The STROBE reporting guideline writing guide

For writing impactful observational epidemiology research articles that can be understood and used by a wide audience.

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| Note |
| If you have not used a writing guide before, read about our suggested [writing process](https:/jamesrharwood.github.io/equator-guidelines-website/about/writing-using-reporting-guidelines.html).  This guide is not a template. Don’t expect to fill it in and end up with a finished article. Instead, think of it as an exercise book.   1. Collate information and make notes in this guide; 2. Delete the prompts and headings, reorganise your notes into a narrative structure, moving content to tables, figures, or appendices when appropriate, thereby creating a writing outline. 3. Draft, revise, and edit your text in a separate file, referring to your outline throughout.   Before you begin, double check that STROBE is the [most applicable reporting guideline](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/index.html?#applicability) for your work. Other reporting guidelines have their own writing guide.  The [UK EQUATOR Centre training](https:/jamesrharwood.github.io/equator-guidelines-website/training.html) helps researchers develop writing skills and to use reporting guidelines (like this one) to write research articles and applications that are complete, concise, and compelling. It covers many of the items of the STROBE reporting guideline, including how to prepare effective abstracts, titles, introduction and discussion sections, as well as how to use writing guides to create writing outlines, how to turn outlines into drafts, and drafts into polished text. |

# Title and abstract

## [1a. Indicate the study’s design](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/title-abstract-indicate-study-design.html)

|  |
| --- |
| Things To Consider |
| Indicate the study’s design with a commonly used term in the title or the abstract. |

* Make notes here:
* …
* …

## [1b. Abstract](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/abstract.html)

|  |
| --- |
| Things To Consider |
| Provide in the abstract an informative and balanced summary of what was done and what was found. |

* Make notes here:
* …
* …

# Introduction

## [2. Background / rationale](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/background-rationale.html)

|  |
| --- |
| Things To Consider |
| Explain the scientific background and rationale for the investigation being reported. |

* Make notes here:
* …
* …

## [3. Objectives](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/objectives.html)

|  |
| --- |
| Things To Consider |
| State specific objectives, including any prespecified hypotheses. |

* Make notes here:
* …
* …

# Methods

## [4. Study design](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/study-design.html)

|  |
| --- |
| Things To Consider |
| Present key elements of study design early in the paper. |

* Make notes here:
* …
* …

## [5. Setting](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/setting.html)

|  |
| --- |
| Things To Consider |
| Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection. |

* Make notes here:
* …
* …

## [6a. Eligibility criteria](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/eligibility-criteria.html)

|  |
| --- |
| Things To Consider |
| **Cohort study:** Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up. **Case-control study:** Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls. **Cross-sectional study:** Give the eligibility criteria, and the sources and methods of selection of participants. |

* Make notes here:
* …
* …

## [6b. Matching criteria](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/matching-criteria.html)

|  |
| --- |
| Things To Consider |
| **Cohort study:** For matched studies, give matching criteria and number of exposed and unexposed. **Case-control study:** For matched studies, give matching criteria and the number of controls per case. |

* Make notes here:
* …
* …

## [7. Variables](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/variables.html)

|  |
| --- |
| Things To Consider |
| Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable. |

* Make notes here:
* …
* …

## [8. Data sources / measurement](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/data-sources-measurement.html)

|  |
| --- |
| Things To Consider |
| For each variable of interest give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group. |

* Make notes here:
* …
* …

## [9. Bias](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/bias.html)

|  |
| --- |
| Things To Consider |
| Describe any efforts to address potential sources of bias. |

* Make notes here:
* …
* …

## [10. Study size](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/study-size.html)

|  |
| --- |
| Things To Consider |
| Explain how the study size was arrived at. |

* Make notes here:
* …
* …

## [11. Quantitative variables](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/quantitative-variables.html)

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| --- |
| Things To Consider |
| Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why. |

* Make notes here:
* …
* …

## [12a. Statistical methods](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/statistical-methods-description.html)

|  |
| --- |
| Things To Consider |
| Describe all statistical methods, including those used to control for confounding. |

* Make notes here:
* …
* …

## [12b. Statistical methods – subgroups and interactions](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/statistical-methods-subgroups-interactions.html)

|  |
| --- |
| Things To Consider |
| Describe any methods used to examine subgroups and interactions. |

* Make notes here:
* …
* …

## [12c. Statistical methods – missing data](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/statistical-methods-missing-data.html)

|  |
| --- |
| Things To Consider |
| Explain how missing data were addressed. |

* Make notes here:
* …
* …

## [12di. Statistical methods – loss to follow-up](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/statistical-methods-loss-to-follow-up.html)

|  |
| --- |
| Things To Consider |
| **Cohort study:** If applicable, describe how loss to follow-up was addressed. |

* Make notes here:
* …
* …

## [12dii. Statistical methods – matching cases and controls](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/statistical-methods-matching-cases-controls.html)

|  |
| --- |
| Things To Consider |
| **Case-control study:** If applicable, explain how matching of cases and controls was addressed. |

* Make notes here:
* …
* …

## [12diii. Statistical methods – sampling strategy](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/statistical-methods-analytical-methods-sampling-strategy.html)

|  |
| --- |
| Things To Consider |
| **Cross-sectional study:** If applicable, describe analytical methods taking account of sampling strategy. |

* Make notes here:
* …
* …

## [12e. Statistical methods – sensitivity analyses](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/statistical-methods-sensitivity-analyses.html)

|  |
| --- |
| Things To Consider |
| Describe any sensitivity analyses. |

* Make notes here:
* …
* …

# Results

## [13a. Participant numbers](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/participants-numbers.html)

|  |
| --- |
| Things To Consider |
| Report the numbers of individuals at each stage of the study—e.g., numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed; Consider use of a flow diagram. |

* Make notes here:
* …
* …

## [13b. Participants – non-participation](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/participants-non-participation.html)

|  |
| --- |
| Things To Consider |
| Give reasons for non-participation at each stage. |

* Make notes here:
* …
* …

## [13c. Participants – flow diagram](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/participants-flow-diagram.html)

|  |
| --- |
| Things To Consider |
| Consider use of a flow diagram. |

* Make notes here:
* …
* …

## [14a. Descriptive data – participant characteristics](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/descriptive-data-participant-characteristics.html)

|  |
| --- |
| Things To Consider |
| Give characteristics of study participants (e.g., demographic, clinical, social) and information on exposures and potential confounders. Present the information in a table. |

* Make notes here:
* …
* …

## [14b. Descriptive data – missing data](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/descriptive-data-missing-data.html)

|  |
| --- |
| Things To Consider |
| Indicate the number of participants with missing data for each variable of interest. |

* Make notes here:
* …
* …

## [14c. Descriptive data – follow-up time](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/descriptive-data-follow-up-time.html)

|  |
| --- |
| Things To Consider |
| **Cohort study:** Summarise follow-up time—e.g., average and total amount. |

* Make notes here:
* …
* …

## [15. Outcome data](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/outcome-data.html)

|  |
| --- |
| Things To Consider |
| **Cohort study:** Report numbers of outcome events or summary measures over time. **Case-control study:** Report numbers in each exposure category, or summary measures of exposure. **Cross-sectional study:** Report numbers of outcome events or summary measures. |

* Make notes here:
* …
* …

## [16a. Main results](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/main-results.html)

|  |
| --- |
| Things To Consider |
| Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence intervals). Make clear which confounders were adjusted for and why they were included. |

* Make notes here:
* …
* …

## [16b. Main results – category boundaries](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/main-results-category-boundaries.html)

|  |
| --- |
| Things To Consider |
| Report category boundaries when continuous variables were categorised. |

* Make notes here:
* …
* …

## [16c. Main results – risk](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/main-results-risk.html)

|  |
| --- |
| Things To Consider |
| If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period. |

* Make notes here:
* …
* …

## [17. Other analyses](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/other-analyses.html)

|  |
| --- |
| Things To Consider |
| Report other analyses done—e.g., analyses of subgroups and interactions, and sensitivity analyses. |

* Make notes here:
* …
* …

# Discussion

## [18. Key results](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/key-results.html)

|  |
| --- |
| Things To Consider |
| Summarise key results with reference to study objectives. |

* Make notes here:
* …
* …

## [19. Limitations](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/limitations.html)

|  |
| --- |
| Things To Consider |
| Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias. |

* Make notes here:
* …
* …

## [20. Interpretation](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/interpretation.html)

|  |
| --- |
| Things To Consider |
| Give a cautious overall interpretation considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence. |

* Make notes here:
* …
* …

## [21. Generalisability](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/generalisability.html)

|  |
| --- |
| Things To Consider |
| Discuss the generalisability (external validity) of the study results. |

* Make notes here:
* …
* …

# Other information

## [22. Funding](https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/items/funding.html)

|  |
| --- |
| Things To Consider |
| Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based. |

* Make notes here:
* …
* …

## How to cite

Describe how you used STROBE at the end of your Methods section, referencing the resources you used e.g.,

‘We used the STROBE reporting guideline(1) to draft this manuscript, and the STROBE reporting checklist(2) when editing, included in supplement A’

If you use a reporting checklist, remember to include it as a supplement when publishing so that readers can easily find information and see how you have interpreted the guidance.

1. Elm E von, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP, et al. The strengthening the reporting of observational studies in epidemiology (STROBE) statement: Guidelines for reporting observational studies. Annals of Internal Medicine [Internet]. 2007 Oct;147(8):573–7. Available from: <https://www.acpjournals.org/doi/10.7326/0003-4819-147-8-200710160-00010>

2. Elm E von, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP, et al. The STROBE reporting checklist. In: Harwood J, Albury C, Beyer J de, Schlüssel M, Collins G, editors. The EQUATOR network reporting guideline platform [Internet]. The UK EQUATOR Centre; 2025. Available from: [https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/strobe-checklist.docx](https://https:/jamesrharwood.github.io/equator-guidelines-website/guidelines/strobe/strobe-checklist.docx)