



## Review article

# Previsit Multidomain Psychosocial Screening Tools for Adolescents and Young Adults: A Systematic Review


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## A B S T R A C T

Adolescence and young adulthood constitute a period when exploratory behaviors can evolve into risky behaviors. Most causes of adolescent ill health are preventable; therefore, it is a priority to detect them early before they turn into health problems. Previsit multidomain psychosocial screening tools are used by professionals to detect and prioritize potentially problematic issues. In conjunction with appropriate clinician training, these tools have improved clinician screening rates in several areas of adolescent health. This article reviews existing multidomain previsit psychosocial screening tools developed in the 21st century and describes their characteristics using a systematic methodology.

We reviewed 10,623 records to identify 15 different tools in use since 2000 and described their characteristics. Results show that all tools were developed in high-income countries. The tools provide sufficient coverage of many psychosocial domains relevant to young people's health. However, some psychosocial domains such as screen use and strengths are seldomly addressed. Furthermore, the tools rarely focus on young adults as a target population. Future research should assess the effectiveness, acceptability, and psychometric properties of validated psychosocial screening tools and examine how to expand their use in low- and middle-income countries.

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**IMPLICATIONS AND CONTRIBUTION**

The findings of the current literature review call for an improvement in and validation of existing previsit screening tools. A validated universal previsit multidomain screening tool is a promising way to support professionals in reducing the burden of disease among adolescents and young adults around the world.

Adolescents and young adults are defined as individuals aged 10–19 and 20–24, respectively [1]. This period between childhood and adulthood is characterized by important biological,

emotional, and social changes that offer great opportunities for positive development, yet are also accompanied by risk of increased vulnerability [2,3].

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**Disclaimer:** Valentina Baltag is a staff member of the World Health Organization and Jérémy Glasner is a former intern of the World Health Organization. The authors alone are responsible for the views expressed in this review and they do not necessarily represent the decisions or policies of the World Health Organization.

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Globally, the major causes of loss in disability adjusted life years linked to psychosocial issues in adolescents and young adults are anxiety disorders, depressive disorders, self-harm, road traffic injury, childhood behavioral disorders, drowning, and interpersonal violence. They represent almost half of all disability adjusted life years for adolescents and young adults [1,4]. In addition, almost 70% of disease burden in adults can be prevented by interventions in adolescence targeting major risk factors for noncommunicable diseases such as tobacco and alcohol use, unhealthy diet, and sedentary lifestyles [5].

Given the link between adolescent and adult health, it is crucial to promote a life-course perspective in adolescent health. This entails not only dealing with imminent risks and salient problems to help adolescents stay healthy in the present, but also encouraging healthy lifestyles and discouraging harmful exposures and behaviors (e.g., air pollution, violence, alcohol, and tobacco use) to reduce morbidity, disability, and premature mortality later in adulthood and future generations [1].

Most causes of adolescent ill health are preventable; therefore, it is a priority to detect them early before they turn into health problems. The World Health Organization and many other international organizations promoting adolescent health such as the American Academy of Pediatrics and the International Association for Adolescent Health recommend facilitating young people's disclosure of their risk-taking behaviors and concerns beyond the presenting complaint, by prompting a discussion alongside the general psychosocial assessment [1]. Screening across multiple domains allows for a holistic assessment of the patient and helps professionals better understand how issues may be interconnected. Indeed, risky behaviors often evolve in clusters: when adolescents adopt a risky behavior in one domain, the probability of having issues in another domain increases [6–9].

Taking into account the need to screen for multiple risky behaviors, the HEADSS psychosocial interview tool was developed in 1988 to help physicians detect problems earlier and more effectively. These six broad screening areas stand for Home environment, Education and employment, peer Activities, Drugs, Sexuality and Suicide/depression [10]. Since then, the acronym has been broadened to include some other aspects such as Eating, Safety and security, Screens and Strengths, resulting in the acronym HEEADSSS [11,12].

Unfortunately, little research has focused on the effectiveness of such tools or on identifying the most useful psychosocial domains for screening. Nevertheless, the existing literature shows that psychosocial risk screening together with counseling intervention has a positive impact on young people's engagement with primary care and on their health outcomes [13–16].

Many obstacles to early detection remain. In the clinical setting, some obstacles stem from insufficient training of health care providers, which is related to a general scarcity of adolescent-competent health professionals and adolescent-responsive care [17,18]. Other obstacles are environmental, such as the lack of private consultation rooms and consultation-billing practices, stymieing confidential care, which call into question the acceptability of health care by adolescents [17]. Finally, time constraints of primary care physicians are reported as a key obstacle to the implementation of early detection screening practices and are one of the major reasons why desired discussions on health topics do not occur [19]. Studies report a high prevalence of consultations in the emergency room for this population [20]. Yet, time constraints are characteristic of emergency care settings, which are thus far from ideal to promote effective adolescent-friendly health care. Outside of the clinical setting, barriers to health care accessibility include insurance coverage and cost, limited knowledge of the care network on the part of adolescents, and transition failure [17]. Generally, adolescents have less regular contact with the health system than other age groups, and they often get lost in the transition from pediatric to adult health care [21,22].

Barriers to health care access require creative solutions in identifying the ideal setting to foster preventive care and present opportunities for early detection. In this context, population-based preventive interventions have been shown to reduce risks and enhance protection in communities through effective outreach to young people. Indeed, risk and protective factors predictive of adolescent risk-taking behaviors exist in multiple ecological domains such as community, school, family, and peer groups. Therefore, psychosocial screening could be promising in settings other than health care, such as community settings [23]. Overcoming barriers calls for a multilevel approach including training of health care providers, improvement of health facilities, advocacy for universal coverage, and community interventions.

Previsit screening tools—also called preconsultation or pre-encounter instruments—offer a promising start by responding to barriers such as time constraints, lack of training, and accessibility.

Previsit tools are self-administered before the encounter with a health, education, or social service professional. They can be completed at home, school, or in the waiting room. The professional has access to the results before or right at the beginning of the consultation, and can use them as a guide to orient the consultation in light of the patient's responses.

Among the multiple benefits of psychosocial assessment, looking for adolescent strengths and resources are fundamental to promote positive youth development and enhance resilience. It helps indicate treatment opportunities, such as untreated mental health conditions that are of high concern during adolescence. Similarly, it enables addressing issues such as sexuality together with the emerging need for contraception or protection. It identifies risky behaviors and potential need for clinical intervention [15,24].

A comparison between a previsit multidomain tool and a clinician interview assessment showed shorter administration time, higher detection rate, and equivalent acceptability [25]. Previsit screening enables greater disclosure of sensitive topics as patients are given time alone to reflect on and answer questions [24]. However, questions remain about which previsit screening tools are most appropriate for widespread use. The aims of this article are to review existing multidomain previsit psychosocial screening tools developed in the 21st century and to describe their characteristics using a systematic methodology.

## Methods

We undertook a systematic review of the literature following the *Guidance for conducting systematic scoping reviews* developed by the Joanna Briggs Collaboration [26]. We chose this systematic process because it corresponds best to our aim of clarifying key concepts, mapping the existing literature, describing trends, and identifying research gaps [27].

The eligibility criteria for the tools included the target audience being the general adolescent and young adult population between 10 and 24 years old; the timing being previsit, the inclusion of at least three independent psychosocial domains; and application in a primary care, social or school context. There are no clear definitions in the literature for “multidomain” when applied to a screening tool. We decided to include tools evaluating three or more psychosocial domains to approach a global assessment. This decision is based on the observation that screening tools focusing

only on one area—e.g., substance use—were in fact often associated with a second domain that could be closely connected—e.g., substance use and mental health. For the psychosocial domains, we used the acronym HEEADSSSS. This includes the latest published version of the acronym—i.e., HEEADSSS standing for Home environment, Education and employment, Eating, Activities, Drugs, Sexuality, Suicide/depression, and Safety from injury and violence [12]. Two S's for Screen use and Strengths were important additions. We included sources published between January 2000 and December 2018. The search included records published in English, French, Spanish, Romanian, and Russian given the authors' language skills.

A search strategy was developed and adapted to nine relevant databases: *Embase*, *PubMed*, *CINHAL*, *PsychINFO*, *Cochrane Library*, *Web of Science*, *Global Index Medicus*, *SciELO*, and *Sociological Abstracts*. Key terms combined the concepts of “adolescence”, “psychosocial screening tools”, and “previsit” (the complete search strategies can be found in [Appendix A](#)). In addition, we conducted bibliographic mining and manual searches in databases such as *Google Scholar*, the *Campbell Collaboration*, *IRIS*, *Proquest dissertation and thesis*, and the *Mental Measurements Yearbook*. Finally, we contacted experts through the World Health Organization network, Lausanne University Hospital's Interdisciplinary Division for Adolescent Health network and the International Association for Adolescent Health. We did not include commercial tools that were not made available by the author or were not available in the accessible literature. When instruments covered only part of the target age group (e.g., 18 years and older), they were excluded because the primary audience was not adolescents and young adults.

The records were scanned by title and abstract, and irrelevant records were removed. At this stage, all records describing the development of a tool or mentioning the use of a tool were retained. From 10,623 records, a sample of 300 records was scanned by two authors (J.G., A.-E.A.) to ensure the consistent application of the eligibility criteria. After reaching a high level of consistency, the remaining records were screened by one author (J.G.). Any uncertain records were discussed by the same two authors (J.G., A.-E.A.). About 82 records were retained for full text screening by two authors (J.G., V.B.). If the article described the use of a tool without describing the tool, the original article describing the development of the tool was searched by bibliographic mining or by contacting authors. In the end, we only included those original articles.

Using a table completed by one author (J.G.) and checked by the other authors (V.B., A.-E.A.), we gathered data on the tools regarding information source, availability of a publication, origin, language, administration format, item number, branching logic, administration time, setting, timing, target age group, and coverage of HEEADSSSS domains. Given that some tools present multiple versions depending on patient age, we analyzed each version separately. When possible, we extracted data directly from the full tool made available in the publication or after contacting the author.

Finally, we summarized the data using simple proportions.

In a second step, we mapped the quality measures assessed for the included tools. In addition to using information found in the original articles, we also searched for other sources. Consequently, in June 2020, we conducted a limited search in *Embase* and *Google Scholar* combining quality concepts and the tools' names (the complete search strategies can be found in [Appendix B](#)).

## Results

### Search results, source, and publication

The search strategy identified 16 records describing a total of 15 different tools. The full study selection process is detailed in [Figure 1](#). Less than half of the original articles or tools (6/15) were found through the database search, whereas most (9/15) were found through grey literature search (2/9 *Google Scholar*, 5/9 bibliographic mining, 2/9 contacting experts). Almost all tools (14/15) have a publication describing their development. When a more recent version of the tool could be found, data were extracted from this version.

The key characteristics of the tools are described in [Tables 1–3](#).

### Origin and language

The origin and language of the tools are shown in [Table 1](#).

All tools without exception were developed in high-income countries (HIC). Most tools (12/15) were developed in Anglophone countries and are, therefore, in English, whereas the remaining tools were developed in Switzerland, Spain, and France. Two tools offer two language options: English-Maori and English-Spanish.

### Administration

The administration format of the tools is shown in [Table 2](#).

Almost half of the tools (7/15) are available in an electronic format. Only one tool also exists in a paper format. As of 2010, most tools (4/7) use an electronic format, mainly as an application on a smartphone, tablet, and/or computer.

### Item number, branch logic, and administration time

The item number, branch logic, and administration time of the tools are shown in [Table 2](#).

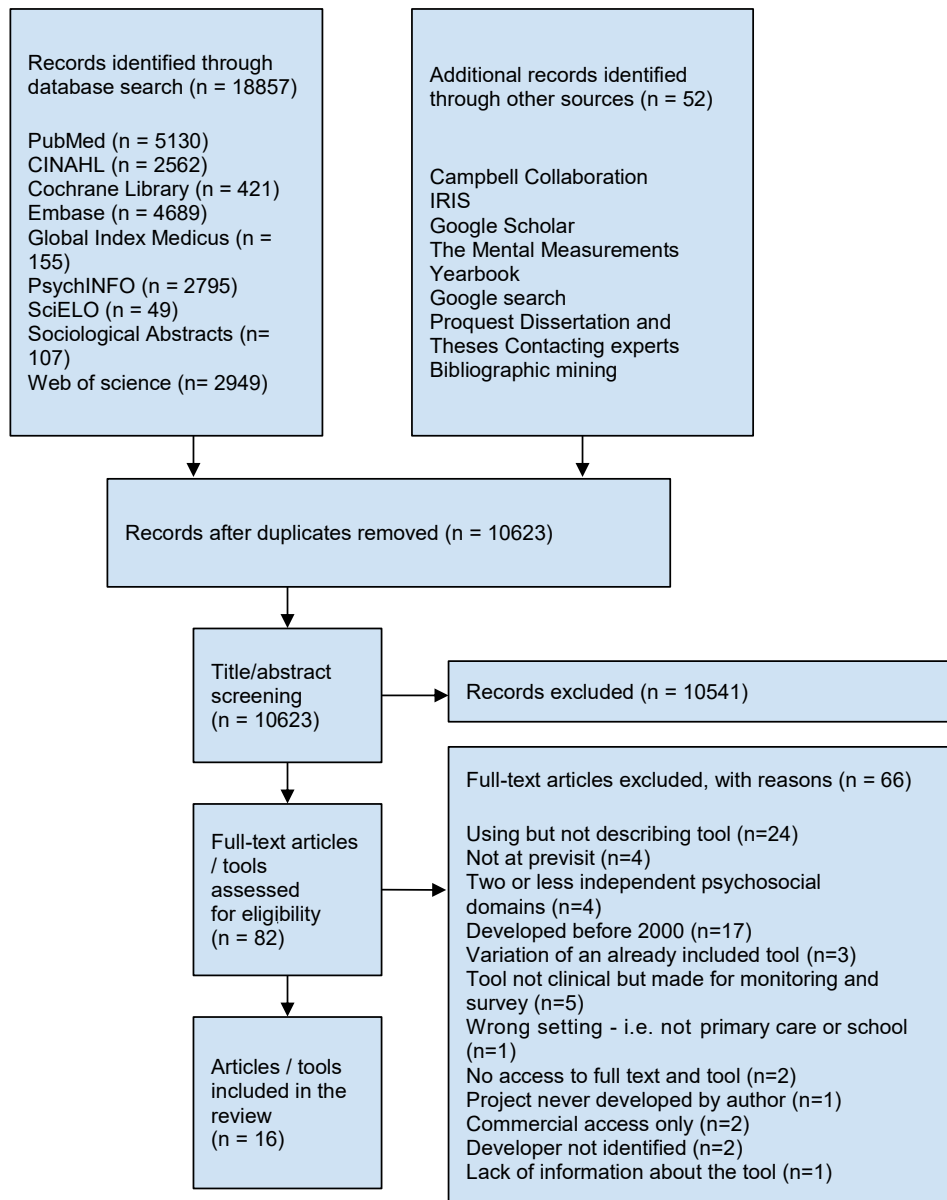
The maximum number of items varies from 9 to 177. Only a minority (6/15) uses branch logic—i.e., question pathway based on the respondent's answers. The administration time is often not specified but when it is, in eight of the tools, it ranges from 3 to 20 minutes and increases with more items, although not proportionally.

### Setting and timing

The setting and timing of the tools are shown in [Table 2](#).

The setting and timing for which the tool was developed and applied may differ from those recommended by the authors. For example, some instruments were developed for school settings but also recommended for use in primary care outpatient facilities [37]. Similarly, tools used to collect data opportunistically were recommended for use in routine clinical scheduled visits [37].

Eight tools have been used exclusively in an outpatient primary care setting, whereas three have been used at school. One has been used in both settings. Nonetheless, based on the authors' recommendations, three tools can be used in both primary care and school settings [29,37,43].



**Figure 1.** Flow chart of articles and tools selection.

## Age

The targeted age groups of the tools are shown in [Table 2](#).

Our target group is adolescents and young adults aged 10–24 years. Eight tools cover the entire age group, of which three have multiple versions depending on the patient's age. Only two tools cover the young adult age group exclusively by using a version adapted to the patient's age.

## HEEADSSSS domains

The domains covered by each tools are shown in [Table 3](#).

A domain is covered if at least one of the age-adapted versions of the tool mentions it. Some HEEADSSS domains such as Home (13/15), Education and employment (13/15), Eating (11/15), physical Activity (10/15), socialization Activities (10/15), licit and illicit Drugs (13/15), Sexuality (11/15), Suicide and depression (13/15), and Safety and security (13/15) are covered by almost all the tools, whereas others such as Screens (4/15) and Strengths (7/15) are often not addressed.

Some tools had questions addressing domains not included in the acronym. They often covered demographic information, general state and appearance and less frequently gambling and access to medical care.

**Table 1**  
Overview of the tools

| Tool name/measure   | Abbreviation | Year of publication (article) | Language of tool | Country     | World bank country classification | Source                                 |
|---|--------------|-------------------------------|------------------|-------------|-----------------------------------|--|
| Previsit Questionnaire (PVQ) [28]   | PVQ          | 2009                          | English          | Canada      | High income                       | Database                               |
| YouthChat [29]  | YouthChat    | 2017                          | English, Maori   | New Zealand | High income                       | Database                               |
| Guide d'entretien confidentiel—early adolescents <sup>a</sup> , [30]                  | GEC-early    | 2000                          | French           | Switzerland | High income                       | Database                               |
| Guide d'entretien confidentiel—late adolescents/young adults <sup>a</sup> , [30]      | GEC-late     | 2000                          | French           | Switzerland | High income                       | Database                               |
| Behavioral Health Screen (BHS) [31]   | BHS          | 2010                          | English          | U.S.        | High income                       | Database                               |
| Questionnaire pré-consultation [32]   | QPC          | N/A                           | French           | France      | High income                       | Grey literature (bibliographic mining) |
| Check Up GP [33]  | Check Up GP  | 2017                          | English          | Australia   | High income                       | Grey literature (Google Scholar)       |
| HEADSS on Tickit Health <sup>a</sup> , [34,35]  | Tickit       | 2013                          | English          | Australia   | High income                       | Grey literature (contacting experts)   |
| Rapid Assessment for Adolescent Preventive Services (RAAPS)_9-12 <sup>a</sup> , [36]  | RAAPS 9-12   | 2009                          | English          | U.S.        | High income                       | Grey literature (bibliographic mining) |
| Rapid Assessment for Adolescent Preventive Services (RAAPS)_13-18 <sup>a</sup> , [36] | RAAPS 13-18  | 2009                          | English          | U.S.        | High income                       | Grey literature (bibliographic mining) |
| Rapid Assessment for Adolescent Preventive Services (RAAPS)_19-24 <sup>a</sup> , [36] | RAAPS 9-12   | 2009                          | English          | U.S.        | High income                       | Grey literature (bibliographic mining) |
| Adolescent Health Review (AHR) [37]   | AHR          | 2001                          | English          | U.S.        | High income                       | Database                               |
| Behaviour evaluation for risk-taking adolescents (BERTA) [38]                         | BERTA        | 2005                          | Catalan          | Spain       | High income                       | Grey literature (Google Scholar)       |
| The Multidimensional Adolescent Assessment Scale (MAAS) [39]                          | MAAS         | 2002                          | English          | U.S.        | High income                       | Grey literature (bibliographic mining) |
| Health eTouch system [40]   | eTouch       | 2008                          | English          | U.S.        | High income                       | Database                               |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—Younger adolescents [41]   | ASQ-young    | 2010                          | English          | U.S.        | High income                       | Grey literature (contacting experts)   |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—Early adolescents [41]     | ASQ-early    | 2010                          | English          | U.S.        | High income                       | Grey literature (contacting experts)   |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—15–17 years [41]           | ASQ-15-17    | 2010                          | English          | U.S.        | High income                       | Grey literature (contacting experts)   |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—18–21 years [41]           | ASQ-18-21    | 2010                          | English          | U.S.        | High income                       | Grey literature (contacting experts)   |
| Patient screening form (PSF) [42]   | PSF          | 2012                          | English, Spanish | U.S.        | High income                       | Grey literature (bibliographic mining) |
| Risky Behavior Questionnaire for Adolescents (RBQ-A) [43]                             | RBQ-A        | 2012                          | English          | U.S.        | High income                       | Grey literature (bibliographic mining) |

<sup>a</sup> For this tool, a more recent version was used.

### Quality assessment of the tools

The quality measures used to assess the tools are shown in Table 4.

Ten tools have been assessed by quality measures in at least one publication. Utility was measured for eight tools whereas effectiveness for two tools, efficacy and feasibility for one tool each. Acceptability by providers or patients was evaluated for four tools. Validity and reliability were measured for three tools, sensitivity and specificity for two. Overall, the quality measures chosen by the authors are very heterogeneous.

### Discussion

This systematic review sheds light on 15 existing previsit multidomain psychosocial screening tools developed since 2000, to improve the detection of common health issues and needs among adolescents and young adults. Results highlight no representation of low- and middle-income countries (LMIC) in the development stage, heterogeneous quality assessment, and diversity in the format and setting for use. Only a few tools were spanned into young adulthood.

All tools have been developed in HIC, underscoring an undeniable disparity between research on previsit tools in HIC and LMIC. Even though these groups have different needs and

challenges, the use of previsit screening tools could potentially be of benefit in both settings [1,53]. In terms of global burden of disease in adolescents, countries are progressing at a different pace through the epidemiological transition: LMIC face multiple burdens with higher rates of communicable, maternal, and nutritional conditions whereas almost all HIC face non-communicable diseases. In between are countries that have a preponderance of injuries. LMIC are also characterized by an acute lack of resources in infrastructure, staff, and professional training [18,54,55]. On the other hand, HIC face growing budgetary pressures that lead to procurement strategies and policies aimed at maximizing the amount of patient care at the lowest cost to the local authority [56,57]. In sum, both groups face substantial time and effectiveness constraints.

The use of a previsit tool could be a promising response by increasing the efficiency of provider-patient encounters regardless of geographical context, and helping to overcome some of the aforementioned barriers [15,24,58]. Taking a psychosocial history that allows for the identification of resources, treatment opportunities, and detection of risks is universal irrespective of geographic context. However, the implementation of previsit tools will depend on local culture, traditions, religious beliefs, socioeconomic and political factors, particularly by influencing both what and how questions are asked and answered [53]. The adaptability of a universal tool implies that the domains covered



**Table 2**  
Tools' selected characteristics

| Tool name/measure   | Administration (electronic vs. pen and paper) | Maximum number of items | Branch logic | Administration time (minutes) | Timing (tested)   | Setting (tested)                | Age range | Early adolescents (10–14) | Late adolescents (15–19) | Young adults (20–24) |
|---|---|-------------------------|--------------|-------------------------------|-------------------|---------------------------------|-----------|---------------------------|--------------------------|----------------------|
| Previsit Questionnaire (PVQ) [28]   | Pen and paper                                 | 14                      | No           | N/A <sup>a</sup>              | Opportunistic     | Outpatient—primary care         | 13–19     | Yes                       | Yes                      | No                   |
| YouthChat [29]  | Electronic                                    | 87                      | Yes          | N/A                           | Opportunistic     | Outpatient—primary care         | 10–24     | Yes                       | Yes                      | Yes                  |
| Guide d'entretien confidentiel—early adolescents [30]                               | Pen and paper                                 | 38                      | No           | 15                            | Opportunistic     | Outpatient—primary care         | 10–14     | Yes                       | No                       | No                   |
| Guide d'entretien confidentiel—late adolescents/young adults [30]                   | Pen and paper                                 | 52                      | No           | 15                            | Opportunistic     | Outpatient—primary care         | 14–22     | No                        | Yes                      | Yes                  |
| Behavioral Health Screen (BHS) [31]   | Electronic                                    | 112                     | Yes          | 8–15, 12.4                    | Opportunistic     | Outpatient—primary care         | 12–21     | Yes                       | Yes                      | Yes                  |
| Questionnaire pré-consultation [32]   | Pen and paper                                 | 43                      | No           | N/A                           | N/A               | N/A                             | N/A       | N/A                       | N/A                      | N/A                  |
| Check Up GP [33]  | Electronic                                    | 64                      | Yes          | N/A                           | Routine scheduled | Outpatient—primary care         | 14–25     | Yes                       | Yes                      | Yes                  |
| HEADSS on Tickit Health [34,35]   | Electronic                                    | 87                      | Yes          | 4–24, 13                      | Routine scheduled | Outpatient—primary care         | 12–18     | Yes                       | Yes                      | No                   |
| Rapid Assessment for Adolescent Preventive Services (RAAPS)_9-12 [36]               | Electronic and pen and paper                  | 22                      | No           | 5–10                          | Opportunistic     | School                          | 9–12      | Yes                       | No                       | No                   |
| Rapid Assessment for Adolescent Preventive Services (RAAPS)_13-18 [36]              | Electronic and pen and paper                  | 22                      | No           | 5–10                          | Opportunistic     | School                          | 13–18     | Yes                       | Yes                      | No                   |
| Rapid Assessment for Adolescent Preventive Services (RAAPS)_19-24 [36]              | Electronic and pen and paper                  | 23                      | No           | 5–10                          | Opportunistic     | School                          | 19–24     | No                        | No                       | Yes                  |
| Adolescent Health Review (AHR) [37]   | Electronic                                    | 33                      | N/A          | 3                             | Opportunistic     | School                          | 12–18     | Yes                       | Yes                      | No                   |
| Behaviour evaluation for risk-taking adolescents (BERTA) [38]                       | Pen and paper                                 | 9                       | No           | N/A                           | N/A               | School                          | 14–19     | Yes                       | Yes                      | No                   |
| The Multidimensional Adolescent Assessment Scale (MAAS) [39]                        | Pen and paper                                 | 177                     | No           | 15–20                         | Opportunistic     | N/A                             | 10–20     | Yes                       | Yes                      | Yes                  |
| Health eTouch system [40]   | Electronic                                    | 101                     | Yes          | 12.5                          | Opportunistic     | Outpatient—primary care         | 11–18     | Yes                       | Yes                      | No                   |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—younger adolescents [41] | Pen and paper                                 | 45                      | No           | N/A                           | N/A               | N/A                             | N/A       | Yes                       | No                       | No                   |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—early adolescents [41]   | Pen and paper                                 | 59                      | Yes          | N/A                           | N/A               | N/A                             | N/A       | Yes                       | No                       | No                   |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—15–17 years [41]         | Pen and paper                                 | 50                      | Yes          | N/A                           | N/A               | N/A                             | 15–17     | No                        | Yes                      | No                   |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—18–21 years [41]         | Pen and paper                                 | 51                      | Yes          | N/A                           | N/A               | N/A                             | 18–21     | No                        | No                       | Yes                  |
| Patient screening form (PSF) [42]   | Pen and paper                                 | 20                      | No           | N/A                           | Routine scheduled | Outpatient—primary care         | 12–21     | Yes                       | Yes                      | Yes                  |
| Risky Behavior Questionnaire for Adolescents (RBQ-A) [43]                           | Pen and paper                                 | 20                      | No           | 3–4                           | N/A               | Outpatient—primary care, school | 12–18     | Yes                       | Yes                      | No                   |

<sup>a</sup> N/A stands for not applicable.

**Table 3**  
Key domains included in the tools

| Tool name/measure   | Home                  | Education/<br>employment | Eat      | Activities,<br>physical | Activities,<br>socialization | Drugs,<br>licit | Drugs,<br>illicit | Sexuality | Suicide/<br>depression | Safety/<br>security | Screen   | Strengths | Other    | Other<br>explanation                                       |
|---|-----------------------|--------------------------|----------|-------------------------|------------------------------|-----------------|-------------------|-----------|------------------------|---------------------|----------|-----------|----------|--|
| Previsit Questionnaire (PVQ) [28]   | Yes                   | Yes                      | Yes      | Yes                     | No                           | Yes             | Yes               | Yes       | Yes                    | Yes                 | No       | No        | Yes      | Appearance   |
| YouthChat [29]  | Yes                   | Yes                      | Yes      | Yes                     | No                           | Yes             | Yes               | Yes       | Yes                    | Yes                 | No       | No        | Yes      | Demographics   |
| Guide d'entretien confidentiel—early adolescents [30]                               | Yes                   | Yes                      | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | Yes      | Yes       | Yes      | General state, medicine, appearance                        |
| Guide d'entretien confidentiel—late adolescents/young adults [30]                   | Yes                   | Yes                      | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | Yes      | Yes       | Yes      | General state, medicine, appearance                        |
| Behavioral Health Screen (BHS) [31]   | Yes                   | Yes                      | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | No       | Yes       | Yes      | Demographics, general state, satisfaction                  |
| Questionnaire pré-consultation [32]   | Yes                   | Yes                      | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | No       | Yes       | Yes      | Medicine, appearance, open question                        |
| Check Up GP [33]  | Yes                   | Yes                      | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | No       | Yes       | Yes      | Demographics, appearance, medicine, satisfaction           |
| HEADSS on Tickit Health [34,35]   | Yes                   | Yes                      | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | Yes      | Yes       | Yes      | Aboriginal, appearance, satisfaction                       |
| Rapid Assessment for Adolescent Preventive Services (RAAPS)_9-12 [36]               | No                    | No                       | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | Yes      | Yes       | Yes      | Demographics   |
| Rapid Assessment for Adolescent Preventive Services (RAAPS)_13-18 [36]              | Yes                   | Yes                      | Yes      | Yes                     | No                           | Yes             | Yes               | Yes       | Yes                    | Yes                 | No       | Yes       | Yes      | Demographics   |
| Rapid Assessment for Adolescent Preventive Services (RAAPS)_19-24 [36]              | No                    | No                       | Yes      | Yes                     | No                           | Yes             | Yes               | Yes       | Yes                    | Yes                 | No       | No        | Yes      | Demographics   |
| Adolescent Health Review (AHR) [37]   | Yes                   | Yes                      | Yes      | Yes                     | No                           | Yes             | Yes               | Yes       | Yes                    | Yes                 | No       | No        | Yes      | Demographics   |
| Behaviour evaluation for risk-taking adolescents (BERTA) [38]                       | Yes                   | Yes                      | No       | No                      | Yes                          | No              | No                | No        | No                     | No                  | No       | No        | Yes      | Demographics   |
| The Multidimensional Adolescent Assessment Scale (MAAS) [39]                        | Yes                   | Yes                      | No       | No                      | Yes                          | Yes             | Yes               | No        | Yes                    | Yes                 | No       | No        | Yes      | Cognition: memory loss                                     |
| Health eTouch system [40]   | No                    | No                       | No       | No                      | No                           | Yes             | Yes               | No        | Yes                    | Yes                 | No       | No        | No       | no   |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—younger adolescents [41] | Yes                   | Yes                      | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | Yes      | Yes       | Yes      | Demographics, access to medical care                       |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—early adolescents [41]   | Yes                   | Yes                      | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | Yes      | Yes       | Yes      | Demographics, access to medical care, piercing and tattoos |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—15–17 years [41]         | Yes                   | Yes                      | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | Yes      | No        | Yes      | Demographics, access to medical care, piercing and tattoos |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)—18–21 years [41]         | Yes                   | Yes                      | Yes      | Yes                     | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | Yes      | No        | Yes      | Demographics, access to medical care, piercing and tattoos |
| Patient screening form (PSF) [42]   | Variable <sup>a</sup> | Variable                 | Variable | Variable                | Variable                     | Variable        | Variable          | Variable  | Variable               | Variable            | Variable | Variable  | Variable | Variable   |
| Risky Behavior Questionnaire for Adolescents (RBQ-A) [43]                           | Yes                   | Yes                      | Yes      | No                      | Yes                          | Yes             | Yes               | Yes       | Yes                    | Yes                 | No       | No        | Yes      | Variable<br>Shoplifting, gambling                          |

<sup>a</sup> Variable because the items are based on an algorithm considering the patients' age and electronic medical record.

**Table 4**  
Quality assessment of the tools

| Tool name/measure  | Type of quality assessment <sup>a</sup>   | Summary  |
|--|---|--|
| Previsit Questionnaire (PVQ) [28]  | Efficacy  | - Increases the number of psychosocial issues without diagnoses recorded and the number of psychosocial actions taken, decreases the number of medical actions taken suggesting that it increases physician awareness of psychosocial issues   |
| YouthChat [25,44]  | Acceptability (provider), acceptability (patient), utility, effectiveness   | - For patients: easy to use, gives them time to reflect on their responses and what to discuss with their clinician<br>- For providers: makes consultations faster, helps to guide their conversation and address sensitive issues<br>- To be improved: interface could be more appealing, student literacy issues                     |
| Guide d'entretien confidentiel Behavioral Health Screen (BHS) [31,45–47]               | N/A <sup>b</sup><br>Validity, reliability, utility, acceptability (provider), acceptability (patient), sensitivity, specificity | - Strong internal consistency as well as impressive convergent and divergent validity. High specificity and sensitivity<br>- For patients: user-friendly, helpful during the appointment<br>- For providers: helps to identify patients with internalizing symptoms and/or at-risk for suicide, helps to facilitate and plan the visit |
| Questionnaire pré-consultation Check Up GP [33,48]                                     | N/A<br>Utility, acceptability (patient)   | - For patients: gives a chance to prepare and reflect on their responses<br>- For providers: improves disclosure, expanding patient understanding of the scope of what their provider can help them with<br>- To be improved: privacy during completion  |
| HEADSS on Tickit Health [34,35]  | Acceptability (provider), acceptability (patient), utility  | - For patients: easy to use, comfortable with the questions asked, helps them talk with their provider<br>- For providers: saves time, offers a non-judgmental way for young people to provide answers to difficult questions  |
| Rapid Assessment for Adolescent Preventive Services (RAAPS) [36,49–52]                 | Effectiveness, reliability, validity, specificity, sensitivity, acceptability (provider), utility                               | - Validity and reliability established with good internal consistency, content validity and face validity. Strong specificity and sensitivity<br>- For providers: encourages communication and disclosure, time efficient, easy to use, comprehensive risk assessment<br>- To be improved: mostly not valid in Colombia                |
| Adolescent Health Review Behaviour evaluation for risk-taking adolescents (BERTA) [38] | N/A<br>Utility  | - Good instrument to detect adolescents with at least one risky behavior; youth with a score higher than 1 are more than twice as likely to have any risky behavior  |
| The Multidimensional Adolescent Assessment Scale (MAAS) [39]                           | Validity, reliability   | - Reliable and valid method of measuring multiple domains of functioning   |
| Health eTouch system [40]  | Utility, feasibility  | - Standardized behavioral screening is feasible in pediatric primary care clinic through computerized technology<br>- May help initiate conversation with providers on topics that otherwise would not have been discussed   |
| Bright Futures Adolescent Supplemental Questionnaire (ASQ)                             | N/A   |  |
| Patient screening form (PSF) [42]  | Utility   | - Significantly decreases the burden of identifying relevant guidelines and screening  |
| Risky Behavior Questionnaire for Adolescents (RBQ-A)                                   | N/A   |  |

<sup>a</sup> The terms listed are the ones used by the authors. If no term was specified in their article, we chose the ones we considered most appropriate.

<sup>b</sup> N/A stands for not applicable.

should be similar, but individual items may be adapted to the local context.

The quality assessment of the 15 existing tools showed that measures of validity or reliability were scarce and not

standardized. Despite widespread recommendations for psychosocial screening, it is surprising that so little research has been carried out on its effectiveness. That said, the main aim for such tools is their ability to facilitate early detection which may



lead to a long-term positive impact on patient health. To develop a “gold standard” previsit screening tool, their psychometric properties, their validity, and their effectiveness and acceptability for patients and providers need to be assessed. Implementing routine previsit assessment requires not only an effective screening tool but also major changes in health systems. These include insurance coverage, availability of health care services, and availability of adolescent-friendly health care providers with adolescent-specific health knowledge.

In terms of administration, more than half of the tools are electronic, providing further evidence that digital technology is gaining more ground. In many countries such as the U.S., 95% of teens have access to a smartphone [59], whereas this rate is lower in LMIC and varies greatly between urban and rural areas [60]. The increase of smartphone ownership in both HIC and LMIC [61,62] has an impact on the way adolescents and young adults gain health literacy, with over half seeking health information online [63,64]. This observation urges a better integration of technology into clinical practice with important reflections to be made on the implementation of previsit screening tools. First, a robust platform that is well integrated with the patient’s electronic health record provides the ideal infrastructure. There should be a way to track changes over time and generate statistics. Second, as with any health-related data, confidentiality and data protection should be guaranteed [65]. This raises issues of encryption and storage of sensitive information. Third, a high level of user-friendliness will encourage high adoption rates among both patients and providers. For example, the professional should be able to identify easily the most challenging areas on a results dashboard and thus prioritize quickly.

Despite the important role of previsit psychosocial screening in the care of adolescents and young adults, it is essential to remember that screening is only a first step in care [66]. In fact, inquiring about intimate and health issues also raises patient expectations and requires the provider to react. Not reacting to a detected problem could be even more harmful than not screening at all [24]. In reality, many health professionals feel that they are inadequately equipped to manage the psychosocial issues of adolescents and young adults [67]. Because screening tools coupled with brief interventions have already proven their worth and can lead to better health outcomes [13], targeted training sessions for brief clinical interventions should accompany the introduction of a previsit psychosocial screening tool [68,69]. Ideally, this would be a brief and specific individualized intervention undertaken by the professional and integrated with the tool [70].

Almost half of the tools reviewed do not include the young adult age group as a target. Yet, young adults are still in a period of vulnerability and still present an important morbidity associated with psychosocial domains [71]. Developing a previsit screening tool covering the 20- to 24-year-old age group could potentially improve the effectiveness of the clinical encounter with young adults. Making the tool available in various versions, or using a branch logic depending on the age of the patient, are effective ways to ensure it is adapted to their situation and level of understanding.

Finally, the HEADSSS acronym should continue its expansion to include new issues that have health repercussions, such as the exponential rise in screen use that is associated with problems spanning family conflict, sleep disturbance, and somatic problems, to name only a few [72,73]. Concurrently, the integration of

a “strengths” category and thereby a more positive approach to youth development, such as the one adopted by the SSHADESS screen, would also allow professionals to promote and build on adolescents’ resources and opportunities [74].

## Limitations

We did not conduct a systematic examination of every published article using the tools identified in our review. Therefore, there may be published evidence on some tools that has not been integrated in this review. In addition, even though we contacted as many experts and international organizations as possible, many unpublished tools may be used clinically. Indeed, our search was complicated by the sheer number of centers that could have been contacted worldwide.

## Conclusion

Previsit multidomain psychosocial screening tools are used widely in clinical and school settings to detect risk-taking behaviors and strengths in adolescents and young adults. Acceptability by health care professionals is high, and evidence suggests that such tools are very useful. However, there is no current gold standard.

Our review identified opportunities to improve the content and focus of existing previsit screening tools. Future research should focus on developing a validated tool for adolescents and young adults that could be adapted to local contexts in both LMIC and HIC. For this and all other tools, their psychometric properties, effectiveness, acceptability for both the patient and providers, and predictive utility should be evaluated.

The implementation of a validated universal previsit multidomain screening tool in clinical practice would support professionals around the globe with their mandate in prevention and detection, including early identification of adolescent and young adult health needs. By enhancing systematic psychosocial health risk assessment and linking it to brief individualized interventions, their use may contribute to reducing the burden of ill health in adolescents around the world and yield long-term health benefits at both individual and collective levels.

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## Supplementary Data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.jadohealth.2020.10.003>.

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