# TRIPOD+AI Reporting Checklist

## Machine Learning Prediction of Multidimensional Treatment Response in Type 2 Diabetes: An Internally Validated Observational Study

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Locations refer to the numbered sections and named declarations in the accompanying article and to Appendix 1. All 52 subitems are mapped; incomplete reporting and unavailable information are explicitly identified.

Source: Collins et al., BMJ 2024;385:e078378. Official TRIPOD+AI supplement.

| Item | Topic | Status | Location / remaining information |
|---|---|---|---|
| 1 | Title | Reported | Title / Abstract |
| 2 | Abstract | Reported | Title / Abstract |
| 3a | Context | Reported | Section 1. Introduction and Study Objective |
| 3b | Purpose | Reported | Section 1. Introduction and Study Objective |
| 3c | Inequalities | Not reported | Health inequalities not examined. |
| 4 | Objectives | Reported | Section 1. Introduction and Study Objective |
| 5a | Sources | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 5b | Dates | Partial | Years supplied; exact dates unavailable. |
| 6a | Setting | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 6b | Eligibility | Partial | Analytical inclusion described; pre-source eligibility denominator unavailable. |
| 6c | Treatments | Partial | Index treatment timing supplied; doses and later changes unavailable. |
| 7 | Preparation | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 8a | Outcomes | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 8b | Assessors | Not applicable | Continuous routine clinical measurements; no subjective outcome adjudication. |
| 8c | Blinding | Not reported | Routine-care assessor blinding not documented. |
| 9a | Selection | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 9b | Predictors | Partial | Clinical set defined; full category dictionary and measurement/blinding details incomplete. |
| 9c | Assessors | Partial | Historical diagnoses are not independently adjudicated; assessor details unavailable. |
| 10 | Sample size | Partial | All available records; no formal sample-size justification. |
| 11 | Missingness | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 12a | Partitions | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 12b | Transformations | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 12c | Modelling | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 12d | Heterogeneity | Not applicable | Single-centre development/internal validation with continuous outcomes; no external updating or classification resampling. |
| 12e | Metrics | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 12f | Updating | Not applicable | Single-centre development/internal validation with continuous outcomes; no external updating or classification resampling. |
| 12g | Predictions | Not applicable | Single-centre development/internal validation with continuous outcomes; no external updating or classification resampling. |
| 13 | Imbalance | Not applicable | Single-centre development/internal validation with continuous outcomes; no external updating or classification resampling. |

| Item | Topic | Status | Location / remaining information |
|---|---|---|---|
| 14 | Fairness | Not reported | No subgroup fairness evaluation documented. |
| 15 | Output | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 16 | Dataset differences | Reported | Sections 2.1–2.3 (Methods); Appendix 1 |
| 17 | Ethics | Reported | Ethics Approval and Informed Consent |
| 18a | Funding | Reported | Funding |
| 18b | Conflicts | Reported | Conflicts of Interest |
| 18c | Protocol | Partial | Ethics-approved protocol cited; access route not supplied. |
| 18d | Registration | Partial | No prospective analytic registration stated; registry status not explicitly supplied. |
| 18e | Data access | Reported | Data and Code Availability; authors' submission disclosure: participant-level data are not shared publicly or supplied as peer-review supplements. |
| 18f | Code access | Reported | Supplementary Code 1: three executable analysis programs, dependency versions and execution instructions; no participant data included. |
| 19 | Involvement | Not documented | Patient/public involvement was not documented in available study information; no unconfirmed statement added. |
| 20a | Flow | Partial | Figure 1: analytical flow only; original eligibility and attrition not recoverable. |
| 20b | Characteristics | Partial | Table 1 gives regimen summaries; overall complete predictor summary and demographic comparisons incomplete. |
| 20c | Dataset comparison | Not applicable | Single-centre development/internal validation with continuous outcomes; no external updating or classification resampling. |
| 21 | Analysis sizes | Reported | Section 2.3. Statistical Analysis; Appendix 1, Partition sizes: outer training/test and inner tuning counts. |
| 22 | Model access | Partial | Appendix 1 and Supplementary Code 1 provide reproducible model-building procedures; no single final deployable fitted model supplied. |
| 23a | Performance | Partial | Tables 3–6 and Figures 2–3: MAE intervals and descriptive calibration; no subgroup performance, $R^2$ intervals or patient-level calibration plot. |
| 23b | Heterogeneity | Not applicable | Single-centre development/internal validation with continuous outcomes; no external updating or classification resampling. |
| 24 | Updating | Not applicable | Single-centre development/internal validation with continuous outcomes; no external updating or classification resampling. |
| 25 | Interpretation | Reported | Section 4. Discussion; Section 5. Conclusion |
| 26 | Limitations | Reported | Section 4.6. Limitations |
| 27a | Input quality | Partial | No deployed strategy for missing or poor-quality inputs evaluated. |
| 27b | User expertise | Partial | Clinical deployment is not proposed; user workflow not evaluated. |
| 27c | Future work | Reported | Section 4.5. Validation and Future Evaluation; Section 5. Conclusion |