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PATIENT SAFETY NETWORK

The effectiveness of electronic differential diagnoses (DDX) generators: a systematic review and meta-analysis.

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Riches N, Panagioti M, Alam R, et al. The Effectiveness of Electronic Differential Diagnoses (DDX) Generators: A Systematic Review and Meta-Analysis. PLoS One. 2016;11(3):e0148991. doi:10.1371/journal.pone.0148991.
https://psnet.ahrq.gov/issue/effectiveness-electronic-differential-diagnoses-ddx-generators-systematic-review-and-meta

Despite increasing focus on diagnostic error, it remains a controversial patient safety issue. The Institute of Medicine recently suggested that further research is needed regarding electronic tools to improve diagnosis. Differential diagnosis generators provide a list of possible diagnoses for a problem. The investigators conducted a systematic review and found that differential diagnosis generators have been shown to improve diagnostic accuracy when a clinician has an opportunity to re-review the case using the software in pre-post studies. The degree of improvement varied between studies. The effect on actual clinician behaviors—such as test ordering, clinical outcomes, and cost—is unclear. Clinicians need prospective studies in order to determine whether such tools enhance diagnosis in actual practice. A recent PSNet perspective discussed future research avenues to ensure progress in diagnostic safety.