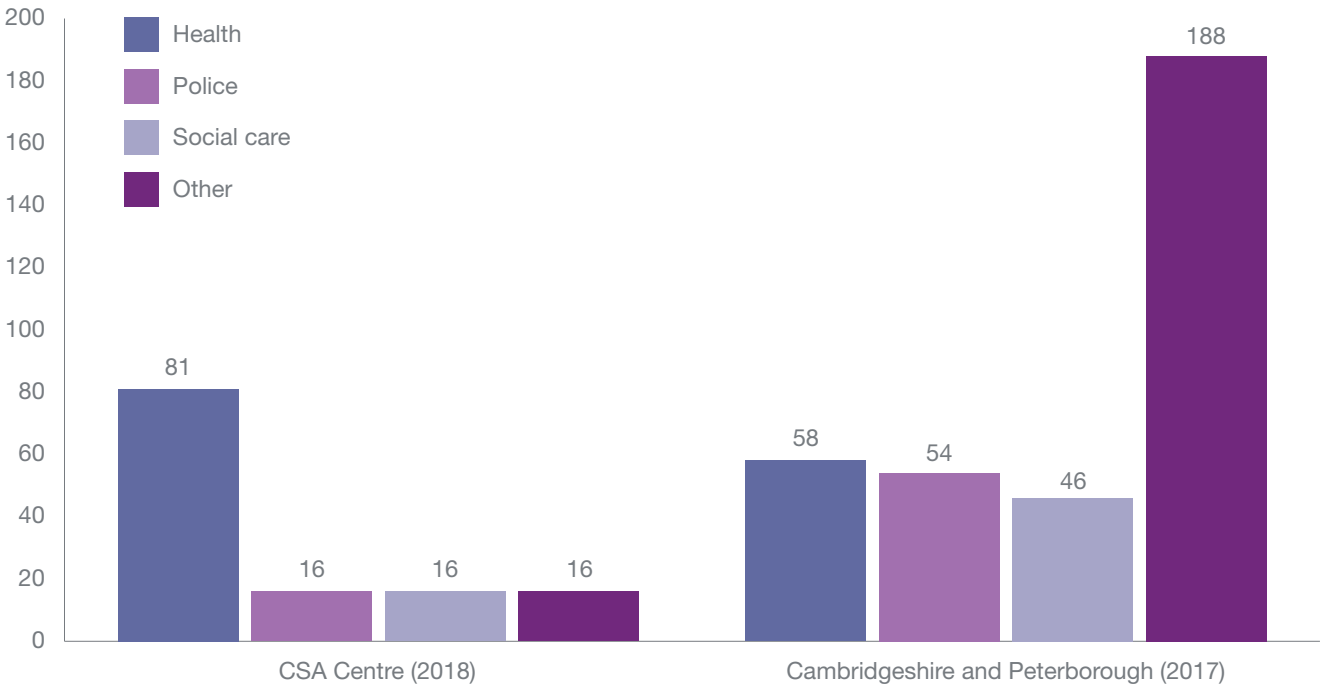
The responses to both surveys were anonymised.

Figure A1 provides an overview of the number of responses to each survey.

Limitations

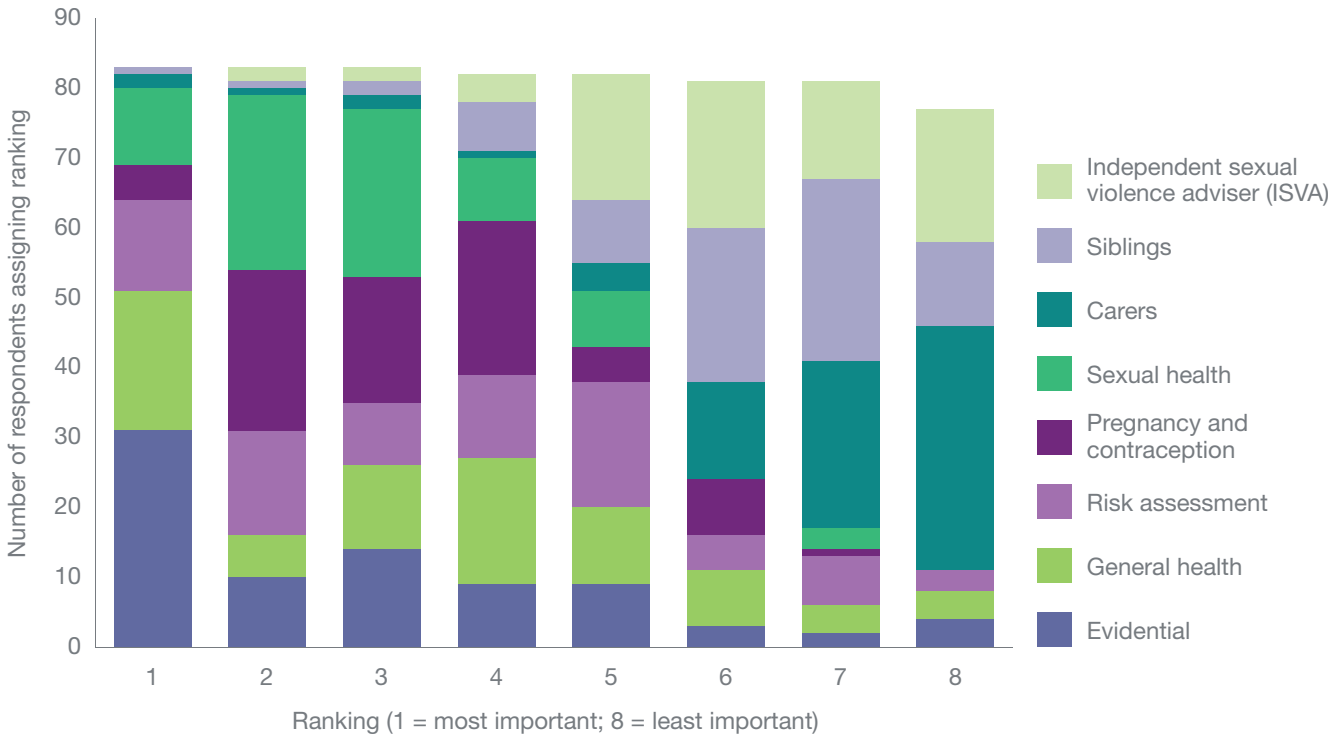
Both surveys, but in particular the CSA Centre survey, were limited by the smaller numbers of respondents from policing and social care in relation to those from health bodies: it was identified that only 37 of the 129 respondents to the CSA Centre survey worked in organisations that referred children to but did not undertake medical examinations. The lack of data from professionals in such organisations needs to be kept in mind when interpreting the findings, given that one of the survey's main aims was to determine the perceptions of those who are gatekeepers to referral.

Figure A1. Survey respondents by professional sector



Source: CSA Centre survey (n=129); Cambridgeshire and Peterborough survey (n=346). It is possible that some professionals may have responded to both surveys.
'Other' includes professionals in supporting services and educational settings; 134 respondents to the Cambridgeshire and Peterborough survey were from educational settings.

Figure A2. Ranking of importance of components of a CSA medical examination



Source: CSA Centre survey. n=83. Not all respondents completed all eight fields; for example, some ranked only their top three components.

Findings

Selected findings from the surveys are considered here under the themes of 'Practitioner perspectives', 'Decision-making', 'Practitioner confidence' and 'Barriers'.

Practitioner perspectives

The medical examination has a number of components, detailed in the body of the scoping review. The CSA Centre survey asked respondents to rank components of the medical examination in order of importance, from 1 (most important) to 8 (least important). Figure A2 sets out the 83 responses.

'Evidential' was most commonly ranked as the most important component of the medical examination, followed by 'General health'. 'Pregnancy and contraception' and 'Sexual health' were much less commonly considered most important, but more than four-fifths of respondents ranked each of them among the four most important components. 'Carers' was ranked as the least or second-least important component of the examination by more than two-thirds of respondents.

Respondents to the CSA Centre survey were asked to provide details of concerns about the medical examination that they had, or that they had heard colleagues voice. Forty respondents did so; examples of their answers are outlined in Table A1, grouped under nine themes. Some appear to be concerns assumed to be held by those referring children, rather than necessarily being held by the respondents themselves.

Decision-making

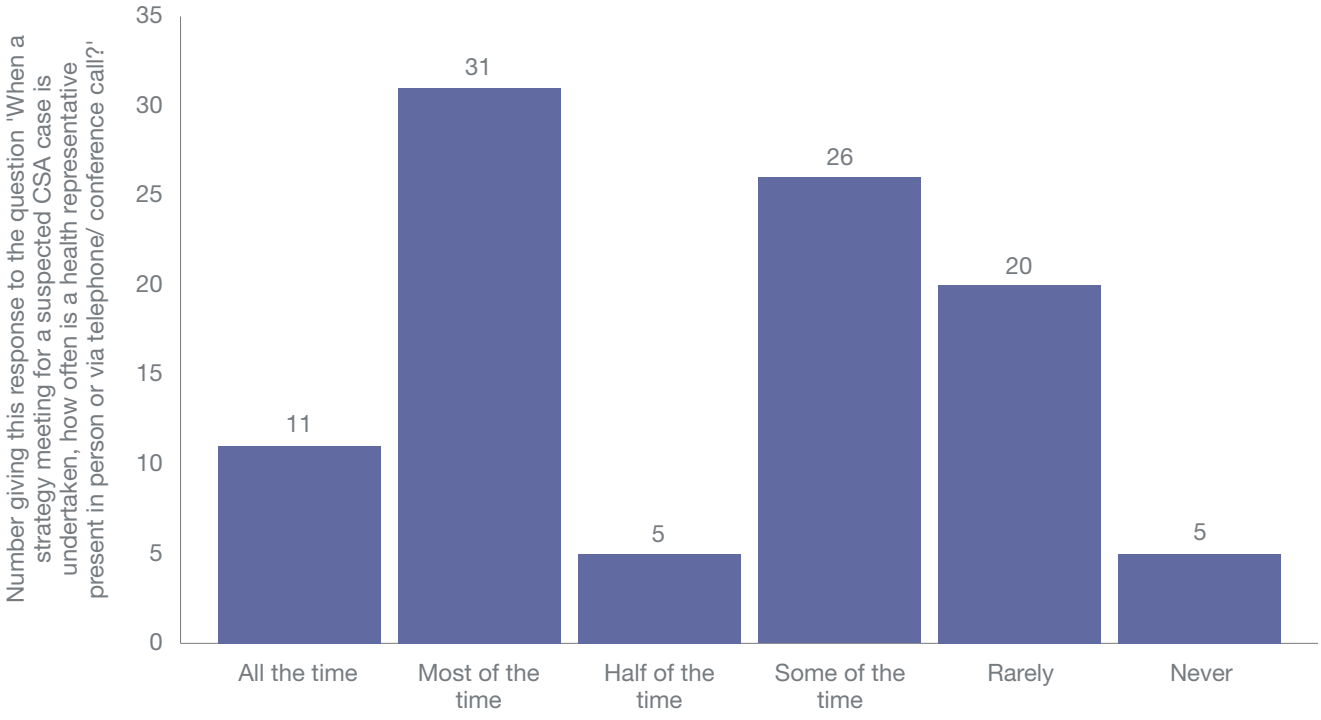
Respondents to the CSA Centre survey were asked how often a health representative was present, in person or via telephone/conference call, when a strategy meeting for a suspected CSA case was undertaken. These meetings may involve decisions about whether a medical examination should take place or not. More than two-fifths reported that there was health representation most or all of the time, but one-quarter said that a health representative was rarely or never present (see Figure A3).

Table A1. Practitioners' concerns about medical examinations

Theme	Examples of concerns held/heard voiced
Intrusive	"The intrusive nature of it"
Traumatic	"I am concerned that it is viewed as invasive and reabusive by people who do not appreciate it" "The fact it is videoed is likely to be difficult for children to experience"
Reasons for referrals or repeat referrals	"I have come across inappropriate referrals for sexual abuse examination based solely on young children's behaviours … when there have been no disclosures"
Lengthy and time consuming	"I have concerns about the length"
Insensitive or underqualified staff	"I sometimes have concerns about the staff that attend not being trained to deal with the process in a succinct and client-centred manner"
Referral waiting times	"The length of time it takes to get an appointment"
Not explained correctly to children and carers	"Children/carers given unrealistic expectation of what the examination will achieve before they arrive with us. Examinations arranged too hurriedly without adequate assessment of the background concern"
Expectations of findings from professionals and carers	"That too much significance is weighted on the findings of an examination by police/social services"
Availability of mental health support	"I have concerns regarding the emotional health and wellbeing for young people immediately after medical examinations"

Source: CSA Centre survey. n=40.

Figure A3. Health representatives' presence at strategy meetings



Source: CSA Centre survey. n=98.

The CSA Centre survey also asked whether all suspected victims of CSA should be offered a medical examination. The majority of respondents (73 of 89) agreed with this statement, one respondent disagreed, and 15 of 89 felt it depended. Owing to the small number of respondents who said 'no', the data is not presented here segmented by professional sector.

The Cambridgeshire and Peterborough survey asked respondents whether the child should have a medical examination when there is a suspicion of CSA, and 42% (143) said 'yes'. The breakdown based on professional groups for this question is detailed in Figure A4. Explanatory comments made by the 58% (197) who said 'no' included:

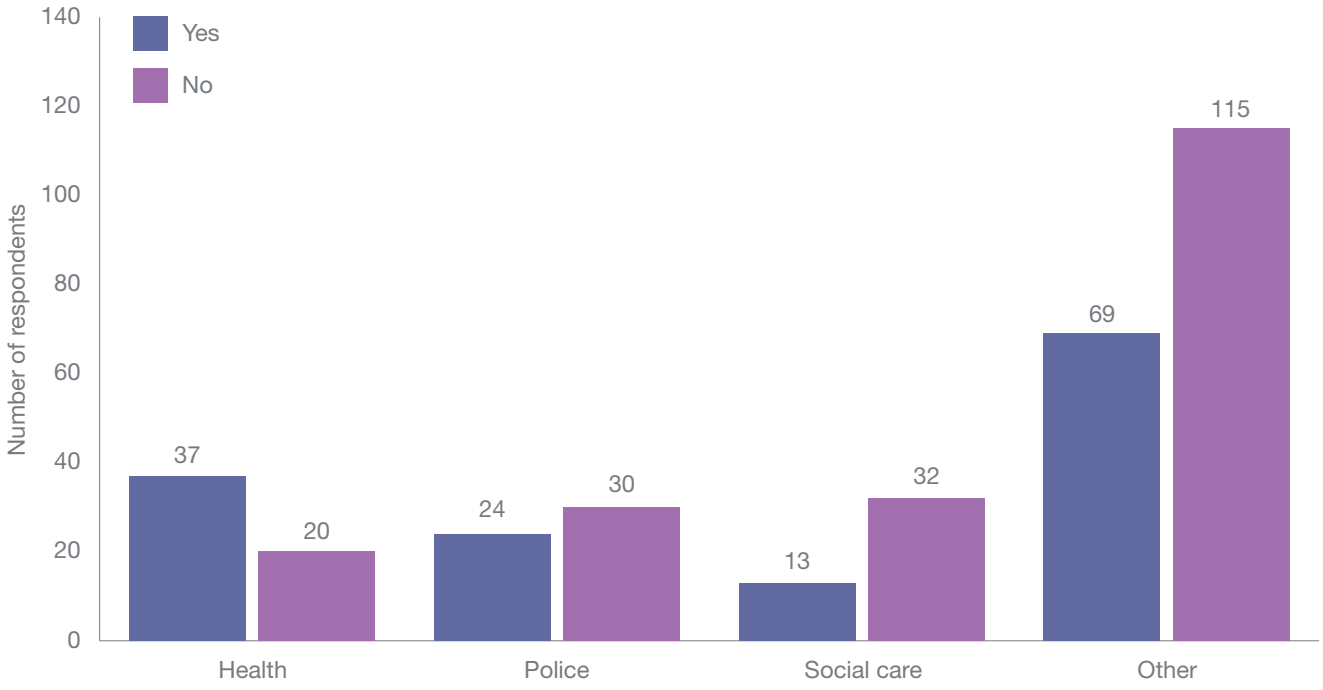
- "Need to have clearer information and more than just suspicion to warrant an examination which can be traumatic for a child which has not been abused" *(health professional)*
- "From police view it may be outside the forensic window" *(policing professional)*
- "It is an invasive examination" *(social care professional)*
- "It depends on the circumstances, each individual child and their consent" *(other professional).*

Practitioner confidence

Figure A5 shows that respondents to the CSA survey reported high levels of confidence in knowing what a medical examination involves. Again, this could reflect the high number of respondents from a healthcare profession.

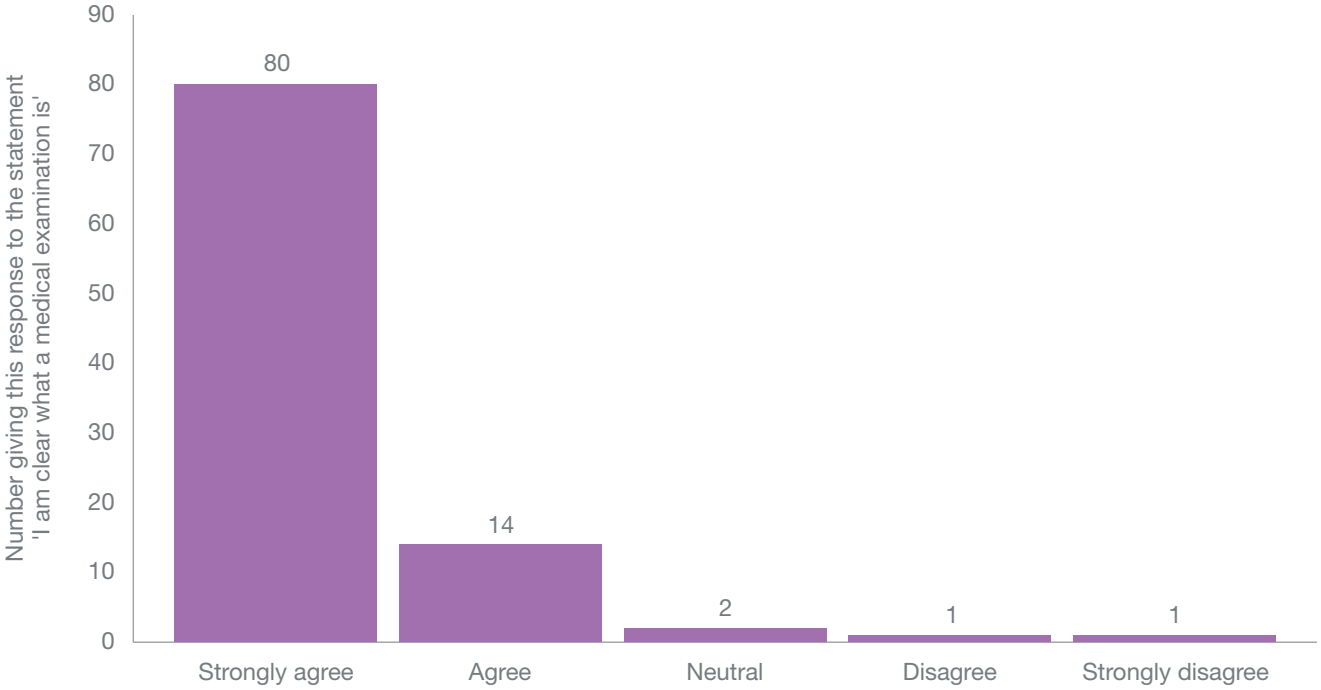
Respondents to the Cambridgeshire and Peterborough survey reported on their confidence in recognising CSA more broadly: five out of 54 police, nine out of 48 social workers and nine out of 57 health professionals said they did not feel confident in recognising cases of CSA. Overall, 13% (36 out of 345 respondents) reported not feeling confident in recognising CSA, with two themes emerging from explanations given: lack of training, and lack of experience or confidence. Additionally, 29% (99 out of 343 respondents) said that, once identified, cases of CSA are not appropriately progressed.

Figure A4. Where there is a suspicion of CSA, should the child have a medical examination?



Source: Cambridgeshire and Peterborough survey. n=340.

Figure A5. Practitioner confidence in their knowledge of medical examinations



Source: CSA Centre survey. n=98.

Barriers

Respondents to the CSA Centre survey were shown a list of potential barriers to referring children for medical examination, and asked whether they or their colleagues had faced any – see Figure A6. Five of the six potential barriers listed had been faced by more than half of respondents or their colleagues.

The small number of respondents to this question (n=18) perhaps reflects the smaller proportion of respondents to the survey who refer children for but do not undertake medical examinations.

CSA Centre survey respondents were also asked what barriers they and their colleagues faced when attempting to undertake medical examinations – see Figure A7. This question was answered by 42 individuals, reflecting the preponderance of health professionals in the survey sample.

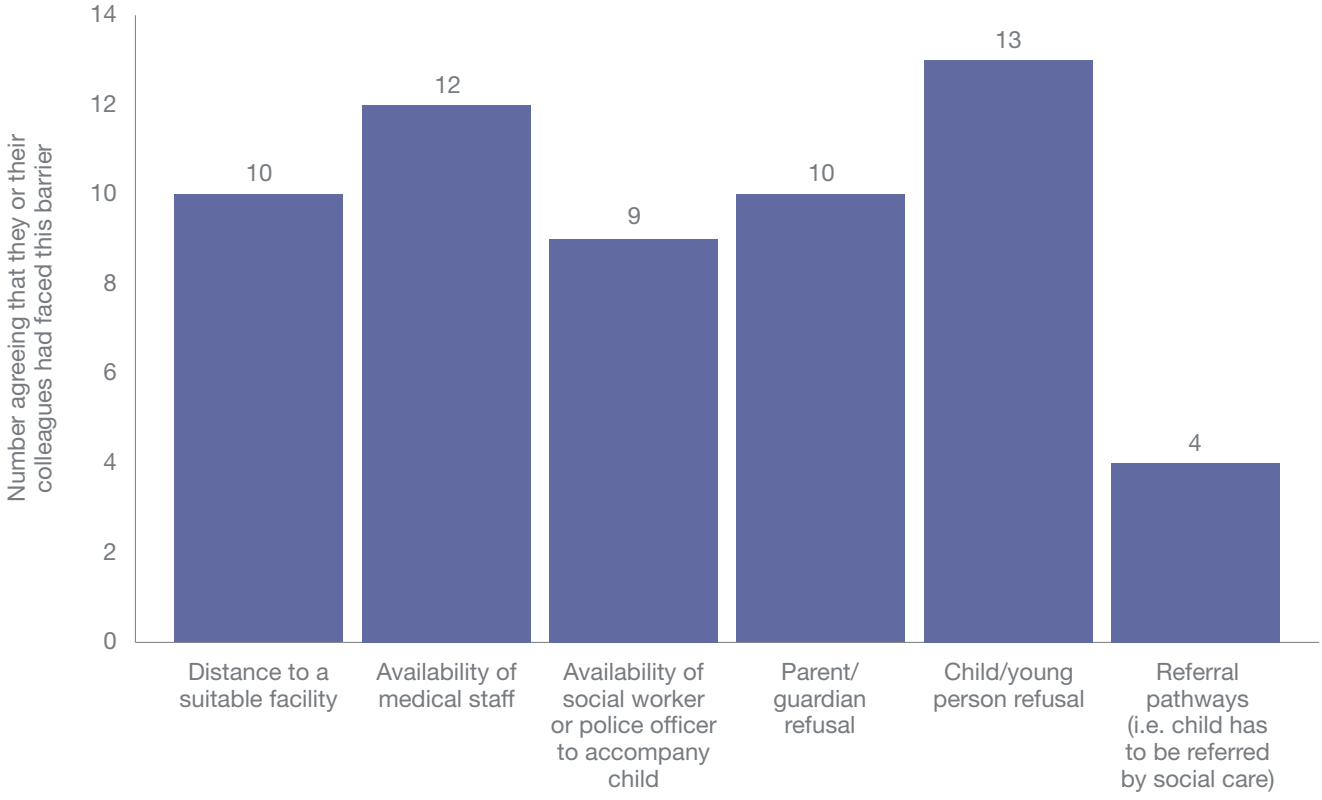
Each of the potential barriers had been experienced by around half of respondents or their colleagues, rising to four-fifths in the case of a child or young person's refusal to be examined.

Asked whether, in their experience, some children were more likely than others to be referred for medical examinations, two-thirds (60) of the CSA Centre survey respondents who answered the question agreed that this was the case. Asked for more information, they indicated that the following groups might be less likely to be referred:

- disabled children, looked after children and boys
- teenagers or sexually active young people
- younger children
- suspected or known victims of historic abuse
- suspected or known victims of peer-on-peer abuse
- suspected or known victims of CSA where there is no clear verbal disclosure.

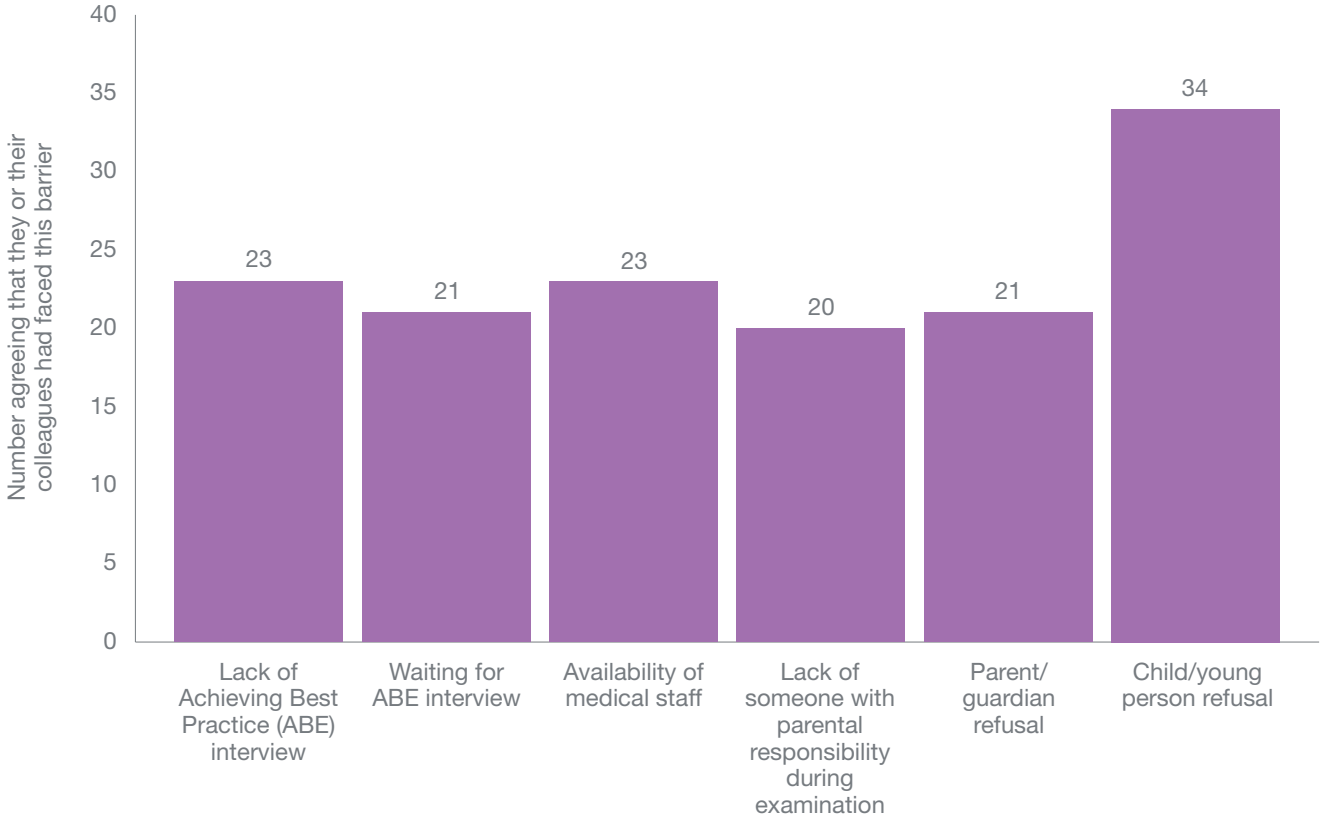
Each of these groups was identified by between two and 10 respondents as being less likely to be referred.

Figure A6. Practitioners' views on potential barriers to referral



Source: CSA Centre survey. n=18. Respondents were able to select more than one answer.

Figure A7. Practitioners' views on potential barriers to undertaking medical examinations



Source: CSA Centre survey. n=42. Respondents were able to select more than one answer.

Appendix 2

The demographics of primary research studies that explore forensic sampling findings

Study author(s)	Year	Country	Number of samples	Age range (years)	Gender	Ethnicity
Campbell et al	2015	USA	1,595	21% under 16 79% over 16, including adults	98% female 2% male	81% African-American 18% Caucasian 2% Hispanic
Cattaneo et al	2007	Italy	230	0 to14	87% female 13% male	*Nationality only provided:* 78% Italian 9% American 4% Eastern European 4% African 3% Orient 1% Western European
Christian et al	2000	USA	273	Under 10	78% female 22% male	78% black Rest not detailed
Girardet et al	2011	USA	277	13 and under	82% female 18% male	Not detailed
Gray-Eurom et al	2002	USA	355	12 to 77	97% female 3% male	51% black 47% white
Hornor et al	2011	USA	464 (127 not submitted)	1 to 20	88% female 12% male	57% Caucasian 38% African-American 5% other
Morgan	2008	USA	86 (50 not submitted)	Over 13, including adults	100% female	Not detailed
Patterson and Campbell	2009	USA	149 (66 not submitted)	0 to 13	Not detailed	Not detailed
Silva and Barroso-Junior	2017	Brazil	248	1 to 11	84% female 16% male	Not detailed but implies 99% born in Brazil

Appendix 3

The demographics of primary research studies that explore non-genital injuries

Study author(s)	Year	Country	Number of participants	Age range (years)	Gender	Ethnicity
Feeney et al	2017	USA	381	13 to 17	90% female 10% male	79% white 16% African-American 3% multiracial 1% Latino 1% other
Morgan et al	2017	England	176	12 and under	80% female 20% male	41% black 40% white 9% mixed 8% Asian 4% not known
Murphy et al	2010	USA	696	0 to 17	90% female 10% male	Not detailed
Nesvold et al	2008	Norway	354	13 to 85	94% female 6% male	Not detailed
Read et al	2005	USA	521	13 to 85	100% female	76% black 22% white 2% other

Appendix 4

The demographics of primary research studies that explore STI rates

Study author(s)	Year	Country	Number of participants (number tested)	Age range (years)	Gender	Ethnicity
Adlington and Browne	2011	England	65 (63)	12 to 53	98% female 2% male	55% black 32% white
Al-Jilaihawi et al	2017	England	249 (116)	1 to 17	80% female 20% male	Not detailed
Bechtel et al	2008	USA	114 (96)	4 to 19	98% female 2% male	42% African-American 36% white 21% Hispanic
Black et al	2009	USA	536 (536)	0 to 13	91% female 9% male	46% African-American 27% white 24% Hispanic
Brown et al	2000	USA	451 (451)	0 to 13	82% female 18% male	Not detailed
Girardet et al	2006	USA	473 (unclear)	2 to 17	81% female 19% male	Not detailed
Kawsar et al	2004	England	98 (88)	3 to 16	100% female	45% white 28% black 17% Bangledeshi 10% other
Kawsar et al	2008	England	24 (24)	2 to 14	88% female 12% male	54% BAME 46% white
Kelly and Koh	2006	New Zealand	2,162 (1,690)	0 to 17	86% female 14%male	Not detailed

Appendix 5

The demographics of primary research studies that explore BBI rates

Study author(s)	Year	Country	Number of participants (number tested)	Age range (years)	Gender	Ethnicity
Adlington and Browne	2011	England	65 (60)	12 to 53	98% female 2% male	55% black 32% white
Amenu and Hiko	2014	Ethiopia	99 (92)	3 to 30	100% female	100% black
Bechtel et al	2008	USA	114 (90)	4 to 19	98% female 2% male	42% African-American 36% white 21% Hispanic
Birdthistle et al	2011	Zimbabwe	1,194 (520)	0 to 25	90% female 10% male	Not detailed
Kawsar et al	2004	England	98 (57)	3 to 16	100% female	45% white 28% black 17% Bangledeshi 10% other
Schremmer et al	2005	USA	34 (33)	0 to 18	Not detailed	Not detailed
Silverman et al	2007	Nepal	287(287)	7 to 32	100% female	Not detailed

Appendix 6

The demographics of primary research studies that explore health and learning needs

Study author(s)	Year	Country	Number of participants	Age range (years)	Gender	Ethnicity
Al-Jilaihawi et al	2017	England	249	1 to 17	80% female 20% male`	Not detailed
Girardet et al	2006	USA	473	2 to 17	81% female 19% male	Not detailed
Hotton and Raman	2017	Australia	279 (204 CSA or CSA and physical abuse)	6 to 14	72% female 28% male	27% Anglo-Australian 14% Aboriginal 13% Pacific Islander 12% Middle East 8% Asian 4% European 3% African
Kirk et al	2010	Scotland	742 (267 suspected CSA)	Under 18	59% female (of 742) 41% male (of 742)	Not detailed
Morgan et al	2017	England	176	12 and under	80% female 20% male	41% black 40% white 9% mixed 8% Asian 4% not known

Appendix 7

The demographic of primary research studies that explored mental health concerns

Study author(s)	Year	Country	Number of participants	Age range (years)	Gender	Ethnicity
Goddard et al	2015	England	1,400 (approx.)	16	Not detailed	Not detailed
Kawsar et al	2004	England	98	3 to 16	100% female	45% white 25% black 17% Bangledeshi 10% other
Martin et al	2004	Australia	2,485	14	55% male 45% female	Not detailed
Morgan et al	2017	England	176	12 and under	80% female 20% male	41% black 40% white 9% mixed 8% Asian 4% not known

Appendix 8

The demographics of primary research studies that explore the lived experience

Study author(s)	Year	Country	Number of participants	Age range of children (years)	Gender	Ethnicity
Allard-Dansereau et al	2001	Canada	50 mothers	4 to 12	76% female 24% male	Not detailed
Campbell et al	2013	USA	20 children and young people	14 to 17	100% female	75% Caucasian 15% African-American 5% Asian-American 5% multiracial
Denis et al	2016	France	232 adults, children and young people	10 and over	95% female 5% male	Not detailed
Goddard et al	2015	England	89 children and young people	13 to 17	Not specified	Not detailed
Gulla et al	2007	Norway	158 children	5 to 6	75% female 25% male	Not detailed but >90% Caucasian
Hornor et al	2009	USA	175 children and young people	8 to 18	77% female	Not detailed aside from 66% Caucasian
Lagnado	2017	England	12 children 15 carers	Not specified	Not specified	Not detailed
Lazebnik et al	1994	USA	99 children and young people	3 to 17	76% female 24% male	Not detailed
Lewis-O'Connor and Chadwick	2015	USA	310 adults and young people	Over 15 including adults	98% female 2% male	Not detailed
Marks et al	2009	Australia	71 children and young people 67 carers	3 to under 18	90% female 10% male	6% identified as Aboriginal Rest not detailed
Mears et al	2003	USA	77 children and young people	11 to 18	100% female	51% Caucasian 29% African-American 18% Hispanic 2% other
Messham et al	2015	England	12 children 14 carers	12 to 16 years	Not specified	Not detailed

Study author(s)	Year	Country	Number of participants	Age range of children (years)	Gender	Ethnicity
Rheingold et al	2013	USA	69 children and young people 65 carers	4 to 15	64% female 36% male	54% African-American 41% Caucasian 1% Hispanic 1% other
Smith et al	2015	England	400 CSA survivors	Over 15 including adults	87% female 13% male	Not detailed
Steward et al	1995	USA	43 children and young people 43 mothers	3 to 15	100% female	Not detailed
Waibel-Duncan and Sanger	1999	USA	30 children and young people	6 to 16	100% female	80% Caucasian 20% African-American
Warrington et al	2017	England	53 children and young people	6 to 19	81% female 19% male	81% white British 19% BAME

Centre of expertise on child sexual abuse

Please cite as:

Cutland, M. (2019) *The Role and Scope of Medical Examinations When There Are Concerns about Child Sexual Abuse: A Scoping Review.* Barkingside: Centre of expertise on child sexual abuse.
https://doi.org/10.47117/TGMR6081

The photograph on the cover was taken using actors and does not depict an actual situation.

Barnardo House, Tanners Lane, Barkingside, Ilford, Essex IG6 1QG
E: info@csacentre | @csacentre
www.csacentre.org.uk

20880sc19