

Appendix 2

GATHER checklist of information that should be included in reports of global health estimates, with description of compliance and location of information for GBD 2017.

| # | GATHER checklist item | Description of compliance | Reference |
|---|---|--|--|
| Objectives and funding | | | |
| 1 | Define the indicators, populations, and time periods for which estimates were made. | Narrative provided in paper and appendix describing indicators, definitions, and populations | Main text (Methods) and appendix |
| 2 | List the funding sources for the work. | Funding sources listed in paper | Summary (Funding) |
| Data Inputs | | | |
| <i>For all data inputs from multiple sources that are synthesised as part of the study:</i> | | | |
| 3 | Describe how the data were identified and how the data were accessed. | Narrative description of data seeking methods provided | Main text (Methods) and appendix |
| 4 | Specify the inclusion and exclusion criteria. Identify all ad-hoc exclusions. | Narrative about inclusion and exclusion criteria by data type provided; ad hoc exclusions in cause-specific write-ups | Main text (Methods) and appendix |
| 5 | Provide information on all included data sources and their main characteristics. For each data source used, report reference information or contact name/institution, population represented, data collection method, year(s) of data collection, sex and age range, diagnostic criteria or measurement method, and sample size, as relevant. | An interactive, online data source tool that provides metadata for data sources by component, geography, cause, risk, or impairment has been developed | Online data citation tools: http://ghdx.healthdata.org/gbd-2017 |
| 6 | Identify and describe any categories of input data that have potentially important biases (e.g., based on characteristics listed in item 5). | Summary of known biases by cause included in appendix | Appendix |
| <i>For data inputs that contribute to the analysis but were not synthesised as part of the study:</i> | | | |
| 7 | Describe and give sources for any other data inputs. | Included in online data source tool | http://ghdx.healthdata.org/gbd-2017 |
| <i>For all data inputs:</i> | | | |
| 8 | Provide all data inputs in a file format from which data can be efficiently extracted (e.g., a spreadsheet as opposed to a PDF), including all relevant meta-data listed in item 5. For any data inputs that cannot be shared due to ethical or legal reasons, such as third-party ownership, provide a contact name or the name of the institution that retains the right to the data. | Downloads of input data available through online tools, including data visualisation tools and data query tools; input data not available in tools will be made available upon request | Online data visualisation tools, data query tools, and the Global Health Data Exchange |
| Data analysis | | | |

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|-------------------------------|---|---|--|
| 9 | Provide a conceptual overview of the data analysis method. A diagram may be helpful. | Flow diagrams of the overall methodological processes, as well as cause-specific modelling processes, have been provided | Main text (Methods) and appendix |
| 10 | Provide a detailed description of all steps of the analysis, including mathematical formulae. This description should cover, as relevant, data cleaning, data pre-processing, data adjustments and weighting of data sources, and mathematical or statistical model(s). | Flow diagrams and corresponding methodological write-ups for each cause, as well as the databases and modelling processes, have been provided | Main text (Methods) and appendix |
| 11 | Describe how candidate models were evaluated and how the final model(s) were selected. | Provided in the methodological write-ups | Appendix |
| 12 | Provide the results of an evaluation of model performance, if done, as well as the results of any relevant sensitivity analysis. | Provided in the methodological write-ups | Appendix |
| 13 | Describe methods for calculating uncertainty of the estimates. State which sources of uncertainty were, and were not, accounted for in the uncertainty analysis. | Appendix | Appendix |
| 14 | State how analytic or statistical source code used to generate estimates can be accessed. | Appendix | http://ghdx.healthdata.org/ghd-2017/code |
| Results and Discussion | | | |
| 15 | Provide published estimates in a file format from which data can be efficiently extracted. | GBD 2017 results are available through online data visualisation tools, the Global Health Data Exchange, and the online data query tool | Main text, and online data tools (data visualisation tools, data query tools, and the Global Health Data Exchange) |
| 16 | Report a quantitative measure of the uncertainty of the estimates (e.g. uncertainty intervals). | Uncertainty intervals are provided with all results | Main text, appendix, and online data tools (data visualisation tools, data query tools, and the Global Health Data Exchange) |
| 17 | Interpret results in light of existing evidence. If updating a previous set of estimates, describe the reasons for changes in estimates. | Discussion of methodological changes between GBD rounds provided in the narrative of the manuscript and appendix | Main text (Methods and Discussion) and appendix |
| 18 | Discuss limitations of the estimates. Include a discussion of any modelling assumptions or data limitations that affect interpretation of the estimates. | Discussion of limitations provided in the narrative of the main paper, as well as in the methodological write-ups in the appendix | Main text (Limitations) and appendix |