

SB2126

Measure Title:

RELATING TO EMERGENCY MEDICAL SERVICES.

Report Title:

Wireless Electrocardiogram Data Transmission; Pilot Project (\$)

Description:

Requires department of health to establish a 2-year pilot project on Oahu to equip paramedics to transmit electrocardiogram data in the field or in ambulances directly to a hospital's emergency room or to a cardiologist prior a cardiac patient's arrival at an emergency room. Makes appropriation from the emergency medical services special fund.

Introducer(s):

CHUN OAKLAND

Current Referral:

HTH, WAM

LINDA LINGLE
GOVERNOR OF HAWAII



CHIYOME LEINAALA FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:

Senate Committee on Health

SB 2126 , RELATING TO EMERGENCY MEDICAL SERVICES

Testimony of Chiyome Leinaala Fukino, M.D.
Director of Health

February 6, 2008, 2:00 p.m.

- 1 **Department's Position:** The Department appreciates the intent of this measure provided it does not
2 adversely impact our Executive Supplemental Budget.
- 3 **Fiscal Implications:** Appropriates an unspecified amount of funds from the Emergency Medical
4 Services Special Fund to implement a pilot program of wireless electrocardiogram data transmission
5 from ambulances to hospitals. The potential cost of this initiative includes both the technology
6 necessary for transmission from the ambulances, as well as the technology necessary for the hospitals to
7 receive it and act upon it.
- 8 **Purpose and Justification:** The Department appreciates the overall intent of this measure; to reduce
9 the time needed to diagnosis and treat a specific type of "heart attack". The ST segment elevation
10 myocardial infarction often referred to as STEMI, results when a blood clot blocks a vital artery
11 supplying oxygen to the heart's muscle. This condition is best treated by opening the blocked blood
12 vessel as soon as possible with a tiny balloon advanced by a cardiologist. This procedure, called balloon
13 angioplasty, is performed by a special team in a cardiac catheterization suite at the hospital. The
14 cardiologists and team members are not in the cardiac catheterization suite ready to go 24 hours a day.
15 They are "on call", and will be activated to the catheterization suite upon the diagnosis of a STEMI.

1 The transmission of an electrocardiogram from an ambulance to an emergency department and
2 cardiologist in advance of the arrival of the patient could save vital minutes in this process. However,
3 this technology will not be of benefit unless it is reviewed immediately after transmission, and tied to an
4 on-call cardiologist and capability to treat the patient with balloon angioplasty. Unfortunately, while
5 Maui Memorial Medical Center is developing their interventional cardiology services, other neighbor
6 island hospitals do not have this capability, nor do all Oahu hospitals.

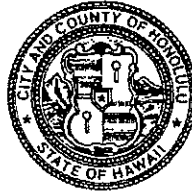
7 The Department respectfully submits that this measure may be unnecessary at this time as it is
8 redundant of current efforts already underway. A grant-funded pilot project for the same purpose is
9 already being undertaken by City and County of Honolulu Emergency Medical Services in conjunction
10 with The Queens Medical Center. Discussions with other hospitals on Oahu who may want to
11 participate and institute a system to respond to the pre-hospital electrocardiogram results are ongoing
12 and if interested, they can participate in the pilot project as well.

13 Thank you for the opportunity to testify.

HONOLULU EMERGENCY SERVICES DEPARTMENT
CITY AND COUNTY OF HONOLULU

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MUFI HANNEMANN
MAYOR



ELIZABETH A. CHAR. M.D.
DIRECTOR

February 4, 2008

The Honorable David Ige
16th Senatorial District
Hawaii State Capitol, Room 215
415 South Beretania Street
Honolulu, HI 96813

Dear Chair Ige and Committee Members:

RE: SB 2126, RELATING TO EMERGENCY MEDICAL SERVICES

The Emergency Services Department opposes SB 2126.

The Emergency Services Department supports the intent of the bill but opposes the bill in its current form. There is already a project in the works to equip City and County of Honolulu, Emergency Medical Services Ambulance and Rapid Response units with the ability to transmit EKG's to any hospital that wishes to receive them. In addition, this project is being done at no cost to the public, through a public, private partnership.

In addition, the bill makes inaccurate statements that a diagnosis of acute myocardial infarction (MI) or what is commonly known as a heart attack, is not made until the patient arrives in the emergency department and a cardiologist is summoned to make the diagnosis. In fact, Paramedics in Hawaii are well-trained and read EKG's every day and can diagnose some MI's. Emergency Physicians probably diagnose far more MI's than cardiologists, who are usually contacted after the diagnosis is made.

That being said, the Emergency Services Department supports the *intent* of the bill as getting the actual EKG to the hospital sooner may in some cases help to speed the activation of personnel needed for procedural intervention to lessen the effects of the heart attack.

Sincerely,

A handwritten signature in black ink, appearing to read "Elizabeth A. Char".

Elizabeth A. Char, M.D.
Director, Honolulu Emergency Services Department



COALITION FOR A
TOBACCO-FREE HAWAII

**RE: Senate Committee on Health, hearing schedule, February 1, 2008, 8:00 A.M., Conference Rm. 329
Representative Josh Green, M.D., Chair & Representative John Mizuno, Vice Chair**

RE: Testimony in Strong Support of SB 2126, Relating to wireless electrocardiogram data transmission.

Chair Green, Vice Chair Mizuno, and members of the Committee on Health.

Thank you for the opportunity to submit testimony in strong support of HB2063, which would create a pilot project to implement wireless electrocardiogram data transmission. My name is Paul C. Ho, and I am the Chief of Cardiology at Kaiser Permanente Hawaii.

Two years ago I appeared before this committee in support of Hawaii's smoke-free law. At that time I testified that as a Cardiologist I can only treat one patient at a time, and that passing the smoke-free would save more lives than I could in one year.

On January 9, 2008, I appeared before this committee to report on the significant drop in heart attacks that we were seeing at Kaiser Hospital, almost 25% since passage of the smoke-free law. Today I am here testify how we can even save more lives by providing our ambulances with wireless EKG transmission capability.

When an individual has heart attack or AMI (**an acute myocardial infarction**) "**TIME IS MUSCLE**".

This phase applies to artery-opening therapy. There are on two recommended procedures:

- Clot-busting medication (thrombolytics) or "Door to Needle Time"
- Balloon Angioplasty or "Door to Balloon Time"

In hospitals equipped with Cath Lab (Cardiac Catheterization Laboratory), primary angioplasty is preferred, and the ACC/AHA recommended Door-Balloon time is 90 minutes or less. Otherwise, the clot-busting medication is the only option and the recommended Door-Needle time is 30 minutes.

Procedurally what happens on Oahu is this;

1. The heart attack occurs
2. The EMS responds
3. Patient is evaluated by EMT's
4. Transport to Hospital
5. Arrive at Hospital ER (ER doc evaluation & 1st ECG 10 minutes.
6. Cardiologist contacted & Cath Lab personnel to come into hospital (30 minutes)



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While the Cardiologist and staff are driving to the hospital, the patient is acting having a heart attack in the Emergency Department (ED).

With wireless electrocardiogram data transmission, the Cardiologist and staff are notified of the heart attack while the patient is still at home. The Cardiologist and staff will begin their commute to the hospital while the patient is being transport by the ambulance. Often they arrive at the same time in the ED; the time saved is 30 minutes – 30 minutes of the patient’s active heart attack. This will save lives! This will save suffering and cost of medical care for those who survive a prolonged heart attack!

The American College of Cardiology (ACC)’s current guidelines specifically address the responsibilities EMS has in the early diagnosis of AMI. The guidelines strongly encourage active EMS involvement and urge advanced providers to perform and evaluate ECG’s of chest pain patients suspected of STEMI.

As I noted earlier “**TIME IS MUSCLE**”. It is essential for EMS providers to perform ECG’s in the field and to transmit them to the receiving hospital. Prehospital ECG’s are easily performed in about 2 minutes, do not significantly delay transport and case save a considerable amount of time once a patient arrives at the receiving Facility.

In closing I would say, I don’t think that there is anybody in this room on either side of the table that would dispute that saving time will save lives.

I will be happy to answer any questions that your may have.

Attachments: I have attached to my testimony a 2006 study from North Carolina showing the positive impact of ECG transmissions, as well as a brochure of what the system of “Field-to-Hospital” ECG transmission may look like.

Sincerely yours,
Paul C. Ho, MD, FACC, FSCAI
Chief, Division of Cardiology
Hawaii Region Kaiser Permanente

**George Massengale
1500 S. Beretania Street, Suite 309
Honolulu, HI 96816**

Email to: Committee on Health, testimony@Capitol.hawaii.gov

**RE: Senate Committee on Health, hearing schedule, February 6, 2008, 2:00 P.M.,
Conference Rm. 016**

Senator David Ige, Chair & Senator Carol Fukunaga, Vice Chair

RE: SB2126, Relating to Emergency Medical Services

TESTIMONY IN STRONG SUPPORT

Chair Ige, Vice Chair Fukunaga, and members of the Committee on Health. I'm here this morning as an individual to offer my testimony in strong support for SB2126. In 1999, I suffered a heart attack which subsequently resulted in a quadruple heart bypass. No doubt I could be a potential consumer of wireless transmission of electrocardiogram data.

I met Dr. Paul Ho, who is a cardiologist 3 years ago, when he became involved in with the Coalition for a Tobacco-Free Hawaii's effort to pass our smoke-free law. About two years ago, he shared with me the concept of wireless transmission of EKG data to cut down on the time it took for individuals to receive appropriate treatment, whether an emergency angioplasty or clot blocking medication. In any case I certainly do understand "time is of the essence" and our current system of not transmitting EKG early or calling a cardiologist until after one has reached the ER is not efficient.

This past September, Paul asked for my assistance in making wireless transmission of EKG data a reality. Early on I shared with him my understanding of the legislative process—which I still don't fully understand myself. However, I do understand that proposed bills that a revenue neutral or have an identifiable existing funding stream have a much better chance of gaining passage. I will limit the remainder of my testimony on this issue.

Two years ago, I also had the privilege of working on passing Act 316, the cigarette tax measure to fund the Hawaii Cancer Research Center, and other critical health related programs including emergency medical services. Beginning September 30, 2007, the Emergency medical services special fund began receiving 0.25 cents on each cigarette sold, although no one has the exact number on how much revenue the 0.25 cents will generate for the period ending October 1, 2008, my estimate is approximately \$2 to 2.5 million. I would suggest that the monies, if needed, for this pilot come from this revenue stream. Although, I don't know what the exact cost would be for this pilot program, mostly equipment, I would think the cost would be minimal.

In closing I would say that this is a good bill, it will save additional lives, on Oahu for now, and hopefully this pilot program will become statewide. In early January this committee had a legislative briefing of the impact of Hawaii's smoke-free law. Preliminary data presented at that briefing strongly suggested that there has been a substantial drop in heart attack admissions and deaths in Hawaii because of the smoke-free law. Reducing the time it takes to evaluate a MI patient in an emergency situation, can only result in lowering the death rate further.

Thank you for the opportunity to testify before you this morning.

Respectfully,



George Massengale, JD