

Optimizing Acute Stroke Care

A Quality Improvement Initiative to Reduce and Sustain Door-to-Thrombolysis Time

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Problem Statement



Key Initiatives

- Timely reperfusion is critical — “Time is brain”
- Baseline Door-to-Thrombolysis Time (DTT) in 2023: >115 minutes
- Major delays: recognition, imaging, labs, team coordination, family consent
- Rising stroke volumes at our tertiary hospital

- Multidisciplinary Stroke Team
- Dedicated “Code Stroke” activation
- WhatsApp group for real-time coordination
- Monitored through 6 iterative PDCA cycles



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Aim & Study Design

Aim : To reduce average Door-to-Thrombolysis Time (DTT) and sustain gains long-term

Objective

Target : ≥ 50 % of cases treated within **60 minutes**

(Aligns with institutional & international benchmarks)

Maintain patient safety despite increasing case volumes

Study Design

- Prospective Quality Improvement study
- Period: April 2023 – December 2025 (6 PDCA cycles)
- Monthly data on all thrombolysed patients



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Methodology – Key Interventions

- Dedicated Code Stroke activation
- Multidisciplinary team with complete ownership
- WhatsApp group for instant coordination
- Point-of-care PT/INR testing
- Priority imaging + dedicated transport
- PRO-supported consent counselling

- Rapid Response Team paging
- Regular mock drills
- ER relocation near Radiology block for faster patient shifting
- Awareness videos for patient attenders to improve understanding & consent
- ER physician/resident escort to CT console for on-table thrombolysis



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Progressive Improvement Across 6 PDCA Cycles

Cycle	Period	Cases	Median DTT	Mean DTT	% within 60 min
1	Apr 2023 – Sep 2023	23	120	115.6	4.4%
2	Oct 2023 – Jan 2024	10	90	92.1	10%
3	Feb 2024 – Apr 2024	11	84	77.8	18.2%
4	May 2024 – Aug 2024	14	93	102	0%
5	Sep 2024 – Dec 2024	16	80	75.13	25%
6	Jan 2025 – Dec 2025	59	53	58.8	57.6%

2025: 57.63 % within 60 min (exceeded target)

Total Cases ↑ 40 % (42 in 2024 → 59 in 2025)

Functional outcome: 75.8 % mRS 0–2 at 90 days



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Discussion - Key Drivers & Learnings

- Dedicated team + Code Stroke + structured pathway = dramatic & sustained gains
- Volumes increased 40 % year-on-year — yet performance improved
- Strongest drivers: Rapid activation, WhatsApp coordination, point-of-care testing, priority imaging
- Temporary Cycle 4 rise overcome — process is robust
- Remaining delays: Mainly consent & stabilization
- Functional outcomes superior to benchmarks (75.8 % vs ~64 %)



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Conclusion & Way Forward

- Median DTT reduced to 53 minutes
- 57.63 % cases within 60 minutes in 2025 despite rising volumes
- Superior functional outcomes (75.8 % good recovery)
- Consent barriers identified — need targeted education
- Low-cost, replicable model for any tertiary centre.
- Continued focus on consent, pathways and patient education for further gains

“Time is brain — we proved it can be saved!”



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