

35 percent of injury-related ER visits in Ghana alcohol-related

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Emergency departments across the world see injuries every day.

In fact, injuries account for 10 percent of deaths worldwide, or nearly 6 million, with 90 percent of those deaths occurring in low- and middle-income countries, according to the World Health Organization. With the industrialization and economic growth of low- and middle-income countries, WHO expects these numbers to rise dramatically.

"Those statistics highlight that injuries pose a global health concern," says Ronald Maio, D.O., professor emeritus of emergency medicine, member of the University of Michigan Injury Center and senior author of a new paper examining injuries in a Ghanaian emergency department. "Additionally troublesome, 15 to 20 percent of injuries worldwide are attributable to alcohol use."

The work was led by first author Paa Kobina Forson, M.D., M.P.H., as well as Andrew Gardner, M.D. Forson is an emergency medicine physician at the Komfo Anokye Teaching Hospital (KATH) in Kumasi, Ghana. At the time of the study, Gardner was a medical student at the University of Michigan Medical School and conducted the project for his Fogarty International Research Scholarship. George Oduro, M.D., director of the Accident and Emergency Medicine Department at KATH and assistant professor at U-M, also played a key role in the study.

Oduro says the team knew that injuries are responsible for 8 percent of all mortalities in Ghana, and that road traffic injuries were the most

frequent cause of injury presenting to the KATH emergency department. However, they could not find any data or previous studies that described the frequency of alcohol-associated injury in Ghana.

The research team thought a study on alcohol-associated injury was important because the incidence of alcohol-associated injuries in many low- and middle-income countries remains unknown. Since 2007, the U-M Department of Emergency Medicine, through its Ghana Emergency Medicine Collaborative, has been helping train [emergency medicine](#) physicians and improve emergency care in Ghana.

"Information and data generated from a study can then be used to inform clinical and public health policies and interventions," Maio says. "And with alcohol-associated injuries accounting for that 15 to 20 percent of injuries worldwide, we want countries such as Ghana to be able to confidently report what types of injuries they are seeing in their emergency departments and use that information to improve the health of their citizens."

In the study, published in the October 2016 issue of *Annals of Emergency Medicine*, Forson, Gardner, Oduro, Maio and colleagues conducted a cross-sectional chart review of the 1,085 patients older than 18 who presented to the KATH emergency department, either directly or through a transfer from another facility, within eight hours of an injury.

Patients were screened for alcohol with a Breathalyzer or a saliva test. The researchers found 382 subjects, or 35 percent, tested positive for any level of alcohol in their systems.

Of the 382 subjects, certain groups more frequently had detectable alcohol in their systems, including:

- 42 percent of men

- 40 percent of people ages 25 to 44
- 42 percent of drivers
- 42 percent of pedestrians
- 49 percent of those with assault injuries
- 40 percent of those with serious injuries
- 53 percent of those who died in the emergency department

"Our results resembled the global population of injured patients," Maio says, "in that roughly twice as many men than women were injured; young adults were the largest age demographic; and road traffic injuries were the most common type of injury."

He adds, "We did find that our results showed higher numbers of positive alcohol tests than might be expected, according to the World Health Organization and [health status report for Ghana](#). Our 35 percent finding was also higher than the global average estimate of alcohol-associated injury. Our results demonstrate the need for low- and middle-income countries to conduct their own research rather than extrapolating from general-population estimates from the World Health Organization."

A need for more research

Maio and the research team hope the study results help Ghanaians with clinical care and public health policies.

Oduro says the presence of alcohol can increase the difficulties of making an accurate diagnosis and can affect the subsequent treatment and outcome of the patient. He thinks their findings support the need for alcohol testing among injured patients in low- and middle-income countries, and further research into developing specific clinical protocols that can use this information to deliver more appropriate care.

Maio says that in the United States and Europe, injured patients who test

positive for alcohol in their systems are often further evaluated, and treatment is initiated for alcohol abuse and harmful patterns of drinking in hopes of preventing future alcohol-related injuries. He and his colleagues say research needs to be conducted to determine the best way to deliver similar services in Ghana and other low- and middle-income countries.

The study also notes that Ghana has a national maximum blood alcohol content of 0.08 percent for drivers, but there is no written national policy or action plan on preventing drunken driving, and the national legal minimum age of 18 for alcohol sales is not routinely enforced. Forson says public health strategies need to be developed and tested to limit alcohol-related injuries, particularly among road users.

More information: Paa Kobina Forson et al, Frequency of Alcohol Use Among Injured Adult Patients Presenting to a Ghanaian Emergency Department, *Annals of Emergency Medicine* (2016). [DOI: 10.1016/j.annemergmed.2016.04.033](https://doi.org/10.1016/j.annemergmed.2016.04.033)

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