

# The Queen's Medical Center – Hawaii Stroke Network, Telestroke Video Transcript

I'm doctor Matthew Koenig and I'm a neurointensivist at The Queen's Medical Center and I'm also the Director of the Hawaii Stroke Network.

Which is a program that provides expert stroke care to patients who are seen at hospitals that don't have a stroke expert on site.

The program started about three years ago and um it really started with uh, uh, a survey of the needs among hospitals in Hawaii.

Which hospitals had a stroke expert on site twenty-four hours a day and which hospitals really needed that service provided to them.

Um and after we did the needs assessment survey, we then identified potential partner hospitals, that might benefit from having access to a stroke expert through telemedicine.

Um and that project really started an earnest about three years ago.

At that time we also um obtained funding from the Department of Health that has really been um the major engine behind the program.

Stroke is caused by blockage of blood flow to the brain.

tPA which is the only FDA approved medication for treatment of stroke works by restoring blood flow to the brain quickly.

As long as blood flow can be restored to the brain quickly, people can recover and not have permanent disability.

Telemedicine works by getting the provider to the bedside much faster so the medication can be started as quickly as possible after symptom onset.

And so the major goal is to make sure patients are treated as quickly as possible after symptom onset.

And one of the most important factors in getting patients treated quickly is to have people be able to recognize what the signs and symptoms of stroke are.

To know there's an emergency treatment available but it has to be given quickly after the onset of symptoms.

And so the, the biggest factor is really educating the public about what is stroke, what causes stroke, how do you recognize the symptoms of stroke and to know that if symptoms of stroke occur, the person needs to call 9-1-1 and be taken to their nearest hospital as quickly as possible.

So that's the first step in making sure people are treated quickly.

The second step, is to design uh a very streamlined system for taking care of patients in the Emergency Room.

So that patients with potential strokes are evaluated quickly, um the diagnostic workup that's done is completed quickly, and patients are treated quickly.

And so the goal from the American Heart Association, is that after a patient with stroke symptoms comes to the Emergency Room, then our goal is to treat them with tPA, within sixty minutes of, of arriving at the Emergency Room.

In the state of Hawaii, stroke is the number three cause of death among adults and it's always the number one cause of chronic disability among adults.

For patients who are below the age of sixty-five and have a stroke, only twenty percent of them are able to return to work.

Eighty percent of them are disabled, so it's a major public health problem and also a major problem for people.

Let me give you an example, about how telemedicine helps patients with stroke.

Let's take an example of a patient living on the North Shore of Oahu.

Um who develops symptom onset of right sided paralysis and difficulty speaking.

That's a sign of blockage of blood flow to the left side of the brain.

If you don't give clot buster medication to a patient who has blockage of uh blood supply to the left side of the brain, it will result in permanent disability.

That can be a devastating stroke.

That uh family of the patient is able to recognize the signs and symptoms of stroke and call 9-1-1 and the ambulance takes the patient to the nearest hospital.

That hospital may not have a stroke expert available twenty-four hours a day in their Emergency Room.

Um that stroke expert maybe on call but would have to drive from offsite from clinic or from home, thirty minutes to evaluate the patient in person in the Emergency Room.

What we know is that when blood flow is blocked to the brain, two million brain cells die every minute.

And so a thirty minute drive for the stroke expert to be able to evaluate the patient in the Emergency Room would result in sixty million neurons being permanently lost before the medication could be given.

Let's take the alternate example of telemedicine.

The same physician could see their patient in the Emergency Department by spending one minute logging on to the internet and then evaluating the patient through telemedicine.

In that way, that one minute, two million neurons would be lost instead of sixty million neurons over thirty minutes of transit time for the physician to get to the bedside.

So the Hawaii Stroke Network, currently involves only Queen's employed neurologists and neurointensivist.

Um we have three neurointensivist and we have two stroke neurologists who are neurohospitalists.

So the five of us, currently comprise of the call schedule for the Hawaii State Stroke Network.

However, it is an internet based uh system, whereby any provider could log on and be able to evaluate their patient as long as there is a web camera at hospital that they're serving.

And currently we partner with three hospitals.

Molokai General Hospital, Wahiawa General Hospital and Hilo Medical Center.

Uh we just uh executed a contract with Kona Community Hospital on the Big Island as well and so we're looking forward to launching our telestroke program.

We are also in talks with two other hospitals that we hope to um establish telemedicine partnerships with.

The Hawaii State Telestroke Project is currently funded through the Hawaii State Department of Health through their Neurotrauma Special Fund.

And that funding which is taxpayer supported, uh is based on partnering with seven hospitals in the state of Hawaii to provide uh stroke telemedicine coverage.

And so our goal is to complete our mission of partnering with seven hospitals in the state to provide expert stroke care for patients seen in their Emergency Departments.