



# Strong Partnership Leads to Increased Documentation of EMS Pre-notification: City of West Allis Fire Department and Advocate Aurora West Allis Medical Center

Initial assessment and actions performed by emergency medical service (EMS) providers prior to hospital arrival have significant impacts on the patient's ensuing care and improving outcomes. EMS pre-notification of a patient with a suspected stroke is essential because it allows the receiving hospital to gather the necessary personnel and resources before the patient arrives. This increases the probability of stroke patients receiving time-sensitive treatments, which include intravenous thrombolytics within 4.5 hours of last-known-well (LKW), and mechanical thrombectomy within 24 hours of LKW<sup>1</sup>.

The City of West Allis Fire Department (WAFD) began a quality improvement initiative focused on pre-notification after annual data analysis from the Wisconsin Coverdell Stroke Program (Coverdell) showed that pre-notification documentation was low. In 2020, 13% of Wisconsin EMS stroke runs documented pre-notification to the receiving hospital for suspected stroke patients in the Wisconsin Ambulance Runs Data System (WARDS)<sup>2</sup>. In that same year, Wisconsin Coverdell hospitals reported a 74% pre-notification documentation rate in Get With The Guidelines® (GWTG®)<sup>3</sup>. There were vast differences between EMS and hospital documentation of this measure. Seeing these discrepancies, Deputy Chief Kyle Novak, WAFD, met with Coverdell Epidemiologist, Ka Z Xiong, to discuss this difference. From there, Deputy Chief Novak collaborated with Nikki Economy, Quality Management Data Support Specialist, and Bryna Shefferly, Quality Coordinator, Stroke Coordinator, Quality Management, from Advocate Aurora West Allis Medical Center (AAWAMC), with the goal to understand the process and increase pre-notification.

Trainings and communication were critical to this process. Deputy Chief Novak met with Shefferly and Economy to find out what information AAWAMC abstracts. Next, a hospital team activation grid (e-disposition 24) was added to the EMS Run Form, and paramedics received training on how to utilize the new grid in the form. The Run Form uploads directly to WARDS so hospitals can abstract the data. Without communication between WAFD, AAWAMC, and Coverdell, low pre-notification may have been overlooked.

Implementing a small test of change and educating WAFD service providers led to substantial gains in EMS pre-notification. From January to March 2022, before training on documentation, WAFD had 0% pre-notification. After WAFD made a concerted effort to document pre-notification, there was 94% pre-notification from April until June 7, 2022<sup>2</sup>.

Documentation of pre-notification is sustained through review by Deputy Chief Novak or battalion chiefs on shift. WAFD continues to communicate with AAWAMC to ensure that pre-notification documentation aligns.

## The Players

**Kyle Novak**  
Deputy Chief  
Bureau of Emergency Medical Services  
City of West Allis Fire Department

**Bryna Shefferly, MS, RN**  
Quality Coordinator  
Stroke Coordinator  
Quality Management  
Advocate Aurora West Allis Medical Center

**Nikki Economy**  
Quality Management Data Support Specialist  
Advocate Aurora West Allis Medical Center

**Ka Z Xiong, MPH**  
Epidemiologist  
Wisconsin Coverdell Stroke Program  
Wisconsin Department of Health Services

## What They Did

The City of West Allis Fire Department increased pre-notification documentation by educating paramedics and partnering with Advocate Aurora West Allis Medical Center.

## Accomplishments

**Increased documentation of pre-notification** from 0% in January to March 2022, to 94% pre-notification in April to June 7, 2022<sup>2</sup>.



“The Wisconsin Coverdell Stroke Program was the catalyst for everything.”  
—Bryna Shefferly

## Lessons Learned

**Communication between EMS and hospital** allows for improvements across the stroke systems of care. “Don’t be afraid to make relationships, find contacts, and ask questions”  
-Deputy Chief Novak

**Data-driven quality improvement** is achieved by monitoring report cards sent by the Wisconsin Coverdell Stroke Program. This allowed WAFD to see where gaps existed.

**Not documented, not done.** Paramedics from WAFD pre-notified AAWAMC of potential stroke patients via radio but were not familiar with the documentation before this initiative. Now, they understand the documentation and proudly take credit for their work.

## Success Factors

**Coverdell Report Cards** are instrumental. Monitoring the report cards sent by Coverdell helps WAFD identify where quality improvement initiatives would be helpful.

**Electronic Patient Care Records and WARDS** make it easy to share data securely with receiving hospitals for quick review.

**Engagement from the EMS crew** is crucial to increased documentation of pre-notification.

## Barriers and Challenges

**Delays in complete data presentation** is a barrier. There is a three-day delay in data accessibility between hospital and EMS on the WARDS side.

**Validation rules** in WARDS do not alert the paramedic entering data that pre-notification must be documented before submission. This is being worked on with the Wisconsin DHS WARDS office.

## Maintaining Success

**Continual review of data** ensures that WAFD documentation remains high. The training and reviews after documentation have contributed to success.

**Hospital-EMS Communication** is essential. During the initial pilot in April, Deputy Chief Novak contacted Economy to make sure there wasn’t any documentation missing with patients. Through this process, WAFD and AAWAMC have attained a collegial working relationship, which will allow for continued collaboration and assist them in providing the best care to stroke patients in their community.

**Advocate Aurora System Stroke Abstractor Group** enables nationwide collaboration and helps to promote quality improvement projects like this to other hospitals.

## Wisconsin Coverdell Stroke Program

The Wisconsin Coverdell Stroke Program works with hospitals, EMS, community organizations, and professional organizations across the state to support a healthier Wisconsin by helping to improve community stroke awareness and the quality of stroke care. Wisconsin EMS agencies and hospitals of all types and sizes are invited to be part of Coverdell. For more information, please visit the Wisconsin Coverdell Stroke Program’s [website](#).

## Citations

1. American Heart Association, Wisconsin Department of Health Services. The Importance of Pre-Notification, 2021.
2. Wisconsin Ambulance Runs Data System (WARDS) Elite Version 3.4, 2022.
3. American Heart Association Get With the Guidelines®, 2022.

