

BMC study shows diverting passengers to elevators could help reduce falls at Logan airport

April 12 2012

(Medical Xpress) -- A first of its kind study conducted by researchers at Boston Medical Center (BMC)'s Injury Prevention Center (IPC) found that one fall requiring first responder emergency medical services response occurs, on average, approximately every 56 hours at Boston Logan International Airport, with 37 percent of those incidents involving transport to a hospital. The study, which was done at the request of the Massachusetts Port Authority and Massport Fire/Rescue, concludes that diverting at-risk passengers from escalators to elevators could significantly reduce the number of falls.

Jonathan Howland, PhD, MPH, MPA, executive director of BMC's IPC and professor of emergency medicine at Boston University School of Medicine (BUSM) and Sophia Dyer, MD, medical director for Boston EMS and associate professor of emergency medicine at BUSM, led this study to determine the incidence of the [falls](#) at Logan Airport, identify potential causes and make suggestions on how to mitigate risk for falls.

The study results, which are currently published online in the *Journal of Safety Research*, have led Massport to implement an action plan to reduce the number of falls.

According to Federal Aviation Administration statistics, Logan Airport is the nineteenth busiest airport in the U.S. and is New England's largest transportation center. In 2011, Logan Airport served 28,900,000

passengers, representing an all-time high number of passengers and a 5 percent increase from 2010.

The Centers for Disease Control and Prevention report that falls are the leading cause of injury death among older adults age 65 and over and the most common cause of non-fatal injuries. Most studies of older adult falls report that about half occur at home, but there is a lack of definitive data about falls that occur in public buildings, including airports.

The research team used anonymous incident reports of all falls that required response from Massport Fire/Rescue and Boston EMS during 2009 and 2010 at the airport. They found that 96 percent of falls occurred in terminals and 37 percent of all falls resulted in transport to hospital emergency departments. Seventy-two percent of those who fell were female, and 43 percent were over the age of 65. An undetermined number of the events involved airport personnel rather than passengers and none of the incidents examined in the study involved fatalities.

Escalators were the most common location for all reported falls (44 percent), and the researchers suggested that some risks associated with these falls might include carrying more luggage (due to changes in baggage fees), using cell phones, not using handrails, and compromised strength and balance due to age.

“Interventions that target escalator falls hold the greatest promise to decrease the incidence of falls at this airport,” said Howland. These interventions could include signage and audio messages to encourage passengers with luggage to use elevators instead of escalators.

The Massport action plan will focus primarily on escalator safety and will include audio public service announcements and signage in the airport terminals to suggest some [passengers](#) to use elevators instead of escalators.

“While these data and analysis was done at one [airport](#), the findings could be generalized and applied in other public places, including transit stations, shopping malls and other airports,” added Howland.

Provided by Boston Medical Center

Citation: BMC study shows diverting passengers to elevators could help reduce falls at Logan airport (2012, April 12) retrieved 5 May 2024 from <https://medicalxpress.com/news/2012-04-bmc-passengers-elevators-falls-logan.html>

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