

National Demographics and Reasons for Gastrointestinal-Related Encounters That Resulted in  
Emergency Department Mortality in the United States:  
Analysis of the Nationwide Emergency Department Sample

Inegbenose Inegbenijie, MBBS<sup>1</sup>, Pius Ojemolon, MBBS<sup>2</sup>, Eseosa Eghaghe, MBBS<sup>3</sup>, Clark Azubuike, MBBS<sup>4</sup>, Abdultawab Shaka, MBBS<sup>5</sup>, Hafeez Shaka, MBBS<sup>6</sup>

<sup>1</sup>York Teaching Hospital NHS Foundation Trust, York, England, United Kingdom;  
<sup>2</sup>John H. Stroger Jr. Hospital of Cook County, Chicago, IL;  
<sup>3</sup>Frimley Park Hospital, Frimley, England, United Kingdom;  
<sup>4</sup>Harvard University, T.H. Chan School of Public Health, Boston, MA;  
<sup>5</sup>Windsor University School of Medicine, St. Kitts;  
<sup>6</sup>John H. Stroger, Jr. Hospital of Cook County, Chicago, IL

INTRODUCTION

- This study outlined the GI reasons for ED visits that resulted in mortality within the ED.
- This would provide epidemiologic data on current mortality-related encounters to identify the highest risk population in this clinical setting.

METHODS AND MATERIALS

- We sourced the data from the US Nationwide Emergency Department Sample (NEDS) for 2018. It is weighted to calculate national estimates representing about 143 million ED visits in 2018.
- The study population included all ED encounters with a principal encounter diagnosis of a gastrointestinal disorder by the International Classification of Diseases 10th Revision coding system. The first listed diagnosis was taken as the reason for the ED encounter in keeping with NEDS research methods.
- We obtained the cohort with ED mortality using the provided variable in the NEDS.

RESULTS

- Of the total ED encounters in 2018, about 10.2 million (7.1%) were for GI conditions.
- Among ED presentations for GI conditions, 1874 patients (0.18%) died in the ED.
- A higher proportion were females (54.0%), with a mean age of 72.5 ±15.4 (standard deviation) years.
- Majority of the patients were elderly (71.8%) with Medicare as the most common primary payer (71.4%) followed by private insurance (13.2%).
- A higher proportion belonged to the low-income quartile for patient's zip code compared to the high-income quartile.
- The top reasons for GI presentations with ED mortality included unspecified GI hemorrhage (40.5%), non-traumatic perforation of the intestine (5.9%), hematemesis (5.3%), hepatic failure without coma (3.9%), unspecified intestinal obstruction (3.9%) and unspecified vascular disorder of the intestine (2.7%).

DISCUSSION

- ED mortality from GI conditions is more likely among elderly females from low-income households.
- Providers should recognize that presentations for GI hemorrhagic conditions should raise a high index of suspicion as potential ED fatality.
- Particular attention should be paid to the highest risk individuals to decrease this low but significant event in any healthcare setting.
- Healthcare education and discharge instructions should include information on sentinel clinical symptoms of these conditions. This would help patients identify life-threatening symptoms and encourage early presentation to the ED which might improve survival odds in the most at-risk individuals.
- The higher proportion of low-income households in ED mortality is a worrying concern that could be a marker of healthcare disparities in the health system.