

Issue & Target Population

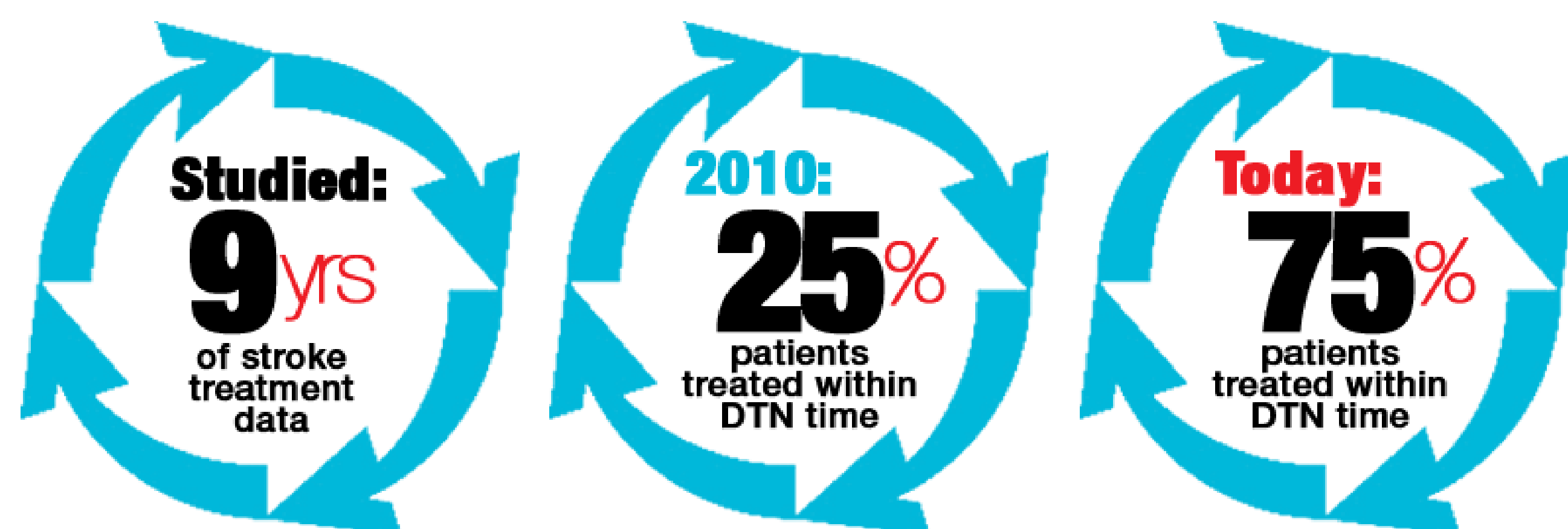
Stroke is the fifth leading cause of death in the US, and the number one cause of preventable disability. Over the past 10 years, the death rate from stroke has fallen about 35%, but the number of people having strokes is rising each year. This is due to the aging of our population and signs that strokes have increased in younger groups. The higher incidence of stroke equals a greater risk of permanent disability.

Every year, 795,000 Americans have a stroke, the 5th leading cause of death in the US.

What matters most in the protection of the brain from disability is time. When a patient has an acute ischemic stroke, caused by a clot in the brain, the recommended treatment is intravenous tissue plasminogen activator (tPA), a medication that breaks up the clot safely. The benefits of tPA are time-dependent, with guidelines for treatment within three hours of symptom onset and within 60 minutes of the patient's arrival at the hospital (door-to-needle or DTN time.)

What matters most for acute ischemic stroke: **TIME TO TREATMENT with tPA, including treatment within 60 minutes of patient arrival to hospital, or door-to-needle DTN Time.**

In 2010, Target: Stroke was introduced as a national initiative with the goal of doubling the number of eligible patients who receive tPA within the 60-minute DTN timeframe. In 2013-14, this goal was reached. Today, 75% of patients are treated within the 60-minute DTN time.



Intervention Target: Stroke

Target: Stroke enrolled more than 1,200 US hospitals in the first year. Participating hospitals committed to reaching the Target: Stroke performance goal of 50 percent or more of eligible patients treated with tPA within 60 minutes of hospital arrival. Key strategies were employed to meet this goal, including EMS pre-notification of hospitals, activating the stroke arrival team with a single call, rapid acquisition and interpretation of brain imaging, use of specific protocols and tools, premixing tPA, a stroke-team-based approach and rapid performance data feedback.

Each hospital receives a detailed toolkit, including the key strategies, protocols, stroke screening tools, order sets, algorithms, time trackers, patient education materials and other tools necessary to implement the program successfully. Materials are updated regularly and strategies for improving specific metrics are shared.

Hospitals are encouraged to share best practices with the Target: Stroke community as a way of disseminating lessons learned and improving systems overall.

Target: Stroke is supported on a local level by AHA/ASA Quality & Systems Improvement field staff who provide hands-on consultation and support for measurement, improvement, and strategy development.

	Study Period		Adjusted Odds Ratio (95% CI)	p Value
	Preintervention (n = 27 319)	Postintervention (n = 43 850)		
tPA DTN time, median (IQR), min	77 (60-98)	67 (51-87)		< .001
tPA DTN time ≤ 60 min, % (95% CI)	26.5 (26.0-27.1)	41.3 (40.8-41.7)		< .001
End of each period	29.6 (27.8-31.5)	53.3 (51.5-55.2)		< .001
Improvement in tPA DTN time ≤ 60 min, % per year (95% CI)	1.36 (1.04-1.67)	6.20 (5.58-6.78)		< .001
In-hospital all-cause mortality, %	9.93	8.25	0.89 (0.83-0.94)	< .001
Discharge to home, %	37.6	42.7	1.14 (1.09-1.19)	< .001
Independent ambulatory status, %	42.2	45.4	1.03 (0.97-1.10)	.31
Symptomatic intracranial hemorrhage within 36 h, %	5.68	4.68	0.83 (0.76-0.91)	< .001

Exhibit A
Fonarow GC, Zhao X, Smith EE, et al. Door-to-Needle Times for Tissue Plasminogen Activator Administration and Clinical Outcomes in Acute Ischemic Stroke Before and After a Quality Improvement Initiative. JAMA. 2014;311(16):1632-1640. doi:10.1001/jama.2014.3203.

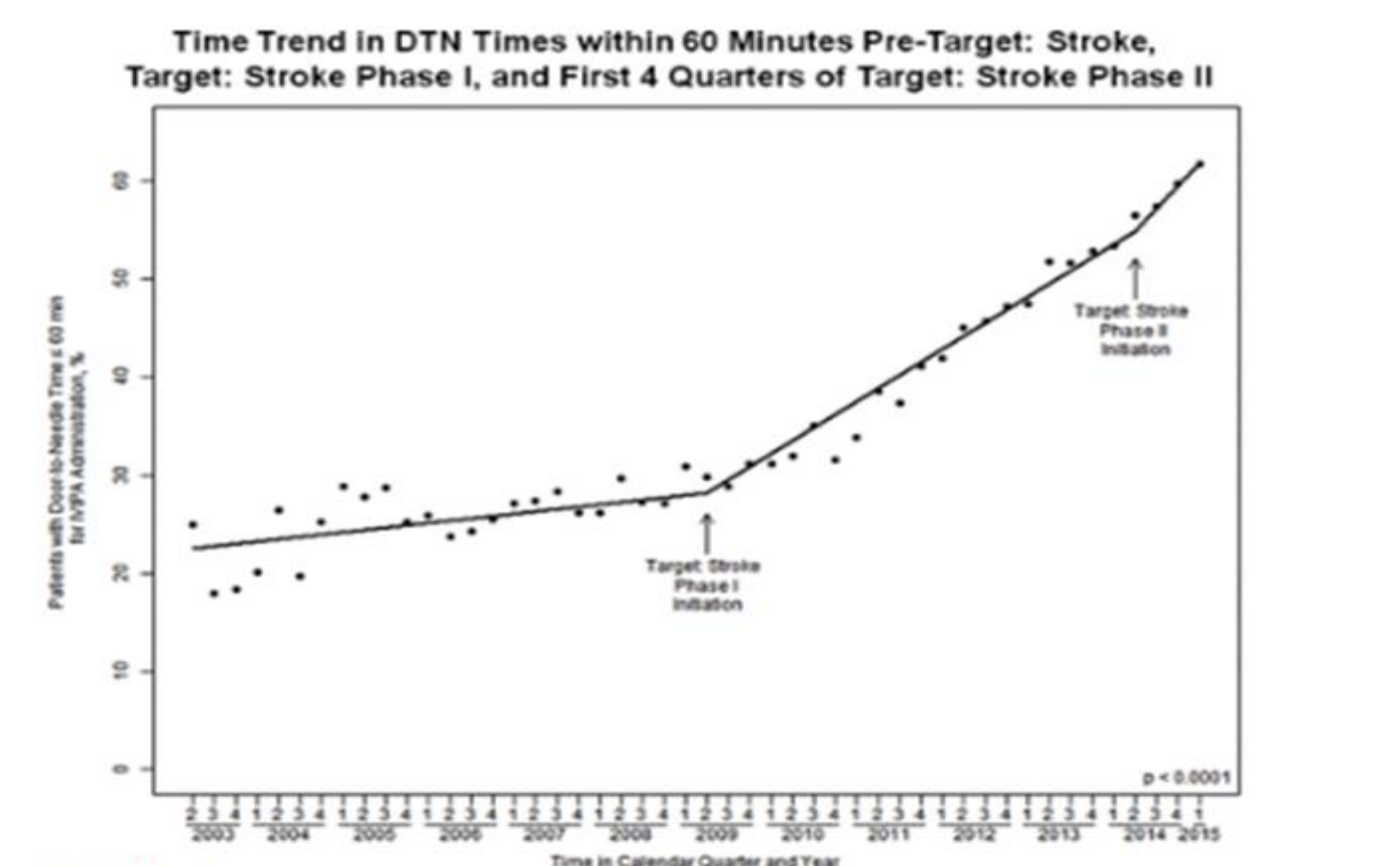


Exhibit B
Fonarow GC, Zhao X, Smith EE, et al. Door-to-Needle Times for Tissue Plasminogen Activator Administration and Clinical Outcomes in Acute Ischemic Stroke Before and After a Quality Improvement Initiative. JAMA. 2014;311(16):1632-1640. doi:10.1001/jama.2014.3203.

Impact Improved Outcomes

The positive impact of Target: Stroke was indicated in a study in JAMA¹

- Participating hospitals dropped average door-to-needle times from 74 minutes to 59 minutes – a 15 minute improvement.
- Overall, the percentage of patients treated within 60 minutes increased from less than 30% to more than 50%.
- Patients treated in 60 minutes have improved outcomes, including lower in-hospital mortality and reduced long-term disability.



Target: Stroke has had a dramatic impact on DTN times for patients. With the first four quarters of Phase II data examined:

- The percentage of patients with DTN times of < 60 minutes increased from 49.7% in the last 4 quarters of Phase I to 58.5% in Phase II.
- The percentage of patients with DTN times 45 minutes or less also increased from 22% to 29.2%.
- According to the authors of the JAMA article, the improvements seen in less than four years of Target: Stroke would have taken 15 or more years without the interventions.

In the past year, 879 hospitals achieved Target: Stroke recognition for their DTN performance. Their achievement is recognized through online mapping tools and in the US News & World Report annual Best Hospitals issue. This recognition provides hospitals with incentive to participate and to continue striving to meet and exceed patient treatment goals.



In 2016, Target: Stroke recognized 879 hospitals for DTN performance, providing hospitals with incentive to participate and to continue striving to meet & exceed treatment goals.