**Supplementary appendix 1**

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# **1. Development of Strengthening the Reporting of Observational Studies in Epidemiology Enhanced Prevalence and Incidence Criteria (STROBE EPIC): supplementary methods**

We describe the specific steps involved in the development of STROBE EPIC below.

1. **Initial steps:** JAC and CSM, during systematic reviews of prevalence and incidence of typhoid fever and other invasive salmonelloses, identified several systematic reporting concerns (listed in Supplementary Appendix pp 5) in reports of observational studies describing incidence and prevalence of typhoid and other salmonellosis.1-5 This motivated the development of a preliminary checklist of items for STROBE EPIC. We established an executive group responsible to lead and develop STROBE EPIC. The executive searched literature for existing relevant reporting checklists, guidelines, extensions, and proposals of guidelines in development specific to studies reporting disease prevalence and incidence. This work led to the development by the executive of a preliminary list of 33 checklist items.
2. **Pre-meeting activities**: The executive established a working group of international experts in typhoid and other salmonelloses epidemiology and modelling. The executive planned and prepared to convene a one-day face-to-face consensus meeting with the working group to develop an Enhancing the QUAlity and Transparency Of health Research (EQUATOR) standard or extension for reporting prevalence and incidence studies. The executive conducted the first online Delphi survey on Microsoft Forms (Microsoft Corporation, Redmond, Washington, USA) with the working group (see Box in Main Text).6,7 The four options, adapted from a previous reporting guideline8 were ‘Unnecessary,’ ‘Sometimes useful,’ ‘Important for most studies,’ and ‘Essential for all studies.’ When necessary, examples were provided after checklist items for clarification of the purpose of rating. Participants were given the option to propose additional items, or edit proposed items, provide reasoning for their rating, suggest changes in wording, or deletion or merging of items.

The executive invited by email the working group for the first Delphi survey, and the face-to-face consensus meeting. The executive sent reminders to those who did not respond or who partially responded to the Delphi survey. The executive curated the checklist in light of the first Delphi survey results for consideration at the face-to-face meeting. The executive prepared and shared in advance the agenda and the findings of the first Delphi survey with the working group.

**Consensus development and checklist revision after Delphi survey rounds**: A unique number was given to each expert response to mask the identity of the expert. The executive analysed responses in Microsoft Excel (Microsoft Corporation, Redmond, Washington, USA). The executive first summarised Delphi responses for each round per checklist item using frequencies and percentages for ratings and listing participant comments. Next, the executive curated responses and updated the checklist in light of the responses after each Delphi round. The iterations of the STROBE EPIC checklist from the preliminary version to the final checklist is provided in Supplementary appendix 2. Items were retained, combined or split, reordered, deleted, added, rephrased, and examples provided. The decision to incorporate changes was made by consensus determined by a combination of experts’ responses during the Delphi survey and the executive’s curation during discussion in light of Delphi survey responses. When there was contrasting expert opinion, the executive determined whether the item needed to be removed completely, retained with or without revision, or supported with guidance in the explanation and elaboration (E&E) statement. The executive removed completely those items that duplicated those in the STROBE checklist; or if the majority thought that the item was unnecessary or sometimes useful with comments supporting the removal of the item. When expert feedback was unclear, the executive unmasked the expert identity associated with the comment and sought clarification from the expert. Expert comments were used to improve the checklist items or to develop the E&E document or both. The executive’s responses to the first Delphi survey were excluded, and the executive did not participate in subsequent Delphi surveys because they were involved in developing and curating the checklist items being surveyed.

1. **Face-to-face consensus meeting**: The executive convened the face-to-face meeting attended by 22 of 37 invited experts (executive group: four of five members; working group: 18 of 32 members) in Cape Town, South Africa. The executive presented and discussed systematic reviews overview and resulting reporting concerns identified; guideline development process, EQUATOR guideline landscape, and relevant existing guidelines; STROBE checklist and extension items; and first Delphi survey results. This was followed by an open discussion on delegates’ experience with reporting quality of infectious disease data, their feedback on suggested checklist items, new checklist items proposed during the first Delphi survey, and to propose new checklist items.

Subsequently, rotating break-out groups and feedback sessions were organised for participant discussion and consensus development. Participants arrange themselves into three groups, and appointed a static chair and a static *rapporteur* who was not from the executive group for each group, and focused on one topic throughout. The remaining group members rotated every 40 minutes across the three groups. Participants reached consensus through discussion for the discussion items within break-out groups on the below three topics. Points of disagreement were brought forth for further discussion during the *rapporteur* feedback session.

1. Question 1: Checklist, rationale, and the value of a flow diagram, which mapped to items 8·1 and 8·2 in Moher et al.9
2. Question 2: Strategy for producing documents, which mapped to item 8·3 in Moher et al.9
3. Question 3: Knowledge translation strategy, which mapped to item 8·4 in Moher et al.9

Based on the executive group’s findings of the literature search (see ‘Initial steps’ above), participants unanimously agreed that there was a need of an extension to STROBE rather than a new reporting guideline for observational studies of prevalence and incidence. Regarding the scope of the proposed guidance statement, considering that the issues in reporting of prevalence and incidence studies were universal, participants reached consensus that the scope of STROBE EPIC be expanded in a stepwise manner beyond typhoid and other salmonellosis to cover other communicable diseases, and non-communicable diseases and injuries. A revision of the pre-meeting checklist was generated at the end of the meeting. A summary of the process and outcomes from the meeting are provided in Supplementary appendix 1 pp 6-11.

1. **Post-meeting activities**: The executive drafted and shared post-meeting feedback with the working group for their revision and approval, and subsequently registered STROBE EPIC prospectively as a guideline extension in development on EQUATOR Network on 27 February 2023.10 After the face-to-face meeting, Delphi participants and the working group were expanded to experts on communicable diseases other than typhoid and other salmonelloses, and then to non-communicable diseases and injuries. The second and the third Delphi surveys were developed and delivered on Research Electronic Data Capture (REDCap, Vanderbilt University, Nashville, Tennessee, USA) electronic data capture tools hosted at the University of Otago, Dunedin, New Zealand (Aotearoa).7 Working group members were invited to re-rate and provided comments on revisions of the checklist through subsequent Delphi surveys.

For identifying experts for subsequent Delphi rounds, the executive mapped the experts to the categories of communicable diseases (for second Delphi) and non-communicable disease and injuries (for third Delphi) at the level of Institute of Health Metrics and Evaluation (IHME) framework GBD cause level 3.11,12 The executive additionally used a literature search to complement the identification of experts. For this, they first searched Clarivate to check for highly cited researchers for disease groups (listed at the level of IHME framework GBD cause level 3) and country names for which the executive had not yet recruited an expert.13 From the result of the search, experts were purposively selected based on their research track-record and their contact information sourced from their organisational web pages. When there were no results for the search query, a Google Scholar (Google LLC, Mountain View, California, USA) search was performed to identify and select relevant systematic reviews of prevalence or incidence data, or burden of disease publications for under-represented disease groups and geographies. An internet search was performed to locate updated contact information of the first and the corresponding authors who had published at least more than one paper of interest to us. Revision of the STROBE EPIC checklist was curated by the executive group following each Delphi survey.

Following revision of the STROBE EPIC checklist after the third Delphi round, the executive invited experts and their networks which included researchers from their team, postgraduate students and researchers, and their collaborators, to serve as pilot participants of STROBE EPIC. Piloting participants deployed the STROBE EPIC checklist against draft or published manuscripts of observational studies describing prevalence or incidence or both to critically assess if the checklist was clear, concise, complete, and free of errors. Participants recorded their findings on an online form on RedCap (REDCap, Vanderbilt University, Nashville, Tennessee, USA). Expert comments were used to improve the checklist items or to develop the explanation and elaboration document. Changes to checklist items included item rephrasing, combining, deleting, renumbering, or reordering; revising examples; and revising the fillable checklist template to be user-friendly. In parallel, the executive developed the E&E document which they shared with the working group for review and feedback.

The E&E consists of checklist items, their explanation, and examples of good reporting practices for the corresponding checklist items. Selected examples could be text extracts, tables, or figures. Several examples have been drawn from published articles (hereafter referred to as ‘source article’). Such published examples are provided as reported in the source article, and have not been edited. For example, the citations or hyperlinks reported in the source article have been retained in the examples. Where possible, multiple examples per item per disease group of communicable disease, and non-communicable diseases, and injuries have been provided. The required attribution and reference information for the source article are provided after each example. The citations of the source article are provided after the attribution statement that follows each example. While acknowledging that several published articles follow good reporting practices, examples of reporting STROBE EPIC items were drawn from articles that we thought adequately addressed specific STROBE EPIC items. When there were relevant published examples from more than one article for an item for the particular disease, published examples from the most recent article were selected. Where deemed necessary, we direct readers to additional resources (provided as citations) when elaborating STROBE EPIC items. The examples or their sources are neither the perfect representation nor exclusive, and we welcome readers to get in touch with us with additional examples (or source articles) to add to STROBE EPIC’s existing list of examples.

**Research ethics**: Delphi participants provided written consent to participate in the study. Participants of the face-to-face meeting verbally consented to audio-recording of the meeting proceedings. Additionally, they provided written consent to publication of photos and data from audio and video recording of the meeting in the outputs of STROBE EPIC.

# **2. List of reporting issues found in the systematic reviews that informed STROBE EPIC**

* Titles of reports not identifying as prevalence or incidence studies where prevalence or incidence was the primary objective of the study
* Missing details of protocol, including if the statistical analysis plan was defined *apriori*
* Provide details of ethics approval and informed consent process
* Loose use of the study design terminology, including no justification or evidence of validation of the method for estimating incidence
* Study setting: Inadequate description of methods and considerations for site selection
* Inadequate methodological details to understand there was representation of all groups in the study area
* For active surveillance studies, inadequate description of methods used to optimise capture of cases
* For hybrid surveillance studies
  + Inadequate details to understand if selection of sentinel surveillance locations were informed by a healthcare utilisation survey
  + Missing unadjusted or crude incidence data to allow incidence calculation
  + Inadequate description of the rationale for selection of multipliers, and inadequate details on calculation for each multiplier
* Participants
  + Exact dates of enrolment not provided to allow incidence calculation
  + Missing details on denominator population to allow for incidence calculations
  + Missing details on eligibility criteria for enrolment and diagnostic testing e.g., threshold of fever, duration of fever
* Definitions
  + Inadequate definitions of
    - disease, condition, and outcome, including specific laboratory methods to confirm cases including to the genus, species, serotype, and sequence
    - clinical syndromes (e.g., pneumonia, febrile illness, diarrhea) and host factors (e.g., HIV infection)
    - complications
* Complications
  + Missing details including temporality and time window for attribution of complication or death to cause, criteria of assessment, and how and by whom the attribution was assessed, and if and which study personnel were blinded or masked.
  + Lack of description of the rationale and plan for reporting complications not defined *a priori*
  + Cannot distinguish missing numbers from zero counts for complications and other events monitored
* Age terms (e.g., child) not defined
* Data sources and measurement
  + Missing details on quality control standards used for diagnostic tests and how they were monitored (e.g., blood culture contamination tolerance, blood culture volume adequacy assessed by weighing of bottles)
* Study size
  + For hybrid surveillance studies, failure to account for design effect
* Statistical methods
  + Missing numerator and denominator data for all parameters or subgroups
  + Missing details on strategy for adjusting for groups with poor access to sentinel surveillance site
  + Inadequate description on the approach to report uncertainty (e.g., sensitivity analysis, Bayesian hierarchical, other)
* Results
  + Incomplete reporting of outcome events by relevant groups (e.g., age)
* Generalisability
  + No discussion on generalisability in place and time, especially for single-year studies of diseases with epidemiology that varies in place and time
  + Lack of discussion on the policy implications of findings
* Data availability
  + For prevalence of antimicrobial resistance, zone size or minimum inhibitory concentration values not available by isolate as a supplementary appendix to allow re-analysis with newer interpretive criteria
  + Failure to provide data stratified by species, serovar, or sequence type

# **Table S1. Meeting Agenda of the face-to-face consensus meeting**

**Meeting on enhancing the quality and transparency of reporting prevalence and incidence studies**

**Date:** Tuesday 6 December 2022

**Time:** 0800 – 1700 hrs SAST

**Venue:** Meeting Room 08

Century City Conference Centre and Hotels

No. 4 Energy Lane

Bridgeways Precinct

Century City, 7441

SOUTH AFRICA

|  |  |  |
| --- | --- | --- |
| Time, SAST | Activity | Chair/speaker |
|  |  |  |
| 0800 – 0830 | Arrival tea and coffee | Su Faigan |
|  | Registration/name badges |  |
|  |  |  |
| 0830 – 0900 | Welcome | John Crump |
|  | Introductions |  |
|  | Overview of the objectives and plan |  |
|  |  |  |
| 0900 – 0930 | TyVAC 1·0 systematic reviews overview | Christian Marchello |
|  | Reporting quality issues identified |  |
|  |  |  |
| 0930 – 1000 | Guideline for developing guidelines | John Crump |
|  | EQUATOR guideline landscape |  |
|  | Relevant existing guidelines |  |
|  |  |  |
| 1000 – 1030 | Tea and coffee break |  |
|  |  |  |
| 1030 – 1130 | STROBE checklist and extension items | Shruti Murthy |
|  | Pre-meeting survey feedback |  |
|  | Open discussion on delegates’ experience with reporting quality of infectious disease data |  |
|  |  |  |
| 1130 – 1200 | Break-out group formation | John Crump |
|  | Break-out group planning |  |
|  |  |  |
| 1200 – 1300 | Lunch |  |
|  |  |  |
| 1300 – 1500 | Rotating break-out groups | Break-out chairs |
|  | Checklist, rationale, flow diagram |  |
|  | Strategy for producing document |  |
|  | Knowledge translation strategy |  |
|  |  |  |
| 1500 – 1530 | Tea and coffee break |  |
|  |  |  |
| 1530 – 1630 | *Rapporteur* feedback session | Jacob John |
|  |  |  |
| 1630 – 1700 | Plan from here | John Crump |
|  | Administrative arrangements | Su Faigan |
|  | Close |  |

# **Table S2: List of participants (with break-out group assignment and roles)**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Name, affiliation, country** | **Role** | **Group assignment** |
|  | **Marina Antillon,** Swiss Tropical and Public Health Institute, **Switzerland** | Attendee, *rapporteur-* Group 1 | Group 1 |
|  | **Adwoa Bentsi-Enchill,** Vaccine Product & Delivery Research, World Health Organization, **Switzerland** | Attendee, Chair-Group 3 | Group 3 |
|  | **Robert Breiman,** Emory University, **USA** | Attendee | Group 1 |
|  | **Megan Carey,** University of Cambridge, **UK** | Attendee, Chair-Group 2 | Group 2 |
|  | **John Crump**, University of Otago, **New Zealand** | Executive team | Group 3 |
|  | **Amanda Driscoll,** University of Maryland Baltimore, **USA** | Attendee | Group 1 |
|  | **Denise Garrett,** Sabin Vaccine Institute, **USA** | Attendee | Group 2 |
|  | **Lee Hampton,** Gavi, the Vaccine Alliance, **Switzerland** | Attendee | Group 3 |
|  | **Justin Im,** International Vaccine Institute, **Republic of Korea** | Attendee, Chair-Group 1 | Group 1 |
|  | **Leslie Jamka,** University of Maryland Baltimore, **USA** | Attendee | Group 2 |
|  | **Jacob John,** Christian Medical College, **India** | Attendee, Chair *-rapporteur* feedback session | Group 3 |
|  | **Karen Keddy,** University of Pretoria, **South Africa** | Attendee | Group 1 |
|  | **Jessica Long,** Bill and Melinda Gates Foundation, **USA** | Attendee | Group 2 |
|  | **William MacWright,** Public Health Surveillance Group, **USA** | Attendee | Group 3 |
|  | **Christian Marchello,** University of Otago, **New Zealand** | Executive team | Group 1 |
|  | **Florian Marks,** International Vaccine Institute, **Republic of Korea** | Attendee | Group 2 |
|  | **James Meiring,** University of Sheffield, **UK** | Attendee, *rapporteur*- Group 3 | Group 3 |
|  | **Matthew Mikoleit,** Centers for Disease Control and Prevention, **USA** | Attendee | Group 1 |
|  | **Anna Minta,** Centers for Disease Control and Prevention, **USA** | Attendee, *rapporteur-* Group 2 | Group 2 |
|  | **Shruti Murthy,** University of Otago, **New Zealand** | Executive team, observer | Group 2 |
|  | **Jeffrey Stanaway,** Institute for Health Metrics and Evaluation, **USA** | Attendee | Group 3 |
|  | **Suzanne Faigan,** University of Otago, **New Zealand** | Executive team, meeting administrator | - |

# **3. Summary of process and outcomes of the face-to-face meeting**

Below is a summary of the face-to-face ‘Meeting on enhancing the quality and transparency of reporting prevalence and incidence studies’ procedures and outcomes. The text is supported with a group photograph and a summary table. Finally, additional items (e.g., the meeting agenda) are appended at the end of the report.

**Overview**: The ‘Meeting on enhancing the quality and transparency of reporting prevalence and incidence studies’ represents the capstone activity of the Bill & Melinda Gates Foundation-funded typhoid vaccine acceleration consortium 1·0 (TyVAC 1·0) data synthesis work.[[1]](#footnote-1) The focus of this meeting was on developing an EQUATOR extension for reporting prevalence and incidence studies.

The meeting goals were:

* + To address quality issues identified in the TyVAC 1·0 systematic reviews of typhoid fever prevalence, incidence, and antimicrobial resistance studies
  + To improve the quality of future reports of typhoid prevalence, incidence, and antimicrobial resistance studies

The meeting objectives were:

* + To develop an Enhancing the QUAlity and Transparency Of health Research (EQUATOR) standard or extension for reporting infectious disease prevalence, incidence studies, and antimicrobial resistance studies
  + Typhoid fever as motivating example, but applicable to all infectious diseases

This meeting was developed in line with the steps outlined by Moher et al.9 A total of 22 persons attended, with others involved remotely before and after the meeting. The meeting followed the agenda provided.

**Presentations:** The morning session comprised of the following presentations from the meeting executive with a brief open-ended participant discussion at the end of each presentation:

1. **Welcome, introductions, and overview of the meeting objectives and plan**, including verbal consent from the participants for recording.
2. **TyVAC 1·0 systematic reviews overview and quality issues identified** from work done 2018-21 on systematic reviews on incidence, prevalence, antimicrobial resistance, and complications and mortality of typhoid fever and other invasive salmonelloses.
3. **Guideline for developing guidelines, EQUATOR guideline landscape, and relevant existing guidelines** to highlight how the findings from the systematic reviews can be used to strengthen reporting of future studies for infectious diseases, and to provide an overview of the executive team’s strategy alignment with that recommended of Moher et al.9
4. **‘Strengthening the Reporting of Observational Studies in Epidemiology’** (**STROBE) checklist and extension items, first Delphi survey feedback, and an open discussion on delegates’ experience with reporting quality of infectious disease data**, their feedback on suggested checklist items, new checklist items proposed during the first Delphi survey, and to propose new checklist items.
5. **Break-out group formation and break-out group planning**

**Rotating breakout groups:** The first half of the post-lunch session comprised 40-minute rotating breakout sessions considering three questions with a static chair and *rapporteur* for each question. Attendees were divided into three groups. The decision-making strategy was to reach consensus for the discussion items. Points of disagreement were brought forth for further discussion during the *rapporteur* feedback session.

The topics of the three breakout groups were:

1. Question 1: Checklist, rationale, and the value of a flow diagram, which mapped to items 8·1 and 8·2 in Moher et al.9
2. Question 2: Strategy for producing documents, which mapped to item 8·3 in Moher et al.9
3. Question 3: Knowledge translation strategy, which mapped to item 8·4 in Moher et al.9

***Rapporteur* feedback session:** The *rapporteur* from each table presented a summary of their table’s discussion, consensus and points requiring further discussion.

**Scope:** Attendees agreed that this proposed reporting guideline for observational studies of prevalence and incidence would be appropriate and relevant as an extension of STROBE. Considering the applicability of the proposed extension, and plan to extend, to diseases beyond typhoid, the attendees reached consensus that the proposed extension would be valuable across all disease areas. The plan, from here, would be to extend the proposed guideline to infectious diseases first, followed by extending to all other disease areas, unless there emerged, during the process, a major reason not to do so.

***Summary of responses to Question 1: Checklist, rationale, flow diagram.***

Attendees discussed the checklist and the rationale for including items in the proposed checklist, and the value of a flow diagram.

Proposed checklist items: Attendees considered the first Delphi survey feedback, revised the proposed checklist and reached consensus on (i) ‘minimum essential set’ that ought to be reported by authors, (ii) items to be reported ‘where applicable’, and the circumstances in which such reporting would be applicable, (iii) re-mapping proposed items, where appropriate and necessary, and (iv) items that need to be reported in manuscripts versus supplements of observational studies reporting prevalence and incidence.

While revising the proposed checklist, attendees agreed that an Explanation and Elaboration (E&E) statement would be useful to provide guidance to authors on items unique to reporting prevalence and incidence on infectious diseases such as hybrid surveillance studies, and population-based surveillance designs. The group additionally provided examples of items that could be incorporated in the E&E statement.

Points requiring additional information and clarity were highlighted by attendees for future consideration by the meeting executive. Finally, while rewording of recommendations was not the focus, attendees reworded phrases they considered essential in the proposed recommendations.

Flow diagram: Attendees agreed that the proposed extension would best be framed as checklist items. The consensus was that a flow diagram would neither be necessary nor suitable for the proposed extension. This decision would not preclude reportings using a participant flow diagram Figure in their manuscript.

***Summary of responses to Question 2: Strategy for producing documents***

Attendees discussed and reached consensus on the (i) strategy for producing documents, (ii) key individuals and groups to be involved in various post-meeting activities, and (iii) authorship, roles, and responsibilities. This included discussing the need for, and focus on, an E&E document.

(i) Strategy for producing documents and deliverables: Attendees recommended the following documents to be produced as immediate, interim, and final deliverables: Delphi survey results report, two meeting reports, and three manuscripts among which the E&E would be a crucial document. The group debated the idea of producing a policy brief, but reserved its decision for a time in future when the E&E was drafted. Furthermore, the group deliberated on a strategy for acquiring funding for post-meeting activities, and reducing non-response for subsequent survey rounds. The group drafted timelines for various post-meeting activities starting from 6 December 2022 through May 2023. Finally, the group suggested an acronym such as ‘EPIC – Enhanced prevalence and incidence criteria’ for the extension guideline.

(ii) Key individuals and groups: The group mapped seven categories of key stakeholders who could be involved, depending on the purpose they would serve, at various stages of the post-meeting process. The purpose of stakeholder involvement included responding to future surveys, providing expert opinion on the Delphi process, reviewing post-meeting documents, disseminating guidelines, among others. Key stakeholder groups included guideline development teams (e.g., STROBE); decision makers; regional colleagues; researchers using the guidelines; editor groups (e.g., the International Committee of Medical Journal Editors; ICMJE); study funders; and National Immunisation Technical Advisory Groups members of national Ministries of Health.

(iii) Authorship, roles, and responsibilities: The *rapporteur* then summarised the group discussion around authorship, and the roles and responsibilities for three important groups: Tier 1: the executive group; Tier 2: the writing group or core group; Tier 3: the advisory group and a potential Consortium.

Next steps: Attendees drafted a strategy for post-meeting activities and listed mechanisms to work collaboratively online and in-person.

***Summary of responses to Question 3: Knowledge translation strategy***

Attendees discussed the knowledge translation strategy, which included (i) dissemination strategy, (ii) target journal(s), (iii) journal endorsement and author adherence, (iv) utility of a website, and (v) strategies for handling feedback. The discussion was guided by a consensus that the scope of the extension will essentially determine the strategy, and the resultant efforts required for knowledge translation.

(i) Dissemination strategy: The group established that the short-term strategy of the proposed extension would be to emphasise the transparent reporting of ‘what was done and what was not done’ by authors. With time, the long-term strategy would focus on the guidelines being embedded into reporting of observational studies of prevalence and incidence, similar to that seen with the adoption of Consolidated Standards of Reporting Trials (CONSORT).

Attendees recommended the early and continuing involvement of stakeholder groups and their networks to benefit from their varied perspectives on dissemination, adoption and feedback (e.g., recruiting funders to promote guideline use in protocols/ design). Attendees also discussed the role of key stakeholders including funder(s), IHME, ICMJE, national public health institutes, and key academic and research institutions. Attendees recommended exploring additional strategies of dissemination via conferences, posters/ presentations/ booklets of societies e.g., Infectious Diseases Society of America (IDSA), American Society of Tropical Medicine and Hygiene (ASTMH), and the European Society of Clinical Microbiology and Infectious Diseases (ESCMID).

Furthermore, attendees recommended two strategies to consider translating the proposed extension: (1) translation to official languages of World Health Organization (WHO) to begin with and (2) utilising EQUATOR website’s linkage with Google Translate to translate into other languages.

(ii) Target journals: Attendees established that selecting target journals for dissemination ought to be guided by: (a) journal impact factor; (b) the scope of proposed extension (e.g., typhoid or enteric, or infectious diseases, or non-communicable diseases); and (c) access to end-users in low- and lower-middle income countries (e.g., target open-access journals). The group agreed that there might be little utility in targeting more than one journal for dissemination, and recommended that the executive connect with the STROBE team to understand their perspectives on their dissemination strategy.

(iii) Journal endorsement and author adherence:Attendees recommended that funder(s) and organisations (e.g., WHO) could endorse the dissemination and subsequent adoption of the proposed extension. Editors (e.g., ICMJE), academics and research groups closely involved in related work were considered key to promote easy finding by authors and promote author adherence. The role and utility of Institutional Review Boards (IRBs) in endorsement or dissemination was debated.

(iv) Website:Since this would be a STROBE extension, there was consensus that EQUATOR and STROBE websites would be key in knowledge translation. Development of a dedicated website for dissemination, though ideal, was limited by resource considerations. The group highlighted the importance of the ease of access to the proposed extension, and the journals clearly 'indicating’ the proposed extension to authors on their websites to facilitate adoption and adherence.

(v) Handling feedback:Attendees recommended that comments on the proposed extension & E&E be invited pre-publication in order to maximise uptake and incorporate a feedback mechanism early-on in the process. For this, it was recommended that groups beyond typhoid be strategically identified and involved to share and acquire feedback e.g., IHME, WHO Science division. An ongoing group of experts would need to be maintained to incorporate feedback and perform updates in a ‘version 2’- following publication of the extension.

**Next steps, administrative arrangements and close**: The meeting concluded with:

* An overview of the proposed strategy for the post-meeting activities
* Commitment of attendee support and involvement during the post-meeting activities
* Post-meeting administrative arrangements.

**Outcomes of the face-to-face meeting**

1. Consensus on the need and importance, and scope of the reporting guideline:
   * The background work is sufficient to support the development of prevalence and incidence reporting guidelines - by way of performing multiple systematic reviews and/or meta-analyses, and searching additional literature for existing/related guidelines
   * This proposed guideline would be most appropriate and relevant as an extension of STROBE, and as a checklist that could also recommend the use of a flow diagram for a particular checklist item
   * The scope is to first extend the guideline to infectious diseases, followed by extending to other disease areas unless there emerged, during the process, a reason not to do so.
2. Revised draft checklist
3. Draft strategy for post-meeting activities

# **4. Examples of reporting STROBE EPIC items**

## **1. Title and abstract**

**Item 1·1) Include the terms prevalence or incidence in accordance with their epidemiologic definitions when it is a primary objective of the study**

**Example 1**

Period prevalence of SARS-CoV-2 infections and willingness to vaccinate in Swiss elite athletes.

This text extract is reproduced without modification from Schmid MJ, Örencik M, Gojanovic B, Schmid J, Conzelmann A. Period prevalence of SARS-CoV-2 infections and willingness to vaccinate in Swiss elite athletes. [BMJ Open Sport & Exercise Medicine](https://bmjopensem.bmj.com/) 2022; **8**(2): e001330. doi. [10.1136/bmjsem-2022-001330](https://doi.org/10.1136/bmjsem-2022-001330). BMJ Publishing Group Ltd. Copyright © 2022, The Author(s) (or their employer(s)). This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 14 on page 33 for citation of this source article.

**Example 2**

The changing incidence and prevalence of falls and its disability burden among the geriatric population in Saudi Arabia from 1990 to 2019: a longitudinal analysis using Global Burden of Disease Study data.

This text extract is reproduced without modification from Bindawas SM. The changing incidence and prevalence of falls and its disability burden among the geriatric population in Saudi Arabia from 1990 to 2019: a longitudinal analysis using Global Burden of Disease Study data. [Cureus](https://www.cureus.com/) 2023; **15**(11): e49117. doi. [10.7759/cureus.49117](https://doi.org/10.7759/cureus.49117). Springer Nature. Copyright © 2023 Bindawas. This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 15 on page 33 for citation of this source article.

**Example 3**

Facility-based disease surveillance and Bayesian hierarchical modeling to estimate endemic typhoid fever incidence, Kilimanjaro Region, Tanzania, 2007–2018.

This text extract is reproduced without modification Cutting ER, Simmons RA, Madut DB, et al. Facility-based disease surveillance and Bayesian hierarchical modeling to estimate endemic typhoid fever incidence, Kilimanjaro Region, Tanzania, 2007-2018. [PLoS Neglected Tropical Diseases](https://journals.plos.org/plosntds/) 2022; **16**(7): e0010516. doi. [10.1371/journal.pntd.0010516](https://doi.org/10.1371/journal.pntd.0010516). PLOS. Copyright © 2022 Cutting et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 16 on page 33 for citation of this source article.

**Example 4**

Incidence, prevalence, and global burden of schizophrenia -data, with critical appraisal, from the Global Burden of Disease (GBD) 2019

This text extract is reproduced without modification from Solmi M, Seitidis G, Mavridis D, et al. Incidence, prevalence, and global burden of schizophrenia-data, with critical appraisal, from the Global Burden of Disease (GBD) 2019. [Molecular Psychiatry](https://www.nature.com/mp/) 2023: 1–9. doi. [10.1038/s41380-023-02138-4](https://doi.org/10.1038/s41380-023-02138-4). Springer Nature. Reproduced with permission from Springer Nature. Copyright © The Author(s), under exclusive licence to Springer Nature Limited 2023.

See Reference No. 17 on page 33 for citation of the source article.

**Example 5**

Point prevalence survey of antimicrobial use in three hospitals in north-eastern Tanzania.

This text extract is reproduced without modification from Horumpende PG, Mshana SE, Mouw EF, Mmbaga BT, Chilongola JO, de Mast Q. Point prevalence survey of antimicrobial use in three hospitals in North-Eastern Tanzania. [Antimicrobial Resistance & Infection Control](https://aricjournal.biomedcentral.com/) 2020; **9**: 1–6. doi. [10.1186/s13756-020-00809-3](https://doi.org/10.1186/s13756-020-00809-3). Springer Nature. Copyright © 2020, The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 18 on page 33 for citation of this source article.

**Example 6**

Population point prevalence of SARS-CoV-2 infection based on a statewide random sample - Indiana, April 25-29, 2020

This text extract is reproduced without modification from Menachemi N, Yiannoutsos CT, Dixon BE, et al. Population point prevalence of SARS-CoV-2 infection based on a statewide random sample—Indiana, April 25–29, 2020. [MMWR Morbidity and Mortality Weekly Report](https://www.cdc.gov/mmwr) 2020; **69**(29): 960–64. doi. [10.15585/mmwr.mm6929e1](https://doi.org/10.15585/mmwr.mm6929e1). Centres for Disease Control and Prevention.

See Reference No. 19 on page 34 for citation of the source article.

**Example 7**

Estimation of COVID-19 period prevalence and the undiagnosed population in Canadian provinces: model-based analysis.

This text extract is reproduced without modification from Hamadeh A, Feng Z, Niergarth J, Wong WW. Estimation of COVID-19 period prevalence and the undiagnosed population in Canadian provinces: model-based analysis. [JMIR Public Health Surveillance](https://publichealth.jmir.org) 2021; **7**(9): e26409. doi. [10.2196/26409](https://doi.org/10.2196/26409). JMIR Publications. Copyright © Abdullah Hamadeh, Zeny Feng, Jessmyn Niergarth, William WL Wong. Originally published in JMIR Public Health and Surveillance (https://publichealth.jmir.org), 09.09.2021. This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 20 on page 34 for citation of the source article.

**Item 1·2) Describe the study in terms of selection of participants, population, place, and time**

**Item 1·3) Report the results including numerators and denominators, prevalence, or incidence with uncertainty estimates**

**Example 1**

A retrospective descriptive chart review of falls registered in the period July 1, 2013 until June 30, 2019 in a Belgian University Psychiatric Hospital was conducted. Data were collected from the "patient related incident report and management system" (PiMS) of the hospital. All registered falls of all hospitalized patients were included in the study.

This text extract is reproduced without modification from de Smet L, Carpels A, Creten L, et al. Prevalence and characteristics of registered falls in a Belgian University Psychiatric Hospital. [Frontiers in Public Health](https://www.frontiersin.org/journals/public-health) 2022; **10**: 1020975. doi. [10.3389/fpubh.2022.1020975](https://doi.org/10.3389/fpubh.2022.1020975). Frontiers. Copyright © 2022 de Smet, Carpels, Creten, De Pauw, Van Eldere, Desplenter and De Hert. This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 21 on page 34 for citation of the source article.

**Example 2**

Methods: Two hundred seventy-eight youth (16 years old) and adult athletes from an eligible study population of 321 athletes were included. Results: The 1-year retrospective injury prevalence was 42.8% (95% confidence interval [CI], 36.9%-49.0%); the point prevalence was 35.4% (95% CI, 29.7%-41.4%). The diagnosis group displaying the highest injury prevalence was inflammation and pain in the gradual onset category (1-year prevalence, 20.9%; 95% CI, 16.2%-26.2%; and point prevalence, 23.2%; 95% CI, 18.4%-28.7%). A strong tendency for higher 1-year prevalence of 16.5% (95% CI, 12.2%-21.4%) than point prevalence of 8.5% (95% CI, 5.5%-12.5%) was recorded for sudden onset injuries in the diagnosis group sprain, strain, and rupture. The body region showing the highest injury prevalence was the knee and lower leg with 15.0% (95% CI, 11.0%-19.8%) 1-year prevalence and 13.7% (95% CI, 9.8%-18.3%) point prevalence, followed by the Achilles tendon, ankle, and foot/toe with 11.7% (95% CI, 8.2%-16.1%) 1-year prevalence and 11.4% (95% CI, 7.9%-15.8%) point prevalence.

This text extract is reproduced without modification from Jacobsson J, Timpka T, Kowalski J, Nilsson S, Ekberg J, Renström P. Prevalence of musculoskeletal injuries in Swedish elite track and field athletes, [The American Journal of Sports Medicine](https://journals.sagepub.com/home/ajsb) (40(1)). pp. 163–169. doi. [10.1177/0363546511425467](https://doi.org/10.1177/0363546511425467). Sage Publications. Copyright © 2012 by The Author(s). Reprinted by Permission of Sage Publications.

See Reference No. 22 on page 34 for citation of the source article.

**Example 3**

27 866 (33·8%) of 82 491 participants who met inclusion criteria were recruited. Blood cultures were performed for 27 544 (98·8%) of enrolled participants. Clinically significant organisms were detected in 2136 (7·7%) of these cultures, and 346 (16·2%) *Salmonella* *enterica* serovar Typhi were isolated. The overall adjusted incidence per 100 000 person-years of observation was highest in Kavuaya and Nkandu 1, Democratic Republic of the Congo (315, 95% credible interval 254–390). Overall, 46 (16·4%) of 280 tested isolates showed ciprofloxacin non-susceptibility.

This text extract has been reproduced without modification from Marks F, Im J, Park SE, et al. Incidence of typhoid fever in Burkina Faso, Democratic Republic of the Congo, Ethiopia, Ghana, Madagascar, and Nigeria (the Severe Typhoid in Africa programme): a population-based study. [The Lancet Global Health](https://www.thelancet.com/journals/langlo/home) 2024; **12**(4): e599–e610. doi. [10.1016/S2214-109X(24)00007-X](https://doi.org/10.1016/s2214-109x(24)00007-x). Elsevier Ltd. Copyright © 2024 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 23 on page 34 for citation of the source article.

**Example 4**

We established a systematic, standardised surveillance of blood culture-based febrile illness in 13 African sentinel sites with previous reports of typhoid fever: Burkina Faso (two sites), Ethiopia, Ghana, Guinea-Bissau, Kenya, Madagascar (two sites), Senegal, South Africa, Sudan, and Tanzania (two sites). We used census data and health-care records to define study catchment areas and populations. Eligible participants were either inpatients or outpatients who resided within the catchment area and presented with tympanic (≥38·0°C) or axillary temperature (≥37·5°C). Inpatients with a reported history of fever for 72 h or longer were excluded. We also implemented a health-care utilisation survey in a sample of households randomly selected from each study area to investigate health-seeking behaviour in cases of self-reported fever lasting less than 3 days. Typhoid fever and iNTS disease incidences were corrected for health-care-seeking behaviour and recruitment.

This text extract has been reproduced without modification from Marks F, von Kalckreuth V, Aaby P, et al. Incidence of invasive salmonella disease in sub-Saharan Africa: a multicentre population-based surveillance study. [*The* *Lancet Global Health*](https://www.thelancet.com/journals/langlo/home)2017; **5**(3): e310–e23. doi. [10.1016/S2214-109X(17)30022-0](https://doi.org/10.1016/S2214-109X(17)30022-0). Elsevier Ltd. Copyright © The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 24 on page 34 for citation of the source article.

## **4. Study design**

**Item 4·1) Justify the selected study design for estimating either prevalence or incidence or both**

**Example 1**

A widely used multiplier study method was applied to estimate the incidence of brucellosis.8–10

This text extract is reproduced without modification from Carugati M, Biggs HM, Maze MJ, et al. Incidence of human brucellosis in the Kilimanjaro Region of Tanzania in the periods 2007–2008 and 2012–2014. [Transactions of the Royal Society of Tropical Medicine & Hygiene](https://academic.oup.com/trstmh) 2018; **112**(3): 136–43. doi. [10.1093/trstmh/try033](https://doi.org/10.1093/trstmh/try033). Oxford University Press. Copyright © The Author(s) 2018. Published by Oxford University Press on behalf of Royal Society of Tropical Medicine and Hygiene. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>).

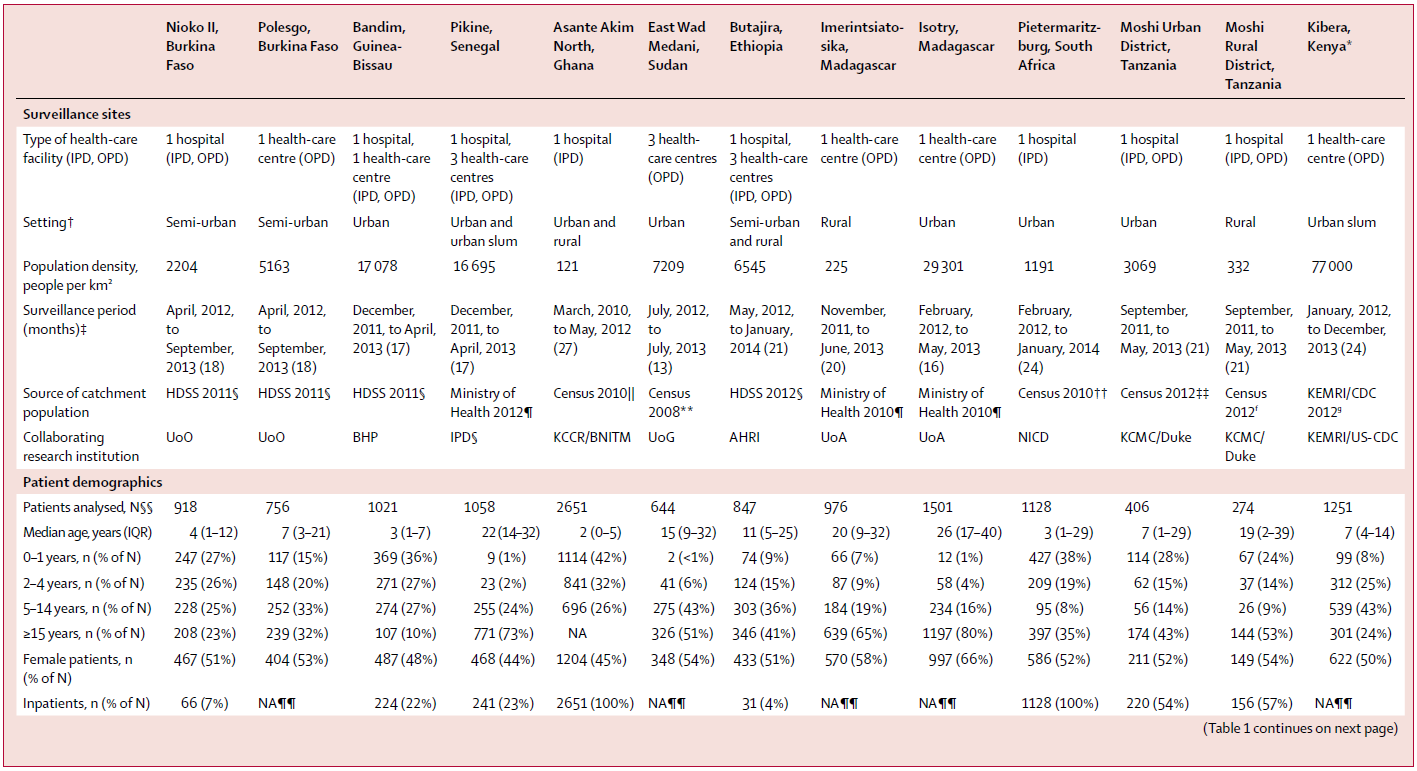
See Reference No. 25 on page 34 for citation of the source article.

**Item 4·3) Provide calendar dates, at least to the level of month and year, for periods of recruitment, exposure, data collection, and where relevant follow-up, to describe the time period of the study.**

Example for use of adverbs: ‘from 01 January 2024 through 08 August 2024’ implies that coverage of the entire period inclusive of start and end dates, whereas ‘between 01 January 2024 and 08 August 2024’ does not necessarily include the start and end dates.

**Example 1**

**Example table for reporting time period for multi-site studies and including additional details about study design in text and as a table**



A close up of a text

Description automatically generated

This table is reproduced without modification from from Marks F, von Kalckreuth V, Aaby P, et al. Incidence of invasive salmonella disease in sub-Saharan Africa: a multicentre population-based surveillance study. [The Lancet Global Health](https://www.thelancet.com/journals/langlo/home) 2017; **5**(3): e310–e23. doi. [10.1016/S2214-109X(17)30022-0](https://doi.org/10.1016/S2214-109X(17)30022-0). Elsevier Ltd. Copyright © The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 24 on page 34 for citation of the source article.

## **5. Setting**

**Item 5·3) Provide basic information on surveillance locations within study sites**

**Item 5·3a) Describe surveillance locations in terms of type and size**

*(e.g., household, first, second, or third level hospital, inpatient, outpatient, private, public, generalist, specialist, informal such as traditional healer, patient volume)*

**Item 5·3b) For facility or provider-based studies, if applicable, report types and number of providers or sites other than surveillance sites where persons meeting surveillance criteria could have sought care**

*(e.g., informal providers such as traditional healer, private healthcare facilities)*

**Example 1**

Febrile illness surveillance was conducted in Moshi, Tanzania. Moshi is the administrative center of the Kilimanjaro Region in northern Tanzania. Moshi is at an elevation of 890 meters above mean sea level and includes Moshi Urban and Moshi Rural districts with populations of approximately 200,000 and 510,000, respectively [[11](https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0010516#pntd.0010516.ref011)]. The adjacent Hai District has an estimated population of 230,000 [[11](https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0010516#pntd.0010516.ref011)]. The climate in Moshi is tropical and is characterized by a short rain season from October through December and a longer rain season from March through May [[12](https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0010516#pntd.0010516.ref012)]. Fever surveillance was conducted at the two referral hospitals in Moshi, Tanzania: KCMC with 630 beds and MRRH with 350 beds. KCMC and MRRH are located approximately 5.5 km apart by road.

This text extract is reproduced without modification Cutting ER, Simmons RA, Madut DB, et al. Facility-based disease surveillance and Bayesian hierarchical modeling to estimate endemic typhoid fever incidence, Kilimanjaro Region, Tanzania, 2007-2018. [PLoS Neglected Tropical Diseases](https://journals.plos.org/plosntds/) 2022; **16**(7): e0010516. doi. [10.1371/journal.pntd.0010516](https://doi.org/10.1371/journal.pntd.0010516). PLOS. Copyright © 2022 Cutting et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 16 on page 33 for citation of the source article.

**Example 2**

**Example table for registry-based studies reporting characteristics of registries included in the study**

A screenshot of a computer

Description automatically generated

This table has been reproduced without modification from Table 1, Demuru E, Rossi S, Ventura L, et al and the EUROCARE-6 Working Group. Estimating complete cancer prevalence in Europe: validity of alternative vs standard completeness indexes. [Frontiers in Oncology](https://www.frontiersin.org/journals/oncology) 2023; **13**: 1114701. doi. [10.3389/fonc.2023.1114701](https://doi.org/10.3389/fonc.2023.1114701). Frontiers. Copyright © 2023 Demuru, Rossi, Ventura, Dal Maso, Guzzinati, Katalinic, Lamy, Jooste, Di Benedetto, De Angelis and the EUROCARE-6 Working Group. This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 26 on page 34 for citation of the source article.

**Item 5·3c) For household-based studies, state how households were defined, identified, and selected**

**Example 1**

All individuals aged ≥25 years who are permanent residents of the selected households will be eligible to participate in the survey. For the purposes of our study, we define a permanent resident as someone who has lived in a selected household for the past 12 months. A household is defined as a single person living alone or a group of people who may or may not be related but live at the same address and share cooking facilities, a living room, a sitting room, or a dining area [[32](https://www.tandfonline.com/doi/full/10.1080/16549716.2023.2297513)].

This text extract has been reproduced without modification from Lule SA, Kushitor SB, Grijalva-Eternod CS, et al. The contextual awareness, response and evaluation (CARE) diabetes project: study design for a quantitative survey of diabetes prevalence and non-communicable disease risk in Ga Mashie, Accra, Ghana. [Global Health Action](https://www.tandfonline.com/journals/zgha20) 2024; **17**(1): 2297513. doi. [10.1080/16549716.2023.2297513](https://doi.org/10.1080/16549716.2023.2297513). Copyright © 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group. This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

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**Item 5·4a) Describe sentinel surveillance locations and how these were selected (including, if applicable, how site selection was informed by a healthcare utilisation survey)**

**Item 5·4b) Describe, where applicable, the healthcare utilisation surveys in terms of size, dates, selection of survey area, selection of participants**

**Example 1**

A health care utilization survey was performed in the Moshi Urban District (population 184 292) and Moshi Rural District (population 466 737) of the Kilimanjaro Region between 13 June 2011 and 22 July 2011, as previously described.18 The Moshi Urban and Moshi Rural Districts were defined based on the administrative divisions of Tanzania. Briefly, 30 (66.7%) of the 45 wards were selected using a population-weighted random sampling method. In each selected ward a starting point was chosen arbitrarily while touring the ward on foot by a member of the study team who was not previously familiar with the area. A direction was similarly chosen and the first 27 households along that direction from the starting point were included in the survey. Questions relating to health care–seeking behaviour in the event of febrile illness were used to identify participants likely to present to KCMC or MRRH. These questions included, ‘To which facility would you go if you were unwell with a fever lasting ≥3 days?’.11,18

This text extract is reproduced without modification from Carugati M, Biggs HM, Maze MJ, et al. Incidence of human brucellosis in the Kilimanjaro Region of Tanzania in the periods 2007–2008 and 2012–2014. [Transactions of the Royal Society of Tropical Medicine & Hygiene](https://academic.oup.com/trstmh) 2018; **112**(3): 136–43. doi. [10.1093/trstmh/try033](https://doi.org/10.1093/trstmh/try033). Oxford University Press. Copyright © The Author(s) 2018. Published by Oxford University Press on behalf of Royal Society of Tropical Medicine and Hygiene. This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/)

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## **6. Participants**

**Item 6·1a) Provide details on how persons studied, or person-years, were selected and estimated, including whether by survey conducted by the study team, or from secondary sources such as a census or demographic surveillance**

**Example 1**

Our study targeted all individuals residing in the Eastern Province of Rwanda in the year 2020. Table A in [S1 Appendix](https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0012378#pntd.0012378.s001) shows the estimated population in the eastern province in 2020. According to National Institute of Statistics Rwanda census data, each district is subdivided into 12 to 15 sectors, with 2020 populations ranging from 26,962 to 40,069 people per sector [[17](https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0012378#pntd.0012378.ref017)]. Using 2012–2032 medium growth rate projections of the total population, we estimated that 3,125,692 were living in Eastern province in 2020 [[17](https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0012378#pntd.0012378.ref017)].

This text extract is reproduced without modification from Hakizimana D, MacDonald LE, Kampire HT, et al. Snakebite incidence and healthcare-seeking behaviors in Eastern Province, Rwanda: a cross-sectional study*.* [PLoS Neglected Tropical Diseases](https://journals.plos.org/plosntds/) 2024; **18**(8): e0012378. doi. [10.1371/journal.pntd.0012378](https://doi.org/10.1371/journal.pntd.0012378). PLOS. Copyright © 2024 Hakizimana et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

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**Item 6·2c) Where applicable for complications:**

**Item 6·2ci) Provide definitions for complications**

**Item 6·2cii) Describe method, with references where applicable, for attributing a complication or death to a cause, including temporality and the time window for attribution**

**Example 1**

For the purposes of this study, complications/conditions were those defined as both acute and chronic complications/conditions arising after a diagnosis of T2DM. Complication/condition profile results were stratified by patients with/without a history of ASCVD in the 2 years before entering the study cohort and by age group.

This text extract is reprinted from [Canadian Journal of Diabetes](https://www.sciencedirect.com/journal/canadian-journal-of-diabetes), 48(3), Lau DC, Shaw E, Farris MS, et al, Prevalence of adult type 2 diabetes mellitus and related complications in Alberta, Canada: a retrospective, observational study using administrative data, 155–62, Copyright © 2024, with permission from Elsevier Copyright © 2024 Canadian Diabetes Association. 1499-2671/© 2023 The Author(s). Published by Elsevier Inc. on behalf of Canadian Diabetes Association. This is an open access article distributed under the terms of the Creative Commons Attribution License CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

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## **7. Variables**

**Item 7·1) Define age terms when relevant with specific age ranges and ensure that exclusive age categories are non-overlapping**

*(e.g., children: >12 months to <13 years)*

**Example 1**

Population denominators: Brucellosis incidence was calculated by age group as follows: 0–4, 5–14 and ≥15 years. As age-specific population data were not available from the 2012 Tanzania National Census, we multiplied age-specific proportions from the 2002 Tanzania National Census by the 2012 Tanzania National Census population total to estimate age-specific populations.11,20–21

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**Example 2**

Individuals aged 20 years and older were included and categorized into 10-year age groups (20–29, 30–39, 40–49, 50–59, 60–69, 70–79, and 80+ years) for each race and ethnicity when examining MF IRRs of cancer sites and histologic subtypes.

This text extract is reproduced without modification from Tosakoon S, Lawrence WR, Shiels MS, Jackson SS. Sex Differences in Cancer Incidence Rates by Race and Ethnicity: Results from the Surveillance, Epidemiology, and End Results (SEER) Registry (2000–2019). [Cancers](https://www.mdpi.com/journal/cancers) 2024; **16**(5): 989-98. doi. [10.3390/cancers16050989](https://doi.org/10.3390/cancers16050989). MDPI. Copyright © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>).

See Reference No. 30 on page 34 for citation of the source article.

## **8. Data sources/measurements**

**Item 8·1) Include with references when applicable how diagnostic methods were monitored and maintained within quality thresholds**

*(e.g., calibration of scales for measuring weight, X ray–light field alignment and centring tolerance, image receptor uniformity, blood culture contamination tolerance, blood culture volume adequacy by weighing of bottles, proficiency testing, laboratory accreditation)*

**Example 1**

A fall was defined as ‘an unexpected event in which the participant comes to rest on the ground, floor, or lower level’ [[13](https://link.springer.com/article/10.1007/s00198-020-05617-4#ref-CR13)]. Incidence of falls was assessed monthly for 12 months by questionnaire. The questionnaire asked if the participant had any falls in the month, and if yes, the dates, location, and any reason of the fall(s) and any injuries from the fall(s). An injurious fall was defined as at least one fall that caused any injuries in the month. They were asked to record any fall for each month. Participants were given 3 months of questionnaires at a time and returned them via a pre-paid envelope. If questionnaires were not returned within 2 weeks at the end of each 3 months, a research assistant phoned participants to confirm if there were any falls. Height was measured to the nearest 0.1 cm by a stadiometer (The Leicester height measure, Invicta Plastics Ltd, Oadby, England) with shoes, socks, and headgear removed. Weight was measured to the nearest 0.1 kg by a single set of calibrated scales (Heine, Dover NH USA) with shoes and heavy clothing removed. Body mass index (BMI) was calculated as weight/height2 (kg/m2).

This text extract is reproduced without modification from Wang M, Wu F, Callisaya M, Jones G, Winzenberg T. Incidence and circumstances of falls among middle-aged women: a cohort study. [Osteoporosis International](https://link.springer.com/journal/198) 2021; **32**: 505–13. doi. [10.1007/s00198-020-05617-4](https://doi.org/10.1007/s00198-020-05617-4). Springer Nature. Copyright © International Osteoporosis Foundation and National Osteoporosis Foundation 2020. *Reproduced with permission from Springer Nature.*

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**Example 2**

We standardised laboratory, quality control, and blood sample collection procedures across sites.[10](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(17)30022-0/fulltext?platform=hootsuite#bib10) Blood (5–10 mL for adults; 1–3 mL for children) was inoculated into aerobic blood culture bottles and incubated in an automated blood culture system (BD BACTEC, Becton-Dickinson, USA, or BacT/ALERT, BioMérieux, France), with the exception of Sudan, where manual culturing with daily subculturing for up to 5 days was instituted. Gram staining and bacterial identification were done with standard microbiological techniques.[14](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(17)30022-0/fulltext?platform=hootsuite#bib14) Quality control of preanalytical processes included time and temperature control measures, during which every blood culture bottle was collected, transported, and placed into the incubator. Quality control of analytical processes included sterility and function control of culture media, controls of biochemical reactions, and antimicrobial susceptibility testing. For the quality control of manual culturing in Sudan, additionally, blood culture bottles were inoculated weekly with a suspension containing Escherichia coli or Staphylococcus aureus references. Inoculated blood culture bottles were incubated overnight and verified for growth by subculture. Contaminants were defined as organisms not typically associated with bloodstream infections; these included non-pathogens and those more commonly associated with commensal skin microbiota, including coagulase-negative Staphylococci, Bacillus spp, and Micrococcus spp. Antimicrobial susceptibility testing was done by disc diffusion according to Clinical and Laboratory Standards Institute[15](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(17)30022-0/fulltext?platform=hootsuite#bib15) standards for ampicillin, amoxicillin-clavulanic acid, chloramphenicol, co-trimoxazole, ceftriaxone, and ciprofloxacin. Multidrug resistance was defined as resistance to ampicillin or amoxicillin-clavulanic acid, chloramphenicol, and co-trimoxazole. Isolates with intermediate susceptibility were classified as resistant. Malaria blood smears were routinely done, except in South Africa. In Ethiopia, rapid diagnostic tests (SD BIOLINE Malaria Ag Pf/Pv, SD Standard Diagnostics, Yongin, South Korea) were used in addition to routine malaria blood smears.

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**Example 3**

We focused on a list of 32 malignant cancers defined according to the third edition of the [International Classification of Diseases for Oncology](https://www.sciencedirect.com/topics/medicine-and-dentistry/international-classification-of-diseases-for-oncology). Given the heterogeneous classification of behaviour between countries, [brain](https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/protocerebrum) and [urinary bladder cancer](https://www.sciencedirect.com/topics/pharmacology-toxicology-and-pharmaceutical-science/bladder-cancer) are defined to also include benign, uncertain, and [in situ cancers](https://www.sciencedirect.com/topics/pharmacology-toxicology-and-pharmaceutical-science/carcinoma-in-situ) to improve comparability ([appendix p 15](https://www.sciencedirect.com/science/article/pii/S1470204523006460#sec1)). For each cancer site (specific site or all cancers combined), only the first [primary tumour](https://www.sciencedirect.com/topics/pharmacology-toxicology-and-pharmaceutical-science/primary-tumor) was considered (person-based prevalence). People with [multiple primary cancers](https://www.sciencedirect.com/topics/medicine-and-dentistry/proteus-syndrome) contribute to the prevalence counts of each specific [cancer type](https://www.sciencedirect.com/topics/medicine-and-dentistry/cancer-types). Therefore, cancer-specific prevalence counts do not sum to the counts for all cancers combined.

This text extract has been reprinted without modification from [The Lancet Oncology](https://www.sciencedirect.com/journal/the-lancet-oncology), 25(3), De Angelis R, Demuru E, Baili P, et al on behalf of the EUROCARE-6 Working Group, Complete cancer prevalence in Europe in 2020 by disease duration and country (EUROCARE-6): a population-based study, 293–307, Copyright © 2024, with permission from Elsevier. Copyright © 2024 Elsevier Ltd.

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## **10. Study size**

**Item 10·1) Sample size and power considerations**

**Item 10·1a) For hybrid surveillance studies**

**a. State whether and how the design effect was accounted for**

**b. Explain sampling weights, if applicable**

*(e.g., for cluster surveys)*

**Example 1**

Sampling Process: The tier 2 sites were selected, assuming that they were the dominant providers of inpatient medical care in their catchment areas. The catchment area of each of the study hospitals was defined as the geographically adjoining areas from where the most recent 1000 hospitalizations associated with febrile illness (“febrile hospitalizations”) occurred. Mapping of the catchment required reviewing inpatient hospital records of the previous 24 months in each site. Patient addresses were ordered by distance from the study facility, and the community development blocks that covered >80% of the recent 1000 hospital admissions for febrile illness formed the hospital’s catchment. It was anticipated that about 60% of febrile hospitalizations from the catchment area would occur in the study hospital. The annual incidence of hospitalization for febrile illness in these settings has been previously estimated at 6 per 1000 hospitalizations by the National Sample Survey Office [20]. We calculated that 150 febrile hospitalizations in the catchment population were required to estimate the proportion hospitalized at the study facility with a 10% absolute precision and assuming a design effect of 1.5 for intrafamilial and village level clustering. Thus, we surveyed 25 000 individuals from about 5000 randomly selected households (assuming 5 persons per household) to identify 150 febrile hospitalizations in each site. The HCUS described here was conducted in the catchment areas between June and October 2019. A 2-stage sampling process was used. In the first stage, a random sample of 100 primary sampling units (wards in urban and villages in rural areas) was selected by probability proportional to size sampling technique at each site. Subsequently, systematic random sampling was used to select households within the clusters. From a random start, 50 households were selected from each of the 100 clusters to obtain 5000 household interviews each from 6 sites.

This text extract has been reproduced without modification from Raju R, Kezia Angelin J, Karthikeyan AS, et al. Healthcare utilization survey in the hybrid model of the Surveillance for Enteric Fever in India (SEFI) study: processes, monitoring, results, and challenges. [The Journal of Infectious Diseases](https://academic.oup.com/jid) 2021; **224**(Supplement\_5): S529-S39. doi. [10.1093/infdis/jiab371](https://doi.org/10.1093/infdis/jiab371). Copyright © 2021, Copyright © The Author(s) 2021. Published by Oxford University Press for the Infectious Diseases Society of America. This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

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## **11. Quantitative variables**

**Item 11·1) For sentinel surveillance including hybrid surveillance studies: state adjustment factors applied for under-reporting or under-diagnosis including:**

**Item 11·1a) the adjustment factors used: facility coverage, enrolment capture, sensitivity and specificity of diagnostic method, for groups with poor access to sentinel surveillance site, or others**

**Item 11·1b) how the adjustment factors were derived**

**Example 1**

Multipliers: The following multipliers were calculated: (1) KCMC multiplier and MRRH multiplier, to account for health care–seeking preferences and cases potentially missed due to selection of health care facilities not under surveillance. The KCMC multiplier and MRRH multiplier were derived based on head-of-household responses to the question: ‘What will you do if a member of this household has elevated body temperature for ≥3 days?’; (2) referral adjustment multiplier for the period 2007–2008, to adjust for patients transferred to KCMC from another inpatient hospital, given that transfer may not reflect a patient’s preference of health care facility; (3) enrolment multiplier, to account for patients who were eligible but did not enrol in the hospital-based fever surveillance for any reason; (4) blood drawn multiplier, to account for patients for whom the blood volume obtained was insufficient for brucellosis serology; (5) study duration multiplier for the period 2012–2014, to calculate annual incidence from a study that enrolled for 27 months; (6) time multiplier, to account for fever surveillance enrolment 5 of 7 days of the week and (7) agglutination test specificity multiplier, to account for MAT specificity (96.1%).[19](javascript:;)

This text extract is reproduced without modification from Carugati M, Biggs HM, Maze MJ, et al. Incidence of human brucellosis in the Kilimanjaro Region of Tanzania in the periods 2007–2008 and 2012–2014. [Transactions of the Royal Society of Tropical Medicine & Hygiene](https://academic.oup.com/trstmh) 2018; **112**(3): 136–43. doi. [10.1093/trstmh/try033](https://doi.org/10.1093/trstmh/try033). Oxford University Press. Copyright © The Author(s) 2018. Published by Oxford University Press on behalf of Royal Society of Tropical Medicine and Hygiene. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>).

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**Example 2**

**An example figure that authors of prevalence or incidence studies can display to illustrate how they accounted for under-ascertainment of cases.**

A diagram of a pyramid

Description automatically generated

This figure is reprinted without modification from [New England Journal of Medicine](https://www.nejm.org/), John J, Bavdekar A, Rongsen-Chandola T, et al., Burden of typhoid and paratyphoid fever in India, 388(16), 1491–500. Copyright © 2023 Massachusetts Medical Society. Reprinted with permission from Massachusetts Medical Society.

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## **12. Statistical methods**

**Item 12·1) Describe the statistical analysis plan and methods, and any other exploratory analyses, used to calculate incidence, or prevalence, and their 95% confidence intervals (CI), or other measures and propagation of uncertainty (e.g., sensitivity analysis, Bayesian hierarchical methods, other)**

**Example 1**

**Statistical analysis**

Prevalence measures are expressed in terms of absolute number of prevalent cases, crude prevalence proportion (reported as percentage or cases per 100 000 resident people), and age-standardised prevalence proportion based on the European Standard Population 2013.[7](https://www.sciencedirect.com/science/article/pii/S1470204523006460" \l "bib7)

Registry-specific observed limited-duration prevalence was calculated by cancer, sex, and 5-year age group (attained age at the prevalence index date) with the counting method using [SEER\*Stat software](https://seer.cancer.gov/seerstat/) (version 8.3.5). Observed limited-duration prevalence corresponds to the number of survivors diagnosed within the previous 1, 2, 3, … *L* years from the index date, where *L* is the maximum length of registration period. Individuals lost to follow-up who were estimated to be alive are counted using registry-specific life-tables stratified by cancer, sex, age group, and 10-year period of diagnosis ([appendix p 5](https://www.sciencedirect.com/science/article/pii/S1470204523006460#sec1)).

Registry-specific complete prevalence was estimated from observed prevalence data with the completeness index method[8](https://www.sciencedirect.com/science/article/pii/S1470204523006460" \l "bib8), [9](https://www.sciencedirect.com/science/article/pii/S1470204523006460" \l "bib9) using [COMPREV software](https://surveillance.cancer.gov/comprev/) (version 3.0.9). This method involves adjusting the registry-specific observed prevalence by a correction factor, known as the completeness index, which quantifies the theoretical completeness of observed prevalence as a function of the registration time length ([appendix p 5](https://www.sciencedirect.com/science/article/pii/S1470204523006460#sec1)). This adjustment enables supplementation of the prevalence observable at the maximum duration with the unobservable part—ie, accounting for individuals diagnosed before the start of registration.

European completeness indexes (or R-indexes) were estimated by modelling cancer-specific trends of incidence and relative survival observed by the registries with at least 30 years of observation ([appendix pp 6−8, 26, 27](https://www.sciencedirect.com/science/article/pii/S1470204523006460#sec1)).[3](https://www.sciencedirect.com/science/article/pii/S1470204523006460" \l "bib3) Country-specific complete prevalence estimates for countries with local registration systems were obtained by pooling registry-specific estimates and applying age-specific pooled estimates to the national resident population stratified by age group (0–54, 55–64, 65–74, and ≥75 years). Country-specific complete prevalence estimates were derived for the latest index date and in the previous 5 years to extrapolate projections on the basis of the latest prevalence observations. Country-specific prevalence estimates were projected to Jan 1, 2020, with [linear regression](https://www.sciencedirect.com/topics/medicine-and-dentistry/linear-regression-analysis) by extrapolating the prevalence time trend over the last three available index dates. A sensitivity analysis was conducted using linear and [logistic regression](https://www.sciencedirect.com/topics/medicine-and-dentistry/logistic-regression-analysis) and alternative basis for projections (prevalence in the last three, four, or five index dates). For each sensitivity scenario, the regression was applied to prevalence estimates smoothed with 3-year moving averages and stratified by sex and age (0–54, 55–64, 65–74, and ≥75 years). Validation against published observed prevalence data for 2014–16 in Nordic registries[10](https://www.sciencedirect.com/science/article/pii/S1470204523006460" \l "bib10) allowed us to choose the linear model with 3-year basis for projections (data not shown). Complete (and limited-duration) prevalence was then projected annually from Jan 1, 2014, to Jan 1, 2020, through the final estimated model parameters. Projected versus observed prevalence estimates in the Nordic registries 2014–20[10](https://www.sciencedirect.com/science/article/pii/S1470204523006460#bib10) are shown in the [appendix (pp 28–29](https://www.sciencedirect.com/science/article/pii/S1470204523006460#sec1)).

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**Example 2**

Incidence calculation: Incidence calculation was based on the absolute number of hospital patients meeting the brucellosis case definition and on multipliers derived from the fever surveillance and the health care utilization survey.

Sensitivity analysis: To assess the sensitivity of our incidence estimates, we performed a one-way sensitivity analysis by varying (1) hospital multipliers according to answers to alternative relevant questions in the health care utilization survey that might also reflect the behaviour of participants, (2) diagnostic test multipliers by using a range of alternative sensitivity and specificity values for agglutination tests from the published literature 22–25 and (3) population denominators for the period 2007–2008 by estimating the Moshi Urban and Moshi Rural populations in the period 2007–2008 as the mean of the 2002 population and the 2012 population in Moshi Urban and Moshi Rural Districts.11

Statistical analysis: Data were entered into an Access database (Microsoft, Redmond, WA, USA) using the Cardiff Teleform system (Cardiff, Vista, CA, USA). Incidence calculations were done using Excel 2016 (Microsoft). Other analyses were performed using SAS Enterprise Guide, version 7.1 (SAS Institute, Cary, NC, USA).

This text extract is reproduced without modification from Carugati M, Biggs HM, Maze MJ, et al. Incidence of human brucellosis in the Kilimanjaro Region of Tanzania in the periods 2007–2008 and 2012–2014. [Transactions of the Royal Society of Tropical Medicine & Hygiene](https://academic.oup.com/trstmh) 2018; **112**(3): 136–43. doi. [10.1093/trstmh/try033](https://doi.org/10.1093/trstmh/try033). Oxford University Press. Copyright © The Author(s) 2018. Published by Oxford University Press on behalf of Royal Society of Tropical Medicine and Hygiene. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>).

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**Example 3**

For each adjustment, we used a Monte Carlo approach to create distributions for each adjustment probability based on 1 million simulations and derived the median, 2·5th, and 97·5th percentiles. Age-specific adjustment factors for the adjusted incidence calculations are detailed in the appendix (pp 5–7).

This text extract has been reproduced without modification from Garrett DO, Longley AT, Aiemjoy K, et al. Incidence of typhoid and paratyphoid fever in Bangladesh, Nepal, and Pakistan: results of the Surveillance for Enteric Fever in Asia Project. [The Lancet Global Health](https://www.thelancet.com/journals/langlo/home)2022; **10**(7): e978–e88. doi. [10.1016/S2214-109X(22)00119-X](https://doi.org/10.1016/S2214-109X(22)00119-X). Elsevier Ltd. Copyright © 2022 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

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## **15. Outcome data**

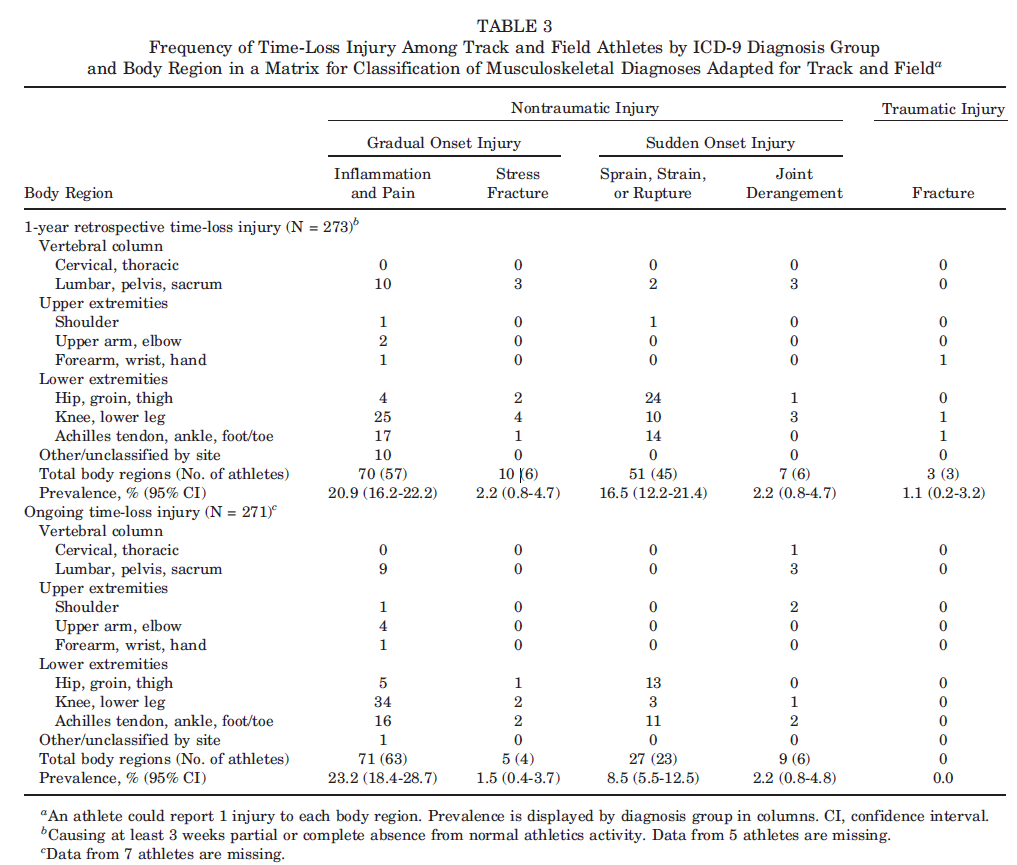
**Item 15·1) Report outcome events for whole study population, and then by relevant sub-groups, as applicable (e.g., by age, sex, complications, etc)**

For example, for NCDs, categorising sub-groups, especially using ethnicity, should be done in a meaningful way using country-specific definitions to inform targeted disease management strategies. In some instances, there may be issues around the requirement and legal framework of (not) reporting ethnicity across countries, and it would benefit the readers if authors provide this context when applicable. Another example, is when diagnosing febrile illness using cultures, stratifying outcome data by sterile (e.g. blood, bone marrow, cerebrospinal fluid, etc) and non-sterile cultures (pus, urine, stool).

**Item 15·2) Report zero counts for all measured items, and distinguish them from missing data**

**Example 1**

**Example table highlighting the reporting of zero counts and missing data**



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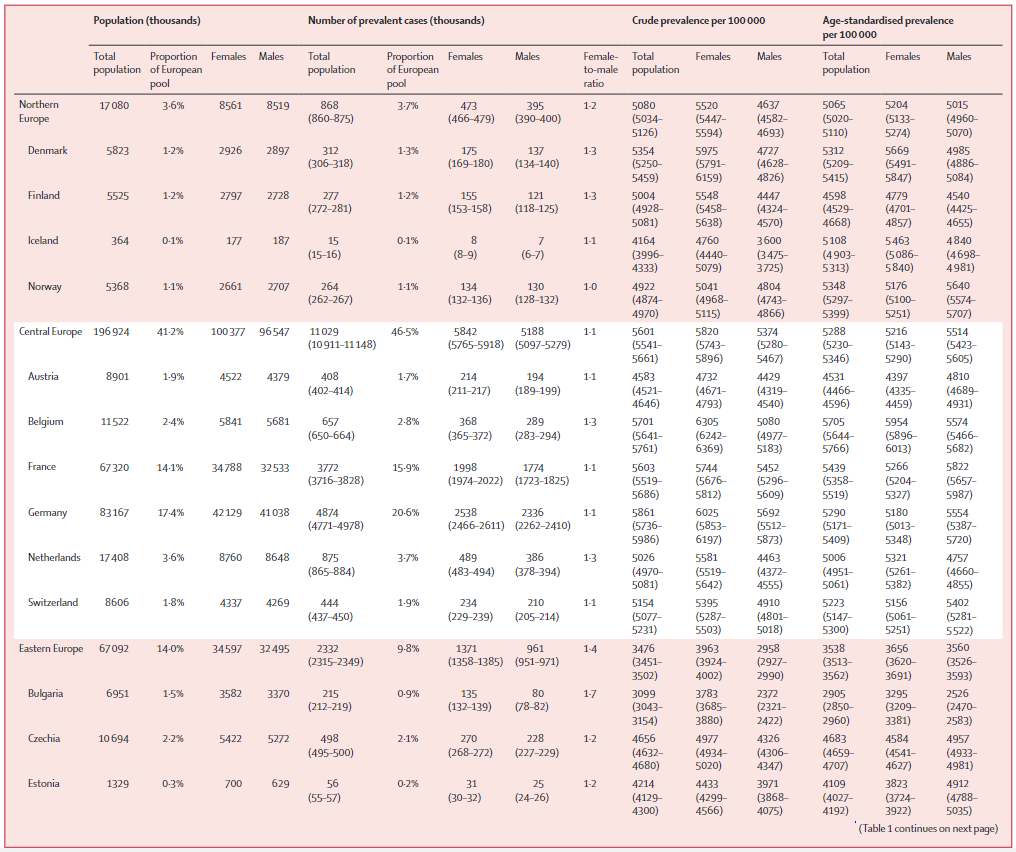
## **16. Main results**

**Item 16·1) Report crude (i.e., without adjustment) numerator and denominator data, and include number of persons studied, or person-years, under surveillance**

**Item 16·2) Report unadjusted prevalence or incidence, and when applicable adjusted prevalence or incidence, with measures of uncertainty**

**Example 1:**

**Example table for reporting the persons studied, the crude and the adjusted prevalence estimates per 100 000 population with 95% confidence intervals in parenthesis and for different subgroups.**



A table of numbers and letters

Description automatically generated with medium confidence

A screenshot of a computer

Description automatically generated

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**Discussion**

## **19. Limitations**

**Item 19·1) If biases were identified and could not be addressed, list them**

**Item 19·2) State the limitations of case ascertainment, and diagnostic criteria**

**Item 19·3) For data sources and measurement: If there were quality concerns, report the relevant reasons**

**Item 19·4) Acknowledge potential limitations due to incomplete surveillance or other data collection coverage**

**Example 1**

These findings indicate that the ASSQ screen-positive children examined in the third phase were representative of the ASSQ screen-positive children in the first phase with respect to ASD prevalence, whereas this was not true for the ASSQ screen-negative children. The selection bias on behalf of ASSQ screen-negative children was due to the design of the BCS study, as (1) all screen positive children (overall screen) from the first phase were invited to participate in the second phase, and (2) all children with a DAWBA diagnosis (any disorder) were invited to the third phase. This caused an overrepresentation in the third phase, relative to the first phase, of children who were ASSQ screen-negative but had other mental health problems. Therefore, the ASSQ screen-negative children were excluded from the calculation of the ASD prevalence. True ASD prevalence is therefore probably even higher than 0.87%, as there will always be a few cases among screen-negative children, unless the screening tool used is 100% sensitive. The ASSQ sensitivity was, however, very good [27], and the relative contribution of false ASSQ screen-negative children to overall prevalence of ASD is likely to be low. Previous studies have reasoned likewise [2]. The results of the study indicate that the effects of non response may vary within a study from phase to phase, and that the relevance of non-response cannot be understood in terms of the magnitude of the non-response, as indicated by Stang [30]. In the first stage non-responders had more difficulties and more high-scorers, to the extent that overall prevalence estimates was affected, even though only 30% were non-responders in the first phase. However, in sub sequent phases, the non-response did not influence the prevalence estimate, even though the magnitude of the non-response was up to 74%. Most importantly, our findings indicate that absolute non-responders, i.e. families who do not enrol in a study, are likely to experience higher rate of problems than responders.

This text extract is reproduced without modification from Posserud M, Lundervold AJ, Lie SA, Gillberg C. The prevalence of autism spectrum disorders: impact of diagnostic instrument and non-response bias. [Social Psychiatry and Psychiatric Epidemiology](https://link.springer.com/journal/127/volumes-and-issues) 2010; **45**: 319–27. doi. [10.1007/s00127-009-0087-4](https://doi.org/10.1007/s00127-009-0087-4). Springer Nature. Copyright © Springer-Verlag 2009. Reproduced with permission from Springer Nature.

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**Example 2**

Third, given the vast number of patients (and restricted diagnostics capacity), not every patient with a history of fever was enrolled—eg, at sites where inpatients were recruited, patients with a fever for 72 h or longer were excluded to minimise the inclusion of patients pretreated with antimicrobials and to maximise blood culture yield. Fourth, the proportion of the catchment population using the TSAP health-care facilities for febrile illness was low in some sites, and antimicrobial treatment before blood collection and its potential effect on blood culture sensitivity were not assessed.

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**Example 3**

Limitations should be noted when interpreting these results. The most recent 5 years of data available were used to estimate period prevalence to provide a current understanding of the burden of T2DM in Alberta. Due to the years of data requested for this study, earlier prevalence estimates were unstable and not reported. Administrative data are not collected specifically for research, but instead for billing, monitoring, and hospital administrative purposes. The T2DM index date was anticipated to approximate the patients’ diagnosis date; however, due to the time frame of the data and algorithm used, patients may have been diagnosed at an earlier date than indexed. Thus, the term “newly identified” was used instead of “newly diagnosed.” Similarly, our results exclude patients with a chronic condition before their T2DM index date to better understand outcomes occurring after T2DM as complications; however, the true temporality of events may not be well established in administrative data, particularly with respect to hypertension and dyslipidemia, which are common comorbidities of T2DM (rather than complications).

This text extract is reprinted from [Canadian Journal of Diabetes](https://www.sciencedirect.com/journal/canadian-journal-of-diabetes), 48(3), Lau DC, Shaw E, Farris MS, et al, Prevalence of adult type 2 diabetes mellitus and related complications in Alberta, Canada: a retrospective, observational study using administrative data, 155–62, Copyright © 2024, with permission from Elsevier Copyright © 2024 Canadian Diabetes Association. 1499-2671/© 2023 The Author(s). Published by Elsevier Inc. on behalf of Canadian Diabetes Association. This is an open access article distributed under the terms of the Creative Commons Attribution License CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

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**Example 4**

One important problem concerning the IPM model is the stability of the population. Indeed, as this study analysed a chronic disease, the comparison between OP and MP based on incidence data is based on the hypothesis of the steady state of the population in the catchment area (Alho, [1992](https://onlinelibrary.wiley.com/doi/10.1002/mpr.1719#mpr1719-bib-0002); Holley, [1998](https://onlinelibrary.wiley.com/doi/10.1002/mpr.1719#mpr1719-bib-0026)). If the population changes significantly (e.g., by migration in or out) and the populations that migrate (in or out) do not have the same structure (including percentage of psychotic subjects), this could increase (or decrease) the OP. The social drift phenomenon could for instance explain an increased migration of subjects with psychotic disorders to economically deprived areas (Ngamini Ngui et al., [2013](https://onlinelibrary.wiley.com/doi/10.1002/mpr.1719#mpr1719-bib-0044)). In a precedent study on the same catchment area, we showed that patients with psychotic disorders lived in more deprived neighbourhoods (Pignon et al., [2016](https://onlinelibrary.wiley.com/doi/10.1002/mpr.1719#mpr1719-bib-0046)).

Comparisons of MP and OP gave opposite results with the migrants subgroup compared with the general population. Several phenomena, both data- and IPM model-related, may contribute to this. Regarding the observed data, misdiagnoses of incident non-affective psychotic disorders instead of affective psychotic or bipolar disorders could also increase the incidence and thus the MP (Mukherjee, Shukla, Woodle, Rosen, & Olarte, [1983](https://onlinelibrary.wiley.com/doi/10.1002/mpr.1719#mpr1719-bib-0042)). In the present study, migrants may display better remission rates of psychotic disorders than the general population. Several studies have shown smaller duration of disease among migrant populations, which could reduce the OP (McKenzie et al., [1995](https://onlinelibrary.wiley.com/doi/10.1002/mpr.1719#mpr1719-bib-0038), [2001](https://onlinelibrary.wiley.com/doi/10.1002/mpr.1719#mpr1719-bib-0037); Morgan et al., [2009](https://onlinelibrary.wiley.com/doi/10.1002/mpr.1719#mpr1719-bib-0041)). Moreover, the hypothesis of the steady population state may have less validity in the case of migrants. Indeed, as migrants with psychotic disorders may experience chronic social defeat and poor quality of life in their host country, it is possible that some migrants return to their own countries after the onset of the disease and thus reduce the OP. Conversely, migrants with psychotic disorders included in the prevalence data could have an AAO before the migration. The same is obviously true for the native population for subjects that moved in or out of the catchment areas. Finally, the denominator used the present number of migrants. As a consequence of migration waves in recent decades, this denominator was smaller in the past (Thierry, [2004](https://onlinelibrary.wiley.com/doi/10.1002/mpr.1719#mpr1719-bib-0061)). As young migrants may be proportionaly higher in number, this could increase the incidence and thus the MP.

This text extract is reproduced without modification from Pignon B, Schürhoff F, Baudin G, et al. Relationship between incidence and prevalence in psychotic disorders: an incidence–prevalence–mortality model. [International Journal of Methods in Psychiatric Research](https://onlinelibrary.wiley.com/journal/15570657) 2018; **27**(4): e1719. doi. [10.1002/mpr.1719](https://doi.org/10.1002/mpr.1719). John Wiley and Sons. Copyright © 2018 John Wiley & Sons, Ltd.

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## **21.Generalisability**

**Item 21·1) Discuss generalisability in person, place, and time, especially for single-year studies of diseases with epidemiology that varies in place and time, and for studies of <1 year duration for diseases that may be subject to seasonality**

**Item 21·2) Discuss potential implications of findings**

*(e.g., for patient care, public health, future research, policy, etc)*

**Item 21·3) When discussing policy implications, do so in the context of the limitations and in language that is accessible for relevant decision-makers**

**Example 1**

In the health care utilization survey study population, we did observe differences in age group distribution and sex compared to the general census population for the study districts, indicating that our HCUS study population was not entirely representative of the general population Although we hoped to minimize this with our selection methods, this is not entirely unexpected given the large size of the census population relative to our sample size. Additionally, multiple responses from a single household were analyzed if the household contained members in more than one designated age group. This methodology has the potential to introduce design effect given that the head of household may be likely to respond similarly to health care seeking questions for different age group members within a single household. In order to explore effects of our multiplier choices, we evaluated the effect of using more than one leptospirosis case definition and the use of different health care utilization survey questions, including a question that was answered only once for a given household. This provided a range of plausible incidence estimates, from which we selected the estimate we believed was most representative and inclusive of available data.

This text extract has been reproduced without modification from Biggs HM, Hertz JT, Munishi OM, et al. Estimating leptospirosis incidence using hospital-based surveillance and a population-based health care utilization survey in Tanzania. [PLoS Neglected Tropical Diseases](https://journals.plos.org/plosntds/) 2013; **7**(12): e2589. doi. [10.1371/journal.pntd.0002589](https://doi.org/10.1371/journal.pntd.0002589). PLOS. This is an open-access article, free of all copyright made available under the Creative Commons CC0 public domain dedication (<https://creativecommons.org/publicdomain/zero/1.0/>).

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**Example 2**

The distribution by short, long, and very long disease duration is an additional strength of our study. Although there is a growing body of evidence on the problems and unmet needs of cancer survivors,22 little is known about their actual numbers and characterisation, especially in the long term. Research on the quality of life of long-term survivors after cancer, often based on representative samples from cancer registry data,23,24 highlights a wide range of issues that point to integrated models of care, with an increasing role for patient-centred care and community medicine.25

Information on cancer prevalence by disease duration is crucial not only at the health-care level to plan patient care and rehabilitation, but also at the societal level, to assess the impact of policies to mitigate the socioeconomic consequences of the disease, such as employment discrimination or financial toxicity.26,27

The large and growing burden of cancer on the European population confirms the need to strengthen cancer prevention measures, as envisaged in Europe’s Beating Cancer Plan and related action plans. Primary prevention and early diagnosis are the most effective tools to reduce in the coming years the burden of cancer and improve the quality of life of patients.

People living after a juvenile cancer have been shown to be an important component of long-term cancer

survivors. Addressing the health and socioeconomic impact of cancer on this vulnerable subpopulation is

particularly valuable. Initiatives such as the survivorship passport or the legislation on the right to be forgotten26 should be pursued in all countries.

Complete information on cancer prevalence at country level is needed in Europe to develop evidence-based policies on cancer survivorship. This information should be systematically integrated into the European Cancer Information System. Our study shows that an effective way to ensure accurate and comparable estimates of complete cancer prevalence at national level is to jointly analyse data from European registries. Continuity in these collaborative studies with high added value for Europe is essential to make prevalence estimates available on a regular and systematic basis. Future developments in this area should incorporate the analysis of cured cancer survivors and time to cure, to provide robust epidemiological evidence useful for responsibly optimising follow-up care guidelines and recommendations.

This text extract is reprinted without modification from [The Lancet Oncology](https://www.sciencedirect.com/journal/the-lancet-oncology), 25(3), De Angelis R, Demuru E, Baili P, et al on behalf of the EUROCARE-6 Working Group, Complete cancer prevalence in Europe in 2020 by disease duration and country (EUROCARE-6): a population-based study, 293–307, Copyright © 2024, with permission from Elsevier. Copyright © 2024 Elsevier Ltd.

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**Example 3**

Potential misclassification bias of the T2DM cohort and complication/condition outcome definitions due to incorrect ICD coding may be present. Specifically, T1DM could still be misclassified, particularly when using ICD (Ninth Edition, Clinical Modification) codes, which do not differentiate diabetes by type in practitioners’ claims data, and the T2DM study cohort did not exclude gestational diabetes, which could limit the generalizability to patients with nongestational diabetes or account for differences in the literature, as noted previously. Furthermore, patients without at least 1 year of follow-up data were excluded, which may affect the generalizability of our findings. To limit misclassification, published algorithms were used for case selection and complication/condition definitions. Importantly, our study addressed outcomes occurring after identification of T2DM in newly identified patients, rather than prevalent patients with T2DM, which can underestimate some of the more severe outcomes that tend to occur later in the T2DM disease course. Last, although complications/conditions were quantified and described in a population of patients with T2DM, we did not examine a control group in this study; however, previous studies showed a higher incidence of these complications/conditions in patients with T2DM vs those without [[9](https://www.sciencedirect.com/science/article/pii/S1499267123007232#bib9),[49](https://www.sciencedirect.com/science/article/pii/S1499267123007232#bib49)].

This text extract is reprinted from [Canadian Journal of Diabetes](https://www.sciencedirect.com/journal/canadian-journal-of-diabetes), 48(3), Lau DC, Shaw E, Farris MS, et al, Prevalence of adult type 2 diabetes mellitus and related complications in Alberta, Canada: a retrospective, observational study using administrative data, 155–62, Copyright © 2024, with permission from Elsevier Copyright © 2024 Canadian Diabetes Association. 1499-2671/© 2023 The Author(s). Published by Elsevier Inc. on behalf of Canadian Diabetes Association. This is an open access article distributed under the terms of the Creative Commons Attribution License CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

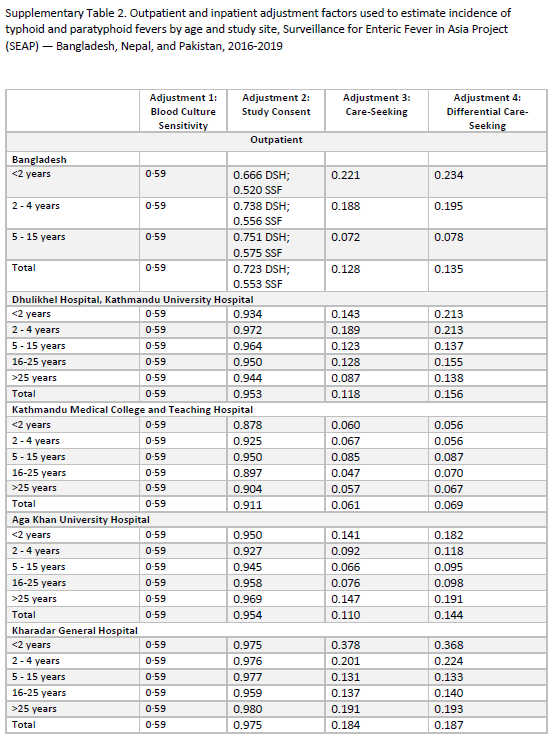
See Reference No. 29 on page 34 for citation of the source article.

## **23. Appendix**

**Item 23·1) Include methodological details relevant to interpretation that could not be included in the main manuscript**

**Example 1**

**Table as an example of reporting in the appendix the adjustment factors necessary to estimate** **incidence**



A screenshot of a table

Description automatically generated

This table is reprinted without modification from Supplementary Table 2, Garrett DO, Longley AT, Aiemjoy K, et al. Incidence of typhoid and paratyphoid fever in Bangladesh, Nepal, and Pakistan: results of the Surveillance for Enteric Fever in Asia Project. [The Lancet Global Health](https://www.thelancet.com/journals/langlo/home)2022; **10**(7): e978–e88. doi. [10.1016/S2214-109X(22)00119-X](https://doi.org/10.1016/S2214-109X(22)00119-X). Elsevier Ltd. Copyright © 2022 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>).

See Reference No. 35 on page 34 for citation of the source article.

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1. This face-to-face meeting was delayed due to COVID-19 pandemic and therefore not possible during TyVAC 1·0 lifespan. Thus, the meeting was held during, and funded through, TyVAC 2·0. [↑](#footnote-ref-1)