

King, Yoon, Bredl et al.

VACO Index prediction of short-term COVID-19 mortality

TRIPOD Checklist

Section/Topic		Checklist Item	Page
Title and abstract			
Title	1	Identify the study as developing and/or validating a multivariable prediction model, the target population, and the outcome to be predicted.	Title Page
Abstract	2	Provide a summary of objectives, study design, setting, participants, sample size, predictors, outcome, statistical analysis, results, and conclusions.	Abstract
Introduction			
Background and objectives	3a	Explain the medical context (including whether diagnostic or prognostic) and rationale for developing or validating the multivariable prediction model, including references to existing models.	Introduction, paragraphs 1-3
	3b	Specify the objectives, including whether the study describes the development or validation of the model or both.	Introduction, paragraph 3
Methods			
Source of data	4a	Describe the study design or source of data (e.g., randomized trial, cohort, or registry data), separately for the development and validation data sets, if applicable.	Methods, data source and participants
	4b	Specify the key study dates, including start of accrual; end of accrual; and, if applicable, end of follow-up.	Methods, data source and participants
Participants	5a	Specify key elements of the study setting (e.g., primary care, secondary care, general population) including number and location of centers.	Methods, data source and participants
	5b	Describe eligibility criteria for participants.	Methods, data source and participants
	5c	Give details of treatments received, if relevant.	N/A
Outcome	6a	Clearly define the outcome that is predicted by the prediction model, including how and when assessed.	Methods, data source and participants
	6b	Report any actions to blind assessment of the outcome to be predicted.	N/A
Predictors	7a	Clearly define all predictors used in developing or validating the multivariable prediction model, including how and when they were measured.	Methods, VACO Index components
	7b	Report any actions to blind assessment of predictors for the outcome and other predictors.	N/A
Sample size	8	Explain how the study size was arrived at.	Methods, data source and participants
Missing data	9	Describe how missing data were handled (e.g., complete-case analysis, single imputation, multiple imputation) with details of any imputation method.	Methods, statistical analysis
Statistical analysis methods	10c	For validation, describe how the predictions were calculated.	Methods, statistical analysis
	10d	Specify all measures used to assess model performance and, if relevant, to compare multiple models.	Methods, statistical analysis
	10e	Describe any model updating (e.g., recalibration) arising from the validation, if done.	Methods, statistical analysis
Risk groups	11	Provide details on how risk groups were created, if done.	Methods, statistical analysis
Development vs. validation	12	For validation, identify any differences from the development data in setting, eligibility criteria, outcome, and predictors.	Methods, data source and participants
Results			
Participants	13a	Describe the flow of participants through the study, including the number of participants with and without the outcome and, if applicable, a summary of the follow-up time. A diagram may be helpful.	Results, participants
	13b	Describe the characteristics of the participants (basic demographics, clinical features, available predictors), including the number of participants with missing data for predictors and outcome.	Results, participants

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	13c	For validation, show a comparison with the development data of the distribution of important variables (demographics, predictors and outcome).	Results, participants; Supplement 1
Model performance	16	Report performance measures (with CIs) for the prediction model.	Results, performance in YNHH and Medicare cohorts
Model-updating	17	If done, report the results from any model updating (i.e., model specification, model performance).	Results, VACO Index supplemented with race and BMI
Discussion			
Limitations	18	Discuss any limitations of the study (such as nonrepresentative sample, few events per predictor, missing data).	Discussion, limitations
Interpretation	19a	For validation, discuss the results with reference to performance in the development data, and any other validation data.	Discussion, paragraphs 1-2
	19b	Give an overall interpretation of the results, considering objectives, limitations, results from similar studies, and other relevant evidence.	Discussion, paragraphs 1-8
Implications	20	Discuss the potential clinical use of the model and implications for future research.	Discussion, paragraphs 3, 6
Other information			
Supplementary information	21	Provide information about the availability of supplementary resources, such as study protocol, Web calculator, and data sets.	Introduction, paragraph 2; Discussion, paragraph 3
Funding	22	Give the source of funding and the role of the funders for the present study.	Funding