

American Heart Association



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Door-to-Balloon Time Closing In On One Hour



By Larry Husten | Forbes – Tue, Aug 23, 2011

The door-to-balloon (D2B) time (the time it takes for a hospital to treat a heart attack patient after he or she arrives at the hospital) has fallen substantially since the launch of the D2B Alliance campaign in 2006, according to [a new report in *Circulation*](#). Harlan Krumholz (editor-in-chief of CardioExchange) and colleagues analyzed data reported to CMS from the beginning of 2005 through September 2010.

- D2B dropped from 96 minutes in 2005 to 64 minutes in the first 9 months of 2010.
- The percentage of patients treated within 90 minutes increased from 44.2% to 91.4%.
- The percentage of patients treated within 75 minutes increased from 27.3% to 70.4%.

The investigators reported that the biggest improvements were observed in groups that initially had the highest median times, including patients over 75 years of age, women, and blacks. They noted that the shift toward a 90-minute standard was provoked by the observation that primary PCI was superior to fibrinolytic therapy only if it could be given no later than 1 hour after fibrinolytic therapy would have been delivered.

Opportunities for improvement still remain, the authors write. The best hospitals now regularly achieve D2B times of 60 minutes and "this level of performance may become the new standard." In addition, many patients experience long delays when they are transferred to a hospital without PCI capability to a PCI-capable hospital.

"At the beginning of these efforts, many said that this level of improvement was impossible to achieve," Krumholz said, in an AHA press release. "This is an opportunity to reflect on our achievement and to recognize that, when we identify quality issues and problems in our healthcare system, we can work as a community to generate new knowledge to apply to practice and improve care for patients."



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PRESS RELEASE

Most heart attack patients needing angioplasty treated within recommended time

Study highlights:

- *More than 90 percent of heart attack patients who require an emergency artery-opening procedure known as angioplasty, are treated within the recommended 90 minutes, compared to less than half five years before.*
- *From 2005-2010, the average time from hospital admission to angioplasty decreased from 96 to 64 minutes.*
- *This significant improvement resulted from a concerted nationwide effort to improve care.*

DALLAS, Aug. 22, 2011 — Nearly all heart attack patients who require emergency artery-opening procedures are treated within the recommended 90 minutes from hospital arrival, compared with less than half the patients five years prior, according to research reported in *Circulation: Journal of the American Heart Association*.

Angioplasty for these patients should be performed as quickly as possible, preferably within 90 minutes of hospital arrival. During the procedure, a doctor opens the blocked artery by passing a thin balloon-tipped tube called a catheter into the heart vessel, restoring blood flow.

The period from hospital arrival to angioplasty is called “door-to-balloon” time, also known as D2B. For ST-segment elevation myocardial infarction (STEMI) patients, quick response is critical because this type of heart attack is caused by a complete blockage of blood supply to the heart. Every year in the United States, nearly 250,000 people suffer this type of heart attack.

In one of the most comprehensive analyses of angioplasty timeliness, investigators found that:

- 91 percent of patients were treated in a D2B time of less than 90 minutes in 2010, compared with 44 percent in 2005.
- 70 percent were treated in less than 75 minutes in 2010, compared with 27 percent five years earlier.
- The median time from hospital admission to emergency angioplasty declined from 96 to 64 minutes during the years studied.

“Everybody had to improve to get a national report card like this,” said Harlan M. Krumholz, M.D., lead author of the study and Harold H. Hines, Jr. Professor of Medicine and Epidemiology and Public Health at Yale University School of Medicine in New Haven, Conn. “This remarkable improvement demonstrates what we can achieve when we work together and is a tribute to the doctors, nurses and other healthcare professionals that applied the information from the research studies about how best to deliver care to ensure that patients are treated rapidly.”

Researchers analyzed nationwide hospital data, collected by the Centers for Medicare & Medicaid Services, from more than 300,000 patients undergoing emergency angioplasty Jan. 1, 2005, to Sept. 30, 2010, including those not covered by Medicare.

The recent progress stems from a concerted nationwide effort between federal agencies, healthcare organizations and clinicians to improve heart attack care and outcome by accelerating treatment, Krumholz said.

Several of the major initiatives include:

- **Hospital Compare**, launched in September 2005 as part of The Centers for Medicare & Medicaid Services’ program to publicly report the percentage of patients treated within recommended times;
- **D2B Alliance**, launched in November 2006 by the American College of Cardiology with national partners to improve D2B times by advocating the adoption of key strategies shown to reduce delays based on a study funded by the National Heart, Lung, and Blood Institute;
- **Mission: Lifeline**, launched in May 2007 by the American Heart Association to improve community-wide systems of care for patients with STEMI. Through Mission: Lifeline, systems of care are working to get patients to call 9-1-1 faster, to improve the response time and capabilities of the emergency medical service teams, to provide faster triage and transport from hospitals that don’t provide angioplasty to those that do, and to ensure the receiving hospitals’ team is in place ready to treat the patient as quickly as possible upon arrival.

“The findings of this study are remarkable in that there has been a dramatic improvement in timely care of heart attacks across the entire country,” said Chris Granger, M.D., chairman of the Mission: Lifeline steering committee and Professor of Medicine and director of the Cardiac Care Unit at Duke University Medical Center in Durham, N.C. “It shows what can be accomplished with systematic quality improvement efforts based on sound evidence. The results of this study reinforce the value of ongoing efforts to extend these improvements to emergency medical services, networks of hospitals and to all aspects of care of heart attacks, as is now being done in Mission: Lifeline.”

“At the beginning of these efforts, many said that this level of improvement was impossible to achieve,” Krumholz said. “This is an opportunity to reflect on our achievement and to recognize

that, when we identify quality issues and problems in our healthcare system, we can work as a community to generate new knowledge to apply to practice and improve care for patients.”

Co-authors are Jeph Herrin, Ph.D.; Lauren E. Miller, M.S.; Elizabeth E. Drye, M.D., S.M.; Shari M. Ling, M.D.; Lein F. Han, Ph.D.; Michael T. Rapp, M.D., J.D.; Elizabeth H. Bradley, Ph.D.; Brahmajee K. Nallamothu, M.D., M.P.H.; Wato Nsa, M.D., Ph.D.; Dale W. Bratzler, D.O., M.P.H.; Jephtha P. Curtis, M.D. Author disclosures are on the manuscript.

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