

CLEAR THE WAY TO A MORE EFFICIENT EMERGENCY DEPARTMENT

Leveraging artificial intelligence to support triage and help improve care

Did you know?

At most hospitals today,

of emergency department (ED) patients are triaged to Level 3 **Emergency Severity Index (ESI)**^{1,2}



Traditional, subjective triaging methods limit nurses' and clinicians' ability to consistently stratify at-risk patients. This can:



Obstruct ED flow



Delay door-to-admissions decisions³⁻⁷



Extend wait times



What Could Objective, Data-Driven and Patient-Centered Triaging Do for Your Emergency Department?

IMPROVE EARLY IDENTIFICATION

Reliably differentiate patients to provide the right level of care at the right time.¹



ENHANCE OPERATIONAL EFFICIENCY

Objective, data-driven triaging has been shown to boost ED operations in more ways than one.



An ED could increase their revenue opportunity by ~\$450K annually



Free up beds to speed throughput and increase capacity

EDs using data-driven triage systems have gained 8,500+ Bed Hours annually⁸

for lower-risk patients

(based on a site with ~52K annual visits)⁸⁻¹⁰

IMPROVE PATIENT EXPERIENCE

Improve patient satisfaction with an efficient, patient-centered triage process.



Accelerate door-to-admit-decision by 35 minutes⁸



When appropriate, recommend **lower-acuity care settings**

Speed time-to-emergent-care for high-risk patients by an average of 61-82 minutes¹¹

DESIGNED TO IMPROVE CLINICAL EXPERIENCE

Reduce the burden on your staff with decision support they can count on as part of their existing EHR workflows.

لے	گ ا	Ь
l	¢	J

Reduce cognitive load with a triage process fully embedded into your EHR

₽]
<u> </u>

Improve care team confidence with objective, data-driven clinical decision support

EHR SYSTEM	Tracking List Q. Nurse ED C Q. Nurse	ED 🔅
	Patient Acuity	
	Time Taken 12:15pm 10/10/2020	
Glenda Green Gender: Female	 TriageGO Recommendations 	
Age: 41 MRN: 1111DEMO	TriageGO: T2	
WAITING ROOM	The TriageGO system is a decision support tool. Exercise your own CLINICAL JUDGEMENT as to the information that is provided.	
Desistantian	T1- Immediate- Highest risk for intensive care, emergency procedure, or mortality	
Registration	T3- Urgent- Moderate risk of hospital admission or very low risk of intensive care, emergency	
Vitals and Complaints	procedure, or mortality	
2 Patient Acuity	14- Less Urgent- Low risk of hospital admission T5- Non Urgent- Fast turnaround, low risk for hospital admission	
ED Disposition	TriageGO Increased risk of critical care driven by moderate tachypnea, severe Supplement: tachycardia and history of hypertension.	
ED Triage Notes		
	Do you agree with Yes No TriageGO?	
	Patient Acuity = 1 2 3 4 5	

Meet TriageGO

TriageGO is a clinical decision support tool used in emergency departments (ED) that utilizes artificial intelligence (AI) to scan routinely available triage data such as patient's presenting complaints, vital signs, demographic information, and medical history from the Electronic Health Record (EHR) to provide a triage level recommendation between 1-5. This can be accessed by examining health care professionals (HCPs) to aid in their assessment of triage level during patient evaluation.

It is the responsibility of qualified examining HCPs to employ their appropriate clinical judgement to make triage level assignments.



The TriageGO solution applies machine learning (artificial intelligence) to:



Analyze patient data at presentation in the ED



Compare with additional visit data from your health system



Recommend and explain triage acuity to inform HCP decision making

Enjoy a Seamless and Rapid System Integration



Efficient Epic- and Cerner-supported installation



Low-hassle training, including effective train-the-trainer



Every installation is customized based on each ED's data

Ready to Clear the Way to Better ED Triaging?

Discover what TriageGO could do for you at beckmancoulter.com/triagego

References:

- 1. Levin S, Toerper M, Hamrock E, Hinson J, Barnes S, Gardner H, Dugas A, Linton B, Kirsch T, Kelen G. Machine Learning-Based Triage More Accurately Differentiates Patients with Respect to Clinical Outcomes Compared to the Emergency Severity Index. Ann Emerg Med. 71(5); 565-574, 2018.
- 3. Hinson JS, Martinez DA, Schmitz PSK, Toerper M, Radu D, Scheulen J, Stewart de Ramirez SA, Levin S. Accuracy of emergency department triage using the Emergency Severity Index and independent predictors of under-triage and over-triage in Brazil:
- a retrospective cohort analysis. Int J Emerg Med. 2018 Jan 15;11(1):3. doi: 10.1186/s12245-017-0161-8. PMID: 29335793; PMCID: PMC5768578.
- 4. Seiger N, van Veen M, Steyerberg EW, Ruige M, van Meurs AHJ, Moll HA. Undertriage in the Manchester triage system: an assessment of severity and options for improvement. Arch Dis Child. 2011;96(7):653-7.
- 5. Hitchcock M, Gillespie B, Crilly J, Chaboyer W. Triage: an investigation of the process and potential vulnerabilities. J Adv Nurs. 2014;70(7):1532-41.
- 6. Yurkova I, Wolf L. Under-triage as a significant factor affecting transfer time between the emergency department and the intensive care unit. J Emerg Nurs. 2011;37(5):491-6.
- 7. Haas B, Gomez D, Zagorski B, Stukel TA, Rubenfeld GD, Nathens AB. Survival of the fittest: the hidden cost of undertriage of major trauma. J Am Coll Surg. 2010;211(6):804-11
- 8. Levin S, Toerper M, Hinson J, Gardner H, Henry S, McKenzie C, Whalen M, Hamrock E, Barnes S, Martinez D, Kelen G. Machine-Learning Based Electronic Triage: A Prospective Evaluation. Ann Emerg Med. 72(4), S116. https://www.annemergmed.com/article/S0196-0644(18)31035-7/fulltext
- 9. https://www.hcup-us.ahrq.gov/reports/statbriefs/sb268-ED-Costs-2017.jsp
- 10. Smalley CM, Meldon SW, Simon EL, Muir MR, Delgado F, Fertel BS. Emergency Department Patients Who Leave Before Treatment Is Complete. West J Emerg Med. 2021 Feb 26;22(2):148-155. doi: 10.5811/westjem.2020.11.48427. PMID: 33856294;
- PMCID: PMC7972384 11. Median door-to-transfer for ICU transfer patients time change pre-post implementation. 2 sites: Johns Hopkins Hospital and Johns Hopkins Bayview Medical Center. Data last analyzed at Johns Hopkins on 2-4-2021.



© 2023 Beckman Coulter, Inc. All rights reserved. Beckman Coulter, the stylized logo, and the Beckman Coulter product and service marks mentioned herein are trademarks or registered trademarks of Beckman Coulter, Inc. in the United States and other countries. For Beckman Coulter's worldwide office locations and phone numbers, please visit www.beckmancoulter.com/contact