

Study finds inconsistent achievement of guidelines for acute asthma care in hospital EDs

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A study comparing the care delivered to patients coming to hospital emergency departments (EDs) for acute asthma attacks in recent years with data gathered more than 15 years earlier finds inconsistencies in how well hospitals are meeting nationally established treatment guidelines. A team led by Massachusetts General Hospital (MGH) investigators found that, while the achievement of most guidelines defining appropriate pharmacologic treatments for particular patients improved over the study period, hospitals did less well in meeting several other guidelines. The study that will appear in the *Journal of Allergy and Clinical Immunology* has been published online.

"Asthma continues to be a significant health problem in the U.S., and while the improved ability of hospitals and other facilities to meet health quality guidelines for conditions such as heart attacks and pneumonia has been documented, changes in the quality of emergency asthma care have attracted less attention," says Kohei Hasegawa, MD, MPH, MGH Department of Emergency Medicine, corresponding author of the report. "We found that while emergency asthma care has become highly concordant with those guideline recommendations that are supported by strong scientific evidence, concordance with guideline-recommended care supported by weaker evidence declined. Our observations should encourage studies building more robust evidence for the latter."

The current report analyzed data from three studies conducted by the

Multicenter Airway Research Collaboration, a project of an international research consortium called the Emergency Medicine Network. Data from two studies enrolling asthma patients treated for acute asthma in the EDs of 48 U.S. hospitals between 1997 and 2001 were compared with similar data from patients seen in the same EDs in 2011-12. The investigators evaluated how well treatment delivered in each study period met treatment guidelines established by the National Institutes of Health in 2007. Those guidelines are ranked according to the level of supporting evidence provided by previous research studies, with guidelines backed by state-of-the-art clinical trials ranked as level A, those with less conclusive support ranked as level B, and those with the least evidence-based support unranked.

Overall, the achievement of level A guidelines, which define delivery of specific medications to patients with symptoms of particular severity levels, improved over the study period. But achievement of level B and unranked guidelines – particularly guidelines for the assessment of pulmonary function and the timeliness with which care was delivered – declined to an extent that outweighed the overall improvement in level A recommendations. Individual EDs differed in the extent to which non-level-A recommendations were met, and EDs in the South and West were significantly less likely to delivery fully guideline-compliant care than were those in the Midwest and Northeast. The study also found that patients whose care met all relevant guidelines were significantly less likely to need to be hospitalized.

"The reasons why non-level-A guidelines were less likely to be met are probably multifactorial and may related to crowding in the EDs," explains Hasegawa, an assistant professor of Emergency Medicine at Harvard Medical School. "We found a substantial increase in overall patient volume in these EDs over the study period, which agrees with several nationwide studies; and it is plausible that overcrowding may contribute to the decline in meeting guidelines that are based on weaker

published evidence. Our observation supports the need for additional studies to identify any barriers to the delivery of high-quality [asthma care](#) and to build more robust evidence for the current non-level-A recommendations."

Provided by Massachusetts General Hospital

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