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Evidence Check

Assessment tools for children and young people

An Evidence Check rapid review brokered by the Sax Institute
for NSW Ministry of Health—May 2022

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This report was prepared by: Dr Karen McLean, Dr Elodie O'Connor, Ms Rachel Ong, Dr Corey Joseph and Professor Sharon Goldfeld. The writing team acknowledges the valuable commentaries provided by the following subject matter experts: Dr Anita D'Aprano, Dr Billy Garvey and Professor Rachel Skinner.

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Health, development and learning screening and assessment tools for children and young people aged 5–18 years

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Glossary

Acronym	Full name
ADHD	Attention deficit hyperactivity disorder
APRN	Australian Paediatric Research Network
ASEBA	Achenbach System of Empirically Based Assessment
ASQ	Ages and Stages Questionnaire
BASC-2	Behavior Assessment Scale for Children–2 (Early Childhood)
BER-2	Behavioral and Emotional Rating Scale
BHS-PC	Behavioral Health Screen–Primary Care
BRIEF	Behavior Rating Inventory of Executive Function
CBCL	Child Behavior Checklists
CBSP	Scale of Community Based Social Skill Performance
CRAFFT	Car, Relax, Alone, Forget, Friends, Trouble
DV	Domestic violence
FASD	Foetal alcohol spectrum disorder
HEEADSSS	Home, Education/Employment, Eating, Activities, Drugs, Sexuality, Suicide/Depression and Safety
LITE-P	Lifetime Incidence of Traumatic Events, Parent Report
LITE-S	Lifetime Incidence of Traumatic Events, Student Form
MCH	Maternal and child health

NCAF	National Clinical Assessment Framework for Health Assessments for Children and Young People in Out-of-Home Care
NICHQ	National Institute for Children's Health Quality
NSW	New South Wales
OOHC	Out-of-home care
PEDS	Parents' Evaluation of Developmental Status
REA	Rapid evidence assessment
SCOFF	Sick, Control, One, Fat, Food
SCT	Sluggish cognitive tempo
SDQ	Strengths and Difficulties Questionnaire
SF-10	Short Form 10-item Health Survey
SNAP-IV	Swanson, Nolan and Pelham
UCLA	University of California at Los Angeles
US	United States
VEX-R	Violence Exposure Scale for Children–Revised
WA	Western Australia
WHIN	Wellbeing Health In-reach Nurse

Executive summary

Background

School nurses are well placed to help identify a range of health problems and connect children, young people and their families to local services to meet their health needs. The Wellbeing and Health In-reach Nurse (WHIN) Coordinator program has placed nurses in 100 locations across NSW with higher rates of adversity or vulnerability, with the aim of improving health and education outcomes. Children and young people may be referred by parents, teachers or themselves with a wide range of concerns, and the nurses work to connect them with the most appropriate service to meet their needs.

This Evidence Check sought to identify validated health assessment tools to assist the Wellbeing Nurses in identifying children who may be at risk of academic, behavioural, emotional or health-related difficulties by understanding the needs of children and young people referred to the program, across the domains of physical health, mental health, development and family violence. The review will be used to inform the development of assessment tools for 5–18-year-olds.

Evidence Check questions

This Evidence Check aimed to address the following questions:

Question 1: What validated health assessment tools for children and young people aged 5–12 years have been found to be effective or are promising?

Question 2: What validated health assessment tools for children and young people aged 12–18 years have been found to be effective or are promising?

Question 3: How were the assessments, systems or tools identified in Questions 1 and 2 used in clinical practice and what barriers and enablers have been described for them?

Summary of methods

The authors used rapid evidence assessment methodology to identify potential validated tools for the four domains of interest for children and young people. We searched three academic databases for peer-reviewed publications within countries of interest in the past 10 years. We also searched for information about seven Australian-based school health services. In a search for international relevant

programs we found eight sources of interest, and we reviewed an Australian measures library as well as an evidence-based framework for children and young people in out-of-home care.

From 8236 peer-reviewed articles found in the database search, we identified 23 relevant peer-reviewed publications. In combination with 25 grey literature sources, we identified 72 tools.

Key findings

Question 1: What validated health assessment tools for children and young people aged 5–12 years have been found to be effective or are promising?

- The most promising tools for use within the 5–12 age group are the Strengths and Difficulties Questionnaire (SDQ) and the Achenbach System of Empirically Based Assessment (ASEBA) Child Behavior Checklists (CBCL) for mental and behavioural health, and the Parents' Evaluation of Developmental Status (PEDS) and the Ages and Stages Questionnaire (ASQ) for development
- There was insufficient evidence to recommend any of the family violence tools at this stage, but several tools warrant further investigation
- Within the physical health domain we found two screening tools for developmental coordination disorder; in the grey literature search we identified sleep as a potential sub-domain of interest, finding one validated measure in the Children's Sleep Habits Questionnaire.

Question 2: What validated health assessment tools for children and young people aged 12–18 years have been found to be effective or are promising?

- We did not identify any tools for assessing development within young people aged 12–18 years. One of the screening tools for developmental coordination disorder would be applicable for young people aged 12–15 years, although it is not likely it would be frequently used
- The Adolescent Sleep Wake Scale is a potential tool of interest if sleep is relevant to the Wellbeing Nurses
- In addition to the SDQ and CBCL tools, which are also applicable within this age group, we found four other tools to assist in understanding psychosocial needs among adolescents: one general screen, the well-known HEEADSSS tool; CRAFFT, which assesses substance use; and SCOFF, for additional information about potential eating disorders. The New Zealand-developed YouthCHAT is an online tool that has been shown to work well in conjunction with the HEEADSSS interview to identify needs in adolescents; it could be implemented within the WHIN Coordinator program
- Again, there was insufficient evidence to identify any single family violence tool for recommendation, although we did find a number of potential self-report and carer-report tools.

Question 3: How were the assessments, systems or tools identified in Questions 1 and 2 used in clinical practice and what barriers and enablers have been described for them?

- We found there was very limited information that addressed this question for individual tools

- Broad principles we identified included the value of parent/proxy-report as well as teacher-report tools within the school setting and the need for tools that required minimal training, that were quick to administer, score and interpret and that were readily available or cheap to use.

Conclusion

The most promising tools were within the mental health and wellbeing domain (SDQ, CBCL, HEEADSSS, CRAFFT, SCOFF and YouthCHAT). The PEDS (appropriate for children from birth to seven years and 11 months) and ASQ (appropriate from three months to five years and six months) could be implemented to help understand developmental concerns in the youngest years of school. We were unable to recommend any specific family violence tool (further work is required here); and we found no physical health tools to recommend. However, we identified two sleep tools that could be of interest—it may be prudent to conduct a review focusing on sleep to ensure they are the most appropriate tools.

Before implementing any tools, more information will need to be gathered regarding cost, licensing, training requirements and acceptability for nurses, children and young people. The introduction of any tool should include clear practice guidelines about when and how it should be used and what further steps should be taken depending on results, including the need for referral and follow-up.

Background

With an almost universal reach across the child and adolescent population, schools are a potential platform for the delivery of healthcare services, particularly for early identification of health concerns and intervention. Evidence indicates that nurses located within school settings can provide health promotion, early intervention and assist with accessing timely healthcare for at-risk students.[1]

In recent years, there has been increasing awareness and prevalence of mental health concerns among Australian children and young people, and increased understanding of the benefits of identifying and intervening early. Before the COVID-19 pandemic, an estimated 14% of Australian children aged 4–11 years experienced a mental health disorder.[2] The pandemic and associated public health measures have had detrimental impact on the health and wellbeing of children and young people, and it is likely these numbers are now higher.[3] Similarly, 2021 data showed 22% of children in their first year of school were developmentally vulnerable in one or more domain, with 11.4% vulnerable in at least two domains.[4]

The Wellbeing and Health In-reach Nurse (WHIN) Coordinator program places Wellbeing Nurses in NSW primary and secondary schools to identify the health and social needs of students, and to coordinate their early intervention and referral to services and programs.[5] The program began with a pilot of the model from 2018–2020 that began with three regional sites and expanded in 2020 to six sites. The evaluation of this pilot found the Wellbeing Nurses supported students and families to achieve positive health and education outcomes.[5] This and other positive findings have led to implementation of the program more broadly, with 100 new positions being funded across regional and metropolitan NSW.[6]

While the evaluation found the Wellbeing Nurses were frequently identifying health and wellbeing needs of students and families and making referrals and connections with appropriate services, the Ministry of Health has recognised a need for validated health and/or wellbeing assessment tools to support the nurses in this work. As a first step, the Ministry of Health has commissioned this Evidence Check of the validated evidence about health-related tools for assessment in children and young people aged 5–18 years of age. Such tools could provide a standardised approach to assessment of health needs within the program. In addition, the use of assessment tools with good validity and reliability would provide some reassurance that the needs of children and young people are being correctly identified, and that needs are neither under- nor over-identified.

In the absence of any single validated holistic health and wellbeing assessment tool to broadly understand the developmental and emotional needs of school-aged children and young people, there is a need to identify the variety of validated tools that do exist that could be useful for the Wellbeing Nurses.

Methods

Rapid evidence assessment methodology

The Evidence Check literature review used a rapid evidence assessment (REA) methodology. The REA is a research methodology that uses similar methods and principles to a systematic review but makes concessions to the breadth and depth of the process in order to be completed within a short time frame. It uses rigorous methods for locating, appraising and synthesising the evidence related to a specific topic but places a number of limitations in the search criteria and in how the evidence is assessed. For example, REAs often limit the selection of studies to a specific time frame (e.g. past 10 years) and to published peer-reviewed English language studies (therefore excluding unpublished pilot studies, difficult-to-obtain material and/or non-English language studies). The REA can help inform policy and decision makers more efficiently by synthesising and ranking the evidence in a relatively short time, although it is not necessarily as exhaustive as a well-constructed systematic review or meta-analysis.

The components of the questions for this Evidence Check were defined in terms of the population, health assessment tools and health domains. We established operational definitions for key concepts, and defined inclusion and exclusion criteria for screening identified studies.

Population: The population of clinical interest (i.e. for health assessments) was defined as children and young people between the ages of five and 18 years. The population administering the tools was defined as Wellbeing Nurses. This did not preclude the inclusion of tools that are more typically used by other clinicians but did exclude any that required a different professional qualification for administration. It also did not exclude tools that require some level of additional training to be competent in use/interpretation.

Health assessment tools: The Wellbeing Nurses receive referrals from education staff, parents and from young people themselves. The evaluation of the WHIN Coordinator program pilot found the coordinators provided significant support to students and families to navigate and connect with local health and wellbeing services.[5] The purpose of this Evidence Check was to identify validated tools that could support the WHIN Coordinators in their identification of health needs across a range of health domains. Such tools can:

- Provide a framework to guide evaluation of a particular health domain through history taking (asking questions) examination and/or investigations
- Include validated tools such as questionnaires for parent/teacher/self-report regarding observed behaviours (for psychosocial / mental health assessment) or skill acquisition (for developmental health assessment)
- Provide a validated measure of the direct observation of skills (e.g. for development).

Since the Wellbeing Nurses are not expected to perform physical or other direct examinations of the children or young people referred for assessment, the health assessment tools of interest were

frameworks for history taking, questionnaires or other assessments that might be administered to parents, teachers and/or the young person directly to understand the health needs that could benefit from referral.

Health domains: The domains of interest as determined by the Ministry of Health were: 1) physical health, 2) mental health, 3) development and 4) family violence.

There was no requirement to seek tools that assessed for specific physical health conditions; rather the physical health domain focused on gross and fine motor development and motor abilities / coordination. The developmental domain did not include any assessments that focused on educational outcomes, given this is a core activity of the teaching staff within schools. Rather, search terms focused on cognition and language.

Our search proceeded in two stages (see Figure 1). Before Stage 1 we searched for any similar reviews in the Cochrane database and online, to ensure we had the most appropriate search terms. Stage 1 identified articles from peer-reviewed journals via three electronic bibliographic databases (PubMed, Embase and CINAHL) that provide evidence for validated assessment tools relevant to each health domain for Questions 1 and 2. Stage 2 extended the search for evidence through a search of the grey literature. This included a Google search directly for tools and for information regarding school nurse programs within Australia and overseas, a search of the Measures Library of the Australian Paediatric Research Network (APRN) and a focused search for tools used within international school-based nursing programs in New Zealand, the UK, US and Canada. We then reviewed findings with our clinical experts to ensure that the most commonly used tools were considered for the final recommendations, and that the findings of the Evidence Check were interpreted in the context of usual child and adolescent health practice.

Figure 1 – Overall search strategy

Peer-reviewed literature

Prior to Stage 1, we searched for existing reviews of assessment tools, both in the Cochrane database and online. Our rapid search found no review articles that completely met the research questions being asked.

Within Stage 1, we identified articles from peer-reviewed journals via PubMed, CINAHL and Embase from 1 January 2012 – 21 February 2022. We applied a broad range of search terms from the following subject categories: health assessment tools; child and adolescent; and physical health,

mental health, development and family violence domains (see **Table 1** in Appendix 1: Search). We performed an individual search strategy for each domain rather than a single over-arching search strategy across all four areas. The results from each database search were then imported into Covidence as four separate reviews: physical health, mental health, development and family violence. The PRISMA flow charts for each domain are detailed in Appendix 2: PRISMA diagrams.

Included studies

Inclusion and exclusion criteria are detailed in **Table 2** (within Appendix 1: Search) along with the filters and limiters used within each of the database searches. As we conducted the search, we refined these to manage the large quantity of tools identified within the peer-reviewed literature, particularly for the mental health and development domains. In particular, where the identified article was itself a review of tools for a particular sub-domain/domain, we excluded any tools for which there was no mention of validity or reliability and that were not recommended by the authors of the reviews. If validity data was available through a different source (e.g. grey literature) but not the identified journal article, we chose to include the tool.

Grey literature

The aim of the grey literature search was to locate additional health assessment tools that were not identified in the peer-reviewed literature searches. We identified relevant grey literature through:

- A focused online Google search
- Focused searching for tools used in Australian school-based nursing programs and the National Clinical Assessment Framework for Health Assessments for Children and Young People in Out-of-Home Care (NCAF)[7]
- A focused Google search for websites outlining international school-based nursing programs
- A review of all measures included in the Measures Library of the APRN.[8]

While validity and reliability data increased the likelihood of inclusion, a number of tools clearly in use within a school setting or recommended in other similar jurisdictions were included in the results regardless of reported psychometric properties, given the potential interest for implementation by the Wellbeing Nurses.

Focused Google search: This search combined the search term ‘child adolescent assessment tool’ with each domain (physical health, development, mental health and family violence). We reviewed the first 100 results of each search for valid potential tools.

Search for tools used in Australian school-based nursing programs: Ten school-based health services were identified from Appendix 3 of the Wellbeing and Health In-Reach Nurse (WHIN) Coordinator model pilot evaluation.[5] We conducted a Google search to find publicly available documents with guidelines or reference to tools available for the nursing staff. Some tools have been included for discussion without clarity as to validity and reliability as they are currently in use within a school setting.

Search for international school-based nursing programs/tools: We undertook a brief search for tools included in school-based nursing or health programs in New Zealand, the UK, Canada and the US.

Measures Library of the Australian Paediatric Research Network: The APRN is a network of Australian general paediatricians with an interest in research that is relevant to clinical practice. The network developed a free library of 100 commonly used child and parent research tools, many of which were deemed relevant to clinical practice as well as research. This was last updated about five years ago. We searched the full library for any tools that might be relevant for use in clinical practice in the domains of interest.

The National Clinical Assessment Framework for Children and Young People in Out-of-Home Care: This framework, developed 10 years ago, recommends a range of validated tools for the comprehensive assessment of health needs for children and young people in out-of-home care. We reviewed it to ensure we also considered any recommended tools for this search.

The websites identified through the above sources that yielded relevant findings are listed in Appendix 3: Relevant grey literature websites.

Findings

Of the 492 records identified for the physical health domain, we included one full-text study in the Evidence Check and four sources from grey literature (see

). Of the 3536 records identified for the mental health domain, we included10 full-text studies in the Evidence Check, with an additional 12 grey literature sources (see

Figure 3 – Mental health domain PRISMA diagram

*Number derived from the number of papers that the tools were retrieved from – WA School Nursing Program, National Clinical Assessment Framework, ACT School Youth Health, Whāraurau tools, Mental Health Assessment in Primary Care Decision Support for Clinicians, Queensland Child and Youth Health Practice Manual. The remaining 6 tools were considered as one paper each as there were no mention of where they were retrieved.

. Of the 3901 records identified for the development domain, we included seven full-text studies in the Evidence Check and four grey literature sources (see **Figure 4 –**: Developmental domain PRISMA diagram

*3 tools were included from grey literature but 4 papers as 2 papers mentioned the same tool.

). Finally, of the 306 records identified for the family violence domain, we included five full-text studies in the Evidence Check, with a further five grey literature sources (see

Figure 5 –Family violence domain PRISMA diagram

).

We found a number of potentially valid tools through all the components of the grey literature search, although there was little information about validity and reliability. We chose to include tools that were recommended as valid, and/or those that were recommended for use within a similar school health context. We also noted some information about tools used within Australian school settings that appear to have been locally developed to provide an example of practice elsewhere in Australia.

The limited nature of this Evidence Check means that while we found items that have some reported validity and reliability, it was not possible to adequately assess the psychometric properties for most tools due to a lack of detail about the population and context in which this was determined. Some tools were recommended as valid with no detail regarding the psychometric properties. There is often a greater call for psychometric measures within a clinical research context to assist in answering specific quantitative research questions, and at times it was not possible to tell from the identified literature whether the tool in question had been implemented within clinical practice or purely in research (often of a very niche nature). We erred on the side of inclusion and have recommended further exploration of such details for tools where validity is in doubt, should there be interest in implementing them within the WHIN Coordinator program.

We excluded many tools that required specific qualifications, particularly speech pathology or psychology clinical qualifications. However, some tools could have been included where such information was not apparent in the identified article.

Since the focus of this Evidence Check was on identifying tools, the tables in Appendix 4: Data extraction tables present the findings by tool rather than by paper/source.

Question 1: What validated health assessment tools for children and young people aged 5–12 years have been found to be effective or are promising?

Physical health: (See **Table 3**) We identified only two valid tools in the peer-reviewed literature for physical health, both of which were designed to screen for coordination disorders. The Children's Activity Scales for Parents and Teachers is a questionnaire for parents and teachers that could be used for children aged 5–8 years. The Developmental Disorder Coordination Questionnaire is applicable from 5–15 years of age and completed only by parents. This last tool was also identified in the grey literature.

Two tools that quantified sleep problems in children through parent-report questionnaires were found within the APRN Measures Library. The Children's Sleep Habits Questionnaire was the longer of the two and had more reported validity and reliability data within this source, and it appears to be adequately robust for use within a clinical context. However, it is unclear whether this has been used in a school-based setting.

Mental health: (See **Table 4**) We found 18 tools in peer-reviewed and grey literature reported as having validity for measuring mental health in childhood.

One parent/carer-report tool was designed for preschool-aged children and is valid from 6–72 months (sixth birthday) so was still included (Ages and Stages Questionnaire: Social and Emotional).

All but two of the tools were questionnaires. The Child and Adolescent Needs and Strengths guides a clinician interview and appears to be more commonly used within mental health services to obtain a detailed understanding of the child. The Children's Yale-Brown Obsessive Compulsive Scale is also a clinician-administered interview appropriate for children from seven years up, but with a specific focus—it is usually used to monitor progress when a child is receiving treatment.

The remainder of the tools vary in length from 10 items (Short Form 10-item (SF-10) Health Survey) to more than 100 (Achenbach System of Empirically Based Assessment Child Behavior Checklists (CBCL)). For primary school-aged children, parent and/or teacher report was the most common method of data collection. Six questionnaire-based tools in this domain included child self-report: the Child Anxiety Life Interference Scale (from 6–17 years), the Columbia Impairment Scale (6–17 years), the Obsessive Compulsive Inventory–Child Version (7–17 years), the Screen for Child Anxiety Related Emotional Disorders (8–18 years), the Revised Children's Anxiety and Depression Scale (8–18 years) and the Spence Children's Anxiety Scale (8–18 years). The final two of this list have parent-report versions mentioned for 6–18 years. It is interesting to note that five of these assess anxiety symptoms. The sixth (Columbia Impairment Scale) was mentioned only briefly in Williams et al.[9] and was described as having adequate sensitivity and specificity to detect psychiatric disorders. More detail was not available in either the peer-reviewed or grey literature found in this Evidence Check, and thus it cannot be recommended.

Two identified tools (both with teacher and parent/carer formats) are specifically for attention deficit hyperactivity disorder (ADHD): The National Institute for Children's Health Quality (NICHQ) Vanderbilt Assessment Scales and the Swanson, Nolan and Pelham (SNAP-IV). Five tools (including four that used child self-report tools and one of the interview tools) focused on anxiety / obsessive-compulsive disorder. One tool assesses for depression: the Short Mood and Feelings Questionnaire comes in a short (13-item) and long (33-item) form including parent and child self-report for 6–19 years of age. While validity seemed strong, it was not clear whether this was for the short or long form, and interpretation of findings was necessary as cut-points were recommendations only.

Two tools assess functioning: the Brief Impairment Scale (identified in the grey literature[10]) and the SF-10 for Children, mentioned by Williams et al.[9]who were seeking a measure of functioning in a research setting. A review by Tsang et al.[11] found the Behavioral and Emotional Rating Scale Version Two (BER-2) had the strongest psychometric properties of strengths-based measures of wellbeing and also had a strong focus on functioning. While these tools do have strong psychometric properties, measures of functioning are usually a part of monitoring the effectiveness of treatment, whether in a clinical or research setting.

In a search for tools that could be used as outcome measures in anxiety interventions for children with autism spectrum disorders, Wigham et al.[12] found the Revised Children's Anxiety and Depression Scale had strong psychometric properties and had been used in school-based research. Other references were not found for this tool so its utility outside the research setting is unknown.

The broadest tools included the Strengths and Difficulties Questionnaire (SDQ) and the CBCL, which both report across a range of sub-domains of mental health and behaviour and are frequently used in clinical practice to identify and quantify concerns from parents and teachers. Of these, the SDQ is the much shorter instrument and one of the most frequently identified. It was referred to by Williams et al.,

Tsang et al. and Hall et al.[9, 11, 13] among peer-reviewed literature and was found in five different grey literature sources including use in a school context in Victoria and WA, the APRN Measures Library, the National Clinical Assessment Framework for Out-of-Home Care and recommended in New Zealand.[7, 8, 14-16]

The Pediatric Symptom Checklist was recommended by the American Academy of Pediatrics as a possible tool for pre-visit screening for mental health problems.[10] It was also identified elsewhere in the grey literature, and the recommended use in the US context is by primary care paediatricians and other health professionals. It is not clear whether this has been used routinely within a school-based context.

We included one additional tool in **Table 4**, the Royal Children's Hospital Clinical Practice Guideline: Mental state examination. This tool was referenced within the Australian Capital Territory School Youth Health Nurse Program grey literature.[17] While there is no reported specific validity or reliability, the Clinical Practice Guidelines are well regarded, evidence-based and grounded in expert clinical practice. This tool could be used in a face-to-face Wellbeing Nurse interaction where there is immediate concern about a child or young person's mental state as part of an assessment.

Development: (See **Table 5**) We identified 13 tools for the 5–12-year age group. There was some overlap with results between the developmental and mental health domains. Mahone and Schneider[18] reviewed tools to assess attention among preschool-aged children, finding four tools that were appropriate for five-year-old children that could have been reported on within the mental health domain: CBCL for 1.5–5.5 years, Behavior Assessment Scale for Children–2 (Early Childhood) (BASC-2), ADHD Rating Scale IV–Preschool Version and the Conners Early Childhood. The latter two of these tools are used only in the context of ADHD. The psychometric properties for the CBCL 1.5–5.5 are not as strong as the version for older children. While the BASC-2 uses parent-report to screen for a wide range of child behaviour problems, it is only valid for 2–5-year-old children. The Developmental Behaviour Checklist, found in the grey literature, assesses behavioural and emotional problems in young people with developmental and intellectual disabilities.

Becker[19] recently reviewed tools to assess sluggish cognitive tempo (SCT) and recommended two tools with the best evidence: the Child Concentration Inventory, 2nd Edition and the Child and Adolescent Behavior Inventory. While the latter reportedly also evaluates anxiety and depression symptoms, it was difficult to assess its utility given the focus only on the SCT domain, which is not one that has been incorporated into routine paediatric practice.

Berardi et al.[20] found two tools that assessed working memory (Working Memory Power Test, Working Memory Rating Scale) and one that assessed executive function more broadly (Behavior Rating Inventory of Executive Function, or BRIEF). However, there were limited data on BRIEF's validity and reliability.

The Neurobehavioural Screening Tool screens for foetal alcohol spectrum disorder (FASD). However, Grubb et al.[21] reported that while it had the best psychometrics among such tools, it was weakest when trying to discriminate between FASD and diagnoses such as ADHD. It does not seem that this tool would be useful for children referred to the Wellbeing Nurse.

Tools for traditional developmental screening are designed for the early years of life and therefore would only be relevant within the first years of primary school. We found two tools that could potentially be used by Wellbeing Nurses. The Ages and Stages Questionnaire (ASQ) is a parent-

report measure that is valid until five years and six months of age. It was identified in grey literature including the National Clinical Assessment Framework for Out-of-Home Care and the Western Australia (WA) resources for school nurses.[7, 14] The Parents' Evaluation of Developmental Status (PEDS) was found in peer-reviewed literature[22] and was also frequently referenced in grey literature (NCAF, WA, Victorian and Queensland school health resources, and the APRN Measures Library. It is valid until seven years and 11 months of age and uses 10 parent-report items. It has been validated in a range of settings and has strong sensitivity and specificity.

Family violence: (See **Table 6**) We found 11 tools that assess for family violence among families with children in the 5–12 age group and some information about three additional approaches within programs. Unfortunately, detail about validity and particularly about use beyond research settings was very limited.

Child-report tools were less common. Latzman et al.[24] and Ravi and Tonui[25] both described the Child Exposure to Domestic Violence tool, which was also identified in the grey literature. This tool is for children aged 10–16 years and is a 42-item self-report questionnaire. Ravi and Tonui[25] proposed that it would be suitable for use by social workers, although they recommended better validity data (i.e. through future research).

Latzman et al.[24] identified three other tools that include a component of self-report. The first was for children aged 10–12 years, the Children's Perceptions of Interpersonal Conflict, a pen and paper self-report asking them about the intensity of arguments between parents and the perceived threat to themselves. The second was the Dimensions of Stressful Events, which explores lifetime exposure to family violence for young people aged 2–18 years and is conducted by interview with the caregiver and the child. Third, the Childhood Experiences of Violence Questionnaire is a self-report tool that measures lifetime exposure to family violence, for use with young people aged 12–18 years. This tool has some validity data.

We identified two additional self-report tools within the grey literature. The Violence Exposure Scale for Children–Revised (VEX-R) is a self-report tool using cartoon-based questions for children aged 5–10 years, administered in an interview format. VEX-R, which we found in the grey literature from the National Child Traumatic Stress Network in the US[26], measures exposure to violence and trauma. While a limited evaluation found issues with younger children understanding the questions, the tool was found to be valid and reliable with school-aged children. It required four hours of training before administering. The Lifetime Incidence of Traumatic Events, Student Form (LITE-S) is valid from nine years (the upper age limit is not specified) and measures exposure to violence and trauma. LITE-S and an accompanying parent-report version (LITE-P), for parents of children of 'all ages', are reported to be valid.

It is unclear whether any of the child-report tools have been implemented outside the research setting.

Keeshin et al.[27] referred to the Pediatric Traumatic Stress Screening Tool, stating it was a validated measure of a child's exposure to trauma and subsequent traumatic stress symptoms that could flag the need for therapy. This tool has a variety of formats, including one called the University of California at Los Angeles (UCLA) Brief Screen; however, there was very limited detail about it, and it was unclear whether it was administered to the child directly (and if so, to what age group) or to the parent.

We found six tools that relied on parent report of family violence. The Conflict Tactics Scales / Conflict Tactics Scales 2 are versions of tools that have been adapted for use with parents. These tools explore the frequency of tactics used within a relationship when there is conflict, for self and for the partner. This reliable measure was identified in the review by Latzman et al.[24] and also noted within the grey literature search. Two further parent-report tools were identified in this same review: the Timeline Followback Interview— Children's Exposure to Partner Violence[28] was designed for carers of children younger than 12 years and asks about family violence within the preceding 12 months. The limited validity data was strong but it was not clear whether it had been used outside a research setting. The Family Responses to Conflict Scale examines family violence since the parent started to live with the current partner. It is intended for mothers of children aged up to 18 years. No evidence was found for use of any of these tools outside research settings.

Hooker et al.[29] looked at the implementation of routine screening for domestic violence in the Victorian Maternal and Child Health (MCH) program. This was done within a research study that provided a focused model of care to support screening, including safety planning, nurse mentors and domestic violence liaison workers. It described the challenges of improving confidence and changing practice for the nurses. However, there was no detail about how screening was done or any tools used; it would appear it is carried out in an early visit with the mother and baby through direct questioning and/or the use of an unspecified self-report tool.

Within the grey literature, we found one validated parent-report tool. The Relationship Assessment Tool is self-administered or administered through face-to-face interview, and it measures emotional abuse through measuring a woman's perceptions of vulnerability to physical danger, loss of power and loss of control in her relationship. This is reportedly validated among Caucasian and African-American women, but there was limited detail.

Resources for nurses within the WA school health service include forms providing a template/guide for assessing family violence.(14) The forms are not validated (and do not indicate that a validated measure is being used) but they do demonstrate that family violence assessment is being done elsewhere in Australia within a school-based nursing context.

Question 2: What validated health assessment tools for children and young people aged 12–18 years have been found to be effective or are promising?

Physical health: The *Developmental Disorder Coordination Questionnaire,* identified in both peer-reviewed and grey literature and discussed in Question 1, is validated from 5–15 years of age. We found one validated self-report tool about adolescent sleep within the APRN Measures Library[8,] the Adolescent Sleep Wake Scale*.* A third tool, the Adolescent Physical Activity Recall Questionnaire, identified in the grey literature, appears to be used to evaluate programs that aim to promote physical activity rather than in any context seeking to understand assessment of need. We did not identify any use of these three tools within a school-based health setting.

The Adolescent Sleep Wake Scale, an adaptation of a child version, is a self-report tool of overall sleep quality that reports on five subscales. It was validated on 491 adolescents in the US. As we

identified it through the APRN Measures Library[8], we do not know whether it is used within a primary care clinical context or school-based health setting.

Mental health: Seventeen of the previously discussed tools are applicable for secondary as well as primary school students and have been discussed above:

- ASEBA CBCL: these are valid from 6–18 years. From the age of 11 there is a self-report version for adolescents in addition to the parent/carer report and teacher report form
- Behavioral and Emotional Rating Scale (Version Two): from 5–18 years. Self-report available from 11 years
- Brief Impairment Scale (both): parent-report only: 4–17 years
- Child and Adolescent Needs and Strengths: interview, from zero to 18 years
- Child Anxiety Life Interference Scale: from 6–17 years
- Children's Yale-Brown Obsessive Compulsive Scale: clinician-administered interview, from 7–17 years
- Columbia Impairment Scale (both): from 6–17 years
- Royal Children's Hospital Clinical Practice Guideline: mental state examination, all ages
- Obsessive Compulsive Inventory–Child Version: from 7–17 years
- Pediatric Symptom Checklist: self-report from 11 years, forms from 6–16 years
- Revised Children's Anxiety and Depression Scale: from 8–18 years
- Screen for Child Anxiety Related Emotional Disorders: unclear whether parent/self-report, from 8–18 years
- Short Mood and Feelings Questionnaire: parent and self-report, from 6–19 years
- SF-10 for Children: parent/carer report for children and adolescents from 5–18 years
- Spence Children's Anxiety Scale: parent report from 6–18 years, self-report from 8–18 years
- SDQ: self-report 11–18 years, parent/teacher report 4–18 years
- SNAP-IV for ADHD: parent or teacher report from 6–18 years.

We identified 14 additional tools that were only applicable for the 12–18 year age group, and one that is typically used in adults but was suggested for use with youth and reportedly has been used down to 10 years. Only one of these was a carer-report tool. The Assessment Checklist for Adolescents is a caregiver-rated trauma assessment for adolescents in out-of-home care. It was found to be the most promising tool in Denton et al.'s[30] systematic review of trauma assessment tools. The brief version has 20 items and is designed for use by health professionals in fields other than mental health, while the original tool has 120 items. The tool assesses behaviours, emotional states, traits and manners of relating to others. While it is reported as having good validity and reliability it is only relevant for a specific sub-population.

Three of the tools were mnemonic-based tools that assist a clinician in taking a history about various psychosocial factors (see Box 1). The best-known of these is the HEEADSSS tool, which prompts questions across a range of areas of the adolescent's life. Despite being mentioned very frequently in the grey literature[7, 14, 15, 23], we did not identify any commentary about validity or reliability.

Box 1 – Mnemonic tools for psychosocial risk factors and eating disorders

HEEADSSS

Mnemonic tool to structure history taking across a broad range of psychosocial issues for adolescents

Home, Education and employment; Eating and exercise; Activities, Drugs and alcohol; Sexuality and gender; Suicide, depression and self-harm; Safety.

CRAFFT

Mnemonic behavioural health screening tool for high-risk alcohol and other drug use

It includes questions about riding in Cars driven by someone who was high/substance affected; use of alcohol or drugs to Relax; use of alcohol/drugs while Alone; Forgetting things done while using alcohol or drugs; family or Friends telling young person to cut down on drinking/drug use; getting into Trouble while using alcohol or other drugs.

SCOFF

Mnemonic tool to screen for eating disorders

Questions about making self Sick because feeling full; worrying about loss of Control over how much food is eaten; loss of more than One stone (6.35kg) in three months; believing self to be Fat when others say they are too thin; Food dominating life.

The CRAFFT is another mnemonic tool found in the grey literature, and also in the ACT School Youth Health Nurse Program and the National Clinical Assessment Framework.[7, 17] It can be self-administered or used in history taking with a young person. It gathers information about substance use and risk-taking behaviours. It has good sensitivity and specificity. The SCOFF questionnaire is the third mnemonic-based tool, facilitating assessment for eating disorders in interview/history taking. It has been developed for use in primary medical care by the Royal Australian College of GPs. It does not specify an age group and has no data on validity, but we included it because it is contained in the ACT School Youth Health Nurse Program resources.[7]

We identified four self-report tools for the mental health domain (in addition to the adolescent/self-report versions of various rating scales discussed previously).

The Kutcher Adolescent Depression Scale is a six-item self-report for adolescents aged 12–17 years; it was also found in the grey literature and has high sensitivity and reasonable specificity. It was reportedly designed for use in institutional settings as a screening tool to identify young people at risk for depression, or by public health nurses to help evaluate teenagers thought possibly to have a mental health problem.[31]

The Substances and Choices Scale is a 23-item self-report measure for young people aged 13–20 years to ascertain the number of times they have used substances in the preceding month and to rate substance-use symptoms and harm. It is said to have high acceptability, validity and reliability. It was identified in the grey literature and is embedded within the YouthCHAT tool.

The American Academy of Pediatrics has published a document, Mental Health Assessment in Primary Care: Decision Support for Clinicians[10], which proposes the use of tools including the Patient Health Questionnaire for Adolescents. This is an 83-item self-report measure for young people aged 13–18 years that comprises questions assessing anxiety, eating problems, mood problems and

substance abuse. It has reasonable sensitivity and good specificity. This questionnaire is one of many modifications of the Patient Health Questionnaire originally developed for adults. While there is a brief form for adults (nine items), this does not appear to have been validated in adolescents. There are two abbreviated nine-item versions for adolescents, neither of which have any described validity data: the PHA-A Depression Screen and Modified PHQ-9, which both screen for symptoms of depression only. It is unclear if these tools are used outside of research.

The Warwick-Edinburgh Mental Wellbeing Scale is a 14-item self-report measure that asks young people to rate their wellbeing in the preceding two weeks. While it is reported to have moderate to strong validity and reliability and was favoured by one of the clinical experts, it was designed for monitoring wellbeing at a population level and in evaluation of programs. Some research in adults suggests it could detect clinically meaningful individual change, although this use would require the Wellbeing Nurse to have an ongoing role in monitoring wellbeing; it is less relevant as an assessment tool.

The ACT School Youth Health program[17] referred to the Beyond Blue website for tools that may be useful for school nurses. These included the Generalised Anxiety Disorder Assessment, for which little other detail was available, and the Kessler Psychological Distress Scale, which is typically used for adults although at times has been used down to 10 years. The ACT resources also recommend the Suicide Screening Questions from Headspace. While there is no age range apparent for this resource, it has been included within the adolescent age group due to the increased likelihood of usage in this population. There are no reported validity or reliability data.

The Queensland Child and Youth Health Practice Manual[23] has two relevant included assessment tools: the Young Person Mental Health Assessment and the Young Person Potential Eating Disorder Assessment Tool. These have no reported psychometric properties but provide an example of similar work in other Australian school-based contexts.

YouthCHAT is a unique tool identified in peer-reviewed literature.[32] A modification of the Case-finding and Help Assessment Tool CHAT, it was co-designed with young people and stakeholders in New Zealand to assist the psychosocial assessment of a wide range of issues: smoking, drinking, recreational drug use, problematic gambling, depression, anxiety, sexual health, general stresses, exposure to abuse, behaviour problems, anger management problems, eating problems and physical activity. The tool has incorporated several previously validated measures including some previously mentioned in this report: items from the Substances and Choices Scale, the Patient Health Questionnaire (Adolescent Version), and the Generalised Anxiety Disorder-7 Scale. It was developed as an online tool and includes branching of questions to gather more information where needed and/or to ask a young person about whether they would like help today or in the future with an identified issue. When this was compared with the HEEADSSS interview, it was found to be faster (taking half the time) and able to detect similar rates of substance misuse and home problems. HEEADSSS detected a broader range of mental health problems, but YouthCHAT detected more eating, body image, safety, physical inactivity and sexual health programs. Thabrew et al.'s[32] small study also found the tool to be acceptable to an ethnically diverse range of young people in New Zealand.

Development: We identified very few tools under the development domain that were solely for secondary school students. Several straddle both primary and secondary school children and these have been discussed previously:

- Developmental Behaviour Checklist: from 4–18 years, children and young people with intellectual disability
- Neurobehavioural Screening Tool: from 4–18 years
- Child and Adolescent Behavior Inventory: from 4–17 years
- Child Concentration Inventory, 2nd edition: from 8–18 years
- Behavior Rating Inventory of Executive Function: from 5–18 years.

We found two additional tools that were for adolescents only. One was the Scale of Community-Based Social Skill Performance (CBSP), reported by Poll et al.[33] This measure assesses the social skills of young people aged 14–21 years and has to be completed by someone who has observed the person in the community. While the authors found this had strongest evidence when compared with other tools, some of its psychometric properties were still poor and the findings had not been replicated beyond its initial report. It is not in widespread use. Similarly the Social Language Development Test—Adolescent: Normative Update is a validated directly administered assessment of social language for young people aged from 12 to 17 years and 11 months. However, it is unclear whether this is used outside of speech and language therapists and/or research.

Family violence: A number of the tools mentioned for the 5–12 year age group could also be used in adolescents:

- Pediatric Traumatic Stress Screening Tool: unclear about age
- Child Exposure to Domestic Violence: from 10–16 years, self-report
- Family Responses to Conflict Scale: for parent of child aged 0–18 years
- Dimensions of Stressful Events: from 2–18 years
- Childhood Experiences of Violence Questionnaire: from 12–18 years
- LITE-S: from nine years (no upper limit specified) and the parent form (LITE-P) is for parents of children of ‘all ages’
- Relationship Assessment Tool (for any adult).

We found three additional adolescent self-report tools. Oh et al.[34] reviewed a range of tools that measured exposure to adversity in children and adolescents. They recommended two tools that included family violence and appear to have good validity and reliability. The Child Abuse & Trauma Scale includes questions about household dysfunction including family violence as a valid measure. It was studied in an undergraduate population so while the authors recommended it for adolescents, it may be better suited to the upper years of secondary school. The Negative Life Events Inventory is an adolescent self-report tool that is for students in Years 7–9 and asks about negative life events including (but not confined to) family violence and household dysfunction. It is not clear whether either tool is routinely used outside the research setting although the authors were recommending them for clinical use.

Since adolescents are often entering their own relationships and may be at risk of intimate partner violence within that context, it is worth noting that Latzman et al.[24] reported that the previously discussed validated Conflict Tactics Scales / Conflict Tactics Scales 2 has been adapted for use directly with adolescents, asking about their own relationships.

The Behavioral Health Screen–Primary Care (BHS-PC) is a validated online self-report tool for young people aged 12–21 years that we found in the grey literature. It is a broad biopsychosocial assessment that covers substance use, sexuality, anxiety, depression, suicide, trauma and family.

Questions about violence address violence and sexual assault within the home, neighbourhood and romantic relationships. While it is reported to be valid, we could find no further details of this.

Question 3: How were the assessments, systems or tools identified in Questions 1 and 2 used in clinical practice and what barriers and enablers have been described for them?

Unfortunately, very little information was available in either the peer-reviewed or grey literature regarding the implementation of the vast majority of tools in clinical practice. We have combined what was available with expert opinion to provide some commentary by domain.

Physical health: Bardid et al.[35] did not report on implementation of measures of physical competence within a school setting but they did discuss some of the relevant considerations. These included the feasibility of training, time constraints for scoring and the need for tools to be within the clinical skill-set of the person administering them. Given that Wellbeing Nurses may not have particular expertise in gross motor or fine motor development, the use of a parent report or other proxy report was promoted as the most appropriate method of assessing young children for motor delays.

The other tools identified within the grey literature search had a different physical health focus, sleep. Given the widespread prevalence of sleep problems among children and adolescents, and its impact on functioning, these tools were included, although we did not use any terms for 'sleep' in the searches. This means a further review of the literature would be required to understand the barriers and facilitators to introducing such tools within a school-nursing setting.

Mental health: Bohnenkamp et al.[36] explored the barriers to implementing evidence-based assessment of mental health within school mental health settings. In part, their context included treatment as well as identification of mental health issues, so not all findings were relevant. However, the authors promote the use of evidence-based measures to facilitate problem identification. Within the school setting, they recommend that assessment tools need to be simple due to time restraints and have limited training requirements. Potential barriers to implementation include time to administer, score and interpret results, the need for training, and the availability and cost of the tool. Potential advantages include easier access to teacher reports. Finally, they raise the challenge of information-sharing and privacy when mental health is being assessed within the school setting.

The YouthCHAT tool was co-designed and developed for use within schools and evaluated within three schools in New Zealand. It was found to be acceptable as a school-based psychosocial screener: students found it easy to understand, nurses liked the look and feel of the tool and felt it helped identify students at risk. It did require an internet connection for administration and some students had barriers with literacy, language or cognitive ability challenges. School nurses also found that it was faster to administer than HEEADSSS, but that it also was a good lead-in for a face-to-face discussion about issues using the HEEADSSS tool.

The Kutcher Adolescent Depression Scale was described as being designed for use in settings such as schools, but we found no other detail to understand how such implementation has taken place or been effective.

A number of tools—SDQ, HEEADSSS, CRAFFT and the SCOFF—were mentioned within resources in other Australian states for use by school-based health nurses, which could provide an avenue for future feedback about their utility in that context. All these four tools were known to the adolescent expert clinical adviser, who agreed they could be useful in this context. WA has also developed its own forms for evaluating some mental health domains in adolescents in the school setting.[14] The ACT recommended some tools from other well-known sources including Beyond Blue, Headspace and the Royal Children's Hospital Clinical Practice Guidelines.[17]

The clinical experts had greatest familiarity with mental health and wellbeing tools. They identified a number that could be useful for implementation, although opinions varied. The SDQ is a widely used and well-understood tool, applicable for all school-aged children, with options for parent, teacher and self-report (self-report from 11 years). The Patient Health Questionnaire and the Warwick Edinburgh Mental Wellbeing Scale were both suggested by the adolescent clinical expert as potentially useful, though neither was familiar to the other clinicians. Of these, forms of the Patient Health Questionnaire appear to have been used more for individual assessment than population monitoring, although there are no validity data for the shortened nine-item versions and the validated PHQ-A appears lengthy, at 83 items.

The ASEBA CBCL tools were viewed positively by some of the expert advisers, who use them frequently, but they were noted to be quite lengthy and required some interpretation for use. The Royal Children's Hospital Clinical Practice Guideline for mental state examination was thought possibly to be applicable for Wellbeing Nurses, should they need to assess a young person's mental state. While some other tools were commonly used by paediatricians (e.g. the NICHQ Vanderbilt Assessment Scales, Spence Anxiety Scale), feedback suggested these would not be appropriate for use within the WHIN Coordinator program as they are more usually administered within a diagnostic process.

Development: The most relevant tools within the development domain are the PEDS and the ASQ, the only tools that broadly assess development and are mentioned in a school setting. WA, Victoria and Queensland all include the PEDS within their school nursing resources[14, 15, 23]; WA also references the ASQ.[15] Both tools are also suggested within the National Clinical Assessment Framework for Health Assessments for Children and Young People in Out-of-Home Care[7] and the clinical experts were familiar with them. However, none of the identified grey or peer-reviewed literature provided any guidance as to the challenges of implementation within the school setting. The PEDS requires licensing and also training for administration and scoring and can be administered through a conversation with the parent, through parent-completion of a form, or online. The ASQ is a parent-report tool that can be done on paper or online, and it also requires licensing.

Family violence: While there were examples within the WA School Nurse resources of forms to assess or screen for family violence, nothing was found about the implementation, uptake or outcomes of the use of these tools.

Hooker et al.[29] reported on factors that contributed to the sustained screening and support relating to domestic violence within the Maternal and Child Health nursing program in Victoria. This paper was included because of the relevant implementation commentary, even though there is a lack of clarity on the means of screening; the authors refer to "*MCH nurses asking all women about domestic violence (DV) exposure at the routine 4-week consultation and at any other time if indicated"*, as per departmental policy, and also make mention of a self-completed checklist, but without further detail we cannot comment on validity. The paper reported a process evaluation of a two-year follow-up of a

study that tested a best-practice model of screening plus supportive care. It highlights the need for domestic violence screening policies to be accompanied by the requisite resourcing to implement screening and support. The authors found screening took place sustainably when there were evidence-based nurse-designed clinical resources that could be used at a time when there could be a focus on maternal health needs. The use of self-completion checklists was a facilitator, along with appropriate system support for follow-up nursing visits. They concluded that ongoing education and monitoring was essential for change. While Hooker et al.[29] were not clear about the precise tool, we included their article as it articulates the complexity of implementing screening for family violence within a nursing program. Even within a program that included training, checklists and clinical pathways, supervision and connection to local services, there were challenges in implementing this practice.

Keeshin et al.[27] did discuss issues of screening for trauma in a primary care setting. They identified the need for clinical champions and an appropriate internal culture as well as the importance of connection to external services before implementing any routine case-finding or screening for childhood trauma. Two papers focused on the psychometric properties of tools and commented on their implementation in research (Ravi and Tuoni[25] and Latzman et al.[24]).

Our clinical experts felt this was an important area and that it was useful to have knowledgeknow about the presence of family violence before the family attended an appointment. That said, there is no clarity about whether the intention might be to explore the potential for family violence with all children presenting to the Wellbeing Nurse, or to do so directly with parents; this would clearly influence the choice of tool. One expert adviser was familiar with the Behavioural Health Screen (BHS-PC) which, although a broader tool, does include explicit questioning regarding exposure to violence. It is appropriate for use from 12–21 years, is a validated measure and thus ought to be closely considered. It is important to consider that a recent review found no evidence that screening for adverse childhood experiences makes a difference to outcomes[37]; we are not aware, however, of whether a more specific review has explored the benefits of screening within a school context.

Discussion

Potential tools

We identified 72 assessment tools across four domains of health that might support and facilitate the work of the Wellbeing Nurses, particularly in identifying and understanding the health needs of referred children and young people. It was not possible to adequately assess all the relevant facets of each tool, as information was frequently missing in the identified articles. However, after collating the data and combining it with expert opinion, we have identified the most promising tools that should be explored for implementation within the WHIN Coordinator program.

Physical health: We found two tools that could be implemented to look for developmental coordination disorder. These could be of relevance if children are identified as being 'clumsy' or struggling with motor tasks within the classroom and/or schoolyard. However, the lack of information about their implementation warrants further exploration of these tools before one is recommended. This would include determining the need by gathering information from current Wellbeing Nurses about whether such issues were regularly being identified and referred to the nurse, and the age range of referred students. The Developmental Disorder Coordination Questionnaire has a much wider age range than the Children's Activity Scales for Parents and Teachers, but the latter has the advantage of both parent and teacher proxy-report options. If few referrals are being received for this issue, then further searching for psychometric data for these tools will not be required.

The other tools identified in the grey literature had a different physical health focus, sleep. Given the widespread prevalence of sleep problems among children and adolescents and its effect on functioning, these were included although we did not use any terms for 'sleep' in the searches. One expert adviser was familiar with and recommended the Adolescent Sleep Wake Scale within this context. The Children's Sleep Habits Questionnaire could be implemented for children aged 4–12 years, given its validity and use within clinical settings, although clinicians were not directly familiar with it. Should this be an area of interest for the nurses, a rapid review focusing on sleep tools and exploring the validity and reliability of these tools more broadly is likely to be useful.

Mental health: This domain had the largest number of identified tools across both age groups, 33 in total. These tools included self-report tools (most typically for children aged 11 years and older), parent-report and teacher-report tools. Since clinicians typically use a small range of tools with which they can become familiar, we suggest tools that screen for a range of problems would be more useful within the WHIN Coordinator program rather than those that are designed for a specific diagnosis.

While the literature had limited commentary about implementation in schools, the SDQ and CBCL tools stood out as validated and familiar tools that included a broad range of mental health problems and were additionally recommended by clinicians. Of these, the SDQ is shorter and more widely used across both paediatric and mental health services. The SDQ is applicable throughout primary and secondary school (from 4–18 years); the CBCL is applicable for children aged 6–18 years.

The three mnemonic tools, HEEADSSS, CRAFFT and SCOFF, also appeared in multiple contexts. These tools are most applicable for young people aged 12–18 years. While psychometric data was not available, these are practical and widely recommended tools that appear likely to provide useful frameworks for gathering information directly from adolescents about a variety of psychosocial and risk-taking factors.

YouthCHAT warrants further investigation for potential implementation for young people aged 12–18 years. While this online screen of psychosocial risk factors in adolescents was not known to our clinical experts, it has the advantage of co-design in a population that is similar to Australia and was directly designed for use in the school setting. It also uses evidence-based measures (e.g. the Substances and Choices Scale).

Should a specific depression screening tool be required within the secondary school setting, the Kutscher Adolescent Depression Scale appears promising, but there would appear to be minimal benefit over the broader tools already discussed.

Development: This domain held some challenges as the majority of developmental assessment takes place in the preschool years. The descriptive diagnoses of developmental delay become less relevant in the primary school years when additional assessments usually reveal underlying conditions. For example, a cognitive assessment in the first years of school might expose an intellectual disability previously managed as 'global developmental delay' in the early years. Few developmental screening or assessment tools are therefore developed for the primary school age-group, where cognitive and learning issues become more relevant. Within the school setting, it would be expected that learning assessments are being regularly undertaken by the education staff, with appropriate recommendations for additional educational psychology, speech pathology or multidisciplinary assessment as required.

Despite that, we identified 16 tools. The preschool versions of some tools were not deemed to be useful, in part because the relevant age range was very limited and in part because of clinical expert concerns about validity and appropriateness in that age group (i.e. children aged up to five years). While a number of tools were identified that assess sub-components of the developmental domain, such as working memory, executive function or sluggish cognitive tempo, these are not recommended for further investigation due to their niche applicability.

However, with high rates of developmental vulnerability identified among school students in some parts of Australia in the first year of school entry, there is a need for a tool to assist the Wellbeing Nurses. Additionally, the experts noted that developmental screening can be useful before referral. Of the identified broad tools, the PEDS has the widest age range as it is valid until the child's 8th birthday. The ASQ would only be useful until the child is five years and six months, which would require rapid referral upon entry to school. It is important to note that both tools were developed be used as screening instruments across the population, rather than as an assessment when needs are identified. However, given that there is no intention to screen all students, the PEDS could be useful as a method of parental engagement to clarify and understand their perspective on the child's development, which could guide decision-making about referral. Similarly, the ASQ could provide additional information about the level of concern across all domains of development, but only for a very small group of children in the age group.

None of the developmental tools identified warranted recommendation for young people aged 12–18 years.

Family violence: We found five self-report tools designed for primary school students, along with three additional adolescent self-report tools. We identified six parent-report tools. Some tools focused on past exposure or lifetime exposure, while others addressed current risk within the home. While current risk is important to identify and to connect with family violence services for support, past trauma can also be a relevant feature in understanding a child or young person's needs. Little information was available about the implementation of such tools within practice.

Given clinical input indicated it is useful if families have been asked about family violence before attending paediatric services, the question remains as to which tool(s) to implement. There was insufficient evidence to definitively recommend any particular tool and further investigation is needed before any tool is selected. It would be important to understand whether any identified tool has been implemented in a similar setting rather than used only within research. It would also be relevant to understand the appetite for asking mothers/carers, adolescents and/or children given the different range of tools available. The Behavioural Health Screen (BHS-PC) was recommended by one expert adviser and as such should be considered if a self-report tool is of interest for the 12–18 age group.

Use of tools within a school-based context, including barriers and enablers

This Evidence Check was unable to adequately address Question 3. The broad search parameters to address all four domains for the first two questions did not identify papers in either peer-reviewed or grey literature that provided definitive information about the barriers or facilitators to implementation of identified tools within the school setting. The proposed use by the Wellbeing Nurses is a model that will require care in interpreting validity/reliability data and selecting tools. The majority of tools described were developed (and validated) for use in a screening context, where they might be administered broadly to a population to identify those at risk of having a particular condition. The WHIN Coordinator program requires tools that would assist a nurse in providing an initial health assessment to identify and understand needs of children identified as having some sort of need by a parent/teacher/themselves, with the outcome of appropriate referral and connection to services. Future work will be needed to consider how best to make use of tools in a population that therefore has increased likelihood of health-related problems, and to minimise under- and over-referral.

The selection of any tool will require further work before recommendations can be made. Next steps would include additional searching within peer-reviewed and grey literature and consultation with the Wellbeing Nurses for:

- Psychometric data: Seeking original sources and/or summaries of the validity and reliability of tools where this was not identified through this Evidence Check. This would be particularly important for any sleep tools and the family violence tools
- Evidence of use within the school-based setting
- Barriers or facilitators to implementation
- Acceptability data (for nurses, children, adolescents and parents/carers)
- Cost and licensing requirements
- Training requirements before implementation
- Cultural applicability and validity, particularly for Aboriginal and/or Torres Strait Islander children and young people.

Alongside a deeper dive into the evidence, it would be important to understand what tools the Wellbeing Nurses have the greatest need for, which could be ascertained through data about reasons for referral, as well as focus groups or interviews with the nurses themselves. This would help in developing a cost–benefit argument for tools that have a fee (for example, if there are many referrals for developmental concerns in the first years of school, then there may be justification for a tool that requires pay-per-use and some training). The needs and perspectives of the service providers to whom the Wellbeing Nurses are referring children and young people with identified needs would also be very valuable. For example, a mental health service may wish to have data from a specific tool to help in their triage of referrals or may wish to use a particular tool themselves in an intake assessment and therefore don't want it to be administered twice.

Finally, the introduction of any tool will require the development of practice guidelines for the WHIN Coordinator program. Since the program is not intending to use a tool to screen an entire population (e.g. all Year 7 students), but rather is designed to be responsive to individual presentations, such guidelines should include the indicators for use for each tool and the required steps following use, depending on the outcome. These steps would need to include clear referral pathways and plans for follow-up to ensure that referral has led to healthcare access.

Conclusion

There are a number of tools that could be useful to implement within the WHIN Coordinator program, and we found the most evidence as well as clinical expert recommendation for two tools to assess mental health and/or psychosocial wellbeing across both age groups of interest:

- The Strengths and Difficulties Questionnaire (SDQ): applicable for children aged from 4–18 years, this tool is relatively short (25 items) and includes parent and teacher report versions for all ages, and a self-report measure from 11–18 years. It is widely used and has robust validity data
- The Achenbach System of Empirically Based Assessment (ASEBA) Child Behavior Checklists (CBCL) could be considered instead of the SDQ, should a more detailed tool be desired (>100 items). These tools are validated from 5–18 years, with parent, teacher and self-report forms.

The use of either of the SDQ or CBCL measures would require appropriate training in administration and interpretation of findings.

For adolescents only (12–18 years), we identified four tools that support assessment for a range of psychosocial issues.

- HEEADSSS: a mnemonic-based eight-question interview guide for broad assessment
- CRAFFT: a mnemonic-based six-question interview guide to explore substance use and abuse
- SCOFF: a mnemonic-based five-question guide to assess for eating disorders
- YouthCHAT: an online tool to detect psychosocial issues and ask if the young person would like help with any identified issues.

There were very few tools within the physical health domain, unless developmental coordination disorder is an area that is frequently appearing within referrals. We did identify that sleep could be a domain of interest, and while the Adolescent Sleep Wake Scale is a validated tool recommended by our adolescent clinical expert, an additional focused Evidence Check could help confirm whether it is the most appropriate. Developmental screening tools, including the ASQ and the PEDS, are well-validated, although they have limited applicability in terms of age range. There was inadequate evidence to recommend any particular tool to assess family violence; we recommend further work before such a tool is selected.

Prior to any implementation, more information will be needed regarding cost, licensing, training requirements and acceptability for nurses, children and young people. The introduction of any tool should include clear practice guidelines about when and how it should be used and what next steps should be taken depending on results, including the need for referral and follow-up.

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Appendices

Appendix 1: Search strategy

Table 1 – Key search terms

Subject categories	Key search terms
Health assessment tools	assess* and (measure* or scale* or tool* or criteri*)
Child and adolescent	child* or pediatric* or paediatric* or adolescen* or teenage*
Physical health domain	“physical health” or “gross motor” or “fine motor” or “motor development” or “motor proficiency” or “motor ability” or “motor coordination”
Mental health domain	“mental health” or “emotional health” or “psychosocial” or “emotional intelligence” or “coping behaviours” or “mental wellbeing” or “mental disorder”
Development domain	“language development” or “developmental delay” or “cognitive” or “neurocognition” or “neurodevelopment” or “psychomotor performance” or “developmental disabilities” or “language”
Family violence domain	“family screening” or “domestic violence” or “family violence” or “adverse childhood experience*” or “childhood trauma” or “physical violence” or “emotional violence” or “intimate violence”

Table 2 – Inclusion and exclusion criteria

Included	Excluded	PubMed	CINAHL	Embase
Human children and adolescents from 5–18 years	If NOT aged from 5–18 years	Age: Child: 6–12 years; adolescent: 13–18 years	Age groups: Child: 6–12 years; adolescent: 13–18 years	Age groups: school child: 7–12 years; adolescent: 13–17 years
English language	Non-English language	Language: English	English language	English language
Countries and jurisdictions within scope are: Australia, UK, US, New Zealand and Canada	If NOT Australia, UK, US, New Zealand, Canada	Additional syntax used*	Geographic subset: Australia and New Zealand, Canada, UK and Ireland, US	Screened manually
Literature from the past 10 years	If NOT from the past 10 years	Publication date: 10 years	Published date: 01/01/2012–31/12/2022	Publication year: 2012–2022
Any study design yielded by the search	N/A	Article type: clinical trial, meta-analysis, randomised controlled trial, review, systematic review	Publication type: clinical trial, meta-analysis, randomised controlled trial, review, systematic review	Clinical trials: clinical trial, randomised controlled trial. Publication types: review; evidence-based medicine: meta-analysis, systematic review
Any tool or measure that can be administered by a nurse, with additional professional development training only	If administration of tool / measure requires professional qualifications other than a nursing qualification	Screened manually	Screened manually	Screened manually

Included	Excluded	PubMed	CINAHL	Embase
Tools that used interview with child, young person or parent, or parent, or self-report	Tools that required direct assessment of the child e.g. of physical skills or physical examination, or a task for child/YP to complete	Screened manually	Screened manually	Screened manually
Tools using an online / internet-based questionnaire	Tools that required particular computer software or program downloaded onto a PC	Screened manually	Screened manually	Screened manually
Tools recommended by authors of systematic review or with reasonable validity and reliability data or evidence of widespread use in relevant setting	If specifically recommended against by review authors OR if there was no reference to validity or reliability data	Screened manually	Screened manually	Screened manually

* NOT (austere or (limited adj2 resource*) or (low adj2 resource*) or (transitioning adj econom*) or (third adj world) or LMIC or LMICs or (lami adj countr*) or (transitional adj countr*) or (low adj gdp) or (low adj gnp) or (low adj gross adj domestic) or (low adj gross adj national) or ((emerging or developing or (low adj income) or (middle adj income) or (low adj3 middle) or underdeveloped or under-developed or (less* adj developed) or underserved or under-served or deprived or poor*) and (countr* or nation*1 or econom* or population or world)))

Appendix 2: PRISMA diagrams

Figure 2 – Physical health domain PRISMA diagram

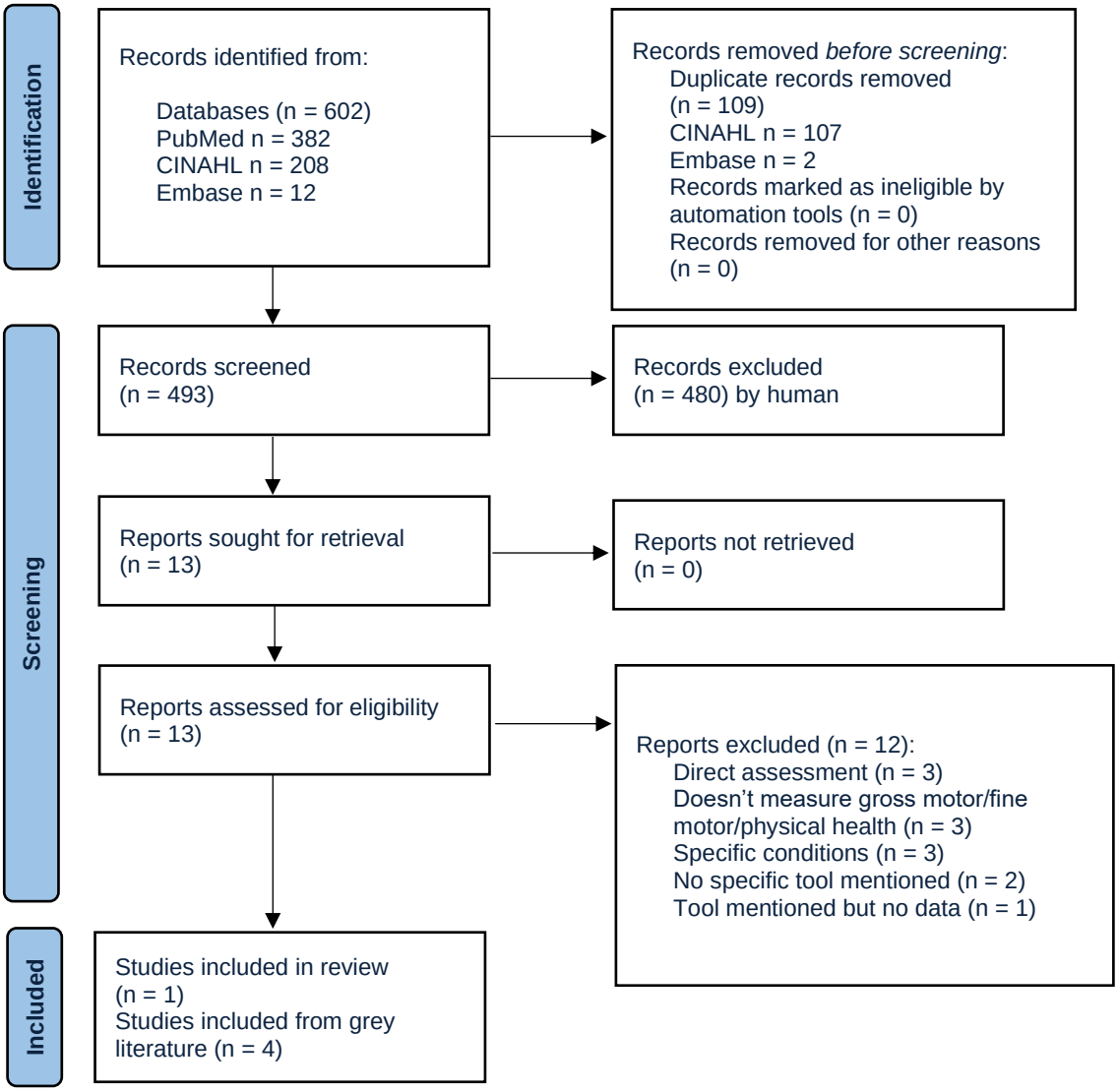
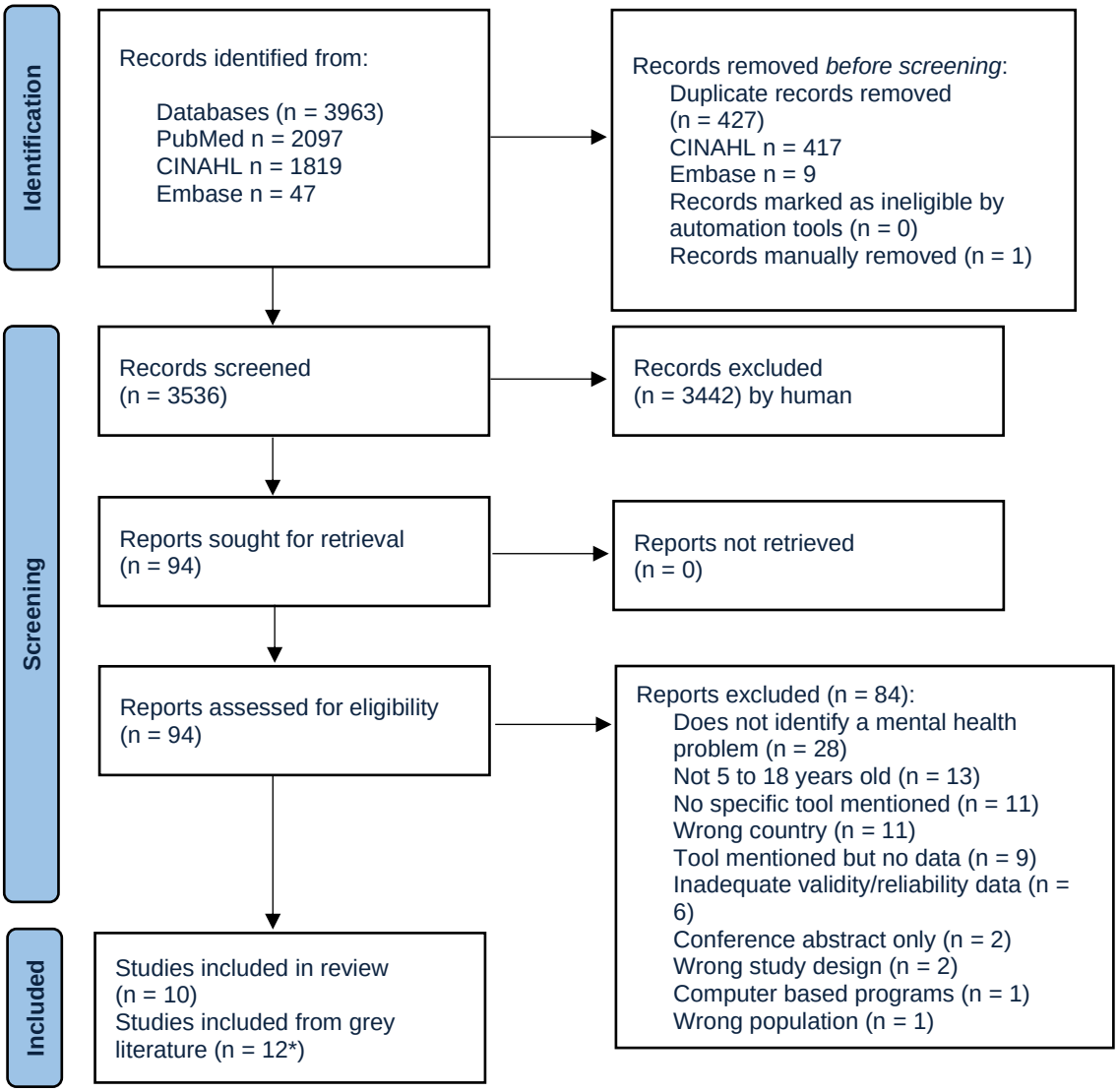
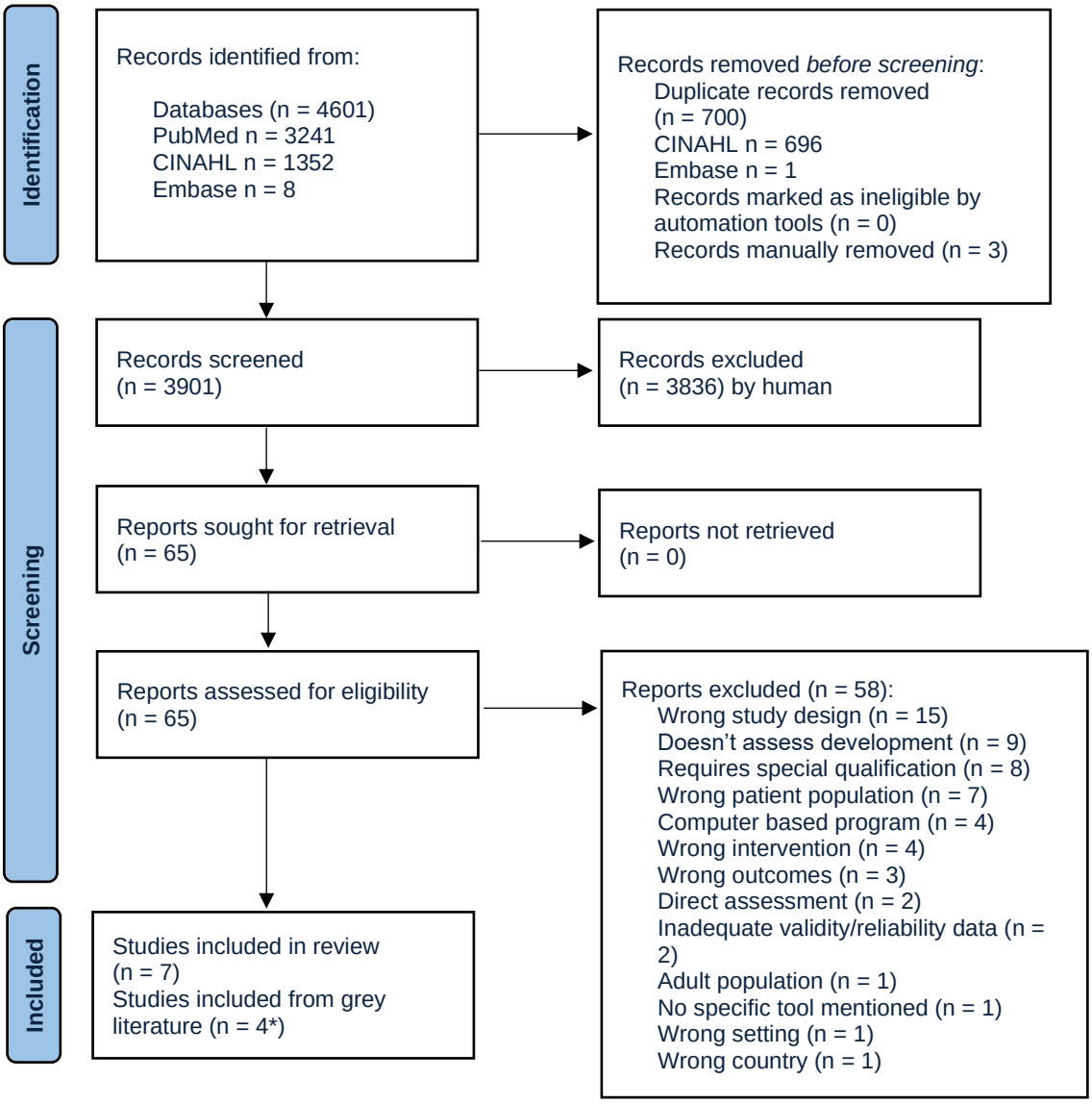


Figure 3 – Mental health domain PRISMA diagram



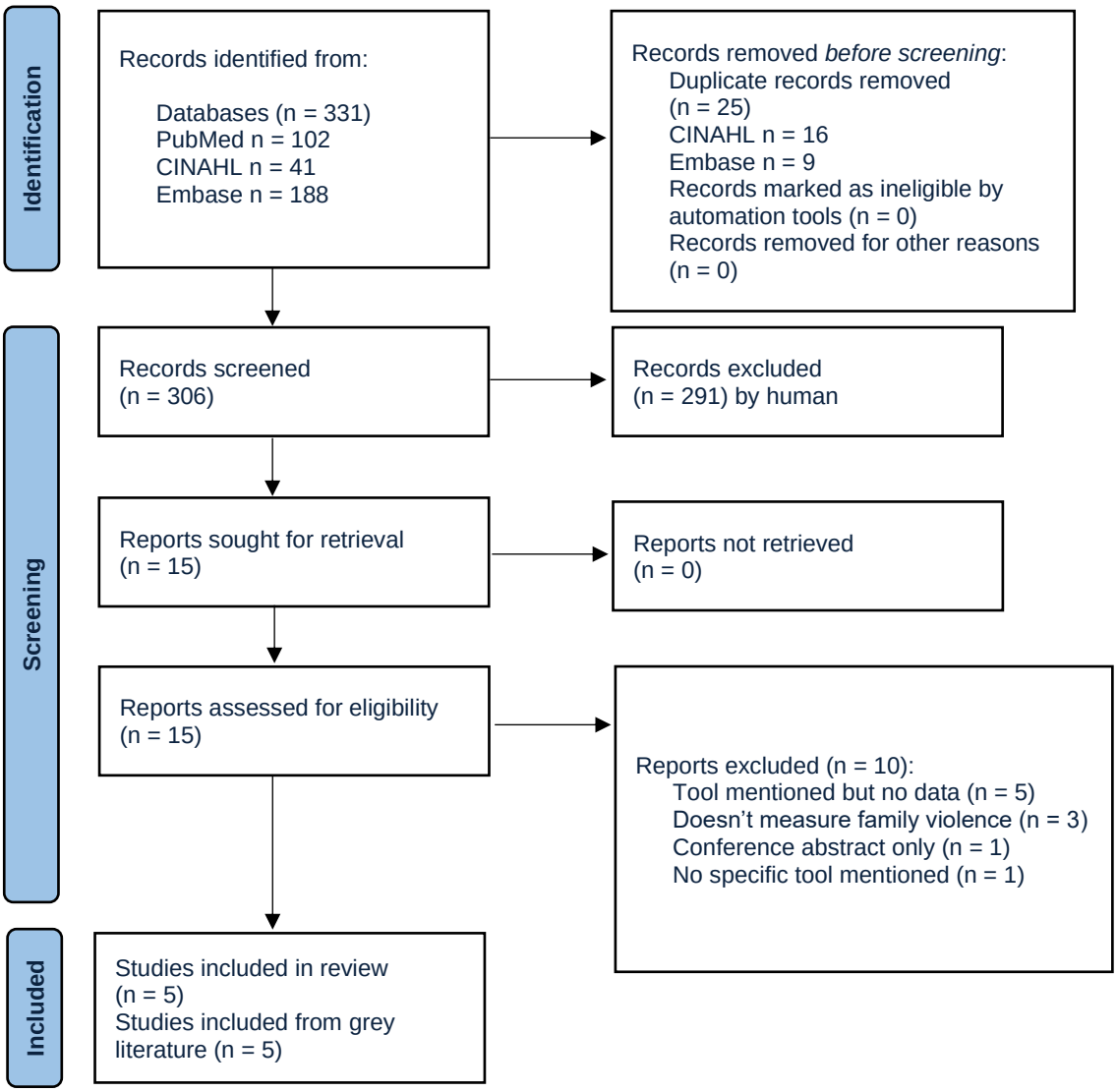
*Number derived from the number of papers that the tools were retrieved from – WA School Nursing Program, National Clinical Assessment Framework, ACT School Youth Health, Whāraurau tools, Mental Health Assessment in Primary Care Decision Support for Clinicians, Queensland Child and Youth Health Practice Manual. The remaining 6 tools were considered as one paper each as there were no mention of where they were retrieved.

Figure 4 –: Developmental domain PRISMA diagram



*3 tools were included from grey literature but 4 papers as 2 papers mentioned the same tool.

Figure 5 –Family violence domain PRISMA diagram



Appendix 3: Relevant grey literature websites

Area and/or program	Relevant websites
Queensland—Child and youth health practice manual (for all child health professionals who provide healthcare to children and young people in Queensland, including those in schools)	https://www.childrens.health.qld.gov.au/wp-content/uploads/PDF/qcycn/cy-prac-manual-pt1.pdf
ACT Kindergarten Health Check	https://www.health.act.gov.au/services-and-programs/women-youth-and-children/children-and-youth/school-health
ACT School Youth Health Nurse Program	https://health.act.gov.au/sites/default/files/2021-02/Adolescent%20Mental%20Health%20Assessment%20and%20Referral%20School%20Youth%20Health%20Nurse.docx
Victorian School Nursing Program	https://www.education.vic.gov.au/Documents/school/teachers/health/Victorian%20School%20Nursing%20Program%20guidelines.pdf
Victorian Primary School Nursing Program	School Entrant Health Questionnaire—not publicly available
Tasmanian School Health Nurse Program	https://www.education.tas.gov.au/parents-carers/parent-fact-sheets/school-health-nurse-program/
WA School Health Service (WA Dept of Health and Dept of Education): School Entry Health Assessment Form	https://cahs.health.wa.gov.au/Our-services/Community-Health/School-Health/Starting-school/School-Entry-Health-Assessment

Area and/or program	Relevant websites
	https://cassiaesc.wa.edu.au/wp-content/uploads/2012/09/School-Entry-Health-Assessment-Form-Part-G.pdf https://www.wa.gov.au/system/files/2021-10/CRARMF-Practice-Tool-1-Common-screening-tool.pdf https://www.kemh.health.wa.gov.au/~/media/HSPs/NMHS/Hospitals/WNHS/Documents/Professionals/FDV/Assessment-Family-and-Domestic-Violence-FDV951.pdf
Opt for Wellbeing, New Zealand (Whāraurau — workforce development for infant, child and adolescent mental health / alcohol and other drugs sector)	https://wharaurau.org.nz/optforwellbeing.org/screening-assessment https://www.nzschoolnurses.org.nz/resources/resources-for-schools
UK Health Child Program	https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/492086/HCP_5_to_19.pdf https://www.nhs.uk/live-well/healthy-weight/childrens-weight/national-child-measurement-programme/
UK What About YOUth	https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/768983/Measuring_mental_wellbeing_in_children_and_young_people.pdf
Framework for Children and Young People's Emotional Health and Wellbeing in Education	https://www.publichealth.hscni.net/directorates/nursing-and-allied-health-professions/nursing/safeguarding-children-and-young-people-0
Canada	https://cafln.ca/resources/assessment-for-learning-in-canada/
US, California	https://calschls.org/about/the-surveys/#chks

Area and/or program	Relevant websites
US, No Child Left Behind Act	https://wellaheadla.com/prevention/school-health/school-health-data-collection/ https://www.cdc.gov/healthyyouth/data/yrbs/index.htm
US	https://www.actionforhealthykids.org/

Appendix 4: Data extraction tables

Table 3 – Identified physical health assessment tools

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
Bardid 2019[35]	Developmental Coordination Disorder Questionnaire	Screen for coordination disorders	Data: 15-item parent questionnaire Age: 5–15 years	Sensitivity > 84%, specificity 71%. Reliability: item consistency Cronbach's alpha is 0.89. Test-retest reliability in translated versions high. Validity: has construct validity and concurrent validity other measures	
Grey literature[38]					Potential cost, no training
Grey literature[39]	Adolescent Physical Activity Recall Questionnaire	Measure of physical activity participation—designed for research purposes to evaluate programs that promote physical activity	Data: 10-item self-report questionnaire Age: "Adolescents"	Acceptable to good reliability (0.30–0.86), acceptable validity (0.14–0.39)	Free, no training
Bardid 2019[35]	Children's Activity Scales for Parents and Teachers	Identify children at risk of developmental coordination disorder Covers gross and fine motor skills as well as children's	Data: questionnaire for parents/teachers (unknown length) Age: 4–8 years	Moderate to strong concurrent validity with other validated measure and the total scores for parent and teacher versions	

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
		organisation in space and time while completing daily living and self-care skills, mobility, play activities and school			
APRN grey literature search[8]	Adolescent Sleep Wake Scale	Measure of overall sleep quality with five subscales (going to bed, falling asleep, maintaining sleep, reinitiating sleep, return to wakefulness). Higher scores indicate better sleep quality. It is an adaptation of the Children's Sleep-Wake Scale	Data: 28-item self-report Age: 12–18 years	Internal consistency ranged from 0.64–0.82 (Italian sample: 0.60–0.81). The full scale also illustrated reliability of 0.80(40) to 0.86(41) Normed on 491 adolescents in the US	
APRN grey literature search[8]	Children's Sleep Habits Questionnaire	Provides scores on eight sleep domains: bedtime resistance, sleep onset delay, sleep duration, sleep anxiety, night wakings, parasomnias, sleep disordered breathing, daytime sleepiness	Data: 45-item parent-report questionnaire Age: 4–12 years	Varied between community and clinical sample. Community sample: overall internal consistency a=0..68, ranging from 0.36 (parasomnias) to 0.70 (bedtime resistance); better in clinical sample where overall a=0.78 ranging from 0.56 (parasomnias) to 0.93 (sleep-disordered breathing)	
APRN grey literature search[8]	Sleep Disturbance Scale for Children	Five subdomains: disorders of initiating and maintaining sleep, sleep breathing disorders, disorders of arousal, sleep-wake	Data: 27-item parent-report questionnaire.	Internal consistency ranging from .71 to .79 and test-retest reliability of .71	

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
		transition disorders, disorders of excessive somnolence, sleep hyperhidrosis	Age: 3–18 years		

Table 4 – Identified mental health assessment tools

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
Bohnenkamp 2015[36]	Achenbach System of Empirically Based Assessment Child Behavior Checklists (CBCL)	Behavioural and emotional concerns, scored in symptom scales and in scales aligned with the Diagnostic and Statistical Manual of Mental Disorders (DSM)	Data: > 100 -item parent/carer report, teacher report and youth self-report Age: 6–18 years	"Strong psychometric properties". Detail not included in identified literature	Time consuming Also recommended in National Clinical Assessment Framework for Children and Young People in Out-of-Home Care[7]
Grey literature (WA School Nursing Program—Children in Care Assessment[42]	ASQ: social-emotional	Social and emotional wellbeing	Data: 33 items, parent/carer report Age: Up to 72 months	Data not found within grey literature, but only included in NCAF if validated measure	Recommended in National Clinical Assessment Framework for Children and Young People in Out-of-Home Care(7)
Denton 2017[30]	Assessment Checklist for Adolescents	Trauma assessment: assesses behaviours, emotional states, traits, manners of relating to others	Data: 120 items completed by caregiver for adolescent in out-of-home care Age: 12–17 years	Content validity: 7-factor model accounted for 51% score variance, Convergent: High correlation with *CBCL* total scores for boys (r=.90) and girls (r=.88). Discriminant (moderate	Brief version has 20 items and is designed for non-mental health health professionals, for same population

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
				r=−.56) against unpublished measure of prosocial behaviours	NB the brief version: internal reliability alpha 0.87, high correlation to other measures High correlation with longer version
Tsang 2012[11]	Behavioral and Emotional Rating Scale (Version Two)	Interpersonal communication (strengths-based psychosocial assessment). Identify children's individual behaviour and emotional strengths and the areas in which individual strengths need to be developed	Data: 58-item parent or 52-item teacher report Age: 5–18 years	5A in quality indicator—rated on construct validity, internal consistency, reliability, predictive validity and respondent burden	Range of prices depending on the website ($42–$98)
Grey literature[43]	Brief Impairment Scale	Global functioning in domains of interpersonal relations, school/work and self-care	Data: 23-item parent-report Age: 4–17 years	Internal consistency (0.81–0.88 and 0.56–0.81) on 3 subscales. High convergent and concurrent validity	
Bohnenkamp 2015[36]	Child and Adolescent	Measures strengths in addition to needs—can incorporate information from parents, teachers and others.	Data: Unclear length, used within mental health services to assist with assessment,	Reliable and valid	Appears to require certification training

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
	Needs and Strengths	Can be long if all items are included. To identify the needs and facilitate service planning	usually carried out in interview Age: 0–18 years		
Gilbertson 2017[44]	Child Anxiety Life Interference Scale	Family relationships, preschool participation, social life and activities, and daily living skills	Data: two 9-item scales (parent report) and one 10-item scale (child report) Age: 6–17 years	All results were positive and significant Strong reliability, internal consistency, test-retest reliability scores 0.66–0.87 (mothers/fathers/child)	In the APRN Measures Library, which held additional information about the scale
McGuire 2019[45]	Children's Yale-Brown Obsessive Compulsive Scale	Assesses obsessive compulsive disorder symptom severity over the past week	Data: 10-item clinician-administered interview Age: age range unclear (at least inclusive of 7–17 years)	Sensitivity: 0.81 Specificity: 0.62 Efficiency: 0.69	
Williams 2018[9]	Columbia Impairment Scale	Functional impairment (psychiatric disorders)	Data: 13-item child report and 13-item parent report Age: 6–17 years	Adequate sensitivity and specificity for detecting psychiatric disorders among youths, and consequently there was a low possibility of over- or underestimating	Also mentioned in grey literature

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
				prevalence based on the cut scores used	
Grey literature[7, 17, 46]	CRAFFT Screening Interview	Substance abuse	Data: 6-item self-administered or youth report. Like HEEADDSSS this is a mnemonic to use when asking questions about substance use. It includes asking whether the young person has ever been in a car driven by someone who was high (including themselves), whether they have forgotten what they have done while under the influence of drugs, etc. Age: 12–21 years	Sensitivity: 76%–92% Specificity: 76%–94% Positive predictive value (PPV): 29%–83% Negative predictive value (NPV): 91%–98%	Grey google search and also found in school-related websites: ACT School Youth Health Nurse Program[17], National Clinical Assessment Framework[7] Free
Grey literature[17] ACT School	Generalised Anxiety Disorder Assessment	Anxiety	Data: 7 items Age: Secondary school students	None identified	To be accessed through Beyond Blue website

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
Youth Health Nurse Program					
Thabrew 2019[32]	HEEADSSS	Home, Education, Eating, Activities, Drugs and Alcohol, Sexuality, Suicide and Depression, Safety	Data: 8-item clinician-administered interview Age: Typically used in adolescent	None identified but retained due to frequency of reference to this tool and experience from expert advisers	Also mentioned in grey literature including the WA School Nursing Program Children in Care resourcing[42], Victoria's Secondary School Nurse Program resources[15], Queensland Child and Youth Health Practice Manual[23,] National Clinical Assessment Framework for Children and Young People in Out-of-Home Care[7]
Grey literature[16, 17] New Zealand (Whāraurau tools); ACT	Kessler Psychological Distress Scale	Psychological distress	Data: 10-item questionnaire	Not found in search	To be accessed through Beyond Blue website

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
School Youth Health Nurse Program			Age: Mostly used in adults but at times from 10 years up		
Grey literature[31]	Kutcher Adolescent Depression Scale 6-Item	Depression	Data: 6-item self-rating scale Age: 12–17 years	Sensitivity: 92%, Specificity: 71%	
Grey literature[17] ACT School Youth Health Nurse Program	Mental State Examination (Royal Children's Hospital Clinical Practice Guideline)	Mental state	Data: 17 items that require observations from clinician Age: All ages	None identified	
Bohnenkamp 2015[36]	NICHQ Vanderbilt Assessment Scales	ADHD, conduct and internalising problems	Data: 55 items for parent, 43 items for teachers. Only measures symptoms related to ADHD and is often used in the diagnostic process Age: 6–12 years	Unclear—chosen because of frequency of report in literature and ease of implementation in a school MH program	

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
McGuire 2019[45]	Obsessive-Compulsive Inventory–Child Version	Obsessive-compulsive symptoms over the past month	Data: 21-item child-report questionnaire Age: 7–17 years	Sensitivity (.63–.71) specificity (.71–.76) PPV (.60–.63) NPV (.76–.78) Efficiency (.70–.71) Youden's J (.37–.40)	
Grey literature[10]	Patient Health Questionnaire for Adolescents (PHQ-A) PHQ-A Depression Screen	Anxiety, eating problems, mood problems and substance abuse	Data: The full PHQ-A is an 83-item self-report, taking 5 minutes The PHQ-A Depression Screen includes 9 items only for depression Age: 13–18 years	PHQ-A: Sensitivity: 75% Specificity: 92% Accuracy: 89% Diagnostic agreement: 0.65	
Grey literature[10]	Pediatric Symptom Checklist	Psychosocial (emotional and behavioural) problems in children. Used to identify and assess	Data: 35 items, self-administered by parent or youth aged 11 or above Age: 4–16 years	Sensitivity: 80%–95% Specificity: 68%–100%	
Wigham 2014[12]	Revised Children's Anxiety and	Separation anxiety; social phobia; generalised anxiety; panic;	Data: 47-item questionnaire. Self-report from 8–18 years, otherwise parent report	Most robust in their measurement properties and recommended by the author	

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
	Depression Scale	obsessive-compulsive; major depressive disorder	Age: 6–18 years		
Grey literature[17] ACT School Youth Health Nurse Program	SCOFF questionnaire	Disordered eating	Data: 5-question screening for disordered eating in interview. Age: Unspecified but used for adolescents		
Wigham 2014[12]	Screen for Child Anxiety Related Emotional Disorders	Panic; generalised anxiety; separation anxiety; social phobia; school phobia	Data: 41-item questionnaire, child and parent report Age: 8–18 years	Most robust in their measurement properties and recommended by the author	
Williams[47]	Short-Form 10-item Health Survey (SF-10) for Children	Overall health status across physical functioning, social functioning and mental health in general and specific populations	Data: 10-item parent/caregiver-proxy report for children Age: 5–18 years	Internal consistency and test-retest reliabilities are very satisfactory in a range of clinical samples. Construct validity and discriminating ability are satisfactory in a variety of clinical samples	

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
Grey literature[48]	Short Mood and Feelings Questionnaire	Screening tool for depression	Data: Short version 13 items (longer version is 33 items); child self-report, parent-report both available. No prescribed cut-points; requires some interpretation (suggested cut-points only) Age: 6–19 years	Validated for children 6 years and older; has excellent internal consistency; convergent validity was significant; and concurrent validity with two other measures. (Not clear from this summary whether the validation was for the short or long measure)	
Wigham 2014[12]	Spence Children's Anxiety Scale	Panic/agoraphobia; separation anxiety; social phobia; obsessive-compulsive; physical injury fears; generalised anxiety disorder	Data: 44-item questionnaire Age: From 6–18 years (parent-report); 8–18 years (self-report)	Most robust in their measurement properties and recommended by the author. Coefficient alpha: 0.9–0.92; test-retest: 0.60–0.63	Also mentioned in grey literature[49] and in APRN Measures Library[8]

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
Bohnenkamp 2015[36]	Strengths and Difficulties Questionnaire	Emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, prosocial behaviour	Data: 25 items, parent, teacher and self-report Age: 3–17 years (self-report from 11–17 years)	Valid tool: Sensitivity: 63%–94% Specificity: 88%–98%	Also mentioned in Hall 2019[13], Tsang 2012[11], Williams 2018[9] and grey literature including APRN Measures Library[8], WA School Nursing Program (Children in Care)[(42)] the School Entrant Health Questionnaire (Victoria)[(50)], National Clinical Assessment Framework[(7)] New Zealand tools in grey literature search[(7-9, 11, 13-16)]
Grey literature (Opt for Wellbeing, New Zealand[16]	Substances and Choices Scale	The number of times a substance has been used over the previous month and rates substance use related symptoms and harm	Data: 23-item self-report questionnaire; 12 items regarding substance use within preceding month, 10 items measuring addictive behaviours, harms and consequences of	High acceptability, validity and reliability	From grey lit search of international school programs. Is part of YouthCHAT[16, 32]

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
			substance use. Additional question for tobacco use Age: 13–20 years		
Grey literature[17] ACT School Youth Health Nurse Program	Suicide Screening Questions from Headspace	Suicide risk	Data: screening questions available from Headspace, deemed appropriate for use with adolescents	N/A	
Grey literature[51]	Swanson, Nolan and Pelham (SNAP-IV)	Attention deficit hyperactivity disorder (ADHD) and oppositional defiant disorder	Data: parent or teacher administered, original had 90 items, but there is a 26-item form Age: 6–18 years	Coefficient alpha for overall parent ratings is 0.94. Internal consistency, item selection and factor structure were found acceptable and consistent with the constructs in DSM-IV	
Grey literature[52]	Warwick-Edinburgh Mental	Measures wellbeing	Data: 14-item scale of positively worded statements; self-report	Stated to have high internal consistency, moderate test-retest reliability, convergent	Was developed as a population measure of wellbeing and for

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
	Wellbeing Scale		Age: 13 years to adulthood	validity, positive correlation with a validated measure	use in program evaluation
Grey literature[23]	Young Person Mental Health Assessment	On page 464 of manual; appears to have been developed for manual (no copyright/attribution mentioned). Includes a suicide risk assessment, protective factors and space for clinician to determine the risk of suicide, other self-harm or harm to others. Also includes referral recommendations	Data: Pro forma for clinician to use with young person (1–2 pages) Age: Aimed at secondary school students		Part of a 480-page document for all child health professionals who provide healthcare to children in Queensland, including school-based youth health nurses
Grey literature[23]	Young Person Potential Eating Disorder Assessment Tool	On page 466 of manual; appears to have been developed for manual (no copyright/attribution mentioned). Is meant to be used after HEEADSSS Assessment. Contains 11 direct yes/no questions pertaining to eating disorder symptoms, and space for	Data: Pro forma for clinicians to use with young person, 11 items and space for physical examination findings Age: Secondary school students		Part of a 480-page document for all child health professionals who provide healthcare to children in Queensland, including school-based youth health nurses

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
		heart-rate recording, with advice on referral pathways			
Thabrew 2019[32]	YouthCHAT	Smoking, drinking, recreational drug use, problematic gambling, depression, anxiety, sexual health, general stresses, exposure to abuse, behaviour problems, anger management problems, eating problems and physical activity For each positive domain there is an additional question about whether the young person would like help (today or later)	Data: Electronic tablet–based composite screener; includes items from the Substances and Choices Scale, Patient Health Questionnaire–Adolescent Version, Generalised Anxiety Disorder-7 Scale. Found to be acceptable to young people in NZ (ethnically diverse), but only a small study in 3 schools Age: Aimed at secondary school students, initially tested in 13-year-olds	Was compared with HEEADSSS interview and found to be faster (takes half the time). Roughly the same detection for substance misuse and home problems. HEEADSSS detected broader range of mental health problems. YouthCHAT detected more eating/body image, safety, physical inactivity and sexual health problems	Current evidence supports YouthCHAT use as a first-line screening instrument, which can be followed by a targeted HEEADSSS assessment where indicated

Table 5 – Identified development assessment tools

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
Mahone 2012[18]	Behavior Assessment Scale for Children-2 (Early Childhood)	Wide range of child behaviour problems—attention, hyperactivity, aggression Designed to screen behavioural, emotional, adaptive function, attention, hyperactivity	Data: Broad caregiver rating scale—134 items on the parent version, 100 on the teacher version Age: 2–5 years	Not presented in the article	This paper included a wide range of tools to assess attention for preschoolers—including direct assessment tasks, psychiatric interviews (45–100 minutes long, not commercially available) and rating scales. We have included the rating scales, as the authors comment they are "viable and highly practical", with nationally representative standardisation samples, and recommend them the most
Mahone 2012[18]	CBCL 1.5-5	Internalising and externalising problems Covers variety of domains and scores along syndrome scales and	Data: Parent and teacher versions, 100 items to rate. Age: up to 5 years and 11 months	High test-retest reliability for majority of scales (mean 0.81 for teacher and 0.95 for parent)	Blurry whether this is developmental or mental health. See above for details of the paper

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
		DSM-oriented scales including emotionally reactive, somatic complaints, aggressive behaviour, anxious/depressed, withdrawn and attention			
Mahone 2012[18]	ADHD Rating Scale IV–Preschool Version	ADHD symptoms	Data: Parent and teacher versions; 185 items on parent version (100 behavioural, 75 developmental) and 182 items on the teacher version (112 behavioural, 70 developmental) Age: 3–5 years	On small samples. Internal consistency 0.85–0.95 (across scales and version). Test-retest reliability across scales and versions 0.80–0.96. Correlations with other scales significant	See above for details of the paper
Mahone 2012[18]	Conners Early Childhood	Behaviour: Inattention, hyperactivity, defiant/aggressive behaviours, anxiety, mood and affect, physical symptoms	Data: Parent and teacher versions; 185 items on parent version (100 behavioural, 75 developmental) and	Standardised on 1600 cases. Reliability measures 0.72–0.87. High correlation with BASC-2 and CBCL 1.5-5	See above for details of the paper

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
		Development: Adaptive skills, communication, motor skills, play and pre-academic/cognitive	182 items on the teacher version (112 behavioural, 70 developmental) Age: 2–6 years		
Berardi 2021[20]	Behavior Rating Inventory of Executive Function	Executive function	Data: 72-item parent questionnaire Age: 5–18 years	Limited data available	Not clear if can be recommended
Becker 2021[19] **Sáez 2019**[53]	Child and Adolescent Behavior Inventory	Sluggish cognitive tempo (and anxiety, depression, etc.)	Data: 15-item parent and teacher report Age: 4–17 years	Internal consistency alpha 0.88-0.98; test-retest reliability 0.82; inter-rater reliability lower, structural validity consistent	Has strongest support for parent/teacher -reported sluggish cognitive tempo. Has been normed.
Becker 2021[19]	Child Concentration Inventory, 2nd Edition	Sluggish cognitive tempo	Data: 14-item youth self-report Age:8–18 years	Internal consistency alpha 0.80–0.95; test-retest reliability 0.72	Strongest support for youth self-reported sluggish cognitive tempo

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
Grubb 2021[21]	Neurobehavioural Screening Tool	Screening tool for foetal alcohol spectrum disorder (FASD)—measures neurodevelopmental and behavioural indicators not specific to FASD	Data: Unclear how many items Age: 4–18 years	Reasonable sensitivity (range 50%–96%) and high specificity (>90%) in distinguishing children and adolescents with FASD from neurotypical youth, but less sensitivity/specificity if comparing with ADHD / conduct disorder (42%–54% specific) Not great at differentiating from ADHD or conduct disorder, but otherwise best psychometrics	Only included the ones with best evidence
McLeod 2015[22]	Parents' Evaluation of Developmental Status	Parent concern about development across all domains	Data: 10 items, administered to parents/carers Age: 3 months to 7 years 11 months	Yes (not included in the paper, but found in grey literature): Validation studies in 1997 included 771 children across the US in various settings. PEDS has a sensitivity of 74%–80% and a specificity of 70%–80% among 0–8 year-olds. For	Requires training to administer and score Not in this paper but it is used broadly within Australia Used within the WA School Entry Health Assessment[14]; used in the Victorian School Entrant Health

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
				1–3 year-olds, sensitivity is 79% and specificity is 79%. Info on validation from APRN Measures Library[8]	Questionnaire[50]; referenced in the Queensland Child and Youth Health Practice Manual[23]; recommended in the National Clinical Assessment Framework for Children and Young People in Out-of-Home Care[7]
Poll 2021[33]	Scale of Community-Based Social Skill Performance	Assesses the social skills in home and community, rating antisocial behaviour and self-control	Data: rating scale completed by someone who has observed youth in community. Unknown number of items Age: 14–21 years	Some metrics reported: low structural and content validity, higher internal consistency and possibly high reliability	Not replicated independently. This was one of the ones with stronger evidence in this paper
Poll 2021[33]	Social Language Development Test—Adolescent: Normative Update	Language for social interaction—identifies students with significant deficits in social use of language, outlining strengths and needs	Data: Unknown number of items. Directly administered by examiner reading out questions		

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
			Age: 12 to 17 years and 11 months		
Berardi 2021[20]	Working Memory Power Test	Executive function	Data: 25 items Age: 8–11 years	Alpha reliability 0.85; convergent validity high	Useful if working memory test desirable
Berardi 2021[20]	Working Memory Rating Scale	Working memory, as part of executive function	Data: 20 items Age: 5–11 years	Has been validated on 5–7 year-olds, reliability alpha coefficient 0.98, convergent validity high	Useful if working memory test desirable
Grey literature; school nursing and also National Clinical Framework	Ages and Stages Questionnaire, up to 5.5 years	Development across all domains	Data: 40 items Age: up to 5.5 years		In the WA resources for school nurses[14]; mentioned also for the Children in Care assessment procedure[42] and in the National Clinical Assessment Framework.[7]
Grey literature[54]	Developmental Behaviour Checklist	Behavioural and emotional problems in young people with developmental and intellectual disabilities	Data: 96 items Age: 4–18 years	High inter-rater reliability between parents and between teachers, test-retest reliability and internal consistency high. Good validity using 2 other measures of behaviour	Range of costs, no training but has instructions Teacher and parent forms. Can come with scoring software

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
				disturbance in children with intellectual disability	

Table 6 – Identified family violence assessment tools

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
Oh 2019[34]	Child Abuse & Trauma Scale	Household dysfunction including family violence	Data: 38-item adolescent self-report, < 10 minutes, Age: adolescents (not otherwise specified)	Internal consistency, test-retest reliability and predictive validity mentioned, although validated in undergraduate students	Free
Latzman 2017[24]	Child Exposure to Domestic Violence	Presence/risk of family violence	Data: 42-item pen and paper self-completed questionnaire Age: 10–16 years	Intimate partner violence exposure scale: alpha 0.8; 1 week test-retest Pearson's r = 0.701 (p< 0.001) Appears to be reliable among diverse populations, although there is a lack of broader concurrent validity (could do with more studies). Ravi and Tonui (2020)[25] suggested it be used by social workers	US Also appeared in Ravi and Tonui[25] and noted to be the only measure designed for children' s exposure that gets information directly from the child. Also appeared in grey literature (Google) search[55]

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
Latzman 2017[24]	Childhood Experiences of Violence Questionnaire	Lifetime exposure to family violence	Data: 5 relevant items within pen and paper self-completed questionnaire Age: 12–18 years	2 week test-retest intra-class correlation coefficients: verbal abuse item 0.64, physical abuse item 0.65	Canada
Latzman 2017[24]	Children's Perceptions of Interpersonal Conflict	Child's perceptions of parental conflict including intensity of arguments (e.g. pushing, shoving) and perceived threat	Data: 13 relevant items within pen and paper self-completed questionnaire Age: 10–12 years	Scales range from alpha = 0.87–0.90, 2 week test-retest Pearson's r range 0.68–0.76	US
Latzman 2017[24]	Conflict Tactics Scales / Conflict Tactics Scales 2	Tactics to deal with conflict in a relationship in various categories (negotiation, psychological aggression, physical assault, sexual coercion, injury) Asks about frequency for self and frequency for partner	Data: Up to 22 items (scales have been modified with different numbers of tools Age: N/A—adult for most forms of	These scales have been used in many ways—some with reliability scales with alpha scores ranging from 0.60–0.95	There are many variations on these tools—they have been adapted to adolescent formats for 12 years-plus; otherwise are adapted for use with parents of children

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
			the tool		Often adapted into other tools. Have only listed them as main original tools
Latzman 2017[24]	Dimensions of Stressful Events	Lifetime exposure to family violence	Data: 23-item interview caregiver + child Age: youth aged 2–18 years	Total score alpha = 0.65	US
Latzman 2017[24]	Family Responses to Conflict Scale	FV since starting to live with current partner	Data: 15-item pen and paper self-completed questionnaire Age: mother of child aged < 19y	alpha scales range from 0.60–0.86	US
Grey literature[56]	Lifetime Incidence of Traumatic Events, Student Form (LITE-S); Parent Form (LITE-P)	Exposure to violence and trauma	Data: self-administered, number of items unclear Age: student form (9 years and above),	Well validated	$USD15

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
			parent form (all ages)		
Oh 2019[34]	Negative Life Events Inventory	Negative life events including family violence/household dysfunction	Data: 20-item adolescent self-report Age: Students in Years 7–9	Internal consistency reliability and predictive validity; no detail in paper	Free
Keeshin 2020[27]	Pediatric Traumatic Stress Screening Tool	Exposure to trauma and subsequent traumatic stress symptoms that could indicate need for therapy (arising from family violence, abuse, violence, accidents, medical trauma, natural disasters) Aim is to identify children at risk for traumatic stress and inform the primary care clinical response	Data: 15-item questionnaire Age: Unclear if it is administered to child (and if so, which age) or to parent	See note	The UCLA brief screen is another version, and there are other variations. The UCLA Brief Screen is reportedly a validated measure but no detail given in this paper
Hooker 2016[29]	Routine domestic violence screening by maternal and	Current domestic violence risk	No particular tool (NB was directly asking mothers	No	Training: Yes, unclear (at least 3 hours) Part of domestic violence model of care, improving

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
	child health nurses in Victoria		in MCH encounters)		nurse asking and safety planning/disclosure. Nurse mentors were available and domestic violence liaison workers. Possibly nurses ask through self-completion of a checklist. Still imperfect uptake
Latzman 2017[24]	Timeline Followback Interview–Children's Exposure to Partner Violence	Family violence in past 12 months	Data: Pen and paper self-completed questionnaire (number of items not available) Age: caregivers with child aged < 12 years	6-month test-retest intraclass coefficients range from 0.93–1.0 ($p<0.01$)	US
Grey literature[57]	Violence Exposure Scale for Children–Revised	Exposure to violence and trauma	Data: 25-item self-report questionnaire administered in an interview format	Limited evaluation indicated some issues with younger children understanding the questions, while studies with school-aged children indicated good reliability and validity	Training: Yes, 4 hours Cost: Free

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
			Age: cartoon for 4–10 year-olds		
Grey literature[58]	Relationship Assessment Tool	Emotional abuse through measuring a woman's perceptions of vulnerability to physical danger, loss of power and loss of control in her relationship	Data: 10-item self-administered or administered face-to-face. Administered to parent Age: N/A (adult)	Limited detail but reported to be valid among Caucasian and African-American women	
Grey literature[59]	Behavioral Health Screen–Primary Care	Biopsychosocial assessment Broad tool that asks about substance use, sexuality, anxiety, depression, suicide, trauma and family. Regarding exposure to violence, there are questions that ask about: Having seen or heard violence in the home, seen or heard violence in the neighbourhood, being physically or sexually hurt by a romantic partner, forced to do something sexual, physically or sexually hurt by an adult who lives or frequently stays in the	Data: self-report, internet-based (number of items not available) Age: 12–21 years		

Source	Name of tool	What is being measured	Executive summary	Validity/reliability summary	Other notes
		same home as the patient / child			
Grey literature[60]	Assessment for family and domestic violence	Form for WA nurses within the WA School Health Service to use for assessing family violence	Data: 4-item screening tool Age: N/A (adult)	None available	
Grey literature[61]	Assessment for Family and Domestic Violence (FDV951)	Form for WA nurses within the WA School Health Service to use for assessing family violence	Data: 30 items Age: N/A (adult)	None available	