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Improving EHR Usability Using LEAN Methodology

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Abstract. Electronic health record (EHR) usability concerns continue to reduce EHR effectiveness. LEAN methodology, which focuses on waste elimination, may provide an effective method to address efficiency related usability deficiencies. We aimed to improve the usability of an inpatient seclusion and restraint (SR) EHR module using LEAN methodology. A multidisciplinary team convened to evaluate and redesign clinical and technological SR workflows using LEAN techniques, including process mapping and time-series analyses. SR module modifications addressed 40 of the 60 efficiency related usability deficiencies identified in the initial SR module. Usability enhancements included elimination of 10 nonessential inputs, 21 redundancies, and nine overhead functions. Process steps were reduced from 74 to 47. Improving EHR usability is critical to assure safe, effective, and efficient care[1]. We demonstrated that LEAN methodology is an effective method to address efficiency related EHR usability deficiencies. More research is needed to determine how these improvements impact care quality.

Keywords. Usability, EHRs, problems in EHRs, simplifying workflow, quality improvement

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