

Global Research Highlights

Editor's note: *CJEM* 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 Abstracts are reproduced as published in the respective participating journals and are not peer reviewed or edited by *CJEM*.

Annals of Emergency Medicine

www.acep.org/annals/

Official journal of the American College of Emergency Physicians
(The print version of this article has been scheduled for May 2020)

One-Year Mortality and Associated Factors in Patients Receiving Out-of-hospital Naloxone for Presumed Opioid Overdose

Nicklaus P. Ashburn, Christopher W. Ryder, Ryan M. Angi, Anna C. Snavely, R. Darrell Nelson, William P. Bozeman, Henderson D. McGinnis, James T. Winslow, Jason P. Stopyra
<https://doi.org/10.1016/j.annemergmed.2019.11.022>

Objective Out-of-hospital naloxone has been championed as a lifesaving solution during the opioid epidemic. However, the long-term outcomes of out-of-hospital naloxone recipients are unknown. The objectives of this study are to describe the 1-year mortality of presumed opioid overdose victims identified by receiving out-of-hospital naloxone and to determine which patient factors are associated with subsequent mortality.

Methods This was a regional retrospective cohort study of out-of-hospital records from 7 North Carolina counties from January 1, 2015 to February 28, 2017. Patients who received out-of-hospital naloxone were included. Out-of-hospital providers subjectively assessed patients for improvement after administering naloxone. Naloxone recipients were cross-referenced with the North Carolina death index to examine mortality at days 0, 1, 30, and 365. Naloxone recipient mortality was compared with the age-adjusted, at-large population's mortality rate in 2017. Generalized estimating equations and Cox proportional hazards models were used to assess for mortality-associated factors.

Results Of 3,085 out-of-hospital naloxone encounters, 72.7% of patients (n = 2,244) improved, whereas 27.3% (n = 841) had no improvement with naloxone. At day 365, 12.0% (n = 269) of the improved subgroup, 22.6% (n = 190) of the no improvement subgroup, and 14.9% (n = 459) of the whole population were dead. Naloxone recipients who improved were 13.2 times (95% confidence interval 13.0 to 13.3) more likely to be dead at 1 year than a member of the general populace after age adjusting of the at-large population to match this study population. Older age and being black were associated with 1-year mortality, whereas sex and multiple overdoses were not.

Conclusion Opioid overdose identified by receiving out-of-hospital naloxone with clinical improvement carries a 13-fold increase in mortality compared to the general population. This suggests that this is a high-risk population that deserves attention from public health officials, policymakers, and health care providers in regard to the development of long-term solutions.



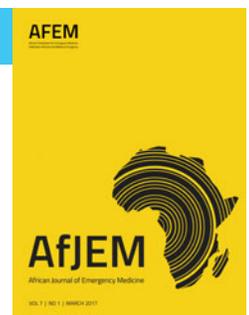
African journal of emergency medicine

afjem.com

The 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 burden of acute coronary syndrome, heart failure, and stroke among emergency department admissions in Tanzania: A retrospective observational study

Hertz JT, Sakita FM, Limkakeng AT, Mmbaga BT, Appiah LT, Bartlett JA, Galson SW



Afr J Emerg Med. 2019;9(4):180–184
<https://doi.org/10.1016/j.afjem.2019.07.001>

Introduction The prevalence of cardiovascular disease in sub-Saharan Africa is substantial and growing. Much remains to be learned about the relative burden of acute coronary syndrome (ACS), heart failure, and stroke on emergency departments and hospital admissions.

Methods A retrospective chart review of admissions from September 2017 through March 2018 was conducted at the emergency department of a tertiary care center in northern Tanzania. Stroke admission volume was compared to previously published data from the same hospital and adjusted for population growth.

Results Of 2418 adult admissions, heart failure and stroke were the two most common admission diagnoses, accounting for 294 (12.2%) and 204 (8.4%) admissions, respectively. ACS was uncommon, accounting for 9 (0.3%) admissions. Of

patients admitted for heart failure, uncontrolled hypertension was the most commonly identified etiology of heart failure, cited in 124 (42.2%) cases. Ischemic heart disease was cited as the etiology in only 1 (0.3%) case. Adjusting for population growth, the annual volume of stroke admissions increased 70-fold in 43 years, from 2.9 admissions per 100,000 population in 1974 to 202.2 admissions per 100,000 in 2017.

Conclusion The burden of heart failure and stroke on hospital admissions in Tanzania is substantial, and the volume of stroke admissions is rising precipitously. ACS is a rare diagnosis, and the distribution of cardiovascular disease phenotypes in Tanzania differs from what has been observed outside of Africa. Further research is needed to ascertain the reasons for these differences.

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Emergency Medicine Journal

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Official Journal of the Royal College of Emergency Medicine

Performance of the MEDS score in predicting mortality among emergency department patients with a suspected infection: a meta-analysis

Gensheng Zhang, Kai Zhang, Xie Zheng, Wei Cui, Yucai Hong, Zhongheng Zhang
<http://dx.doi.org/10.1136/emered-2019-208901>

Objective To carry out a meta-analysis to examine the prognostic performance of the Mortality in Emergency Department Sepsis (MEDS) score in predicting mortality among emergency department patients with a suspected infection.

Methods Electronic databases—PubMed, Embase, Scopus, EBSCO and the Cochrane Library—were searched for eligible articles from their respective inception through February 2019. Sensitivity, specificity, likelihood ratios and receiver operator characteristic area under the curve were calculated. Sub-group analyses were performed to explore the prognostic performance of MEDS in selected populations.

Results We identified 24 studies involving 21 246 participants. The pooled sensitivity of MEDS to predict mortality was 79%

(95% CI 72% to 84%); specificity was 74% (95% CI 68% to 80%); positive likelihood ratio 3.07 (95% CI 2.47 to 3.82); negative likelihood ratio 0.29 (95% CI 0.22 to 0.37) and area under the curve 0.83 (95% CI 0.80 to 0.86). Significant heterogeneity was seen among included studies. Meta-regression analyses showed that the time at which the MEDS score was measured and the cut-off value used were important sources of heterogeneity.

Conclusion The MEDS score has moderate accuracy in predicting mortality among emergency department patients with a suspected infection. A study comparing MEDS and qSOFA in the same population is needed.



Emergencias

emergencias.portalsemes.org/English

Official Journal of the Spanish Society of Emergency Medicine

Clinical characteristics and course in emergency department patients with chronic obstructive pulmonary disease and symptomatic acute venous thromboembolic disease: secondary analysis of the ESPHERIA registry

Jorge Carriel Mancilla, Sonia Jiménez Hernández, Francisco Javier Martín-Sánchez, David Jiménez, Manuel Fuentes Ferrer, Pedro Ruiz-Artacho, en representación del Grupo de Enfermedad Tromboembólica Venosa de



la Sociedad Española de Medicina de Urgencias y Emergencias (ETV-SEMES)

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<http://emergencias.portalsemes.org/descargar/caracteristicas-y-evolucion-de-los-pacientes-con-enfermedad-pulmonar-obstruccion-venosa-aguda-sintomatica-en-urgencias-subanalisis-del-registro-espheria/>

Objective To determine the impact of chronic obstructive pulmonary disease (COPD) on prognosis in patients diagnosed with venous thromboembolic disease (VTED) in Spanish emergency departments.

Methods Secondary analysis of data from the ESPHERIA (Spanish acronym for Risk Profile of Patients VTED Attended in Spanish Emergency Departments) registry.

Results A total of 801 patients, 71 (9%) with COPD, were included. Pulmonary thromboembolism was recorded in 77.7% of the patients with COPD (vs in 47.1% of patients without COPD; $P < .001$). Patients with COPD had evidence

of right ventricular dysfunction on computed tomography angiography more often than other VTED patients (18.2% vs 13.1%; $P < .001$) and more often required ventilatory support (7% vs 0.5%; $P < .001$). VTED patients with COPD also had a higher rate of readmission or mortality at 180 days (hazard ratio, 1.52; 95% CI, 1.00–2.29; $P = .048$) than patients without COPD.

Conclusion COPD affects the prognosis of patients diagnosed with VTED in Spanish emergency departments as evidenced by hospital readmission and mortality.

Hong Kong Journal of Emergency Medicine

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Official Journal of the Hong Kong College of Emergency Medicine

HEART pathway and Emergency Department Assessment of Chest Pain Score–Accelerated Diagnostic Protocol application in a local emergency department of Hong Kong: An external prospective validation study

Siu Ming Yang, Chi Ho Chan and Tung Ning Chan

<https://journals.sagepub.com/doi/10.1177/1024907918812321>

Background The conventional chest pain protocol using thrombolysis in myocardial infarction score as the risk stratifying tool may not perform well in the emergency department in which a mix of low- and high-risk patients are encountered. Newer chest pain scores such as HEART pathway and Emergency Department Assessment of Chest Pain Score–Accelerated Diagnostic Protocol (EDACS-ADP) are found to have high sensitivity with good specificity.

Objective This study aims to validate and compare two chest pain scores: HEART pathway and EDACS-ADP in the Accident and Emergency Department of a local hospital in Hong Kong.

Methods A prospective cohort study was carried out at the Accident and Emergency Department of Kwong Wah Hospital in Hong Kong from 1 June 2016 to 31 May 2017. Patients ≥ 18 years old with chest pain lasting 5 min or more who were

observed with chest pain protocol on observation ward were recruited.

Results A total of 238 patients were recruited; 231 eligible patients completed follow-up. There were five patients with major adverse cardiac events in 30 days of follow-up. The sensitivity, specificity, and negative predictive values of HEART pathway and EDACS-ADP were 100%, 74.3%, 100% and 100%, 73.5.0% and 100%, respectively. Both scores had almost the same performance in terms of major adverse cardiac events at 30 days (area under the curve = 0.87).

Conclusion Our study showed both EDACS-ADP (modified) and HEART pathway achieved high sensitivity (~100%)

for detecting major adverse cardiac events in 30 days while being able to discharge more than 70% of patients as low risk for early discharge.

