

HILO BENIOFF MEDICAL CENTER

Hawaii Medical Center Reduces Average Door-to-Needle Time by 41%



THE CHALLENGE

Seeing nearly 600 stroke cases per year, Hilo Benioff Medical Center is one of the leading stroke care centers in the state of Hawaii. With patients spread across rural areas and multiple islands, patient transportation takes up much of the critical treatment window for stroke cases. This makes efficient door-to-needle treatment times a top priority, striving for a less than 60-minute average door-to-needle time. Hilo Benioff was already seeing an average DTN time of 58 minutes, but stroke coordinator Caitee McAllister knew there was still room to improve.



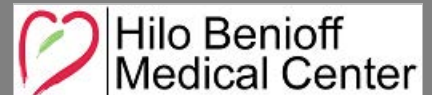
"The problem in our state as a whole is access to specialty services," McAllister said, "especially in the neighboring islands." HBMC, for example, does not have a thrombectomy center and utilizes telestroke services before administering Tenecteplase treatments. Connecting to neurologists from Queen's

Medical Center on Oahu has been a significant bottleneck for Hilo Benioff's stroke treatment times. "In order to activate neurologists to see the patient, you have to call the transfer line," McAllister explained. "The transfer line calls you back—it can take up to 20 minutes before they connect to the TeleStroke camera—and then once they connect and they do their exam, several minutes later, we prepare and administer the Tenecteplase."

With the process of contacting neurologists and evaluating the patient often taking up over half of the 60 minute door-to-needle treatment goal, Hilo Benioff Medical Center needed faster and more efficient lines of communication to both prehospital EMS teams and neurologists from other facilities.

THE SOLUTION

Thanks to a rural healthcare grant, Queen's Medical Center in Honolulu implemented Pulsara, a healthcare communication platform that excels at connecting prehospital and hospital teams throughout stroke care. After successfully implementing Pulsara on Oahu and in North Hawaii, neurologists from Queen's brought Hilo Benioff Medical Center on board.



With 166 total beds and one of the busiest ERs in the state, Hilo Benioff Medical Center (HBMC) is the largest facility in the Hawaii Health System Corporation and the leading provider of inpatient and outpatient care on Hawaii Island. HBMC operates as a Level III Trauma Center as well as a Primary Stroke Center. Since intensive and specialized medical care is sparse across the surrounding islands, Hilo Benioff has time-sensitive patients that often travel long distances from rural areas, including over the water.

KEY RESULTS

- ▶ Since implementing Pulsara for prehospital and hospital stroke care in October 2024, Hilo Benioff Medical Center saw impressive improvements in tenecteplase treatment times including:
- ▶ 24 minute (41.2%) reduction in average door-to-needle time when using Pulsara
- ▶ Contrast of average door-to-needle times down from 59 minutes to 34.1 minutes with Pulsara usage

Now when EMS contacts HBMC with a possible stroke patient through Pulsara, patient evaluation can begin right away. When an off-island neurologist is activated, they are instantly connected to the communication channel between HBMC and EMS, where they can use text messaging and video calls to conduct their examination. What was once a 30-minute process that began after the patient came through the door, can now begin before the patient arrives. According to McAllister, "by utilizing Pulsara, we're able to bypass the transfer line and have that automatic face-to-face video in the EMS rig, which has been huge."



In addition to easy, real-time communication between care providers, the Pulsara channel acts as a record of patient documentation. This has the added benefit of allowing Hilo Benioff Medical Center to search the patient's name ahead of time, planning care based on the patient's history and whether or not they are on blood thinners or any other pertinent medication. When using Pulsara, HBMC is as prepared as possible when the patient arrives.

THE RESULTS

Since implementing Pulsara for stroke cases in October 2024, Hilo Benioff Medical Center has seen improvements to door-to-needle time when Pulsara is activated. Of the 40 Pulsara cases activated in

2024, 9 received Tenecteplase treatment. These cases had markedly lower treatment times than non-Pulsara cases, with an average DTN time of 34.1 minutes, 41.2% faster than cases that use the transfer line. These cases alone were enough to lower HBMC's total average DTN from 58 minutes to 53.9 minutes in just 3 months.

While usage continues to ramp up for their stroke center, Hilo Benioff Medical Center is already considering expanding Pulsara usage beyond stroke care, including for STEMI and trauma. Encouraged by the results so far, Caitee McAllister said, "Pulsara works. The technology works. If it's your family, you want them to get the fastest treatment time and the most effective treatment possible. This feels like a big step in that direction, especially for rural communities."

