

# The Devil's in the Details: Optimizing Outcomes by Minimizing CT Time in a Community Hospital

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## Background

In community hospitals, intravenous rt-PA is often the only on-site treatment for acute ischemic stroke, requiring coordination of many activities during the “golden hour” of emergency management. This is a particular challenge, in that community hospitals typically have more limited staff, equipment, and experience. When our 124-bed NH hospital designed a new stroke program (2007), we adopted metrics from the American Heart Association’s Get With The Guidelines program and The Joint Commission’s Primary Stroke Center certification. Gap analysis exposed an opportunity for improvement (OFI) for CT turnaround time (TAT), with a target time from order to results = <45 min. CT TAT directly affects rt-PA use and therefore, outcomes. With our initial compliance at 40% (mean TAT = 217 min.), a quality improvement project was created.

## Purpose

The purpose of this project was to increase compliance with our CT TAT goal of 45 minutes or less & reduce the mean TAT for CT.



## Methods

### Step 1: Define the Process through the use of a Tracking Tool

Our gap analysis revealed inconsistencies in data collection. Although a log was maintained, there was great variation in the data documented. To improve the quality and quality of our data, a team was assembled to develop a tracking tool that would capture all required metrics. The tool was piloted and reviewed by the clinicians and administrative assistant who would be completing it, as well as the abstractors who would be obtaining data from it.



### Step 2: Analyze the Data to identify Opportunities for Improvement

Our quality coordinator extracts data from the electronic medical record, inputs it into a national stroke registry, and e-mails a preliminary report to the clinical experts for confirmation of each “not met.” Data analysis revealed multiple OFI’s—unclear orders, interdepartmental travel delays, conflicting priorities in the ER and radiology—as well as unavoidable outliers (respiratory arrest prior to CT).

### Step 3: Collaborate with Clinicians

The quality subcommittee analyzes the validated results, identifies trends and outliers, creates action plans, and then reports at the Stroke Steering Committee for the critical final step: information delivery to physicians and therapists, nurses and technologists, managers and administrators. Each department shares the same irrefutable evidence of process and performance opportunities for improvement.



### Step 4: Execute Revised Plan

Using data to inform practice, we clarified priorities, simplified orders, revised protocols, and educated staff on their role optimizing outcomes for acute stroke.



## Results

The first six quarters of data show dramatic improvement. The decreased turnaround time correlated with increased compliance with the TAT goal of 45 minutes\*. Unavoidable situations account for some, but not all, opportunities for improvement.



\*Correlation: -.986, significant at the 0.01 level.

## Conclusion

Compliance improved 108% and TAT by 84% by capitalizing on existing resources and using detailed data from a simple tracking tool. Next steps include examining relationships between our rt-PA use and CT TAT, applying lessons learned to reducing lab TAT's, and sharing our process improvement strategies with internal and external colleagues.