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Geriatric Emergency Medicine Assessment in the Emergency Department Results in Yearly Savings of \$3 Million

Sarah Keene
Beaumont Health

Lauren Cameron-Comasco
Beaumont Health

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515 | Geriatric emergency medicine assessment in the emergency department results in yearly savings of \$3 million

Sarah Keene, Lauren Cameron-Comasco

Beaumont Health System

Background and Objectives: Older adult patients admitted to the hospital from the Emergency Department (ED) have a longer length of stay in the hospital on average compared to younger patients. Geriatric patients make up an increasing percentage of the patient population, and almost all health care for geriatric patients in the United States is paid for by Medicare. The cost of the inpatient care of geriatric patients is a significant contributor to the total cost of health care in the United States.

Methods: We conducted a case-control study looking at the impact of a Geriatric Emergency Medicine Assessment (GEMA) team on hospital length of stay and associated cost savings. The GEMA team consisted of an advanced practice provider and dedicated care manager who assessed patients over the age of 65 who presented to the Emergency Department and provided targeted interventions based on the results of their assessment. Data on assessed patients who presented from November 2019 through October 2020 were collected prospectively and compared to geriatric patients who presented to the ED during this time frame and who did not undergo GEMA assessment using a retrospective chart review. The cost of the hospital length of stay was calculated using the hospital-specific average cost for one day of an inpatient stay.

Results: From November 2019 through October 2020, an average of 258 patients were assessed by the GEMA team per month, with a monthly average of 141 admissions. GEMA assessed patients had a hospital length of stay that was 31 hours shorter than non-GEMA patients. Using the average cost of a 24-hour inpatient stay in our hospital, we calculated that \$273,188 was saved per month. Subtracting the cost of our program, this resulted in a total cost savings of \$3,017,166 per year.

Conclusion: A geriatric-focused assessment and targeted intervention in the Emergency Department results in a significantly shorter hospital length of stay for assessed patients, resulting in substantial cost savings. This provides evidence for the financial feasibility of targeted geriatric intervention programs in the Emergency Department.

516 | Design and implementation of an automated electronic health record-based fall risk identification and clinical referral system

Gwen Costa Jacobsohn¹, Margaret Leaf², Frank Liao³, Apoorva P. Maru⁴, Megan E. Salwei⁵, Pascale Carayon⁵, Maureen Smith⁶, Collin Engstrom⁷, Douglas A. Weigman⁵, Manish N. Shah⁸, Brian W. Patterson¹

¹University of Wisconsin School of Medicine and Public Health,

²UW Health, Enterprise Analytics, ³UW Health, ⁴University of Wisconsin-Madison, Department of Emergency Medicine, ⁵University of Wisconsin-Madison, Department of Industrial and Systems Engineering, ⁶University of Wisconsin-Madison, Health Innovations Program, Institute for Clinical and Translational Research, ⁷University of Wisconsin-Madison, ⁸UNIVERSITY OF WISCONSIN DEPARTMENT OF EMERGENCY MEDICINE

Background and Objectives: Over 3 million older adults seek ED care for a fall-related injury each year, a third of whom had at least one ED visit in the 6 months prior. This indicates a missed opportunity to refer high-risk ED patients for fall-prevention services, potentially reducing future fall-related visits. Current screening tools have been poorly adopted due to burden on ED staff/providers. To address this, we developed an automated clinical decision support (CDS) system for identifying and referring older adult ED patients at risk of future falls.

Methods: Following validation of a risk stratification algorithm using EHR data, we assembled a design team representing ED providers, researchers, health IT, and Falls Clinic staff (geriatric outpatient clinic receiving referrals) to develop a system within existing ED workflows. Three sub-teams used a rapid-cycle development and evaluation process utilizing human-centered design, implementation science, and patient experience strategies. ED physician, nurse, and patient stakeholders were also engaged through online surveys and user testing.

Results: Design sessions assessed barriers and facilitators to implementation (e.g., data accessibility, lack of time, high patient volumes, appointment availability) from multiple vantage points, later attended to during prototype design. Team members engaged in heuristics evaluation to systematically assess and resolve problems with interface design (e.g., visibility, language). Cognitive walkthroughs revealed additional issues resulting from provider use of discharge navigation screens and order placement. Qualitative ED provider and patient feedback was used to refine referral text on after-visit summaries and verbal communication guides for explaining the Falls Clinic order to patients at ED discharge. Post-training survey results demonstrated high acceptability, appropriateness, feasibility, and intent to adopt among all categories of ED providers. Iterative refinement continues post-implementation based upon user interviews and utilization data.

Conclusion: Successful development of the fall-risk CDS tool required integration of new technologies and processes into existing ED workflows, using iterative design and addressing of barriers. Our