



Winona Health

About Winona Health

Winona Health, a 49-bed nonprofit hospital in Minnesota, has been a Top 100 Rural and Community Hospital, recognized for excellence in cost management, quality care, and patient outcomes. Designated an Acute Stroke Ready Hospital since 2014, it has focused on optimizing stroke care. In 2023, Winona Health partnered with TeleSpecialists and Gundersen Health System for emergent TeleNeurology services. Before this, limited stroke data was collected, with estimated door-to-needle (DTN) times averaging 60–70 minutes.

The Challenge

The stroke program team assessed the current stroke flow to enhance efficiency and align with national best practices. They identified key delays, including:

- Provider-led activation protocols slowing alerts.
- Inconsistent CT/CTA bundling before TeleNeurology notification.
- Limited cart mobility due to lack of Wi-Fi capability.

These factors contributed to delays in stroke care, prompting the team to refine processes for more efficient and timely treatment.

The Solution

To enhance stroke care efficiency, the hospital implemented the following strategies:

- **Nursing & ED Training:** Staff received targeted education on early stroke recognition (FAST-ED screening) and activation delays.
- **Technology Upgrades:** Wi-Fi-enabled carts with extended battery life improved workflow efficiency.
- **Stakeholder Collaboration:** Radiology, lab, and clinical leadership worked together to address barriers.
- **Process Enhancements:** Parallel TeleSpecialists activation and a cart-to-CT workflow streamlined stroke alerts and treatment.

Results (2023–2024):

- 51% DTN improvement (71 min → 32 min)
- 55% decrease in DTN median
- 30% increase in DTN <30 min cases
- 65% faster thrombolytic administration
- 19% improvement in stroke alert activation

The cart-to-CT workflow, launched in July 2024, was a key driver of these improvements, demonstrating the power of technology and collaboration in stroke care.

The Takeaways

- ✓ Winona Health partnered with us and Gundersen Health System to enhance emergent TeleNeurology services, aiming to improve stroke care and reduce door-to-needle times.
- ✓ Process inefficiencies, including delayed stroke alerts, inconsistent imaging protocols, and outdated cart technology, led to treatment delays, prompting workflow refinements for faster, more effective stroke care.
- ✓ By optimizing workflows, enhancing provider training, and upgrading technology, Winona Health reduced DTN times by 51%, improving stroke care efficiency and patient outcomes.

DTN Cumulative Avg. 2023–2024



Winona Health 2023 to 2024 Door to Needle Average



Winona Health 2023 to 2024 Activation Time Average

