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Appendix: Content Summaries of Selected Best Papers for the 2023 IMIA Yearbook, Decision Support Section

McCoy AB, Russo EM, Johnson KB, Addison B, Patel N, Wanderer JP, Mize DE, Jackson JG, Reese TJ, Littlejohn S, Patterson L, French T, Preston D, Rosenbury A, Valdez C, Nelson SC, Aher CV, Alrifai MW, Andrews J, Cobb C, Horst SN, Johnson DP, Knake LA, Lewis AA, Parks L, Parr SK, Patel P, Patterson BL, Smith CM, Suszter KD, Turer RW, Wilcox LJ, Wright AP, Wright A

Clinician collaboration to improve clinical decision support: the Clickbusters initiative

J Am Med Inform Assoc 2022 May 11;29(6):1050-9

The objective of the Clickbusters initiative, a single site study implemented at Vanderbilt University Medical Center (VUMC), was to optimize clinical decision support (CDS) alerts to enhance safety and care quality and to reduce clinician burnout. The authors developed a 10-step "clickbusting" process that included a training program, CDS alert inventory, oversight process, and incentives for participants. Two rounds of the Clickbusters program were conducted over a span of three months each and included a total of 24 participants who analyzed a total of 84 CDS alerts, leading to a modest reduction in the number of weekly alert firings. Additionally, the initiative increased engagement and participation of a diverse range of users in evaluation and optimization of CDS alerts, resulting in a culture of continuous improvement and enhancement of clinical content within electronic health record systems.

Ramaswamy P, Shah A, Kothari R, Schloemerkemper N, Methangkool E, Aleck A,Shapiro A, Dayal R, Young C, Spinner J, Deibler C, Wang K, Robinowitz D, Gandhi S

An Accessible Clinical Decision Support System to Curtail Anesthetic Greenhouse Gases in a Large Health Network: Implementation Study

JMIR Perioper Med 2022 Dec 8;5(1):e40831

This work addresses the environmental impact of inhaled anesthetics in healthcare facilities and presents a real-time clinical decision support (CDS) system aimed at reducing anesthetic gas waste. The study focuses on the implementation of the Fresh Gas Flow (FGF) CDS toolkit developed at the University of California San Francisco (UCSF) and its subsequent adoption at other medical campuses within the University of California Health network. The FGF CDS system was designed to alert anesthesia professionals when FGF rates exceeded 0.7 L per minute for common volatile anesthetics. The implementation process involved documentation and assembly of an informational toolkit to aid integration of the CDS system at other healthcare institutions. Educational and outreach presentations were utilized to disseminate information about the safety and environmental sustainability of low FGF use before implementation. The FGF CDS system was successfully deployed at five University of California Health network campuses, including four independent institutions. Each campus made modifications to the CDS tool to suit their specific needs, highlighting the adaptability of the technology and implementation framework described in the toolkit. The toolkit encompassed sustainability-focused education for anesthesia professionals, hardware integration, software build of the CDS system, and data reporting of measured outcomes. Overall, the implementation and transferability of the FGF CDS system using the toolkit demonstrated a reduction in anesthetic gas waste, leading to environmental and financial benefits.

Chong AZ, Lee B, Hollenbach K, Kuelbs CL

Disappearing Help Text: Implementing a Note-Based Tool for In-Line Clinical Decision Support and Note Bloat Reduction

Appl Clin Inform 2022;13(5):1033-9

This work sought to address the challenges of lengthy notes and poor note readability in electronic health records (EHRs) by creating an unobtrusive clinical decision support (CDS) tool named "disappearing help text." The tool was designed to provide in-line decision support on best documentation practices, note bloat reduction, billing compliance, and provider workflow enhancement of note templates in a pediatric hospital medicine setting. The authors implemented this tool in the EHR system and evaluated its impact on note quality, note length, and usage of automatic import of information from other parts of the EHR into notes. The study found that the median progress note length decreased by 18.7% and the median admission note length decreased by 6.4% after help text implementation. The authors also observed a decrease in the average number of coding queries sent to attendings and high pass rates on internal billing compliance audits. Overall, the study suggests that the "disappearing help text" tool can be an effective solution to the challenges of lengthy notes and poor note readability in EHRs, while also decreasing provider stress and burnout due to documentation burden.