GLOBAL RESEARCH HIGHLIGHTS

Editor's note: *Annals* has partnered with a small group of selected journals of international emergency medicine societies to share from each a highlighted research study, as selected monthly by their editors. Our goals are to increase awareness of our readership to research developments in the international emergency medicine literature, promote collaboration among the selected international emergency medicine journals, and support the improvement of emergency medicine world-wide, as described in the WAME statement at http://www.wame.org/about/policy-statements#Promoting%20Global%20Health. Abstracts are reproduced as published in the respective participating journals, and are not peer reviewed or edited by *Annals*.

African Journal of Emergency Medicine

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Official Journal of the African Federation for Emergency Medicine, the Emergency Medicine Association of Tanzania, the Emergency Medicine Society of South Africa, the Egyptian Society of Emergency Medicine, the Libyan Emergency Medicine Association, the Ethiopian Society of Emergency Medicine Professionals, the Sudanese Emergency Medicine Society, the Society of Emergency Medicine Practitioners of Nigeria and the Rwanda Emergency Care Association

The cost of time: a randomised, controlled trial to assess the economic impact of upfront, point-of-care blood tests in the emergency centre

Goldstein LN, Wells M, Vincent-Lambert C. The cost of time: a randomised, controlled trial to assess the economic impact of upfront, point-of-care blood tests in the emergency centre. Afr J Emerg Med. 2019;9:57-63.

Introduction: Time and cost constraints abound in the Emergency Centre (EC). These resource constraints are further magnified in low- and middle-income countries (LMIC). Almost half of all patients presenting to the EC require laboratory tests. Unfortunately, access to laboratory services in LMIC is commonly inadequate. Point-of-care (POC) tests may assist to avert this shortcoming. The aims of this study were to evaluate the cost effectiveness of upfront POC blood tests performed prior to doctor assessment compared to the standard EC workflow.

Methods: A secondary analysis was performed on data from a prospective, randomised, controlled trial where patients with abdominal/chest symptoms or generalised body pain/weakness followed either the normal EC workflow pathway or one of two enhanced workflow pathways with POC tests (i-STAT with and without a complete blood count (CBC)) prior to doctor evaluation. The incremental cost effectiveness ratio (ICER) was used to perform the cost effectiveness analysis.

Results: There were 248 patients enrolled in the study. The use of the two upfront, POC test pathways significantly exceeded the primary outcome measure of a 20% reduction in treatment time. In the i-STAT + CBC group, the 31-minute time-saving translated into cost-saving of US$14.96 per patient (IECR 0.27) whereas the 21-minute time-saving in the i-STAT only group only had an additional net cost of US$3.11 per patient (IECR 0.90).

Conclusion: Upfront, POC blood tests can be utilised in the resource-constrained EC to manage patients more efficiently by saving time. This time-saving can, in fact, be more cost effective than traditional EC workflow making it an economically viable option for implementation in LMIC.

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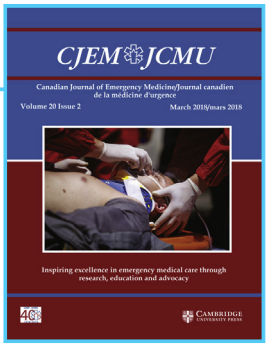
Canadian Journal of Emergency Medicine



caep.ca/resources/cjem

Official Journal of the Canadian Association of Emergency Physicians

Register to donate while you wait: assessing public opinions of the acceptability of utilizing the emergency department waiting room for organ and tissue donor registration

Ellis B, Hartwick M, Perry JJ. Register to donate while you wait: assessing public opinions of the acceptability of utilizing the emergency department waiting room for organ and tissue donor registration. *CJEM*. 2019; http://doi.org/10.1017/cem.2019.347.

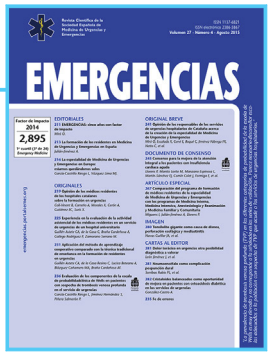
Objective: Our objectives were to identify barriers to the organ donation registration process in Ontario; and to determine the acceptability of using the emergency department (ED) waiting room to provide knowledge and offer opportunities for organ and tissue donor registration.

Methods: We conducted a paper-based in-person survey over nine days in March and April 2017. The survey instrument was created in English using existing literature and expert opinion, pilot tested and then translated into French. Data was collected from patients and visitors in an urban academic Canadian tertiary care ED waiting room. All adults in the waiting room were approached to participate during study periods. We excluded patients who were too ill and required immediate treatment.

Results: The number of attempted surveys was 324; 67 individuals (20.7%) declined participation. A total of 257 surveys were distributed and five were returned blank. This gave us a response rate of 77.8% with 252 completed surveys. The median age group was 51–60 years old with 55.9% female. Forty-six percent reported their religion as Christian and 34.1% did not declare a religious affiliation. 44.1% were already registered donors. Most participants agreed or were neutral that the ED waiting room was an acceptable place to provide information on donation, and for registration as an organ and tissue donor (83.3% and 82.1%, respectively).

Conclusions: Individuals waiting in the ED are generally supportive of using the waiting room for distributing information regarding organ and tissue donation, and to allow donor registration.

Emergencias



emergencias.portalsemes.org/english

Official Journal of the Spanish Society of Emergency Medicine

Analysis of organ procurement from non–heart-beating donors over a 10-year period in Madrid

Cardenete-Reyes C, Cintora-Sanz AM, Mateos-Rodríguez A, Cardós-Alonso C, Pérez-Alonso AM. Analysis of organ procurement from non–heart-beating donors over a 10-year period in Madrid. Emergencias. 2019;31:252-256.

Background and objective: The Autonomous Community of Madrid procures the largest number of organs from uncontrolled non–heart-beating donors (NHBD) after circulatory death in Spain. The aim of this study was to analyze the yield of these donations in terms of viable organs procured (category IIa) according to information extracted from the CORE registry of the Spanish National Transplant Organization (ONT) for the Madrid area.

Methods: Retrospective observational study of NHBD data registered between 2007 and 2017, including age, height, weight, body mass index (BMI), emergency care times, method of chest compressions applied (mechanical cardiopump vs manual compressions), and viable organs extracted.

Results: A total of 679 circulatory death donors were registered; 458 (67.6%) of them were utilized donors. The median BMI correlated negatively (–0.161) with the number of viable organs extracted ($P<.001$). The method of applying chest compressions significantly influenced liver viability: only those extracted after mechanical cardiopump compressions were viable for transplantation. Type of compressions did not effect kidney or lung viability.

Conclusion: Variables to bear in mind as predictors of success in NHBD donation are BMI and type of chest compressions applied.

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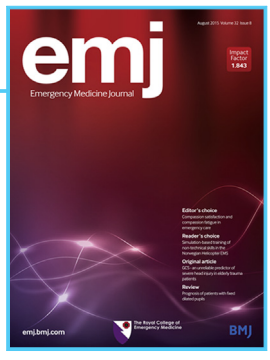
Emergency Medicine Journal



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Official Journal of the Royal College of Emergency Medicine

Triaging the triage: reducing waiting time to triage in the emergency department at a tertiary care hospital in New Delhi, India

Kumar A, Lakshminarayanan D, Joshi N, Vaid V, Bhoi S, Deorari A. Triaging the triage: reducing waiting time to triage in the emergency department at a tertiary care hospital in New Delhi, India. *Emerg Med J*. 2018; http://doi.org/10.1136/emermed-2019-208577.

Background: Prolonged wait times prior to triage outside the emergency department (ED) were a major problem at our institution, compromising patient safety. Patients often waited for hours outside the ED in hot weather leading to exhaustion

and clinical deterioration. The aim was to decrease the median waiting time to triage from 50 min outside ED for patients to <30 min over a 4-month period.

Methods: A quality improvement (QI) team was formed. Data on waiting time to triage were collected between 12 pm and 1 pm. Data were collected by hospital attendants and recorded manually. T1 was noted as a time of arrival outside the ED, and T2 was noted as the time of first medical contact. The QI team used plan–do–study–act cycles to test solutions. Change ideas to address these gaps were tested during May and June 2018. Change ideas were focused on improving the knowledge and skills of staff posted in triage and reducing turnover of triage staff. Data were analysed using run chart rules.

Results: Within 6 weeks, the waiting time to triage reduced to <30 min (median, 12 min; IQR, 11 min) and this improvement was sustained for the next 8 weeks despite an increase in patient load.

Conclusion: The authors demonstrated that people new to QI could use improvement methods to address a specific problem. It was the commitment of the frontline staff, with the active support of senior leadership in the department that helped this effort succeed.

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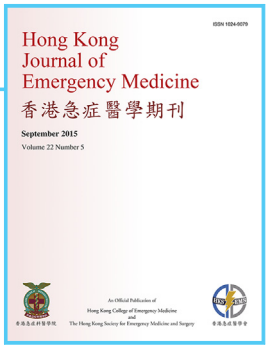
Hong Kong Journal of Emergency Medicine



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Official Journal of the Hong Kong College of Emergency Medicine

Differentiating Takotsubo cardiomyopathy from ST-segment elevation myocardial infarction

Asher E, Odeh Q, Sabbag A, Goldkorn R, Elian D, Zekry SB, Peled Y, Abu-Much A, Beigel IMR, Matetzky S; for the Platelets and Thrombosis in Sheba-PLATIS Study Group. Differentiating Takotsubo cardiomyopathy from ST-segment elevation myocardial infarction. *HKJEM*. 2019;26:203-208.

Background: Takotsubo cardiomyopathy affects between 1.7% and 2.2% of patients hospitalized with suspected acute coronary syndromes. Characterized by chest pain, electrocardiogram changes, and transient left ventricular apical wall motion abnormality, it is under-recognized and often misdiagnosed.

Objectives: In order to better differentiate between ST-segment myocardial infarction and Takotsubo cardiomyopathy, we developed a scoring system.

Methods: Of the 82 patients enrolled with Takotsubo cardiomyopathy, 67 had ST-segment elevation on electrocardiogram and were compared with 79 ST-elevation myocardial infarction patients. A multi-variant logistic regression model was used to find factors independently associated with Takotsubo cardiomyopathy. The Platelets and Thrombosis in Sheba (PLATIS)-Takotsubo cardiomyopathy is based on a 10-point scoring system: stressful events (3), females (2), no history of diabetes mellitus (2), estimated left ventricular ejection fraction $\leq$ 40% on admission echo (1), positive troponin on admission (1), and no smoking (1). Patients with Takotsubo cardiomyopathy were older (66 $\pm$ 11 vs 60 $\pm$ 11 years, $p < 0.001$), predominantly female (90% vs 15%, $p < 0.001$), with a lower incidence of diabetes mellitus, dyslipidemia, and smoking. Nevertheless, in-hospital mortality was similar in both groups.

Results: In a multivariate logistic regression analysis, the average platelets and thrombosis in Sheba-Takotsubo cardiomyopathy scoring was significantly higher in Takotsubo cardiomyopathy compared with ST-elevation myocardial infarction patients (8.35 $\pm$ 1.7 vs 3.42 $\pm$ 1.6, $p < 0.001$). With an overall score of $\geq$7, the receiver-operating characteristic curve was 0.82 with a sensitivity of 75% and a specificity of 89% (positive predictive value = 85% and negative predictive value = 80%).

Conclusion: The Takotsubo cardiomyopathy scoring system is a simple, reliable tool that can assist in diagnosing and differentiating between patients with Takotsubo cardiomyopathy and those with ST-elevation myocardial infarction.

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