

Table 1 The MI-CLAIM checklist

From: [Minimum information about clinical artificial intelligence modeling: the MI-CLAIM checklist](#)

Before paper submission			
Study design (Part 1)	Completed: page number		Notes if not completed
The clinical problem in which the model will be employed is clearly detailed in the paper.	4		
The research question is clearly stated.	4		
The characteristics of the cohorts (training and test sets) are detailed in the text.	19,20, supp. table 1		
The cohorts (training and test sets) are shown to be representative of real-world clinical settings.	19-20		
The state-of-the-art solution used as a baseline for comparison has been identified and detailed.	3,20-22		
Data and optimization (Parts 2, 3)	Completed: page number		Notes if not completed
The origin of the data is described and the original format is detailed in the paper.	16, 19		
Transformations of the data before it is applied to the proposed model are described.	21-23		
The independence between training and test sets has been proven in the paper.	6-7		
Details on the models that were evaluated and the code developed to select the best model are provided.	21-23		
Is the input data type structured or unstructured?	☐ Structured ☐ Unstructured		
Both structured and unstructured			

Before paper submission		
Study design (Part 1)	Completed: page number	Notes if not completed
Model performance (Part 4)	Completed: page number	Notes if not completed
The primary metric selected to evaluate algorithm performance (e.g., AUC, F-score, etc.), including the justification for selection, has been clearly stated.	5-6, 21-22, 25	
The primary metric selected to evaluate the clinical utility of the model (e.g., PPV, NNT, etc.), including the justification for selection, has been clearly stated.	5-6, ext. data fig. 2	
The performance comparison between baseline and proposed model is presented with the appropriate statistical significance.	25-26	
Model examination (Part 5)	Completed: page number	Notes if not completed
Examination technique 1 ^a	Extended Fig. 9	
Examination technique 2 ^a	Fig. 4, extended	Fig. 4
A discussion of the relevance of the examination results with respect to model/algorithm performance is presented.	5-6, Fig. 2	
A discussion of the feasibility and significance of model interpretability at the case level if examination methods are uninterpretable is presented.	7, ext. fig. 4	
A discussion of the reliability and robustness of the model as the underlying data distribution shifts is included.	6-7, ext. fig. 10	
Reproducibility (Part 6): choose appropriate tier of transparency		Notes
Tier 1: complete sharing of the code	☐	
Tier 2: allow a third party to evaluate the code for accuracy/fairness; share the results of this evaluation	☐	
Tier 3: release of a virtual machine (binary) for running the code on new data without sharing its details	26-27	
Tier 4: no sharing	☐	

1. PPV, positive predictive value; NNT, numbers needed to treat.

2. ^aCommon examination approaches based on study type: for studies involving exclusively structured data, coefficients and sensitivity analysis are often appropriate; for studies involving unstructured data in the domains of image analysis or natural language processing, saliency maps (or equivalents) and sensitivity analyses are often appropriate.

[Back to article page](#) >

Nature Medicine (*Nat Med*) ISSN 1546-170X (online) ISSN 1078-8956 (print)

© 2021 Springer Nature Limited