[New 2015]

CH 5: Effective strategies for detecting maltreatment of children and youth within the context of mental health and developmental assessment. [New 2015]

SCOPING QUESTION: Within the context of mental health and developmental assessment of children and youth, what are the effective strategies for detecting maltreatment?

BACKGROUND

Child maltreatment (CM) is defined as abuse and neglect suffered by children less than 18 years of age. It includes all types of physical and/or emotional ill-treatment, sexual abuse, neglect, negligence and commercial or other exploitation that results in actual or potential harm to the child's health, survival, development or dignity, in the context of a relationship of responsibility, trust or power (World Health Organization [WHO],2014). Exposure to intimate partner violence (IPV) is also sometimes included as a form of CM (WHO, 2014). This review takes into consideration IPV. It does not include other forms of violence against young people such as dating violence, bullying, etc.

CM is a major public health problem associated with a broad range of negative health outcomes across the lifespan (Gilbert et al., 2009). Mental health problems are increased among children and adolescents exposed to CM. The range of mental health problems includes internalizing conditions (e.g., such as depression, anxiety and post-traumatic stress disorder [PTSD]), externalizing conditions (e.g., antisocial behaviour and substance abuse) and suicidal behaviour. There is also increased risk of developmental problems (e.g., low academic achievement) and relationship problems (e.g., increased risk of problems in parenting). There are no universally accepted definitions for any type of maltreatment.

Most information about CM is based on studies conducted in high-income countries; however, increasingly, surveys are providing important information about estimates in low- and middle-income countries (Centers for Disease Control [CDC], 2014). Recent meta-analyses indicate self-reported prevalence estimates of CM include physical abuse (22.6%; no gender differences) (CDC, 2014), neglect (physical: 16.3%; and emotional: 18.4%; no gender differences) (Stoltenborgh et al., 2013), sexual abuse (18.0% in girls and 7.6% in boys) (Stoltenborgh et al., 2013); and emotional abuse (36.3%; no gender differences) (Stoltenborgh et al., 2011). Risk indicators show an association with CM, but are not necessarily causally related. Much more is known about risk indicators for physical and sexual abuse, with risk indicators for neglect and exposure to IPV similar to those for physical abuse (Stoltenborgh et al., 2012). Less is known about risk indicators for emotional abuse (Hibbard et al., 2012). Children with special needs, including developmental disabilities, are also at increased risk of CM (Jones et al., 2012).

Detecting CM is an important aspect of efforts to protect children from harm, as well as for determining which children are in need of interventions to reduce associated impairment, including mental health problems. It is helpful for healthcare providers to be aware of the clinical features that

should prompt consideration of one or more types of CM. While a review of such clinical features is beyond the scope of this evidence profile, the NICE guideline on "When to suspect child maltreatment" is useful in summarizing the clinical features associated with maltreatment (National Collaborating Centre for Women's and Children's Health [NCC-WCH], 2009).

The types of screening/assessment tools relevant to this scoping question include:

1. Those administered to the parent or family to identify those who might be at risk of maltreating a child;
2. Those administered to a child or adolescent to identify risk of maltreatment or those who have experienced/are currently experiencing maltreatment;
3. Clinician-completed assessments that identify either caregivers or children/adolescents as described in #1 and #2; and
4. Physical examinations of the child.

The 4th is not directly relevant to the type of assessment strategies included as part of a mental health assessment of a child; however, it was included for completeness.

PART 1: EVIDENCE REVIEW

Population/ Intervention / Comparison / Outcome (PICO)

- **Population:** Children and adolescents (i.e., vulnerable groups, including children with developmental disorders)
- **Interventions:** Assessment strategies (e.g., screening and assessment questionnaires, clinical interviews) for detecting maltreatment in children and adolescents
- **Comparison:** Different assessment strategies
- **Outcomes**
    - **Critical –** Appropriate identification, adverse effects
    - **Important –** Events and outcomes subsequent to identification (including referrals, fewer reported instances of severe physical assault, etc.)

Search strategy

The search was conducted in Week 39 of 2014 using the following databases: MEDLINE, Embase, PsycINFO, CINAHL, the Cochrane Library (including the Cochrane Database of Systematic Reviews, DARE, Health Technology Assessments and the NHS Economic Evaluation Database),

SocIndex and Dissertations and Theses. Controlled vocabulary and key words were combined and used to express the concepts of CM and assessment or diagnosis. Examples of such terms include:

- For the concept of CM, child abuse [MeSH] and child within five words of abuse, maltreatment, neglect, assault, rape, molest, hitting, and spanking. Terms for harsh parenting and corporal punishment were also included;
- For the concept of assessment or diagnosis, examples of terms used include exp diagnosis [MeSH], mass screening [MeSH], medical history taking [MeSH], assess, detect, diagnosis, screen, interview, and identify.
- Terms within a concept were combined with the Boolean Operator OR, and the two concepts were combined with the operator AND.

The results were limited to review articles and meta-analyses through the use of very focused controlled vocabulary and key words. In databases that had limits for languages, the results were limited to English only, as well as to the years 2008-2014. This was supplemented with focused searches for systematic reviews and screening/assessment randomized controlled trials (RCTs) prior to 2008 to ensure that all relevant individual studies were assessed in at least one systematic review. This process helped to identify Nygren et al.'s (2004) US Preventive Services Task Force review, which is included in the evidence profile.

Included in narrative review

- Bailhache M, Leroy V, Pillet P, Salmi LR (2013). Is early detection of abused children possible? A systematic review of the diagnostic accuracy of the identification of abused children. BioMed Central Pediatrics.13(1):202. doi:10.1186/1471-2431-13-202.

- Louwers ECFM, Affourtit MJ, Moll HA, De Koning HJ, Korfage IJ (2010). Screening for child abuse at emergency departments: a systematic review. Archives of Disease in Childhood.95(3):214-218. doi:10.1136/adc.2008.151654.

- Nelson HD, Selph S, Bougatsos C, Blazina I. Behavioral Interventions and Counseling to Prevent Child Abuse and Neglect: Systematic Review to Update the U.S. Preventive Services Task Force Recommendation. Evidence Synthesis No. 98. AHRQ Publication No. 13-05176_-EF-1. Rockville, MD: Agency for Healthcare Research and Quality; 2013.
  NOTE: this review included all potential behavioural interventions for CM; for the current evidence profile, evaluation is restricted to the one trial specific to identification/assessment (the 10 other trials were specific to home visitation)

- Nygren P, Nelson HD, Klein J (2004). Screening children for family violence: a review of the evidence for the US Preventive Services Task Force. Annals of Family Medicine.2(2):161-169. doi:10.1370/afm.113

- van Konijnenburg EMH, Teeuw, AH, Sieswerda-Hoogendoorn T, Leenders AG, van der Lee J H (2013). Insufficient evidence for the use of a physical examination to detect maltreatment in children without prior suspicion: A systematic review. Systematic Reviews.2(1):109.

- Woodman J, Lecky F, Hodes D, Pitt M, Taylor B, Gilbert R (2010). Screening injured children for physical abuse or neglect in emergency departments: a systematic review. Child: Care, Health and Development.36(2):153-164. doi:10.1111/j.1365-2214.2009.01025.x.

Excluded from narrative review

Hepworth I, McGowan L (2013). Do mental health professionals enquire about childhood sexual abuse during routine mental health assessment in acute mental health settings? A substantive literature review. Journal of Psychiatric and Mental Health Nursing. 20(6):472-483.
REASON FOR EXCLUSION: Focused on extent to which inquiry occurs in adult mental health assessments.

Newton AS, Zou B, Hamm MP, Curran J, Gupta S, Dumonceaux C, Lewis M (2010). Improving child protection in the emergency department: A systematic review of professional interventions for health care providers. Academic Emergency Medicine.17(2):117-125. doi:10.1111/j.1553-2712.2009.00640.x.
REASON FOR EXCLUSION: Evaluated interventions for improving documentation or clinical assessments, but outcomes included physician knowledge and documentation.

Selph SS, Bougatsos C, Blazina I, Nelson HD (2013). Behavioral interventions and counseling to prevent child abuse and neglect: A systematic review to update the US Preventive Services Task Force recommendation. Annals of Internal Medicine. 158(3):179-190. doi:10.7326/0003-4819-158-3-201302050-00590.
REASON FOR EXCLUSION: A shorter journal publication of the full US Preventive Services Task Force (USPSTF) systematic review is presented by Nelson et al. (2013) (see 'Included' section above).

Teeuw AH, Derkx BH, Koster WA, van Rijn RR (2012). Educational paper: Detection of child abuse and neglect at the emergency room. European Journal of Pediatrics.171(6):877-885. doi:10.1007/s00431-011-1551-1.
REASON FOR EXCLUSION: Not a systematic review and the studies are included elsewhere.

Williams B, Naughton A, Mann M, Tempest V, Kemp A, Maguire S. Identifying neglect or emotional abuse in school aged children: A systematic review. In: Annual Conference of the Royal College of Paediatrics and Child Health, Birmingham, the United Kingdom, 8 April 2014.
REASON FOR EXCLUSION: An abstract and not a full article; main aim of presentation was to define educational, emotional or behavioural features in children aged 5-13 years experiencing neglect or emotional abuse.

Woodman J, Pitt M, Wentz R, Taylor B, Hodes D, Gilbert RE (2008). Performance of screening tests for child physical abuse in accident and emergency departments. Health Technology Assessment.12(33):iii, xi-xiii,1-95.
REASON FOR EXCLUSION: Overlaps with subsequent systematic evidence review addressing the same question.

[New 2015]

PICO Table of Systematic Evidence Reviews (SERs)

Intervention	Comparison	PICO-specific Outcomes	SERs included in narrative review	Rationale
Parent/Family Assessments: Screening tools/checklists/observations administered to- or self-administered by the parent or family to identify those who might be at risk of maltreating a child. Tools assessed in fair/good studies (Nygren et al., 2004 only). Family Stress Checklist* Hawaii Risk Indicators Screening Tool Kempe Family Stress Inventory (KFI) (*referred to as Kempe Family Stress Inventory (KFI) in Nygren et al., 2004)	None	Identification of risk for abuse	No evidence	
		Identification of suspected abuse	Bailhache et al. (2013)	Bailhache et al. (2013) is the most recent SER that includes studies that come closest to addressing scoping question.
		Identification of confirmed abuse	Nygren et al. (2004)	Nygren et al. (2004) included parent/family screening studies not reviewed in other included SERs.
		Adverse effects (i.e., misidentification)	No evidence	
Child/Adolescent Assessments: Screening tools/checklists/observations administered to- or self-administered by a child or adolescent to identify risk of maltreatment or those who have experienced/are currently experiencing maltreatment. Specific tools reviewed include:	None	Identification of risk for abuse	Bailhache et al. (2013)	Bailhache et al. (2013) is the most recent SER that includes studies that come closest to addressing scoping question.
		Identification of suspected abuse	No evidence	
		Identification of confirmed abuse	No evidence	

[New 2015]

Intervention	Comparison	PICO-specific Outcomes	SERs included in narrative review	Rationale
• Sexual abuse - Parent: Signs Associated with Sexual Abuse (SASA) (sample boys aged <18 years) - Parent: Child Sexual Behavior Inventory (CSBI) • Emotional - Child (aged 13-15 years) [un-named scale, Sri Lanka] Physical/sexual/emotional/neglect • Childhood Trauma Questionnaire, child self-report (sample males and females aged 12-17 years)				
		Adverse effects (i.e., misidentification)	No evidence	
<u>Clinician-completed Assessments</u>: Screening tools/checklists/observations that identify either parents or children/adolescents as described in #1 and #2. Specific types of assessment reviewed include: • Physical abuse: Prediction rule, decision tree, physical exam, history of trauma, imaging, Screening Index for Physical Abuse (SIPCA) score • Sexual abuse: physical exam • Screening markers (child less than 1 year of age; repeat attendance; injury type) • Observation in a high-risk sample	High- vs. low-risk adolescent mothers Abused or neglected children vs. non-abused children	Identification of risk for abuse	Bailhache et al. (2013)	Bailhache et al. (2013) is the most recent SER that includes studies that come closest to addressing scoping question.
		Identification of suspected abuse	Louwers et al., 2010	Louwers et al. SER focused on specific checklist items
		Identification of confirmed abuse	Nygren et al., 2004	Nygren et al. (2004) included parent/family screening studies not reviewed in other included SERs.
		Adverse effects (i.e., misidentification)	Woodman et al., 2010	Woodman et al. most recent SER to examine markers [limitation: all studies poor quality; none sufficiently accurate to justify use]
<u>Physical Examination</u>:	None	Identification of confirmed cases (i.e., diagnostic accuracy	van Konijnenburg et al. (2013)	Included for completeness, even though much less

Intervention	Comparison	PICO-specific Outcomes	SERs included in narrative review	Rationale
Screening physical examination, 'Top to toe' to detect maltreatment in children (0-18 years) without prior suspicion.		– sensitivity and specificity; prevalence of any signs of child maltreatment confirmed or unconfirmed by a reference standard [independent vs. not independent from results])		relevant for context of mental health assessment, especially those conducted on an outpatient basis.
		Adverse effects (i.e., misidentification; other harms)		
Integrated Interventions: SEEK Model (only comprehensive intervention including an assessment component): 1) Specially trained residents, including hand-outs for doctors and patients; 2) Administration of the Parent Screening Questionnaire [assessment component]; and 3) A social worker for onsite clinical services, as needed.	Usual care	Identification of risk for abuse, identification of suspected abuse, identification of confirmed abuse (i.e., parent responses on the Parent-Child Conflict Tactics Scale measured at baseline and at 3 years; Child Protection Service reports; physical assault episodes; non-adherence to medical care; delays in immunizations)	Nelson et al. (2013)	Only recent SER that includes the SEEK trial (Dubowitz et al., 2009)

Narrative description of the studies that went into the analysis

The most recent SER that came closest to addressing the scoping question was the review by Bailhache et al. (2013). The aim of the review was to examine the accuracy of diagnostic instruments used to identify maltreatment in children (i.e., neglect, physical, sexual and psychological) at any stage prior to death and to assess whether any were adapted to screening. The instrument was defined as any reproducible assessment conducted in any type of setting. The authors noted that instruments that identified child victims of IPV were excluded because the main victim is not the child. The authors considered tools as adapted to screening if they met the WHO criteria on the adequacy of tests used in screening programs, which include: Identify children prior to serious consequences from maltreatment; identify children with high sensitivity; and identify abused children with high enough specificity to avoid stigmatization among non-abusers.

Studies that were conducted between 1966 and April 2012 in English and French and that included at least one estimate of accuracy of an assessment (i.e., a reference standard) and a description of the instrument were eligible for inclusion. The authors emphasized that there is no gold standard for detecting maltreatment and defined acceptable reference standards including expert assessments, substantiation by a social service and diagnosis by medical, social or judicial team using one or more information sources.

Of the 2380 articles identified, 13 met the inclusion criteria. There were eight studies that were prospective, with the other five retrospective. The types of maltreatment examined in the studies included physical abuse in seven studies (assessment of injuries, such as head trauma), sexual abuse in four (two involving physical assessments, two involving a parental interview), psychological abuse in one (self-report by children) and all four types of maltreatment in one (self-report by children). Study quality was determined using Quality Assessment of Diagnostic Accuracy Studies (QUADAS) criteria. The authors reported that the overall quality of the selected studies was poor without taking into account the lack of a gold standard for identifying maltreatment in children. Sensitivity and specificity of instruments varied between 0.26 and 0.97 and between 0.51 and 1, respectively. Three tests had sensitivity greater than 90%-absence of scalp swelling to identify inflicted head injury, which is a decision tool used to identify physically abused children in a Pediatric Care Unit, as well as a parental interview integrating 12 symptoms to identify sexually abused children; however, here the specificity was less than 90%.

The authors concluded that there was "very scarce and low-quality evidence on the accuracy of instruments used for identifying abused children," (p.10) Furthermore, the authors state that the identified tools were not adapted to screening because they did not meet the WHO criteria due to low sensitivity and specificity, as well as the late identification of abused children.

Screening/Assessment Tools or Approaches – Administered to Child or Adolescent

Bailhache et al. (2013) identified two studies in their systematic review (Bernstein et al., 1997; Fernandopulle et al., 2003) that assessed instruments administered to children or adolescents. Bernstein et al. (1997) examined the validity of the Child Trauma Questionnaire (CTQ), a 70-item self-report instrument that assessed physical, sexual, emotional abuse and physical neglect in a sample of males and females (aged 11 to 17 years) that were admitted to in-patient services. Fernandopulle et al. (2003) evaluated a self-administered instrument of emotional abuse in 13-15 year-old school children. The two studies met only 5 and 7 of the 14 quality criteria, respectively, and so were considered of low quality. These are the only two of 13 studies included in the SER that focused on child self-report and so this description is provided despite their low study quality.

Screening/Assessment Tools or Approaches – Administered to Parent or Family

Nygren et al. (2004) conducted a systematic review for the USPSTF identifying two fair-to-good studies and one fair-to-poor study of self-administered screening tools, all of which were conducted in samples of high-risk, pregnant women in USA. While screening could reasonably identify potential abuse in these samples, these studies were not linked to abuse outcomes.

[New 2015]

Screening/Assessment Tools or Approaches – Clinician-completed (including Checklists)

The review by Louwers et al. (2010) examined the effectiveness of interventions applied at emergency departments (ED) that significantly increase the detection rate of confirmed cases of child abuse. Of the fifteen papers describing interventions that were selected for review, four were included and assessed for quality. In these four studies, the intervention consisted of a checklist of indicators of risk for child abuse. The following three items in the checklist were included in all four studies: 1) Whether the findings on examination conformed to the history given by the child or parents; 2) Whether there was a delay in seeking medical help; and 3) Whether there was an inconsistent history. Other checklist items found in one or more studies included child/parent behaviour and interaction appropriate (in two studies); child/parent reported or showed evidence of abuse (in one study); previously seen at ED (in one study); and action of parents after injury appropriate (in one study).

In two studies, age of children investigated was limited to 5 or 6 years. The other two studies included children in all ages (up to 17 or 18 years). After implementation, the rate of detected cases of suspected child abuse increased by 180% (weighted mean in three studies); however, the number of confirmed cases of child abuse (reported in two out of four studies) showed no significant increase. The review authors noted that although there was no significant increase in the detection of confirmed child abuse, all studies reported an increase in the rate of suspected cases of abuse after the introduction of an intervention and improved documentation of patient files, as well as a higher level of awareness of child abuse among ED staff.

Overall, the authors concluded that interventions in emergency departments to increase the detection rate of cases of confirmed child abuse are scarce in the literature. Past study numbers and methodology have been inadequate to show conclusive evidence on the effectiveness of these interventions.

Additionally, two studies identified by Nygren et al.'s (2004) systematic review that assessed clinical screening tools/checklists were rated "poor".

Physical Examination of the Child

van Konijnenburg et al. (2013) conducted a systematic review to evaluate the diagnostic value of a screening physical examination to detect maltreatment in children without prior suspicion. Studies were selected if they presented medical findings of a complete physical examination conducted by a health care professional, in any health care setting, as a screening procedure (part or whole) for children aged 0-18 years. The recorded child maltreatment required confirmation by one reference standard including court, CPS, an expert panel, a forensic physician or a self-report. A complete physical examination was defined as minimally consisting of a visual inspection of the entire skin and oral cavity. Studies were excluded if the examination was conducted solely for the purpose of identifying sexual abuse.

The search yielded 4499 citations and a total of three studies (two cross-sectional and one prospective) met the search criteria. Study quality was determined using QUADAS-2 criteria. The aim of one study was to evaluate a brief screening assessment for child maltreatment in an ED in Italy.

The aim of the other two studies was to identify the prevalence and risk factors of child maltreatment, with one conducted in 19 emergency departments in Egypt in 2003 and the other conducted in a rural community in USA in 1982. Studies varied in terms of the age group of the sample (i.e., 12 to 18 years, 0 to 14 years and 0-2 years) and in the reference standard (i.e., CPS, expert panel and child self-report).

The prevalence of signs of maltreatment of the children examined ranged from 7.8% and 14.6% for unconfirmed cases and 0.8% and 13.5% for confirmed cases. The authors reported that none of the studies examined potential harms from the physical examination and none provided an estimation of sensitivity and specificity of the screening physical examination for child maltreatment. The authors also noted that the risk of bias was high for the reference standard across the studies. The authors concluded that due to a lack of studies, they could not draw conclusions about the diagnostic value of a physical examination in children without prior suspicion of child maltreatment.

Integrated Interventions

The Nelson et al. (2013) systematic review for the USPSTF identified one RCT by Dubowitz et al. (2009) assessing the SEEK (Safe Environment for Every Kid) model of care in pediatric clinics. This trial was conducted in 729 children (76% completion rate) aged 0-5 years. The trial reported no harms and significant improvements in the primary outcomes for the intervention group, including fewer child protection services (CPS) reports (3.3% vs. 19.2%; p=0.03), fewer instances of non-adherence to medical care (4.6% vs. 8.4%; p=0.05; 3), less delayed immunizations (3.3% vs. 9.6%; p=0.002), and fewer reported instances of severe or very severe physical assault (average weighted score on Conflict Tactics Scale, Parent-Child version: 0.11 vs. 0.33; p=0.04).

The trial was rated “fair” by Nelson et al. (2013); however, a subsequent trial of the SEEK model in a less at-risk pediatric population found few benefits for the intervention group (Dubowitz et al., 2012). This latter trial was mentioned as being “in progress” in the Nelson et al. (2013) review.

Harms/Adverse Effects

None of the SERs found evidence of harms associated with assessment/screening; however, harms were not measured as a specific outcome in the individual studies included in the SERs. Potential harms that have been identified in the literature include consequences of false negatives (i.e., children identified wrongly as not abused) and of false positives (i.e., children identified wrongly as abused and/or parents identified wrongly as abusers) (Bailhache et al., 2013); correct identification without any referral for services and/or lack of effective services; and possible increased risk of harm associated with a perpetrator becoming aware of the identification of maltreatment. Additional possible adverse effects include psychological distress and increased family conflict. The involvement of health care providers who do not have the experience and/or training to ask about CM has the potential to cause harm. Also, the issue of confidentiality is important, as well as taking into account the need to address the child’s safety following a maltreatment disclosure. Any disclosure may also lead to risk for other siblings and a non-offending parent, especially if IPV is a consideration. Despite the paucity of evidence, there is the important principle of protecting children from maltreatment and the need to identify such exposure, as well as the risk of harm.

[New 2015]

Table 1. Summary of SER findings by intervention category

SER	Design/intervention	Samples	Key findings	Quality / Limitations / Summary
Parent/Family Assessments				
Nygren et al. (2004)	1 retrospective cohort study (risk-stratified at intake with Family Stress Checklist) 2 cross-sectional 2-step screening studies using Hawaii Risk Indicators Screening Tool ([HRST]; medical record or interview) then Kempe Family Stress Inventory (KFI)	262 adolescents (13-19 y) in a maternity program (USA) 287 Pregnant women at hospital obstetric clinics (USA) 2870 at-risk pregnant women (USA)	Family Stress Checklist was only significant predictor of maltreatment using multiple outcome measures. 89% sensitivity and 28% specificity for the two-step process (HRST + KFI) with high scores on the Child Abuse Potential (CAP) inventory. KFI score was highly correlated with maltreatment rates (per 1000 children): 7 for low-risk scores, 18 moderate, 45 high, and 172 severe. (others report sensitivity 97%, specificity 21% for scores in high-severe risk range).	Good-fair (differential loss to follow-up) Fair (no abuse outcomes, high attrition) Fair-poor (many confirmed reports were made by home visitors to high-risk homes) Screening can reasonably identify potential abuse in samples of high-risk, pregnant women, but no link to abuse outcomes.
Bailhache et al. (2013)	No fair or good studies.	No fair or good studies.	No fair or good studies.	No fair or good studies for parent/family assessments.
Child/Adolescent Assessments				
Bailhache et al. (2013)	No fair or good studies.	No fair or good studies.	No fair or good studies.	No fair or good studies for child/adolescent assessments.
Clinician-completed Assessments				
Louwers et al. (2010)	4 studies of risk indicator checklists including 3 common items: 1) Whether the findings on examination conformed to the history given by the child or	5 or 6 year olds (two studies); children up to 17 or 18 years (2 studies);	Rate of detected cases of suspected child abuse increased by 180% (weighted mean in three studies); however, the number of confirmed cases of child abuse (reported in two out of four studies) showed no	3 of the 4 studies rated fair/good (rating 2-3) No evidence supporting checklists to reduce abuse-related outcomes.

SER	Design/intervention	Samples	Key findings	Quality / Limitations / Summary
	parents; 2) Whether there was a delay in seeking medical help; and 3) Whether there was an inconsistent history.	recruited in emergency departments.	significant increase.	
Louwers et al. (2010) Nygren et al. (2004) Woodman et al. (2010)	No fair or good studies.	No fair or good studies.	No fair or good studies.	No fair or good studies for clinician-completed assessments.
Physical Examination				
van Konijnenburg et al. (2013)	No fair or good studies.	No fair or good studies.	No fair or good studies.	No evidence for physical examination.
Integrated Interventions				
Nelson et al. (2013)	1 RCT met criteria – SEEK (Safe Environment for Every Kid)	729 children (0-5 years); high risk sample in USA pediatric clinics	Fewer child protection services (CPS) reports (3.3% vs. 19.2%; p=0.03); fewer instances of non-adherence to medical care (4.6% vs. 8.4%; p=0.05); less delayed immunizations (3.3% vs. 9.6%; p=0.002); and fewer reported instances of severe or very severe physical assault (Conflict Tactics Scale, Parent-Child version: 0.11 vs. 0.33; p=0.04).	Fair NOTE: A subsequent trial of SEEK in a less at-risk pediatric population found few benefits for the intervention group. Promising evidence of integrated interventions including assessment, but only in high-risk samples.

[New 2015]

Additional evidence not mentioned in PICO & Summary tables

The search identified three individual studies published since the Bailhache et al. (2013) review that were relevant to the scoping question:

- One quasi-experimental study assessed a screening protocol for adults presenting to the ED (Diderich et al., 2013);
- A second study using a prospective cohort design assessed a screening instrument completed for children presenting to the ED (Louwers et al., 2014); and
- A third cohort study examined a structured interview with parents as a screening tool (Staal et al., 2013).

None of these studies were of sufficient quality to influence the recommendation.

Diderich et al. (2013) used a before-and-after study design to evaluate a screening tool (i.e., Hague protocol) for adults presenting for care at 9 EDs in the Netherlands because of IPV, substance abuse, suicide attempt or other serious psychiatric problems. The goal was to determine if this protocol for screening adults could identify children at high risk for maltreatment. Following the implementation of the protocol, the number of parents referred to the regional child maltreatment reporting centre increased (OR=28.0; 95% CI: 4.6–170.7) and child abuse was confirmed in 91% of cases at assessment.

Louwers et al. (2014) used a prospective cohort study to evaluate a 6-item screening tool (i.e., Escape) in three Dutch EDs to measure the accuracy of detection of potential child maltreatment. Screening was completed for each child visiting the EDs for a total of 18 275 visits. There were 420 children with a positive screening result and 11 with a negative result were identified as potentially abused, resulting in a sensitivity of 0.80 and specificity of 0.98.

Stall et al. (2013) used a cross-sectional study design to evaluate a structured interview (i.e., SPARK) administered to parents of 1850 18-month old children living in Zeeland, a province of the Netherlands. The interview was conducted by trained child-health care nurses on a home visit or during a visit to a well-baby clinic and was based on parents' concerns and desire for care. Follow-up took place at 18 months after completing the screening, with the overall risk assessment of the screening tool found to be the strongest predictor for reports to regional child maltreatment reporting centres, with an OR (high vs. low risk) of 16.3 (95% CI: 5.2–50.8).

The search identified articles about the use of the National Institute of Child Health and Development (NICHD) Investigative Interview Protocol for forensic evaluation of child sexual abuse. The purpose of this structured interview protocol is to guide interviewers through administration of open-ended questions to assess exposure to child sexual abuse. One study examined its use by mental health professionals without training in the protocol (Cyr and Lamb, 2009) and determined that it led to more open-ended questions compared to the use in a matched control group; however, it did not address the outcomes of appropriate identification and referrals.

[New 2015]

PART 2: FROM EVIDENCE TO RECOMMENDATIONS

Evidence to recommendation table

Benefits	There are no SERs that have specifically addressed the question of the use of assessments to detect maltreatment in children and adolescents, within the context of mental health and developmental assessments. One study found benefits including fewer child protection services reports; however, a second study of SEEK conducted with a lower risk group found few benefits. It was not possible to determine the balance between benefits and harms of screening or assessments because of a lack of critical evidence.
Harms	Adverse effects of assessments were not evaluated in the studies; however, potential harms include consequences of false negatives (i.e., children identified wrongly as not abused) and of false positives (i.e., children identified wrongly as abused and/or parents identified wrongly as abusers); correct identification without any referral for services and/or lack of effective services; and possible increased risk of harm associated with a perpetrator becoming aware of the identification of maltreatment. Additional possible adverse effects include psychological distress and increased family conflict and harm associated with a lack of skills in child maltreatment assessment among healthcare providers that can compromise a child's safety following a disclosure of maltreatment. Disclosures may also lead to risk for other siblings and a non-offending parent, especially if IPV is a consideration.
Summary of the quality of evidence	Sensitivity and specificity of instruments were poor to fair depending on the instrument and population. No studies have evaluated the performance of measures in predicting referrals and health outcomes. Most studies that address approaches to detection of child maltreatment have focused on identification of physical abuse either through checklists and/or physical examinations.

	The quality of the individual studies is generally very low. The SEEK study, which was considered of fair quality and showed benefits, was followed by a study with few benefits, which necessitates replication of the original SEEK study. The results of the second trial in a lower-risk sample suggest that use of the SEEK model with families of lower risk for child maltreatment may not be effective.

Value and preferences	
In favour	Although there is recognition in the child health literature of the importance of determining effective methods for health care providers to identify children at risk of- or currently experiencing abuse or neglect, there is lack of agreement about how and where these interventions should occur and who should deliver them. There is the assumption that assessment of child maltreatment by health care providers can lead to referrals (e.g., to child protection agencies) that will ensure cessation of the maltreatment and additional referrals for treatment related to the child maltreatment exposure. There is high value on identifying children at risk or experiencing abuse or neglect since once child maltreatment is detected, there is the possibility of providing education, social services, parent skills training, child protection measures and treatment to address physical and psychological harms caused to the child. Intensive psychosocial family programmes show promise in reducing recurrence of child maltreatment (Chaffin et al., 2011; Chaffin et al., 2012; Jouriles et al., 2010) and there is increasing evidence for psychological treatments to reduce symptoms in children who have been exposed to maltreatment (Macdonald et al., 2012; Cohen et al., 2011; Lieberman et al., 2006). However, according to Goldman et al.'s (2013) review for the US Agency for Healthcare Research and Quality (AHRQ), the strength of evidence is low for the majority of interventions for children exposed to maltreatment. Furthermore, the placement in out-of-home care can lead to benefits for maltreated children, but these need to be balanced against the risks of removing children from their families (MacMillan et al., 2009).

Against	Assessment of child maltreatment needs to be coupled with referrals to effective interventions once identified (Nelson et al., 2013), and there is a paucity of effective interventions available. If a child is identified as maltreated or at risk of abuse or neglect and no services are provided, harms could outweigh benefits with the identification of maltreatment.
Uncertainty or variability?	There is some uncertainty about the values and preferences, but generally it is agreed that it is important for health care providers to detect child maltreatment. The opportunity to refer a child once identified varies depending on the setting, as well as the availability of resources.

Feasibility (including resource use considerations)	No instruments have been evaluated for feasibility in the primary health care setting using measures of time, cost or others. Assessment of child maltreatment requires a clinician who is competent enough to ask the right questions and to respond appropriately. There is no evidence to support universal screening, nor is it feasible. Feasibility issues for case findings include access to training for clinicians and availability of referral resources.
Uncertainty or variability?	There is variability in the feasibility of assessing child maltreatment, depending on the availability of training and referral resources.

[New 2015]

Recommendation and remarks

Recommendation

Health care providers should be alert to the clinical features associated with child maltreatment and associated risk factors and assess for child maltreatment without putting the child at increased risk.

Rationale: Evidence supporting the efficacy of strategies for detecting maltreatment of children and youth within the context of mental health and developmental assessment is sparse and inconclusive. No studies have evaluated the performance of measures in predicting referrals and health outcomes. However, it is generally agreed that it is important for health care providers to detect child maltreatment. It is recognised that assessment of child maltreatment requires a clinician who is competent enough to ask the right questions and to respond appropriately.

Remarks

Inquiry into child maltreatment should occur in the context of case finding and diagnostic assessment by clinicians competent to do so, and should be followed by interventions, referral and/or follow up, where appropriate. Inquiry and following actions should take into account the availability of interventions, such as caregiver skills training, and services. There is no evidence to support universal screening or routine inquiry.

The strategies, including reporting and follow-up of the assessment should be culturally sensitive and should not allow violation of children's basic human rights according to internationally endorsed principles.

Examples of child maltreatment include physical abuse, sexual abuse, neglect, emotional abuse and all other forms of child maltreatment.

[New 2015]

Judgements about the strength of a recommendation

Factor	Decision
Quality of the evidence	□ High □ Moderate □ Low **X Very low**
Balance of benefits versus harms	**X Benefits clearly outweigh harms*** □ Benefits and harms are balanced □ Potential harms clearly outweigh potential benefits **Benefits likely outweigh harms*
Values and preferences	**X No major variability** □ Major variability
Resource use	**X Less resource-intensive** □ More resource-intensive
Others (Acceptability/Feasibility/Equity/Accessibility)	Feasibility of- and accessibility to competent clinicians who have received training in asking questions about exposure to child maltreatment within the context of mental health assessments.
Strength	**CONDITIONAL**

OTHER REFERENCES

Bernstein DP, Ahluvalia T, Pogge D, Handelsman L (1997). Validity of the Childhood Trauma Questionnaire in an adolescent psychiatric population. Journal of the American Academy of Child and Adolescent Psychiatry.36(3):340-348.

Chaffin M, Funderburk B, Bard D, Valle LA, Gurwitch R (2011). A combined motivation and Parent-Child Interaction Therapy package reduces child welfare recidivism in a randomized dismantling field trial. *Journal of Consulting and Clinical Psychology*.79(1):84-95. doi:10.1037/a0021227.

Chaffin M, Hecht D, Bard D, Silovsky JF, Beasley WH (2012). A statewide trial of the SafeCare home-based services model with parents in child protective services. Pediatrics.129(3):509-515. doi:10.1542/peds.2011-1840.

Cohen JA, Mannarino AP, Iyengar S (2011). Community treatment of posttraumatic stress disorder for children exposed to intimate partner violence: a randomized controlled trial. Archives of Pediatric and Adolescent Medicine. 165(1):16-21. doi:10.1001/archpediatrics.2010.247.

Cyr M, Lamb ME (2009). Assessing the effectiveness of the NICHD investigative interview protocol when interviewing French-speaking alleged victims of child sexual abuse in Quebec. Child Abuse and Neglect.33(5):257-268. doi:10.1016/j.chiabu.2008.04.002.

Diderich HM, Fekkes M, Verkerk PH, Pannebakker FD, Velderman MK, Sorensen PJG, Baeton P, Oudesluys-Murphy AM (2013). A new protocol for screening adults presenting with their own medical problems at the Emergency Department to identify children at high risk for maltreatment. Child Abuse and Neglect.37(12):1122-1131. doi:10.1016/j.chiabu.2013.04.005.

Dubowitz H, Feigelman S, Lane W, Kim J (2009). Pediatric primary care to help prevent child maltreatment: the Safe Environment for Every Kid (SEEK) Model. Pediatrics.123(3):858-864. doi:10.1542/peds.2008-1376.

Dubowitz H, Lane WG, Semiatin JN, Magder LS (2012). The SEEK model of pediatric primary care: can child maltreatment be prevented in a low-risk population? Academic Pediatics.12(4):259-268. doi:10.1016/j.acap.2012.03.005.

Fernandopulle S, Fernando D (2003). Development and initial validation of a scale to measure emotional abuse among school children aged 13–15 years in Sri Lanka. Child Abuse and Neglect. 27(10):1087-1099.

Fraser GJ, Lloyd SW, Murphy RA, Crowson MM, Casanueva C, Zolotor A, Coker-Schwimmer M, Letourneau K, Gilbert A, Evans TS, Crotty K, Viswanathan M (2013). Child exposure to trauma: comparative effectiveness of interventions addressing maltreatment; Rockville, MD: Agency for Healthcare Research and Quality; 2013.

Gilbert R, Spatz Widom C, Browne K, Fergusson D, Elspeth W, Janson S (2009). Burden and consequences of child maltreatment in high-income countries. Lancet.;373(9657):68-81. doi:http://dx.doi.org/10.1016/S0140-6736(08)61706-7.

Hibbard R, Barlow J, MacMillan H (2012). Clinical Report: Psychological Maltreatment. Pediatrics.130(2):372-378. doi:10.1542/peds.2012-2269.

Jones L, Bellis MA, Wood S, Hughes K, McCoy E, Eckley L, Bates G, Mikton C, Shakespeare T, Officer A (2012). Prevalence and risk of violence against children with disabilities: a systematic review and meta-analysis of observational studies. Lancet.380(9845):899-907. doi:10.1016/S0140-6736(12)60692-8.

Jouriles E, McDonald R, Rosenfield D, Norwood W, Spiller L, Stephens N, Cprbitt-Shindler D, Ehrensaft M (2010). Improving parenting in families referred for child maltreatment: A randomized controlled trial examining effects of Project Support. Journal of Family Psychology.24(3):328-338. doi:10.1037/a0019281.

Lieberman AF, Ghosh Ippen C, Van Horn P (2006). Child-parent psychotherapy: 6-month follow-up of a randomised controlled trial. Journal of the American Academy of Child and Adolescent Psychiatry.45(8):913-918.

Macdonald G, Higgins JP, Ramchandani P, Valentine JC, Bronger LP, Klein P, O'Daniel R, Pickering M, Rademaker B, Richardson G, Taylor M (2012). Cognitive-behavioural interventions for children who have been sexually abused. Cochrane Database of Systematic Reviews.5:CD001930. doi:10.1002/14651858.CD001930.pub3.

MacMillan HL, Wathen CN, Barlow J, Fergusson DM, Leventhal JM, Taussig HN (2009). Interventions to prevent child maltreatment and associated impairment. Lancet.373(9659):250-266. doi:http://dx.doi.org/10.1016/S0140-6736(08)61708-0.

National Collaborating Centre for Women's and Children's Health (NCC-WCH). When to suspect child maltreatment. London: National Institute for Health and Clinical Excellence (NICE); 2009 (http://www.nice.org.uk/guidance/cg89/evidence/cg89-when-to-suspect-child-maltreatment-full-guideline2, accessed on 17 November 2014).

Staal IIE, Hermanns JMA, Schrijvers AJP, van Stel HF (2013). Risk assessment of parents' concerns at 18 months in preventive child health care predicted child abuse and neglect. Child Abuse and Neglect.37(7):475-484. doi:10.1016/j.chiabu.2012.12.002

Stoltenborgh M, Bakermans-Kranenburg MJ, van IJzendoorn MH, Alink LRA (2013). Cultural-geographical differences in the occurrence of child physical abuse? A meta-analysis of global prevalence. International Journal of Psychology.48(2):81-94. doi:10.1080/00207594.2012.697165.

Stoltenborgh M, Bakermans-Kranenburg MJ, van Ijzendoorn MH (2013). The neglect of child neglect: a meta-analytic review of the prevalence of neglect. Social Psychiatry and Psychiatric Epidemiology.48(3):345-355. doi:10.1007/s00127-012-0549-y.

Stoltenborgh M, Bakermans-Kranenburg MJ, Alink LRA, van IJzendoorn MH (2012). The universality of childhood emotional abuse: a meta-analysis of worldwide prevalence. Journal of Aggression, Maltreatment and Trauma.21(8):870-890. doi:10.1080/10926771.2012.708014.

Stoltenborgh M, van Ijzendoorn MH, Euser EM, Bakermans-Kranenburg MJ (2011). A global perspective on child sexual abuse: meta-analysis of prevalence around the world. Child Maltreatment.16(2):79-101. doi:10.1177/1077559511403920.

Violence Against Survey (VACS). Atlanta: Centers for Disease Control; 2014 (http://www.cdc.gov/violenceprevention/vacs/index.html, accessed 15 November 2014).

World Health Organization (WHO). Child maltreatment – Fact Sheet. Geneva: WHO; 2014 (http://www.who.int/mediacentre/factsheets/fs150/en/, accessed on 15 November 2014).