EMS prenotification results in more rapid evaluation and treatment of acute stroke patients, but is currently underutilized

Patterns, Predictors, Variations, and Temporal Trends in Emergency Medical Service Hospital Prenotification for Acute Ischemic Stroke. Cheryl B. Lin, BS; Eric D. Peterson, MD, MPH; Eric E. Smith, MD, MPH; Jeffrey L. Saver, MD; Li Liang, PhD; Ying Xian, MD, PhD; DaiWai M. Olson, PhD, RN; Bimal R. Shah, MD, MBA; Adrian F. Hernandez, MD, MHS; Lee H. Schwamm, MD; Gregg C. Fonarow, MD. J Am Heart Assoc. 2012;1:e002345 doi: 10.1161/JAHA.112.002345. Epub 7/10/12.

Emergency medical services (EMS) hospital prenotification of an incoming stroke patient is guideline recommended as a means of increasing the timeliness with which stroke patients are evaluated and treated. Data collected through the Get With The Guidelines (GWTG) - Stroke program allowed for the analysis of contemporary trends and associated predictors of EMS prenotification.

- Our analysis looked at 371 988 patients enrolled in the GWTG-Stroke registry from April 1, 2003 to March 31, 2011.
- Our analysis demonstrated that EMS pre-notification is under-utilized in contemporary practice.
- During the 8-year study period, hospital pre-notification was done for 67.0% EMS-transported patients, with substantial variations by geographical regions, by state, and by hospital.
- Black patients were also less likely to receive prenotification when compared to their white counterparts.
- Hospitals without academic affiliation, with high annual tPA volume, and those located outside the Northeast were more likely to receive EMS prenotification.
- Rates of EMS prenotification have shown only modest increases from 2003 to 2011.
- These results have identified healthcare disparities in stroke. Furthermore, they support the need for targeted initiatives to increase EMS pre-notification rates nationally to improve stroke outcomes.

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Emergency Medical Service Hospital Prenotification Is Associated With Improved Evaluation and Treatment of Acute Ischemic Stroke. Cheryl B. Lin, BS; Eric D. Peterson, MD, MPH; Eric E. Smith, MD, MPH; Jeffrey L. Saver, MD; Li Liang, PhD; Ying Xian, MD, PhD; DaiWai M. Olson, PhD, RN; Bimal R. Shah, MD; Adrian F. Hernandez, MD, MHS; Lee H. Schwamm, MD; Gregg C. Fonarow, MD. Circ Cardiovasc Qual Outcomes. 2012;5:00-00. Epub 7/10/12.

Increased timeliness in intravenous tissue-plasminogen activator (tPA) administration is essential to improving stroke outcomes. To this end, emergency medical services (EMS) prenotification may provide a means of reducing evaluation and treatment times, and improving treatment rates. Data collected through the Get With The Guidelines (GWTG)- Stroke program allowed for the analysis of contemporary trends in EMS prenotification and its association with stroke outcomes.

- Our analysis looked at 371 988 patients enrolled in the GWTG-Stroke registry from April 1, 2003 to March 31, 2011.
- Our results demonstrate that EMS prenotification was independently associated with greater percentage of eligible stroke patients being treated with tPA within 3 hours and within 4.5 hours.
- Furthermore, among those treated, EMS prenotification was independently associated with more timely arrival, evaluation and treatment of acute ischemic stroke.
- However, EMS prenotification is under-utilized in contemporary practice, with hospitals receiving prenotification for only two-thirds of all EMS-transported patients.
- These results support the benefits of targeted initiatives to increase EMS pre-notification rates nationally to improve stroke outcomes.

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