reassuring the reliability of AI. Furthermore, AI applications significantly improved biomarker identification through machine learning algorithms, enhancing prognostic accuracy and treatment personalization. Moreover, AI showed enhanced diagnostic precision with high sensitivity and specificity in cancer detection, further validating its role in healthcare. AI-driven risk stratification was used in chemotherapy decisions. DISCUSSION/SIGNIFICANCE OF IMPACT: This study highlights the transformative power of AI in translational oncology research with applications in drug development and personalized patient care in cancer treatment and research.

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Validation of an artificial intelligence Algorithm for predicting diagnosis-related groups in a community health system†

Angela Muhanga[1], Jason King[2], Jennifer L. Mueller[1], Julie M. Sanger[1], Brian N. Bartlett[1], James W. Manz[1], Matthew J. Spiten[1], Shauna M. Overgaard[1] and Hanyin Wang[1]
[1]Mayo Clinic and [2]Xsolis, Inc.

OBJECTIVES/GOALS: This study aims to evaluate the performance of a third-party artificial intelligence (AI) product in predicting diagnosis-related groups (DRGs) in a community healthcare system. We highlight a use case illustrating how clinical practice leverages AI-predicted information in unexpected yet advantageous ways and assess the AI predictions accuracy and practical application. METHODS/STUDY POPULATION: DRGs are crucial for hospital reimbursement under the prospective payment model. The Mayo Clinic Health System (MCHS), a network of clinics and hospitals serving a substantial rural population in Minnesota and Wisconsin, has recently adopted an AI algorithm developed by Xsolis (an AI-focused healthcare solution provider). This algorithm, a 1D convolutional neural network, predicts DRGs based on clinical documentation. To assess the accuracy of AI-generated DRG predictions for inpatient discharges, we analyzed data from 930 patients hospitalized at MCHS Mankato between March 2 and May 13, 2024. The Xsolis platform provided the top three DRG predictions for the first 48 hours of each inpatient stay. The accuracy of these predictions was then compared against the final billed DRG codes from the hospital's records. RESULTS/ANTICIPATED RESULTS: In our validation set, Xsolis achieved a top-3 DRG prediction accuracy of 71% at 24 hours and 81% at 48 hours, which is lower than the originally reported accuracy of 81.1% and 83.3%, respectively. Interestingly, discussions with clinical practice leaders revealed that the most valuable information derived from the AI predictions was the expected geometric mean length of stay (GMLOS), which Xsolis was perceived to predict accurately. In the Medicare system, each DRG is associated with an expected GMLOS, a critical factor for efficient hospital flow planning. A subsequent analysis comparing predicted GMLOS with the actual length of stay showed variances of -0.10 days on day 1 and 0.14 days on day 2, indicating a high degree of accuracy and aligning with clinical practice perceptions. DISCUSSION/SIGNIFICANCE OF IMPACT: Our research underscores that clinical practice can leverage AI predictions in unexpected yet beneficial ways. While initially focused on DRG prediction, the associated GMLOS emerged as more significant. This suggests that AI algorithm validation should be tailored to specific clinical needs rather than relying solely on generalized benchmarks.

†This abstract has been updated since original publication. Please see details of the correction at the following doi: 10.1017/cts.2026.10689

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Usability, acceptability, and future opportunities of mobile health (mHealth) apps for caregiver health decision making: A scoping review

Jiayu Dai[1], Martina Clarke[2] and Ellen Kerns[3]
[1]University of Nebraska - Great Plains IDeA-CTR; [2]School of Interdisciplinary Informatics, College of Information Science and Technology, University of Nebraska Omaha and [3]Department of Pediatrics, College of Medicine, University of Nebraska Medical Center

OBJECTIVES/GOALS: This study aims to evaluate common features of mobile health (mHealth) apps and their role in helping caregivers make health decisions for children. METHODS/STUDY POPULATION: A scoping review of literature on caregivers' use of mHealth apps (published since 2008) was conducted across 5 databases (i.e., Embase, PubMed, CINAHL, Clinicaltrials.gov, and IEEE Xplore). Selected papers were categorized based on app purposes, target users, and mHealth agile development phases. Common features were also identified and analyzed along with users' pros and cons. Further, primary feature requests were summarized to inform future development. RESULTS/ANTICIPATED RESULTS: This review included 62 studies. Most apps were about maternity and infant care and specific diseases. Major users were caregivers and pregnant women. Around 20% of papers covered multiple phases in the mHealth agile development lifecycle. The effectiveness/clinical trial (phase III) was the most common. E-learning, personalization and customization, and health tracking features were the three most common features of mHealth apps included in this review. More positive feedback was found regarding features than concerns. Caregivers perceived apps as helpful and empowered them to make informed decisions. Concerns were mainly over 1) technical issues, 2) inappropriate design, and 3) ambiguous terms. Requested new features included content comprehensiveness, user engagement, and usage flexibility. DISCUSSION/SIGNIFICANCE OF IMPACT: To our knowledge, this is the first review to investigate the usability of mHealth app features in this area. The results offer feasible strategies for developers to improve the effectiveness of apps for caregiver decision-making.

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On the completeness of medical records of patients with oral health records at three CTSA CORES Institutions: Iowa, Kentucky, and Utah

Julio Facelli[1], Brenda Heaton[2], Ram Gouripeddi[3], Luciana Shaddox[4], Jeff Talbert[5], Xian Jin, Xie[6], Boyd Knosp[7], Heath Davis[7], Shareef Dabdoub[6] and Julio C. Facelli[3]
[1]University of Utah; [2]School of Dentistry, University of Utah; [3]Department of Biomedical Informatics and Clinical and Translational Science Institute, University of Utah; [4]College of Dentistry, University of Kentucky; [5]Division of Biomedical Informatics, University of Kentucky; [6]Division of Biostatistics and Computational Biology, College of Dentistry and Dental Clinics, University of Iowa and [7]Institute for Clinical and Translational Science, University of Iowa

OBJECTIVES/GOALS: Oral health is an important and understudied part of overall health. Poor oral health is linked to many systemic

https://doi.org/10.1017/cts.2024.981 Published online by Cambridge University Press