Reconsidering What Is Vital About Vital Signs in Electronic Health Records: Comment on Matthews et al. (2016)

David M. Condon,
Department of Medical Social Sciences, Northwestern University Feinberg School of Medicine

Sara J. Weston,
Department of Psychology, Washington University

Patrick L. Hill
Department of Psychology, Washington University

Abstract

The inclusion of psychosocial variables into electronic health records provides a unique opportunity for the translation of findings from social, psychological, and behavioral domains into patient care. This commentary is a response to the recommendations of a committee convened by the Institute of Medicine to address this opportunity (Matthews, Adler, Forrest, & Stead, 2016). We concur with the committee that the inclusion of psychosocial variables in electronic health records will broadly benefit researchers, practitioners, and patients and that there is clear need for a recommended panel of psychosocial measures that is ready for implementation in clinical settings. In fact, it seems likely that these recommendations will have lasting consequences. Given this, our response highlights several concerns about the recommendations and criteria. We suggest further clarification of the audience for these recommendations, reconsideration of the overly restrictive inclusion criteria, and more extensive engagement of psychosocial researchers to achieve broader consensus.

Keywords

psychosocial determinants of health; electronic health records; personality

Predicting health outcomes using psychosocial variables has been a central concern for health and personality psychologists for years; however, questions frequently arise about the feasible application of these findings. For instance, the evidence that various features of personality predict healthier living has proven challenging to translate into guidance for health care professionals. In this vein, we were heartened by the work of Matthews, Adler, Forrest, and Stead (2016) describing a pathway to integration—namely, the incorporation of psychosocial variables into electronic health records (EHRs). The authors claim that the increasing use of EHRs in clinical settings poses a unique opportunity for the integration of findings from social, psychological, and behavioral domains into patient care. Their

Correspondence concerning this article should be addressed to David M. Condon, Department of Medical Social Sciences, Northwestern University Feinberg School of Medicine, 633 North Saint Clair Street, 19th Floor, Chicago, IL 60611. david-condon@northwestern.edu.

rationale is compelling. In the wake of the Affordable Care Act and increasing evidence that the United States suffers from a higher prevalence of major health disorders than other high-income countries, health systems are now more focused on psychosocial and behavioral determinants of health than ever before. Matthews et al. then describe the recommendations of an Institute of Medicine committee that was convened to address this opportunity. In this regard, they set forth an uncertain foundation for including (or excluding) psychosocial variables in EHRs that merits reconsideration.

To begin, further clarification of the target audience is needed before we can even evaluate the Institute of Medicine committee's recommendations and the criteria used to reach them. The use of terms like *inclusion* and *exclusion* suggests that these recommendations may be intended to preclude the addition of some (perhaps even most) psychosocial measures in EHR systems. Given the technical ease of adding variables for data collection in an EHR system, the marginal cost of adding measures is low. In fact, it seems more logical to advocate for the inclusion/addition of a wide array of psychosocial measures to give researchers and clinicians greater flexibility in data collection. If the committee's recommendations were intended as guides for administration by clinicians and researchers (as we suspect), then we would argue that the decision criteria for selecting measures should be chosen by the clinicians and researchers collecting the data. While recommendations about the relative utility of various measures are invaluable, researchers should use their own discretion and their choices should not be unduly restricted.

As for the recommendations themselves, we urge caution before declaring that specific constructs are unfit for use, especially in the absence of broader input (and consensus) around the criteria. For example, it is not clear why the committee felt compelled to address the "question of what specific social, psychological, and behavioral measures should be uniformly captured in current EHRs" (Matthews et al., 2016, p. 499) without regard for variability in patient circumstances and/or the aims of the supervising health care professional(s). The universal administration of some measures seems in conflict with the practical realities of limited clinician time and patients' desire for personalized care. The administration of items that are irrelevant (and possibly disturbing) to some patients is inefficient and may even preclude the assessment of alternate constructs. This issue is particularly discriminatory against measures that are relevant only for narrowly defined health contexts or specific populations. As evidence, consider how personality traits predict disease onset differentially across conditions (Weston, Hill, & Jackson, 2014). Despite the wealth of evidence in support of personality as a predictor of health (e.g., Hampson, 2012), this differential predictive value might singlehandedly eliminate personality traits from future inclusion.

In addition to these concerns, Matthews et al. (2016) suggest that any construct must be "actionable" in nature to merit inclusion in EHRs. Specifically, they suggest that it would prove uninformative to assess any psychosocial construct that proves difficult to modify, providing conscientiousness as an example. Setting aside recent evidence that this trait is often modified in relatively brief interventions (Roberts et al., 2017), one can easily counter this suggestion by returning to Matthews et al.'s (2016) first criteria—usefulness. Why fail to include constructs that have been readily shown to predict health consequences, based

solely on their difficulty to be modified? While we cannot modify biological sex or race and ethnicity, health care professionals readily employ this valuable information to understand disease susceptibility and how best to personalize health care. By simply knowing patients' scores on variables like conscientiousness (Molloy, O'Carroll, & Ferguson, 2014), professionals can identify which patients are least likely to adhere to treatments and tailor treatment plans for those individuals. In this respect, the construct may even become more valuable to include in EHRs based on its relative (rank order) stability.

In broader terms, the exclusion of measures is consequential because the translation of basic science into real world applications depends upon empirical data. If EHRs are the future of large-scale data collection in clinical settings (and we concur with the authors on this point), then the exclusion of some constructs from EHR systems will limit the scope of translation. By contrast, the inclusion of a wide range measures—even if most of these are only administered occasionally—would increase the pace of translation by increasing the likelihood of discovery. From a patient perspective, the universal administration of 11 items about stress (one item), depression (two items), social connectedness (four items) and intimate partner violence (four items) will often fail to account for person- and situation-specific factors. This is at odds with recent calls to develop more personalized medicine and greater patient engagement. These endeavors require a patient-centered approach to measurement that captures the views, unique characteristics, and needs of each patient.

In sum, we fully agree with the authors that the inclusion of psychosocial variables into EHRs benefits researchers, practitioners, and patients alike. We also acknowledge the merits of having a recommended panel of psychosocial measures for use in clinical settings. However, these recommendations are likely to have broad and lasting consequences. We suggest further clarification of the audience for these recommendations, reconsideration of the overly restrictive inclusion criteria, and more extensive engagement of clinicians and psychosocial researchers to achieve broader consensus.

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