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PEER-REVIEW REPORT

Name of journal: World Journal of Critical Care Medicine

Manuscript NO: 48371

Title: Machine learning in data abstraction: A computable phenotype for sepsis and septic shock diagnosis in the intensive care unit

Reviewer's code: 02454185

Position: Editorial Board

Academic degree: BSc, MSc

Professional title: Doctor

Reviewer's country: China

Author's country: United States

Reviewer chosen by: Jin-Lei Wang

Reviewer accepted review: 2019-07-24 01:13

Reviewer performed review: 2019-07-24 01:57

Review time: 1 Hour

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

This is a potentially interesting article addressing the phenotypes of sepsis. However, there are major concerns with the reporting. 1. The study appeared confusing on the machine learning method. they did not describe how machine learning method was done. specifically, they need to describe which machine learning method did they use, neural network, unsupervised learning or others. 2. the definition of sepsis 1 and 2: "Sepsis 1 and 2 was defined as blood culture and any culture drawn within 72 hours of ICU admission and SOFA score ≥ 2 on any ICU admission days 1-7 respectively. "; does not make sense. what did you intend to do by identifying two phenotypes of sepsis? 3. there are many studies (Crit Care. 2018 Dec 18;22(1):347. doi: 10.1186/s13054-018-2279-3. J Crit Care. 2018 Oct;47:70-79. doi: 10.1016/j.jcrc.2018.06.012. Am J Respir Crit Care Med. 2019 Feb 21. doi: 10.1164/rccm.201806-1197OC.) exploring the phenotypes of sepsis, but the present study did not use the appropriate method for doing so. cite these articles and describe how can the present study add to the literature. 4. "In the initial derivation cohort, the machine learning model achieved a sensitivity of 100% for sepsis "--from this sentence it appeared that the authors intended to use machine learning to predict/diagnose sepsis; however, the study cohort all had sepsis at enrollment. It is very unclear what is the target population in this study. The study population subheading needs to be expanded, eligibility criteria should be clearly specified. 5. what is the rationale to use equal sample size for derivation and validation cohort?

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
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- ☐ No



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