

The prevalence of autism and attention deficit hyperactivity disorder in the UK: a targeted systematic review

Protocol

Version 2 (October 2025)

Contents

PROTOCOL OVERVIEW.....	3
Research questions.....	6
Review objectives.....	6
METHODS.....	6
Review eligibility criteria.....	6
Inclusion criteria.....	6
Exclusion criteria.....	8
Literature searching.....	8
Bibliographic databases.....	8
Grey literature sources.....	9
Supplementary searching.....	9
Search strategy.....	9
Management of search records.....	13
Screening and selection.....	13
Data extraction and critical appraisal.....	14
Critical Appraisal.....	14
Strategy for data synthesis.....	15
OUTPUTS.....	16
REFERENCES.....	18

APPENDICES

Appendix 1: Overview of proposed search strategies for Ovid Medline and differences in search results.....	21
Appendix 2: Draft data extraction form.....	28
Appendix 3: Draft critical appraisal form.....	29

PROTOCOL OVERVIEW

Confirmed research title: The prevalence of autism and attention deficit hyperactivity disorder in the UK: a targeted systematic review

Version: 2 (October 2025)

The NIHR and UK Department of Health and Social Care (DHSC) proposed revisions to improve the applicability and scope of the initially proposed scoping review. Feedback was incorporated and the protocol was subsequently agreed.

The main difference between Version 1 (*Prevalence of neurodivergent conditions in the UK: A scoping review protocol*, July 2025) of the agreed protocol and Version 2 (*The prevalence of autism and attention deficit hyperactivity disorder in the UK: a targeted systematic review*) is the more focused and revised title, which aligns with feedback and revisions in Version 1. We have, therefore, adapted our methodology to align with a targeted systematic review.

Project lead and contact email address: Dr Edith Poku¹
E.Poku@sheffield.ac.uk

Authors: Ms Anna Cantrell¹
Dr Emma Simpson¹
Dr Katherine Jones¹
Dr George Daly¹
Mr William Sheppard¹
Professor Elizabeth Goyder¹
Professor Andrew Booth¹

Organisational affiliation of the review: ¹EnSygN – Sheffield NIHR Evidence Synthesis Group
Sheffield Centre for Health and Related Research (SCHARR), School of Medicine and Population Health, University of Sheffield, Regent Court, 30 Regent Street, Sheffield, UK, S1 4DA

Contributions:

Edith Poku and Elizabeth Goyder drafted the protocol in conjunction with the UK Department of Health and Social Care (DHSC) Neurodiversity, Disability & Learning Disabilities Research and Development Team. All ESG team members contributed to the development of the final protocol.

Anna Cantrell will design and conduct the literature searches.

Professor Andrew Booth, Professor Elizabeth Goyder and Dr George Daly will provide expert advice relating to review methodology, epidemiology and statistics, respectively.

Professor Andrew Booth is the guarantor for the review.

Registration:

The agreed protocol was adapted for registration on PROSPERO [[CRD420251150652](#)].

Amendments:

Any amendments or deviation from the protocol will be highlighted to NIHR and the Department of Health and Social Care (DHSC). Applicable revisions will be made in our PROSPERO protocol registration.

Acknowledgement and disclaimer:

This review is funded under the Evidence Synthesis Group (EnSygN - Sheffield) from the NIHR Evidence Synthesis Programme.

The sponsor is the National Institute of Health and Care Research (NIHR) Evidence Synthesis Programme.

The views expressed in this document are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.

Research Sub Type:

Systematic Review

INTRODUCTION

Autism or autism spectrum disorder (ASD; as per the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, DSM-5) (American Psychiatric Association, 2013) and attention deficit hyperactivity disorder (ADHD) are included in a wide variety of neurological and cognitive disorders referred to as neurodevelopmental conditions. Hereafter, we will use ASD and autism interchangeably to reflect how the condition is described in the existing literature. According to the eleventh edition of the World Health Organisation's International Classification of Diseases (ICD-11), "*Autism spectrum disorder is characterised by persistent deficits in the ability to initiate and to sustain reciprocal social interaction and social communication, and by a range of restricted, repetitive, and inflexible patterns of behaviour, interests or activities that are clearly atypical or excessive for the individual's age and sociocultural context*" (World Health Organisation, 2022). Currently no genetic tests, biological tests or neuroimaging assessments exist for the routine clinical diagnosis of autism.

Diagnosed rates of autism have significantly increased since the 1990s, likely due to broadening diagnostic criteria, increased awareness, and better access to diagnostic services (Russell et al., 2022). Research conducted in 2021 by Cambridge and Newcastle Universities reported that one out of 57 individuals in the UK can be positioned on the autistic spectrum (1.76% or 17.6 per 1,000), with boys showing a 2.8% prevalence of autism whilst girls had a prevalence of 0.65% (North Wales Regional Partnership Board, 2023). Differences in ASD prevalence have also been observed across racial/ethnic groups (Roman-Urrestarazu et al., 2021). Rates of diagnosis from English primary care data from 2020 to 2021 indicate a higher prevalence of autism in those aged 10 to 17 years (2.9 to 3% without learning disability) compared to UK pupil census data from 2017 (1.76% for those aged 5 to 19 years). Many adults, especially those with fewer support needs, remain undiagnosed due to a historical focus on childhood autism (O'Nions et al., 2023).

ADHD is a condition commonly identified in childhood but may have a lifelong course. In the UK, ADHD prevalence in school-aged children ranges between 2% to 5% (National Institute for Health and Care Excellence, 2018) whereas prevalence in adults is estimated to be between 3% and 4%, with a male-to-female ratio of roughly 3:1 (Royal College of General Practitioner, 2024). Data show that a high proportion of autistic children, ranging from 22% to 83%, also exhibit characteristics of ADHD. Similarly, a substantial percentage of children with ADHD, between 30% and 65%, present with major autistic traits (Sokolova et al., 2017). Furthermore, approximately half of children living with autism in parts of the UK have co-occurring learning disability (Holtom and Lloyd-Jones, 2016).

Current evidence suggests that prevalence estimates based on different methodologies and populations tend to vary widely. Understanding the prevalence of autism only, ADHD only, ASD co-occurring with ADHD (AuADHD), stratified by the presence or absence of learning disability in the UK is essential for informing policymaking and service provision. The aim of the review is to systematically map available prevalence estimates in the UK and summarise methodologies used in their estimation.

Research questions

1. What is the current estimate of the prevalence of autism, ADHD with or without learning disability in the UK?
2. Which methodologies are used to determine prevalence estimates?
3. How do the estimates vary by age, sex/gender, race/ethnicity, region or setting?

Review objectives

The objectives of this review are as follows:

- To identify and summarise current prevalence of ASD, ADHD, and co-occurring ASD and ADHD (AuADHD) in individuals of any age living in the United Kingdom (England, Northern Ireland, Scotland and Wales)
- To identify the prevalence of learning disability within the target populations.
For the purposes of this review, we consider 'learning disability' as defined by the UK Department of Health and Social Care (DHSC): "*a significantly reduced ability to understand new or complex information, to learn new skills (impaired intelligence), with reduced ability to cope independently (impaired social functioning), which started before adulthood*" (Department of Health and Social Care, 2001).
- To describe the methodological characteristics of sources of evidence and explore factors contributing to variations in available prevalence estimates.

METHODS

The review will be conducted and reported in line with accepted recommendations (Joanna Briggs Institute, 2024, Munn et al., 2015, Page et al., 2021).

Review eligibility criteria

The review eligibility criteria are summarised (Table 1) and outlined below.

Inclusion criteria

Population

The population of interest will be individuals of any age representative of representative of the general population in any geographical area in the UK (England, Scotland, Northern Ireland and Wales).

Concept

Individuals with a diagnosis of autism and/or ADHD, with or without learning disability will be identified and reviewed.

We will include studies reporting on individuals with ASD and/or ADHD based on the following:

- Diagnostic and Statistical Manual (DSM)/ International Classification of Diseases (ICD) (any version) to include publications reporting using earlier criteria.
- Validated diagnostic tools informed by DSM/ICD criteria (any version)
- Cross-mapping of codes to DSM/ICD criteria (any version)
- Clinical assessment by a qualified professional, e.g. clinician, psychologist
- Cases must be confirmed based on diagnostic tools/ and or clinical assessment in line with recommended clinical guidelines (National Autistic Society, 2025, National Institute for Health and Care Excellence, 2017, National Institute for Health and Care Excellence, 2018, National Institute for Health and Care Excellence, 2021, National Institute for Health and Care Excellence, 2024, Scottish Intercollegiate Guidelines Network, 2016).

Self-reporting by a person who has been informed by a doctor or health professional of a diagnosis of autism, autistic traits or ADHD will be considered for inclusion (Russell et al., 2014).

Table 1: Study selection criteria

Criterion	Include	Exclude
Time frame	Published from 2013 onwards	Pre-2013 publications
Population	A well-defined representative population of individuals of any age living in England, Scotland, Northern Ireland and Wales	Non-UK population, population with specific comorbidities (e.g., anorexia nervosa, bulimia disorder and other eating disorders)
Concept	Diagnosis of autism and/or ADHD, with or without learning disability based on any version of diagnostic tools (criteria or codes)/ and or clinical assessment	Diagnosis relating to other mental health conditions without specific mention of neurodevelopmental conditions of interest.
Context	Community, including primary schools' healthcare settings	Higher education settings Specific mental health care or looked after settings
Outcomes	Prevalence estimates (counts, proportions) Available data for obtaining estimates prevalence of neurodevelopmental conditions of interest	Incidence rates No information relating to prevalence
Types of studies/ sources	Peer-reviewed publications Publicly available statistical datasets, reports of charities or government publications available in English	Non-peer reviewed, unpublished or non-English publications Review articles Guidelines Opinion papers Editorials

Context

Any setting (community including primary schools, outpatients' healthcare settings like General Practices). Studies in higher education settings or those focussed on in-patients or looked-after persons will be excluded to minimise the likelihood of including data from non-representative populations.

Types of sources

Peer-reviewed articles, publicly available statistical datasets, reports of charities or government publications that specify primary or secondary prevalence data or provide information for obtaining prevalence estimates in the populations of interest.

Time frame

Studies published since 2013 will be included in the scoping review to obtain prevalence data which are most likely to reflect current diagnostic criteria (e.g. DSM-5 and ICD-11) in line with relevant clinical guidelines. However, given the life-long nature of the conditions of interest, it is anticipated that an individual's diagnosis could be based on the relevant diagnostic criteria in force at the time of assessment reported in publications from 2013 onwards.

Language

Given a focus on UK prevalence, only publications in English will be eligible for inclusion.

Exclusion criteria

Non-UK based studies focusing on risk factors, clinical outcomes, intervention and assessment pathways and studies which do not report prevalence estimates in the populations of interest will be excluded. In addition, studies reporting the frequency of co-occurring conditions other than learning disability only in individuals with autism and/or ADHD will not be considered eligible for inclusion. Prevalence estimates for looked after or care experienced people or in a population with specific comorbidities (e.g., anorexia nervosa, bulimia disorder and other eating disorders) will not be included in the review given that sample selection may not be representative of the populations of interest.

Unpublished articles, opinion papers, editorials and guidelines will not be eligible sources of data.

Literature searching

We will search the following sources to identify potentially relevant publications or sources of evidence.

Bibliographic databases

- MEDLINE
- Embase
- Social Sciences Citation Index (SSCI)

- PsycINFO
- Applied Social Sciences Index & Abstracts (ASSIA)
- Education Resources Information Centre (ERIC)
- Scopus
- Epistemonikos

Grey literature sources

Websites and webpages of the following charities and national organisations will be searched to find relevant publications.

- National Autistic Society <https://www.autism.org.uk/>
- Autism Action
- Austitica
- Autism Alliance
- Ambitious about Autism
- NHS England Digital <https://digital.nhs.uk/>
 - Health and Care of People With Learning Disabilities dataset
 - National Contract Direct Enhanced Service dataset
- Adult Psychiatric Morbidity Survey
- Scottish Government: The Scottish Strategy for Autism
<https://www.gov.scot/publications/scottish-strategy-autism/>
- Department of Health (Northern Ireland) <https://www.health-ni.gov.uk/>
- ADHD UK <https://adhduk.co.uk/>
- ADHD foundation

Supplementary searching

Checking of reference lists and citation searches

Reference lists of included papers and potentially relevant reviews will be examined to identify additional eligible studies. Citation searching of potentially relevant systematic reviews and included papers using ‘prevalence’ as a filter will also be completed.

Corresponding authors of included articles as well as topic experts who are health professionals including epidemiologists, patients and/or carers will be contacted for additional information or clarifications, as needed.

Search strategy

Free text and thesaurus search terms related to the Populations-Concept of interest will be used to develop a set of MEDLINE search strategies (Appendix 1) with the aim to select the best approach. The search strategies will include filters to identify prevalence studies^{1, 2} and UK-based literature (Ayiku et al., 2017). Searches will be restricted to English-language publications on human participants published from 2013 onward. The selected publication date limit reflects the dates for the most current diagnostic criteria in related national UK clinical guidelines.

¹ <https://hsls.libguides.com/c.php?g=1380905&p=10281035>

² <https://www.ncbi.nlm.nih.gov/books/NBK261719/>

Following consultation with the DHSC team, an agreed MEDLINE search strategy with more focus search terms was selected (Box 1) for database literature searching. This will also be adapted for searching the remaining databases.

Box 1: Medline search strategy

Database: Ovid MEDLINE(R) Epub Ahead of Print and In-Process, In-Data-Review & Other Non-Indexed Citations and Daily <July 11, 2025>

- 1 autism spectrum disorder/ or asperger syndrome/ or autistic disorder/
- 2 autis*.tw.
- 3 asd.tw.
- 4 Child Development Disorders, Pervasive/
- 5 pervasive developmental disorder*.tw.
- 6 (pdd or pdd-nos).tw.
- 7 asperger*.tw.
- 8 Attention Deficit Disorder with Hyperactivity/
- 9 "attention deficit and disruptive behavior disorders"/
- 10 (adhd or addh or ad hd or ad??hd).tw.
- 11 attention deficit disorder*.tw.
- 12 attention deficit hyperactivity disorder*.tw.
- 13 attention deficit hypersensitivity disorder*.tw.
- 14 ((attenti* or disrupt*) adj3 (disorder* or deficit*)).tw.
- 15 (hyper adj1 activ*).tw.
- 16 hyperactiv*.tw.
- 17 (attention adj3 (problem* or difficult* or issue*)).tw.
- 18 neurodiver*.tw.
- 19 neurodevelop*.tw.
- 20 or/1-19 (249563)
- 21 exp epidemiologic studies/ or exp epidemiology/
- 22 epidemiology.ti,ab,kf,kw.
- 23 prevalence/
- 24 (prevalence or prevalences).ti,ab,kf,kw.
- 25 incidence/
- 26 incidence.ti,ab,kf,kw.
- 27 ep.fs.
- 28 or/21-27
- 29 20 and 28
- 30 exp United Kingdom/
- 31 (national health service* or nhs*).ti,ab,in.
- 32 (english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.
- 33 (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in.
- 34 (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or

("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in.

35 (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in.

36 (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in.

37 (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in.

38 or/30-37

39 (exp africa/ or exp americas/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp australia/ or exp oceania/) not (exp United Kingdom/ or europe/)

40 38 not 39

41 29 and 40

42 limit 41 to english language

43 limit 42 to yr="2013 -Current"

44 *child development disorders, pervasive/ or *autism spectrum disorder/ or *asperger syndrome/ or autistic disorder/

45 autis*.tw.

46 *Attention Deficit Disorder with Hyperactivity/

47 *"Attention Deficit and Disruptive Behavior Disorders"/

48 2 or 3 or 5 or 6 or 7 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 44 or 45 or 46 or 47

49 28 and 48

50 40 and 49

51 limit 50 to english language

52 limit 51 to yr="2013 -Current"

53 *Epidemiology/

54 exp *epidemiologic studies/

55 53 or 54

56 *incidence/ or *prevalence/

57 24 or 26 or 27 or 53 or 54 or 56

58 20 and 57

59 40 and 58
60 limit 59 to english language
61 limit 60 to yr="2013 -Current"
62 43 not 61
63 48 and 57
64 40 and 63
65 limit 64 to english language
66 limit 65 to yr="2013 -Current"
67 61 not 66

Search repetition

If the study selection process reveals relevant search terms not included in the initial MEDLINE strategy for the population(s)/concept(s) of interest, a repeat MEDLINE search will be conducted to ensure potentially relevant studies are not missed.

Management of search records

All search references will be collated and uploaded into EndNote version 21 (Clarivate Analytics, PA, USA). Review data will be managed within folders in a designated project Google Drive.

Screening and selection

Initial screening: Following de-duplication, references will be imported for study selection in Rayyan³, a web-based application for systematic reviews (Ouzzani et al., 2016).

An initial calibration exercise will be performed. Each reviewer will independently screen titles and abstracts of a set of 100 randomly selected records to assess the appropriateness and clarity of selection decisions.

Quality control: After initial screening, the reviewers will work in pairs to check the other's decisions. Differences and disagreements will be referred to the entire team for resolution. Refinements will be discussed, agreed and documented before subsequent study selection using a two-staged approach. Where needed, the eligibility criteria will be revised to ensure clarity and consistency of selection decisions.

Selection of studies: Using the finalised eligibility criteria, titles and abstracts of the remaining (non-piloted) records will be split between reviewers. First, titles and abstracts will be screened by two pairs of reviewers. Potentially relevant sources will be retrieved for detailed examination of full text articles. If multiple publications of the same study are identified, the most recent and complete report will be identified and included by comparing sample sizes, follow-up durations and reported outcomes. Reasons for exclusion of full-text articles will be recorded. Disagreements between the reviewers at each stage of the selection process will be resolved in the following steps until consensus is reached:

- Discussion between reviewer pairs
- Referral to the lead reviewer
- Referral to the team's topic experts (i.e. methodological, epidemiological or statistical)
- Referral to the project team's external experts

Documentation: The team will keep up-to-date records of identified by database searching and other sources throughout the review process, number of records screened, included, and excluded. All reasons for excluding studies at the full-text stage will be

³ <http://rayyan.qcri.org>

documented. The entire study selection process will be presented in a PRISMA flow diagram.

Data extraction and critical appraisal

Piloting the data extraction template: The review team will develop and use a standardised data extraction form to capture information to address the review's objectives. We will apply PRO EDI⁴ and PROGRESS – Plus (Oliver et al., 2008) considerations to data extraction to explore the variations in prevalence estimates.

Extraction quality control: A draft data extraction template will be reviewed and discussed by the review team. Two pairs of independent reviewers will pre-test of draft data extraction (Appendix 2) for three randomly selected included studies. Differences will be discussed and agreed by consensus. Where needed, the revisions of the data extraction form will be agreed within the review team to create a finalised form.

Data extraction: For published articles, we will complete preliminary data extraction using a Google Suite application managed by the University of Sheffield. Remaining evidence sources (reports of government organisation and charities) will be abstracted by one reviewer and checked by another researcher.

Therefore, data extraction will be completed by one reviewer (or machine) and cross-checked by a second researcher to ensure consistency and accuracy of data. If needed, corresponding authors of included papers will be contacted to request additional or missing data. Where one paper reports multiple prevalence estimates at different times, the most recent findings will be abstracted.

Discrepancy resolution: Differences in extracted data will be discussed and resolved by consensus using steps like those outlined for *Selection of studies*, above.

Critical Appraisal

Considering the potential sources of prevalence data and the importance of presenting valid estimates, critical appraisal will be undertaken.

The methodological quality of the included studies and evidence sources will be assessed using a checklist adapted from the Joanna Briggs Institute (JBI) critical appraisal tool for prevalence data (Munn et al., 2015). Specifically, our appraisal will focus on the suitability of the study population (i.e., inclusion of a representative sample), the methods used for prevalence estimation, and the handling of missing data. An initial draft of the

⁴ PRO EDI interpretation guidance 25/4/2024; <https://www.trialforge.org/trial-diversity/pro-edi-improving-how-equity-diversity-and-inclusion-is-handled-in-evidence-synthesis/> [Online] Accessed 15 May 2025

critical appraisal form is presented in Appendix 3. We will use a similar approach for quality control as outlined for data extraction during the critical appraisal phase of the review.

Documentation: The team will note revisions of extracted data and report strengths and weaknesses of the process in the final report.

Key data items to be extracted will include:

- Characteristics of study or evidence source: Author details, publication year and country of study, specified dataset included
- Population characteristics: (sample size, age, sex/gender, ethnicity, co-occurring learning disability)
- Study design: Data collection method (e.g. population survey, registry database)
- Case identification and ascertainment methods: method of diagnosis of condition(s) of interest; diagnostic criteria, basis of diagnosis or diagnostic informant (e.g. self-report, clinician-reported etc.)
- Outcomes
 - Main outcome: Prevalence of ASD and/or ADHD
 - Additional outcome: Prevalence of co-occurring 'learning disability' (as defined by the DHSC) within the populations of interest

Strategy for data synthesis

We will develop and present the findings of the review using:

A PRISMA flow diagram: Outlining the study selection process

Evidence tables: Displaying study and population characteristics; critical appraisal of included publications or datasets (where multiple publications analyse the same data e.g. from the Millenium Cohort Survey) and prevalence estimates organised by the following:

- Condition: ASD, ADHD, ASD co-occurring with ADHD
- Evidence source: Surveys, administrative datasets, other sources
- Context:
 - Geographical area (e.g. England, Northern Ireland etc.)
 - Setting (e.g. general population, outpatient settings)
 - Study period
- Population type: Children, young people, adults
- Demographic characteristics: Age, reported PROGRESS-Plus characteristics (Oliver et al., 2008); learning disability status (with, without, not specified)
- Case identification: Criteria (e.g. DSM/ICD), codes, other methods used
- Basis of diagnosis or diagnostic informant: (e.g., self-report, parent/ carer, teacher, clinician/ health professional)

Graphical summaries or infographic maps: These will display prevalence by study characteristics (e.g. study country or region, nations of the UK, diagnostic criteria) and patient characteristics (e.g. age groups and other characteristics), if data permit.

Narrative summary: All figures, tables and graphical summaries will be incorporated into a narrative overview for more detailed description of the review findings.

The overall strength of the body of evidence will focus on the suitability of study populations by considering the epidemiological methods used, i.e. national population surveys versus administrative data (Tromans and Brugha, 2022) in combination with the overall methodological quality of studies or data sources. The impact of methodological quality of evidence sources will also be considered in the interpretation of the review's findings.

Patients and public involvement and engagement

The review team will work with our patients and public involvement and engagement (PPIE) colleagues in SCHARR to establish a PPIE group with lived experience to provide advice and input. They will contribute to discussions to identify relevant sources of data, select appropriate terminology for reporting the review and provide feedback on the draft report and/or plain English Summary.

External academic and clinical advisors

In consultation with the DHSC, we will identify and invite 2 or 3 topic experts to form an advisory group. Their main roles will include providing independent perspective on the following:

- Review methodology
- Advice relating to eligible studies
- Examine completed evidence tables
- Guide the review team in choosing the most appropriate estimates to inform decision-making

OUTPUTS

The outputs of this review will be a report to the funders and one manuscript for submission to a peer-review journal. We will also consider conference presentations at topic and methodological conferences. An opportunity to submit a manuscript for a journal article focussing on the review methodology, either focusing on identifying prevalence data from grey literature sources or the use of a human-in-loop approach to facilitate preliminary data collection from published articles will be discussed and agreed with the funder.

We will also work with our PPIE group to develop appropriate outputs and as well as evidence briefings for professional stakeholders.

REFERENCES

American Psychiatric Association 2013. *Diagnostic and statistical manual of mental disorders: DSM-5™, 5th ed*, Arlington, VA, US, American Psychiatric Publishing, Inc.

Ayiku, L., Levay, P., Hudson, T., Craven, J., Barrett, E., Finnegan, A. & Adams, R. 2017. The medline UK filter: development and validation of a geographic search filter to retrieve research about the UK from OVID medline. *Health Info Libr J*, 34, 200-216.

Department of Health and Social Care 2001. Valuing People - A New Strategy for Learning Disability for the 21st Century.[Online]. Available at <https://www.gov.uk/government/publications/valuing-people-a-new-strategy-for-learning-disability-for-the-21st-century>. [Accessed 10 September 2025].

Holtom, D. & Lloyd-Jones, S. 2016. Outcome Evaluation of the Autistic Spectrum Disorder Strategic Action Plan: Final Report (Rhif/Number: 09/2016).

Joanna Briggs Institute 2024. *JBIManual for Evidence Synthesis*.

Munn, Z., Moola, S., Lisy, K., Riitano, D. & Tufanaru, C. 2015. Methodological guidance for systematic reviews of observational epidemiological studies reporting prevalence and cumulative incidence data. *Int J Evid Based Healthc*, 13, 147-53.

National Autistic Society. 2025. *South Wales Autism Assessment* [Online]. Available: <https://myautismassessment.co.uk/> [Accessed 20 May 2025].

National Institute for Health and Care Excellence. 2017. *Autism spectrum disorder in under 19s: recognition, referral and diagnosis. (CG128)*. [Online]. Available: www.nice.org.uk/guidance/cg128 [Accessed 20 May 2025].

National Institute for Health and Care Excellence. 2018. *Attention deficit hyperactivity disorder: diagnosis and management. (NG87)*. [Online]. Available: <https://www.nice.org.uk/guidance/ng87> [Accessed 20 May 2025].

National Institute for Health and Care Excellence. 2021. *Autism spectrum disorder in adults: diagnosis and management. (CG142)*. [Online]. Available: www.nice.org.uk/guidance/cg142 [Accessed 20 May 2025].

National Institute for Health and Care Excellence. 2024. *Digital technologies for assessing attention deficit hyperactivity disorder (ADHD). (DG60)*. [Online]. Available: www.nice.org.uk/guidance/dg60 [Accessed 20 May 2025].

North Wales Regional Partnership Board. 2023. *Statistics about neurodevelopmental conditions in children and young people in North Wales*. [Online]. Available: <https://www.northwalescollaborative.wales/wp-content/uploads/2024/02/Neurodevelopmental-conditions-in-children-and-young-people-in-North-Wales-202312.pdf> [Accessed 20 May 2025].

O'nions, E., Petersen, I., Buckman, J. E. J., Charlton, R., Cooper, C., Corbett, A., Happé, F., Manthorpe, J., Richards, M., Saunders, R., Zanker, C., Mandy, W. & Stott, J. 2023. Autism in England: assessing underdiagnosis in a population-based cohort study of prospectively collected primary care data. *Lancet Reg Health Eur*, 29, 100626.

Oliver, S., Kavanagh, J., Caird, J., Lorenc, T., Oliver, K., Harden, A., Thomas, J., Greaves, A. & Oakley, A. 2008. Health promotion, inequalities and young people's health: A systematic review of research. . London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Ouzzani, M., Hammady, H., Fedorowicz, Z. & Elmagarmid, A. 2016. Rayyan—a web and mobile app for systematic reviews. *Systematic Reviews*, 5, 210.

Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V. A., Whiting, P. & McKenzie, J. E. 2021. PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews. *BMJ*, 372, n160.

Roman-Urrestarazu, A., Van Kessel, R., Allison, C., Matthews, F. E., Brayne, C. & Baron-Cohen, S. 2021. Association of Race/Ethnicity and Social Disadvantage With Autism Prevalence in 7 Million School Children in England. *JAMA Pediatr*, 175, e210054.

Royal College of General Practitioner 2024. ADHD in General Practice. [Online]. Available: <https://www.rcgp.org.uk/your-career/gp-extended-roles/adhd-framework-practice>. [Accessed 20 May 2025].

Russell, G., Rodgers, L. R., Ukoumunne, O. C. & Ford, T. 2014. Prevalence of parent-reported ASD and ADHD in the UK: findings from the Millennium Cohort Study. *Journal of autism and developmental disorders*, 44, 31-40.

Russell, G., Stapley, S., Newlove-Delgado, T., Salmon, A., White, R., Warren, F., Pearson, A. & Ford, T. 2022. Time trends in autism diagnosis over 20 years: a UK population-based cohort study. *Journal of Child Psychology and Psychiatry*, 63, 674-682.

Scottish Intercollegiate Guidelines Network 2016. Assessment, diagnosis and interventions for autism spectrum disorders. (SIGN145).

Sokolova, E., Oerlemans, A. M., Rommelse, N. N., Groot, P., Hartman, C. A., Glennon, J. C., Claassen, T., Heskes, T. & Buitelaar, J. K. 2017. A Causal and Mediation Analysis of the Comorbidity Between Attention Deficit Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD). *J Autism Dev Disord*, 47, 1595-1604.

Tromans, S. & Brugha, T. 2022. Autism epidemiology: distinguishing between identification and prevalence. *Progress in Neurology and Psychiatry*, 26, 4-6.

World Health Organisation 2022. ICD-11: International classification of diseases (11th revision).

APPENDICES

Appendix 1: Overview of proposed search strategies for Ovid Medline and differences in search results

Ovid MEDLINE(R) July 3, 2025	Ovid MEDLINE(R) July 11, 2025			Result of revision
Search steps 1-19 are terms for autism, ADHD and broader terms (neurodiversity and neurodevelopmental)	Focused the MeSH terms autism and ADHD. MeSH is the controlled vocabulary on Medline. To focus the MeSH term narrows it and retrieves articles where the term is the main focus. Search steps 44-47			
Search step 20 combines autism, ADHD terms using OR (249563)	Search step 48 combines autism, ADHD terms using OR including focused MeSH terms (246746)			Reduces number of references retrieved by 2817 references
Search steps 21-27 broad terms to retrieve prevalence studies (from different filters)	Search steps 53, 54 and 56 focuses the MeSH terms for epidemiology, prevalence and incidence			
Search step 28 combines prevalence terms using OR (5911525)	Search step 57 combines prevalence terms using OR included focused MeSH terms (3484649)			Reduces number of references retrieved by 2,426,876
Search step 29 combines autism, ADHD terms AND prevalence terms	Search step 49 combines focused autism, ADHD terms (search	Search step 58 combines autism, ADHD terms (search	Search step 63 combines autism, ADHD terms (search step 48)	

Ovid MEDLINE(R) July 3, 2025	Ovid MEDLINE(R) July 11, 2025			Result of revision
	step 48) AND prevalence terms (search step 28)	step 20) AND focused prevalence terms (search step 57)	AND focused prevalence terms (search step 57)	
Search steps 30- 40 is search filter for Medline to retrieve UK studies[1]	Search steps 30- 40 is search filter for Medline to retrieve UK studies			
Search step 41 combines autism ADHD terms AND prevalence terms AND UK filter	Search step 50 combines focused autism, ADHD terms (search step 48) AND prevalence terms (search step 28) AND UK filter	Search step 59 combines autism, ADHD terms (search step 20) AND focused prevalence terms (search step 57) AND UK filter	Search step 64 combines autism, ADHD terms (search step 48) AND focused prevalence terms (search step 57) AND UK filter	
Search step 42 limits the results to English language	Search step 51 limits the results to	Search step 60 limits the	Search step 64 limits the results to	

Ovid MEDLINE(R) July 3, 2025	Ovid MEDLINE(R) July 11, 2025			Result of revision
	English language	results to English language	English language	
Search step 43 limit to references published 2013-Current	Search step 52 limit to references published 2013-Current	Search step 61 limit to references published 2013-Current	Search step 65 limit to references published 2013-Current	
Total number of retrieved records, n = 5,423	Total number of retrieved records, 5,406	Total number of retrieved records, 3,403	Total number of retrieved records, 3,388	Reduces the number of results retrieved by varying numbers. Would suggest middle option of keeping broad terms for autism and ADHD with the focused prevalence terms which reduces number of retrieved references to 3,403

Details of proposed search strategies (Ovid MEDLINE)

Database: Ovid MEDLINE(R) Epub Ahead of Print and In-Process, In-Data-Review & Other Non-Indexed Citations and Daily <July 03, 2025>

Search Strategy:

- 1 autism spectrum disorder/ or asperger syndrome/ or autistic disorder/ (48971)
- 2 autis*.tw. (77216)
- 3 asd.tw. (40650)
- 4 Child Development Disorders, Pervasive/ (6703)
- 5 pervasive developmental disorder*.tw. (2085)
- 6 (pdd or pdd-nos).tw. (4580)
- 7 asperger*.tw. (2227)
- 8 Attention Deficit Disorder with Hyperactivity/ (37772)
- 9 "attention deficit and disruptive behavior disorders"/ (3344)
- 10 (adhd or addh or ad hd or ad??hd).tw. (36500)
- 11 attention deficit disorder*.tw. (2234)
- 12 attention deficit hyperactivity disorder*.tw. (35294)
- 13 attention deficit hypersensitivity disorder*.tw. (9)
- 14 ((attenti* or disrupt*) adj3 (disorder* or deficit*)).tw. (50043)
- 15 (hyper adj1 activ*).tw. (1561)
- 16 hyperactiv*.tw. (80629)
- 17 (attention adj3 (problem* or difficult* or issue*)).tw. (10444)
- 18 neurodiver*.tw. (880)
- 19 neurodevelop*.tw. (61567)
- 20 or/1-19 (249045)
- 21 exp epidemiologic studies/ or exp epidemiology/ (3521966)
- 22 epidemiology.ti,ab,kf,kw. (290205)
- 23 prevalence/ (374398)
- 24 (prevalence or prevalences).ti,ab,kf,kw. (919345)
- 25 incidence/ (322736)
- 26 incidence.ti,ab,kf,kw. (1029704)
- 27 ep.fs. (2349204)
- 28 or/21-27 (5902915)
- 29 20 and 28 (64591)
- 30 exp United Kingdom/ (405933)
- 31 (national health service* or nhs*).ti,ab,in. (318245)
- 32 (english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab. (146312)
- 33 (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in. (2688365)
- 34 (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont

or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in. (1959890)

35 (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in. (79809)

36 (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in. (288188)

37 (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in. (38797)

38 or/30-37 (3452854)

39 (exp africa/ or exp americas/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp australia/ or exp oceania/) not (exp United Kingdom/ or europe/) (3590528)

40 38 not 39 (3233305)

41 29 and 40 (7744)

42 limit 41 to english language (7695)

43 limit 42 to yr="2013 -Current" (5423)

Database: Ovid MEDLINE(R) Epub Ahead of Print and In-Process, In-Data-Review & Other Non-Indexed Citations and Daily <July 11, 2025>

Search Strategy:

- 1 autism spectrum disorder/ or asperger syndrome/ or autistic disorder/ (49068)
- 2 autis*.tw. (77401)
- 3 asd.tw. (40776)
- 4 Child Development Disorders, Pervasive/ (6703)
- 5 pervasive developmental disorder*.tw. (2086)
- 6 (pdd or pdd-nos).tw. (4588)
- 7 asperger*.tw. (2229)
- 8 Attention Deficit Disorder with Hyperactivity/ (37790)
- 9 "attention deficit and disruptive behavior disorders"/ (3345)
- 10 (adhd or addh or ad hd or ad??hd).tw. (36555)
- 11 attention deficit disorder*.tw. (2235)
- 12 attention deficit hyperactivity disorder*.tw. (35345)
- 13 attention deficit hypersensitivity disorder*.tw. (9)
- 14 ((attenti* or disrupt*) adj3 (disorder* or deficit*)).tw. (50114)
- 15 (hyper adj1 activ*).tw. (1562)
- 16 hyperactiv*.tw. (80762)
- 17 (attention adj3 (problem* or difficult* or issue*)).tw. (10461)
- 18 neurodiver*.tw. (893)
- 19 neurodevelop*.tw. (61768)
- 20 or/1-19 (249563)
- 21 exp epidemiologic studies/ or exp epidemiology/ (3526851)
- 22 epidemiology.ti,ab,kf,kw. (290771)
- 23 prevalence/ (374938)
- 24 (prevalence or prevalences).ti,ab,kf,kw. (921268)
- 25 incidence/ (323103)
- 26 incidence.ti,ab,kf,kw. (1031355)
- 27 ep.fs. (2352915)
- 28 or/21-27 (5911525)
- 29 20 and 28 (64708)
- 30 exp United Kingdom/ (406147)
- 31 (national health service* or nhs*).ti,ab,in. (318831)
- 32 (english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab. (146981)
- 33 (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in. (2691605)
- 34 (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or

"southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in. (1962695)

35 (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in. (79925)

36 (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in. (288569)

37 (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in. (38872)

38 or/30-37 (3457352)

39 (exp africa/ or exp americas/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp australia/ or exp oceania/) not (exp United Kingdom/ or europe/) (3595051)

40 38 not 39 (3237357)

41 29 and 40 (7754)

42 limit 41 to english language (7705)

43 limit 42 to yr="2013 -Current" (5433)

44 *child development disorders, pervasive/ or *autism spectrum disorder/ or *asperger syndrome/ or autistic disorder/ (52655)

45 autis*.tw. (77401)

46 *Attention Deficit Disorder with Hyperactivity/ (32002)

47 *"Attention Deficit and Disruptive Behavior Disorders"/ (2082)

48 2 or 3 or 5 or 6 or 7 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 44 or 45 or 46 or 47 (246746)

49 28 and 48 (63873)

50 40 and 49 (7673)

51 limit 50 to english language (7625)

52 limit 51 to yr="2013 -Current" (5406)

53 *Epidemiology/ (10060)

54 exp *epidemiologic studies/ (11446)

55 53 or 54 (21297)

56 *incidence/ or *prevalence/ (1484)

57 24 or 26 or 27 or 53 or 54 or 56 (3484649)

58 20 and 57 (40362)

59 40 and 58 (4830)

60 limit 59 to english language (4792)

61 limit 60 to yr="2013 -Current" (3403)

62 43 not 61 (2030)

63 48 and 57 (39794)

64 40 and 63 (4774)

65 limit 64 to english language (4736)

66 limit 65 to yr="2013 -Current" (3388)

67 61 not 66 (15)

Appendix 2: Draft data extraction form

Article identifier	Surname of first author, publication year
	Study name (if specified)
Inclusion/ exclusion criteria	
Population	Type: General population, community-based sample, census data, sample size
	Demographics: age, sex, gender, ethnicity etc.
Context	Information source: Census data, medical / educational database, health survey
	Area, region, nation of data collection of collection (e.g. UK, England, Scotland, Wales, Northern Ireland)
	Data collection period/ actual date (e.g., May 2014, Jan 2018 to March 2020)
	Study design (e.g., cross sectional prospective, cohort)
Concept	Autism ADHD Autism + ADHD Autism + LD ADHD + LD Autism + ADHD + LD
	Method of case ascertainment Source of diagnosis/ prevalence (self-reported/ parent reported/survey/ registry) Diagnostic tool Assessor (clinician, psychologist etc)
Results	Reported or <i>calculated</i> estimates (according to related concept and demographic subgroups) Prevalence type (point prevalence, lifetime prevalence, true prevalence (using active case finding methods) and apparent prevalence (e.g. diagnosis rates), not specified)
Summary of authors' conclusion/ recommendations	
Reviewer's notes	

Appendix 3: Draft critical appraisal form

Article identifier	Surname of first author and/ or name of data set (publication year)
Question	[Responses: Y, Yes; N, No; U, Unclear; N/A, Not applicable; Additional information for assessment, italicised.]
1	Was the sample frame appropriate to address the target population?
2	Were study participants sampled in an appropriate way?
3	Was the sample size adequate? (<i>State size of data set and population/ concept of interest</i>)
4	Are the participants and the setting(s) described in detail?
5	Was data analysis appropriate to assess prevalence? (<i>Briefly describe data analysis methods</i>)
6	Were valid methods used for the identification of the population(s)/ concept(s) of interest? (<i>Briefly describe methods</i>)
7	Was/were the concept(s) of interest measured in a standard, reliable way for all participants? (<i>State assessment criteria or tools</i>)
8	Was there appropriate statistical analysis for reported prevalence estimates?
Overall appraisal	