

Correspondence

Response to: Looking for clinician involvement under the wrong lamp post: the need for collaboration measures

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Dear *JAMIA* Editors and Readers:

We appreciate the critiques that Dr. Sendak and colleagues have brought forward regarding our scoping review of clinician involvement in predictive CDSS design.¹ In their letter, Sendak and colleagues argue that our review too narrowly defined clinician involvement and that relationships established between clinician leaders, often coauthors on manuscripts, and other research team members is a valuable form of clinician involvement not adequately captured in our review.² We recognize and agree that we should have more prominently highlighted the possibility that clinically affiliated coauthors' contributions may have represented clinician involvement in one of the ways we charted or in a different relationship-oriented way that is also important for predictive CDSS success. We also should have consistently referred to our results finding that involvement is not widely *reported* instead of not widely *practiced*.

We also acknowledge that reaching out to authors to gather information about clinician involvement, as Sendak et al propose, would have further strengthened our review. Yet, we argue that explicitly stating clinician involvement in each manuscript is key to scientific rigor. This goes the same for inferring that clinically affiliated coauthors were involved as clinician experts. Activities and tasks completed as part of, and to inform, the study should be stated for readers to appraise and replicate, rather than relying on assumptions.

We would also like to respond to a mischaracterization of our review. The authors state that 3 of their research publications^{3–5} were excluded from our review, implying this is a result of our criteria. However, the 3 publications were published in 2020, months after our search concluded in October 2019, which we stated in our man-

uscript. They could not possibly have been included given the timing of our search, therefore the authors' implication that our eligibility criteria were too narrow to include their publications is a mischaracterization. We suggested that another review be conducted in the future to illuminate progression on the topic. If done, that review would certainly include Sendak et al's 3 articles published in 2020.^{3–5}

Furthermore, while we provided an example of wording used that, to our team, indicated clinicians were involved, this is simply an example and not intended to imply restrictive language. As a scoping review is intended for studying a topic with potentially wide-ranging characteristics,^{6,7} we intentionally took a broad approach to defining clinician involvement. After reading Sendak et al's 3 2020 publications,^{3–5} these certainly would have been categorized as involving clinicians.

We wholeheartedly agree with Sendak et al, that standardized measures and reporting of clinician involvement should be developed and practiced and that those should include relationships established between clinical experts, machine learning experts, and integration leaders. Yet, we argue that such relationships cannot replace the expertise provided by currently practicing end-user clinicians. For example, clinical coauthors may be experts in their field and establish valuable relationships between clinical and data science teams, yet if 100% of their time is dedicated to research and/or leadership, they cannot provide the same expertise that a practicing end-user clinician can provide. Our understanding is that this point of view is in fact consistent with a recent perspective piece on which Dr. Sendak is a coauthor⁸: interdisciplinary teams best consist of stakeholders from 3 categories—knowledge experts, decision-makers, and users; and it is clear that Sepsis Watch was developed

with stakeholders from each category.³ In the absence of explicit language about clinician involvement, it may be ambiguous to most readers whether clinically affiliated coauthors functioned as knowledge experts, decision-makers, or users.

We appreciate the enthusiasm for this topic and are hopeful that discussions such as these will further awareness of the importance of clinician involvement and its practice, as well as the development of consistent reporting criteria, as predictive CDSS research and design proliferates.

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AUTHOR CONTRIBUTIONS

JMS and KDC conceptualized the correspondence. JMS wrote the initial draft. SCR, NE, AM, and KDC provided feedback and revisions.

DATA AVAILABILITY STATEMENT

No new data were generated or analyzed for this correspondence.

CONFLICT OF INTEREST STATEMENT

None declared.

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