

International Stroke Conference 2014 abstracts and presentations are embargoed for release at the date and time of presentation or time of AHA/ASA news event. Late-Breaking Science abstract results are embargoed for the date and time of each session's start time in which the abstract is scheduled. No information may be released before then.

Presentation Number: LB12

Publishing Title: Improving Door-to-Needle Times in Acute Ischemic Stroke: Principal Results from the Target: Stroke Initiative

Author Block: **Gregg C Fonarow**, UCLA Medical Ctr, Los Angeles, CA; Xin Zhao, Duke Clinical Res Inst, Durham, NC; Eric E. Smith, Univ of Calgary, Calgary, AB, Canada; Jeffrey L. Saver, UCLA Neurology, Los Angeles, CA; Mathew J. Reeves, Michigan State Univ, East Lansing, MI; Deepak L. Bhatt, Brigham and Women's Hosp, Boston, MA; Ying Xian, Adrian Hernandez, Eric D. Peterson, Duke Clinical Res Inst, Durham, NC; Lee H. Swhwamm, Massachusetts General Hosp, Boston, MA

Abstract Body:

Background: The benefits of intravenous tPA in acute ischemic stroke are time-dependent and guidelines recommend a door-to-needle (DTN) time of ≤ 60 minutes, yet prior studies suggested fewer than 30% of patients in the US were meeting this goal. To address this shortfall, Target: Stroke, a national initiative organized by the AHA/ASA, was launched in 2010 to assist hospitals in increasing the proportion of patients with DTN times ≤ 60 minutes (initial goal of $\geq 50\%$).

Methods: Target: Stroke identified and disseminated 10 key best practice strategies associated with achieving faster DTN times, provided clinical decision support tools, and facilitated hospital participation, implementation of effective strategies, and sharing of best practices. Annual rates of DTN times ≤ 60 minutes and outcomes pre-TS 2003-2009 were compared to post-TS 2010-Sept 2013, including after adjustment for patient and hospital characteristics.

Results: There were 70,046 tPA treated patients (27,303 pre-TS; 42,743 post-TS) from 1029 GWTG-Stroke hospitals. Patient characteristics were similar in the pre- and post-TS periods. Median DTN time declined from 77 minutes pre-TS to 67 minutes post-TS ($P < 0.0001$), with the % of patients with DTN times ≤ 60 minutes increasing from 29.6% immediately prior to the start of TS (Q4 2009) to 54.2% in Q3 2013. The annual rate of increase in patients with DTN times ≤ 60 minutes was 6.24% per year post-TS vs. 1.32% per year pre-TS ($P < 0.0001$). Piecewise multivariable GEE analysis confirmed accelerated improvement post-TS independent of patient/hospital characteristics ($P < 0.0001$). Clinical outcomes improved significantly in the post-TS period (Table).

Conclusions: The timeliness of tPA administration improved substantially in GWTG-Stroke hospitals after initiation of the AHA/ASA Target: Stroke quality initiative. This improvement was accompanied by lower in-hospital mortality and tPA complications.

Figure: Time Trend in DTN Times within 60 Minutes Pre- and Post-Target: Stroke

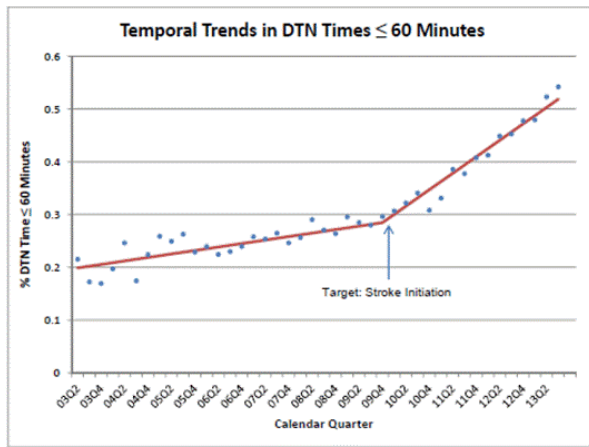


Table: Clinical Outcomes Pre- and Post-Target Stroke Implementation

Outcome	Pre-Target Stroke (n=27,303)	Post-Target Stroke (n=42,743)	P value	Adjusted Hazard Ratios (95% CI)*	P value*
In-Hospital Mortality	9.93%	8.25%	<0.0001	0.89 (0.83-0.95)	0.0004
Discharge Home	37.7%	42.6%	<0.0001	1.13 (1.08-1.19)	<0.0001
Ambulatory Status Independent	42.2%	45.3%	<0.0001	1.03 (0.97-1.09)	0.3957
Symptomatic ICH	5.68%	4.70%	<0.0001	0.84 (0.77-0.91)	<0.0001
tPA Complications	6.68%	5.51%	<0.0001	0.83 (0.77-0.90)	<0.0001

*adjusted for patient characteristics, including stroke severity (NIHSS), and hospital characteristics

Author Disclosure Block:

G.C. Fonarow: Employment; Significant; Dr. Fonarow is an employee of the University of California, which holds a patent on retriever devices for stroke. **X. Zhao:** Other; Modest; Dr. Zhao is a member of the Duke Clinical Research Institute which serves as the American Heart Association GWTG data coordinating center.. **E.E. Smith:** None. **J.L. Saver:** Employment; Significant; Dr. Saver is an employee of the University of California, which holds a patent on retriever devices for stroke.. Consultant/Advisory Board; Modest; CoAxia, Covidien, Grifols, Cygnis. **M.J. Reeves:** None. **D.L. Bhatt:** Research Grant; Modest; Amarin, AstraZeneca, Bristol-Myers Squibb, Eisai, Ethicon, Medtronic, Sanofi Aventis, The Medicines Company. Other Research Support; Modest; FlowCo, PLx Pharma, Takeda. Honoraria; Modest; American College of Cardiology (Editor, Clinical Trials, Cardiosource), Belvoir Publications (Editor in Chief, Harvard Heart Letter), Duke Clinical Research Institute (clinical trial steering committees), Population Health Research Institute (clinical trial steering committee), Slack Publications (Chief Medical Editor, Cardiology Today's Intervention), WebMD (CME Steering committees). Consultant/Advisory Board; Modest; Elsevier Practice Update Cardiology, Medscape Cardiology, Regado Biosciences, Board of Directors for Boston VA Research Institute, BOD, Society of Cardiovascular Patient Care, Chair, AHA GWTG Steering Committee. Other; Modest; Senior Associate Editor, Journal of Invasive Cardiology, Data Monitoring Committees, Duke Clinical Research Institute, Harvard Clinical Research Institute, Mayo Clinic, Population Health Research Institute. **Y. Xian:** Other; Modest; Dr. Xian is a member of the Duke Clinical Research Institute which serves as the American Heart Association Get with the Guidelines data coordinating center. **A. Hernandez:** Research Grant; Modest; BMS, Janssen, Medtronic, Merck, Portola. Honoraria; Modest; Boston Scientific, BMS, Gilead, Janssen, Novartis. **E.D. Peterson:** Research Grant; Modest; American College of Cardiology, American Heart Association, Society of Thoracic Surgeons, Eli Lilly & Company, Janssen Pharmaceutical Products. Consultant/Advisory Board; Modest; Boehringer Ingelheim, Genetech, Eli Lilly & Company, Janssen Pharmaceutical Products, Merck & Co., Sanofi-Aventis. **L.H. Sw Hamm:** Research Grant; Modest; NINDS, Genetech. Consultant/Advisory Board; Modest; Massachusetts Department of Public Health, The Joint Commission, Chair, GWTG Stroke Clinical Workgroup.