

**TESTIMONY OF
THE DEPARTMENT OF THE ATTORNEY GENERAL
TWENTY-SEVENTH LEGISLATURE, 2013**

ON THE FOLLOWING MEASURE:

H.B. NO. 1482, H.D. 1, RELATING TO HEALTH.

BEFORE THE:

HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

DATE: Monday, February 25, 2013 **TIME:** 2:30 p.m.

LOCATION: State Capitol, Room 325

TESTIFIER(S): David M. Louie, Attorney General, or
Ann Andreas, Deputy Attorney General

Chair McKelvey and Members of the Committee:

The Department of the Attorney General provides the following comments on this bill.

The purpose of this bill is to create a new part in chapter 323, Hawaii Revised Statutes, that would: (1) require the Department of Health (DOH) to recognize hospitals or health care facilities that meet the criteria for three levels of stroke care, (2) publish a list of recognized hospitals and health care facilities and their levels of recognition, and (3) establish a statewide stroke database.

While the general powers and duties of the DOH do not encompass establishing clinical standards of care, this bill moves the DOH into that role, creating the potential for the DOH's exposure to significant liability. This bill requires the DOH to recognize three classifications of stroke care programs. Each of the classifications reference criteria specified by the American Heart Association, the American Stroke Association, or the Brain Attack Coalition. In addition, at page 7, lines 5-8, this bill allows the DOH to accept an accreditation or certification from the Joint Commission, or "other nationally recognized organizations that use criteria consistent with the American Heart Association, the American Stroke Association or the Brain Attack Coalition's criteria." The lack of specificity as to the standard by which the DOH will be expected to determine the level of stroke care provided by a facility can be expected to create opportunities for at least confusion, inconsistency, and ambiguity as the DOH proceeds with implementation of the bill, and possibly liability for the State if the DOH's actions or inability to act contributed to a stroke patient's injury or death.

At page 9, lines 6-9, this bill also requires the DOH to “adopt standardized pre-hospital stroke-triage assessment guidelines for use by recognized stroke centers and emergency medical services and publish the guidelines on its website.” This provision is so vague that it can be read as a mandate to redefine emergency medical services standards of care without providing any criteria as to what those standards should be.

The Department of the Attorney General has concerns that this bill creates a “regulatory” scheme, but provides no enforcement authority for the DOH. The lack of a fully developed regulatory scheme also contributes to the potential for significant liability. For example, at page 6, lines 13-17, this bill requires the hospital or health care facility seeking recognition to submit an application to the DOH without allowing the DOH to specify the contents of the application or the documentation required to support the application. The bill fails to give the DOH any authority to require additional documentation or investigate the facility seeking recognition. In fact, if the facility submits documentation of its accreditation or certification from American Heart Association, American Stroke Association, or Brain Attack Coalition, this bill requires the DOH to presume that the facility meets the classification criteria set forth in the bill. Because these organizations and the Joint Commission issue such accreditations or certifications, the DOH’s determination that a facility meets the criteria for a certain level of recognition does not appear to be necessary or meaningful. The bill, however, allows recognized hospitals and health care facilities to advertise to the public their “state-approved status” and “state level recognition.” Page 8, line 13.

The bill does not give the DOH any authority to enforce this regulatory scheme. As set forth on page 7, lines 19-22, the only information that the DOH receives about a recognized facility’s current status is an annual self-report by affidavit of its chief executive officer that the facility “continues to meet” the necessary criteria. If the facility fails to meet criteria for recognition for more than six weeks or chooses not to maintain its recognition, it self-reports that failure or choice to the DOH. See page 8, lines 1-4. The bill, however, does not specify any process for removal the facility’s name from the DOH’s list of recognized facilities. Other common aspects of a regulatory scheme are missing from this bill. The bill does not specify a complaint report and resolution process or authorize the DOH to establish such a process by rulemaking. The DOH has no authority to suspend or revoke any facility’s level of recognition.

The bill involves the DOH in improvement of care for stroke patients by mandating that the DOH require both recognized stroke centers and emergency medical services to demonstrate effective use of unspecified recommendations and clinical practice guidelines and maintain quality assurance programs that include performance measurements and improvement activities. See page 9, lines 11-16. The performance measurements will have to be consistent with nationally recognized guidelines such as those published by the American Heart Association or the Joint Commission, and reported to the DOH. Again, the lack of a specific standard creates ambiguity, and the lack of any enforcement powers means that the DOH will be collecting information that will not lead to remedial action.

In prior testimony on this bill's companion measure, the Director of Health expressed "some concerns over what liability the State may incur as an ostensible certifier of the quality of medical practice and policy." The Director's concern is well founded. If a stroke patient suffered a serious adverse outcome at a hospital or health care facility recognized by the DOH as providing a certain level of care to stroke patients and if the care provided actually failed to meet the criteria for the recognized level of care, the DOH could be exposed to significant liability for the adverse outcome.

Accordingly, the Department of the Attorney General respectfully requests that the Committee hold this bill.



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Monday, February 25, 2013 – 2:30 pm
Conference Room 325

The House Committee on Consumer Protection & Commerce

To: Representative Angus McKelvey, Chair
Representative Derek Kawakami, Vice Chair

From: Celeste Mausolf, RN, BSN, MBA
Executive Director, Cardiovascular Service Line

Re: HB 1482, HD1 RELATING TO HEALTH – Testimony in Strong Support

My name is Celeste Mausolf and I am the Executive Director of the Cardiovascular Service Line for Hawaii Pacific Health (HPH). HPH is a nonprofit health care system and the state's largest health care provider anchored by its four nonprofit hospitals: Kapi'olani Medical Center for Women & Children, Pali Momi Medical Center, Straub Clinic & Hospital and Wilcox Memorial Hospital on Kauai. HPH is committed to providing the highest quality medical care and service to the people of Hawai'i and the Pacific Region through its four affiliated hospitals, 49 outpatient clinics and service sites, more than 5,400 employees and 1,300 physicians on staff.

We are writing in **strong support** of HB 1482, HD1 which establishes a stroke system of care in the State of Hawaii as well as requirements for the measuring, reporting and monitoring of stroke care performance through data collection of a stroke database.

HB 1482, HD1 represents the collaborative efforts of the American Heart Association, Department of Health, and various health care providers including Pali Momi Medical Center and Straub Clinic & Hospital. This bill will help to create an effective system to support the rapid assessment and triage of stroke patients so that they are treated in a timely manner. The creation of this legislation will lead to greater collaboration and coordination among health care providers, and most importantly facilitate better data collection to guide efforts to better patient outcomes.

The bill is also drafted with sensitivity to the Department of Health's budget considerations by leveraging existing data collection and benchmarking activities to develop the much needed data registry.

We are continuing our ongoing discussions with the stakeholders on this measure. We ask that this Committee pass the bill so that these discussions can continue.

Thank you for the opportunity to provide this testimony.



Affiliates of Hawai'i Pacific Health



H.B. 1482, HD1 Relating to Health
House Committee on Consumer Protection and Commerce
February 25, 2013 – 2:30 p.m.
Room 325

We are Matthew Koenig, M.D., stroke neurologist and Associate Medical Director of Neurocritical Care, Karen Seth, Director, Neuroscience Institute and Ancillary Services, and Cherylee Chang, M.D., Director of the Stroke Center and Medical Director of the Neuroscience Institute/Neurocritical Care, all of The Queen's Medical Center. We would like to provide testimony in **strong support** of HB 1482, HD1, Relating to Health.

The Stroke Center at The Queen's Medical Center has been the only hospital certified by The Joint Commission (TJC) as a Primary Stroke Center in the State of Hawaii since 2004. Currently, TJC Primary Stroke Center certification is the most widely recognized process for medical centers seeking certification nationally. "The Joint Commission's Certificate of Distinction for Primary Stroke Centers recognizes centers that make exceptional efforts to foster better outcomes for stroke care."(1)

Queen's has also been instrumental in working with the American Stroke Association, the Hawaii State Department of Health (DOH), the Hawaii Neurological Society, and other hospitals and local organizations over the last sixteen years to strengthen the State's stroke system of care, including actively participating in a stroke coordinator collaborative established by the American Stroke Association. We have been heavily involved with professional and community stroke education and outreach efforts, such as sharing best practices at workshops about how other hospitals can become certified as a TJC Primary Stroke Center. Queen's is also the hub hospital for the **The Hawaiian Islands Regional Stroke Network**, which is funded by a grant from the DOH Neurotrauma Supports Fund. This network increases patient access to expert stroke consultation through the establishment of a telemedicine-based regional stroke network and increases public education about the recognition of stroke symptoms and the need to call 911.

As such, The Queen's Stroke Center has been working to strengthen the system of stroke care throughout all areas of the state. There is indeed a need to facilitate the development of stroke treatment capabilities and improve the access to emergency stroke care across the state. As the leading cause of chronic adult disability and the third leading cause of death, stroke is a major public health problem in Hawaii. Reliable data regarding the incidence of stroke, access to acute stroke expertise, and utilization of alteplase (tPA) – the only FDA-approved treatment proven to reduce long term disability in acute stroke – are currently lacking in the state. Based on our best estimate, however, recent alteplase (tPA) utilization rates have been around one-third of the national average and far below those of well-organized stroke systems of care in other states. The major barrier to acute stroke treatment in Hawaii is the lack of a coordinated system of stroke care whereby patients with acute stroke symptoms are rapidly triaged to centers with rapid, on-site stroke expertise. Without such a system, emergency physicians in the state are often hesitant to treat patients with acute stroke at smaller hospitals where coordinated post-treatment care pathways and other safety measures are lacking. In order to successfully address these problems, the majority of U.S. states have passed similar legislation to adopt a coordinated statewide stroke system of care (see attached map). If the current

bill passes, Hawaii will join more than thirty states that have enacted similar legislation. Creation of a statewide stroke system of care will lead to significant long term cost savings due to the reduction of chronic disability among stroke survivors (see attached document).

The current bill has several merits that will directly improve acute stroke care in the State. All of these elements are necessary for the State to meet current standards of care for acute stroke treatment as outlined in the 2013 Guidelines for the Early Management of Patients With Acute Ischemic Stroke from the American Heart Association/American Stroke Association and endorsed by the American Academy of Neurology and the American Association of Neurological Surgeons (see attached excerpt).

- 1) The bill outlines a recognition program for three tiers of acute stroke care: comprehensive stroke center, primary stroke center, and stroke support facility. This recognition program provides an aspirational framework for hospitals in the state to raise the level of stroke care we provide to meet current national standards. It also provides a platform for appropriate pre-hospital triage by EMS and inter-hospital collaborative care and transfer agreements so state hospitals can better work together to share stroke expertise.
- 2) The bill supports efforts by EMS providers to establish a uniform tool for pre-hospital recognition of stroke symptoms and early notification of emergency physicians so patients can be evaluated more efficiently and receive treatment more rapidly.
- 3) The bill creates a statewide registry of stroke data overseen by the DOH, which will provide much needed data about the incidence of acute stroke, alteplase (tPA) treatment rates, and quality-of-care indicators. Importantly, these data will be collected and analyzed by the DOH without having to create a freestanding registry or requiring hospitals to report redundant data. In Hawaii, hospitals already submit data through the American Heart Association-sponsored database Get With The Guidelines – Stroke. By customizing the Get With The Guidelines – Stroke database for Hawaii hospitals and allowing the DOH “super-user” access to the existing database, the DOH will be able to evaluate the quality of stroke care without significant additional expenses.

We are also supportive of the continued dialogue that the DOH and other stakeholders are engaging in around the language of this measure. Pending the outcome of these discussions, amendments may be proposed at a later time.

As stroke providers, we see a tremendous need for a coordinated stroke system of care to address disparities in access to stroke expertise throughout the state and reduce the chronic disability caused by stroke. This legislation is a major step forward in advancing stroke care in the state and will directly benefit the people of Hawaii.

Thank you for the opportunity to testify.

Literature cited:

1. http://www.jointcommission.org/certification/primary_stroke_centers.aspx

Guidelines for the Early Management of Patients With Acute Ischemic Stroke

A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association

The American Academy of Neurology affirms the value of this guideline as an educational tool for neurologists.

*Endorsed by the American Association of Neurological Surgeons and Congress
of Neurological Surgeons*

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Max Wintermark, MD; Howard Yonas, MD; on behalf of the American Heart Association Stroke
Council, Council on Cardiovascular Nursing, Council on Peripheral Vascular Disease,
and Council on Clinical Cardiology

Background and Purpose—The authors present an overview of the current evidence and management recommendations for evaluation and treatment of adults with acute ischemic stroke. The intended audiences are prehospital care providers, physicians, allied health professionals, and hospital administrators responsible for the care of acute ischemic stroke patients within the first 48 hours from stroke onset. These guidelines supersede the prior 2007 guidelines and 2009 updates.

Methods—Members of the writing committee were appointed by the American Stroke Association Stroke Council's Scientific Statement Oversight Committee, representing various areas of medical expertise. Strict adherence to the American Heart Association conflict of interest policy was maintained throughout the consensus process. Panel members were assigned topics relevant to their areas of expertise, reviewed the stroke literature with emphasis on publications since the prior guidelines, and drafted recommendations in accordance with the American Heart Association Stroke Council's Level of Evidence grading algorithm.

Results—The goal of these guidelines is to limit the morbidity and mortality associated with stroke. The guidelines support the overarching concept of stroke systems of care and detail aspects of stroke care from patient recognition; emergency medical services activation, transport, and triage; through the initial hours in the emergency department and stroke unit. The guideline discusses early stroke evaluation and general medical care, as well as ischemic stroke, specific interventions such as reperfusion strategies, and general physiological optimization for cerebral resuscitation.

The American Heart Association makes every effort to avoid any actual or potential conflicts of interest that may arise as a result of an outside relationship or a personal, professional, or business interest of a member of the writing panel. Specifically, all members of the writing group are required to complete and submit a Disclosure Questionnaire showing all such relationships that might be perceived as real or potential conflicts of interest.

This statement was approved by the American Heart Association Science Advisory and Coordinating Committee on December 12, 2012. A copy of the document is available at <http://my.americanheart.org/statements> by selecting either the "By Topic" link or the "By Publication Date" link. To purchase additional reprints, call 843-216-2533 or e-mail kelle.ramsay@wolterskluwer.com.

The Executive Summary is available as an online-only Data Supplement with this article at <http://stroke.ahajournals.org/lookup/suppl/doi:10.1161/STR.0b013e318284056a/-/DC1>.

The American Heart Association requests that this document be cited as follows: Jauch EC, Saver JL, Adams HP Jr, Bruno A, Connors JJ, Demaerschalk BM, Khatri P, McMullan PW Jr, Qureshi AI, Rosenfield K, Scott PA, Summers DR, Wang DZ, Wintermark M, Yonas H; on behalf of the American Heart Association Stroke Council, Council on Cardiovascular Nursing, Council on Peripheral Vascular Disease, and Council on Clinical Cardiology. Guidelines for the early management of patients with acute ischemic stroke: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*. 2013;44:***-***.

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In one study, 9-1-1 dispatchers correctly identified 80% of all stroke calls if the caller mentioned specific words such as stroke, facial droop, weakness/fall, or communication problems.³¹ If there is diagnostic concordance of stroke between dispatchers and paramedics, the scene time and run times are shortened.³² Once a stroke is suspected, it becomes a high-priority dispatch.

EMS Assessment and Management

As detailed in the recent update of the AHA's Emergency Cardiovascular Care Committee recommendations for acute stroke, the primary goals of EMS assessment and management are rapid evaluation, early stabilization, neurological evaluation, and rapid transport and triage to a stroke-ready hospital.¹⁵ As in all scene responses, EMS personnel must assess and manage the patient's airway, breathing, and circulation (ABCs). Most patients with acute ischemic stroke do not require emergency airway management or acute interventions for respiratory and circulatory support.

Several prehospital interventions to improve the overall physiological state may be beneficial to patients with suspected acute stroke. Prehospital care has emerged from general principles of resuscitation. Although data from prehospital clinical trials are not always stroke-specific, they do provide guidance for making recommendations for potential stroke patients. Although the routine use of supplemental oxygen remains unproven, supplemental oxygen to maintain oxygen saturations >94% is recommended after cardiac arrest and is reasonable for patients with suspected stroke.^{13,33} In potential stroke patients who are hypotensive, defined as blood pressure significantly lower than premorbid state or systolic blood pressure <120 mmHg, placement of the head of the stretcher flat and administration of isotonic saline may improve their cerebral perfusion. In contrast, in patients who are hypertensive (systolic blood pressure \geq 140 mmHg), the benefit of routine prehospital blood pressure intervention is not proven; consultation with medical control may assist in making treatment decisions regarding patients with extreme hypertension (systolic blood pressure \geq 220 mmHg). The types of antihypertensive medications used in this setting are described in the inpatient section of hypertension management. Hypoglycemia is frequently found in patients with strokelike symptoms; thus, prehospital glucose testing is critical. If a patient is found to have blood glucose levels <60 mg/dL, intravenous administration of glucose may resolve the neurological deficits. For nonhypoglycemic patients, excessive dextrose-containing fluids have the potential to exacerbate cerebral injury; thus, normal saline is more appropriate if rehydration is required. Lastly, establishment of an intravenous line in the field not only facilitates the administration of prehospital medications and fluids but can also shorten treatment times in the ED. When possible, EMS may obtain blood samples for laboratory testing en route to the ED, where they can immediately be given to the laboratory on arrival. These steps may take place while stroke patients are being transported. There should be no delay in getting the stroke patient to the ED by establishing intravenous access, checking blood glucose level, or obtaining blood samples. Although all of these recommendations represent the ideal scenario, it is critical that interventions not delay transport of the patient to the hospital.

Once the initial patient assessment and stabilization are complete, EMS personnel may obtain a focused history from the patient or bystanders. The most important piece of information necessary for potential fibrinolytic treatment is the time of symptom onset, defined as the time the patient was last known normal. Often patients are aphasic or are unaware of their deficits and arrive without accompanying family who can provide necessary information. Thus, it is critical for EMS personnel to establish the time the patient was last known normal from those at the scene. Other important historical elements include any sign of seizure activity or trauma before onset of symptoms. Elements of the past medical history can assist in the prehospital diagnosis of stroke or a stroke mimic, such as history of seizures or hypoglycemia. A history of prior stroke, diabetes mellitus, hypertension, and atrial fibrillation all increase the likelihood that the patient's symptoms are caused by stroke. EMS personnel can identify current medications, especially any anticoagulants, and recent illnesses, surgery, or trauma. EMS personnel also can obtain phone numbers at which family members or witnesses can be reached by ED personnel to provide further history after arrival. When stroke patients are unable to provide information to hospital care providers, EMS personnel may consider transporting a family member along with the patient.

Once the primary survey is complete, EMS personnel should perform a more focused organ system assessment, but transport should not be delayed. Numerous prehospital neurological assessment tools have been developed to accurately identify stroke patients, which facilitates appropriate field treatment, prearrival notification, and routing to an appropriate hospital destination.^{34,35} Given regional differences in stroke systems of care, local EMS personnel may use a regionally appropriate, validated prehospital neurological assessment tool. As with all prehospital evaluations, EMS personnel typically complete a secondary survey, reviewing the head and neck for signs of trauma, auscultating the heart and lungs, and observing the patient's extremities for any signs of trauma. To ensure optimal prehospital care, hospital stroke providers should provide feedback to EMS agencies as part of continuous quality improvement projects.

As is the case for patients with trauma or acute myocardial infarction, prehospital notification by EMS of a potential stroke is essential. Several studies have shown that prehospital notification leads to significant reductions in several stroke time benchmarks, including time from arrival to physician assessment, CT performance, and CT interpretation, and is associated with higher rates of intravenous rtPA administration.^{26,36-38}

Air Medical Transport

Air transport service is particularly useful to facilitate stroke care in remote areas. As part of regional stroke systems of care, activation of air medical transport for stroke is reasonable when ground transport to the nearest stroke-capable hospital is >1 hour.⁵ Local stroke hospitals may provide expertise to help create activation protocols and in-flight stroke management protocols to ensure safe and appropriate patient transports.^{39,40}

Interhospital Transport

With the development of primary stroke centers (PSCs) and comprehensive stroke centers (CSCs), which offer intra-arterial strategies, interhospital transfers of acute stroke patients are increasingly common. Some patients are transferred before fibrinolytic therapy, whereas others receive intravenous tPA and then are transferred for higher-level care. Delaying intravenous tPA therapy until after transport in otherwise eligible patients decreases the chance for a good outcome. In the "drip-and-ship" model, in which the patient begins to receive standard-dose intravenous tPA before transfer, well-designed protocols that include strict adherence to blood pressure guidelines, assessment for clinical deterioration and bleeding, and aspiration precautions ensure safe interhospital transport. Transport personnel should be able to contact medical command or the receiving facility about any change in the patient's condition en route.

Conclusions and Recommendations

EMSS are essential elements in all stroke systems of care. Beginning with public education on recognizing signs and symptoms of stroke and the need for calling 9-1-1, these first elements in the stroke chain of survival are arguably the most important. Calling 9-1-1 and using EMS are the preferred ways of providing optimal prehospital stroke care and transport to stroke centers. Specific time frames have been established for the EMSS to follow on dispatch, response, and on-scene activities, and this should be monitored continuously. Notification of the receiving institution before arrival is critical because it facilitates the rapid diagnosis and management of stroke patients. All efforts must be made to avoid unnecessary delays during patient transport. Statewide, standardized EMS education and stroke care protocols for EMSS improve prehospital stroke recognition and management.

Recommendations

1. To increase both the number of patients who are treated and the quality of care, educational stroke programs for physicians, hospital personnel, and EMS personnel are recommended (Class I; Level of Evidence B). (Unchanged from the previous guideline¹³)

2. Activation of the 9-1-1 system by patients or other members of the public is strongly recommended (Class I; Level of Evidence B). 9-1-1 Dispatchers should make stroke a priority dispatch, and transport times should be minimized. (Unchanged from the previous guideline¹³)

3. Prehospital care providers should use prehospital stroke assessment tools, such as the Los Angeles Prehospital Stroke Screen or Cincinnati Prehospital Stroke Scale (Class I; Level of Evidence B). (Unchanged from the previous guideline¹³)

4. EMS personnel should begin the initial management of stroke in the field, as outlined in Table 4 (Class I; Level of Evidence B). Development of a stroke protocol to be used by EMS personnel is strongly encouraged. (Unchanged from the previous guideline¹³)

5. Patients should be transported rapidly to the closest available certified PSC or CSC or, if no such centers exist, the most appropriate institution that provides emergency stroke care as described in the statement (Class I; Level of Evidence A). In some instances, this may involve air medical transport and hospital bypass. (Revised from the previous guideline¹³)

6. EMS personnel should provide prehospital notification to the receiving hospital that a potential stroke patient is en route so that the appropriate hospital resources may be mobilized before patient arrival (Class I; Level of Evidence B). (Revised from the previous guideline¹³)

Designation of Stroke Centers and Stroke Care Quality Improvement Process

Stroke Systems of Care

The ASA task force on the development of stroke systems has defined key components of a regional stroke system of care and recommended methods for the implementation of stroke systems.⁴ Stroke systems of care integrate regional stroke facilities, including acute stroke-ready hospitals (ASRHs) that often have telemedicine and teleradiology capability, primary and comprehensive stroke centers, EMSS, and public and governmental agencies and resources. The goals of creating stroke systems of care include stroke prevention, community stroke

Table 4. Prehospital Evaluation and Management of Potential Stroke Patients

Recommended	Not Recommended
Assess and manage ABCs	Do not initiate interventions for hypertension unless directed by medical command
Initiate cardiac monitoring	
Provide supplemental oxygen to maintain O ₂ saturation >94%	
Establish IV access per local protocol	Do not administer excessive IV fluids
Determine blood glucose and treat accordingly	Do not administer dextrose-containing fluids in nonhypoglycemic patients
	Do not administer medications by mouth (maintain NPO)
Determine time of symptom onset or last known normal, and obtain family contact information, preferably a cell phone	
Triage and rapidly transport patient to nearest most appropriate stroke hospital	Do not delay transport for prehospital interventions
Notify hospital of pending stroke patient arrival	

ABCs indicates airway, breathing, and circulation; IV, intravenous; and NPO, nothing by mouth.

education, optimal use of EMS, effective acute and subacute stroke care, rehabilitation, and performance review of stroke care delivery. Essential to effective stroke systems of care are hospitals with the capacity and commitment to deliver acute stroke care, both in the ED and on the stroke unit. In regions with effective stroke systems, the majority of patients are now being transported to these stroke centers, which optimizes their chances for timely appropriate therapy and admission to stroke units, both of which decrease the morbidity and mortality associated with stroke.^{41,42}

Hospital Stroke Capabilities

Primary Stroke Center

The definition of a PSC was first published in 2000.⁴³ This article defined the critical prehospital and hospital elements to deliver effective and efficient stroke care. Since The Joint Commission (TJC) began providing PSC certification in 2004, >800 certified PSCs have been established in the United States (as of January 2011).⁴⁴ Regardless of certifying agent (TJC or state health department), it is mandatory for all PSCs to closely track their performance on key quality stroke care measurements. In cluster controlled clinical trials comparing patient outcomes in PSCs with those in community hospitals without specialized stroke care, patients with ischemic stroke treated in centers with dedicated stroke resources had better clinical outcomes⁴⁵ and increased rates of intravenous tPA administration.²⁰ In addition, numerous observational studies have demonstrated that PSC certification improves stroke care in many ways, for instance, by shortening door to physician contact time, door to CT time, and door to intravenous tPA time, as well as by increasing rates of intravenous tPA use.⁴⁶⁻⁴⁸ Hospitals that have implemented organized stroke care have demonstrated sustained improvements in multiple measures of stroke care quality, including increased use of intravenous tPA, increased lipid profile testing, and improved deep vein thrombosis (DVT) prophylaxis.^{49,50}

Comprehensive Stroke Center

The recommendations to establish CSCs were published in 2005.⁵¹ In 2011, the ASA published the scientific statement, "Metrics for Measuring Quality of Care in Comprehensive Stroke Centers," which delineates the set of metrics and related data that CSCs should track to ensure optimal stroke outcome and adherence to current recommendations.¹⁰ According to these recommendations, a CSC should be able to offer 24/7 (24 hours per day, 7 days per week) state-of-the-art care on the full spectrum of cerebrovascular diseases. A few states, including New Jersey, Missouri, and Florida, have developed their own legislative efforts to certify PSCs and CSCs. In the fall of 2012, TJC began providing accreditation for CSCs using many of the metrics outlined in the ASA CSC publication.

The data highlighting the patient-centered benefits of integrating CSCs into regional stroke systems of care are emerging. Recently, Orange County, California, organized regional stroke care around CSCs in a hub-and-spoke model, serving just over 3 million people.⁵² Among patients taken directly to the CSCs in this model, 25.1% received acute reperfusion therapies (intravenous tPA, endovascular therapies, or both). A recent analysis of 134441 stroke patients in New Jersey hospitals

showed that CSCs had no gap in mortality rate between weekday and weekend admissions, whereas mortality was higher when patients were admitted on weekends at other stroke centers.⁵³ In Finland, where stroke systems of care are organized on a national level, a 7-year study of all stroke patients in the country demonstrated a clear association between the level of acute stroke care and patient outcomes, with the lowest rates of mortality and severe disability seen in CSCs.⁴¹

Neurocritical care units are essential elements of CSCs. The need for neurologically focused critical care has expanded rapidly in the past 2 decades in parallel with an increasing understanding of the nature of brain and spinal cord injury, especially the secondary injuries that commonly occur. Improvements in clinical outcome attributable to focused critical care have been documented,⁵⁴⁻⁵⁶ as have a reduction in and an earlier recognition of complications⁵⁷ and reduced days of hospitalization.^{54,56} In patients with acute ischemic stroke, admission to neurocritical care units should be considered for those with severe deficits, large-volume infarcts with the potential for significant cerebral edema, significant comorbidities, blood pressure that is difficult to control, or prior intravenous and intra-arterial recanalization interventions.

Acute Stroke-Ready Hospital

ASRHs, previously called *stroke-capable hospitals*, are hospitals that have made an institutional commitment to effectively and efficiently evaluate, diagnose, and treat most ED stroke patients but that do not have fully organized inpatient stroke systems of care. ASRHs have many of the same elements as a PSC:

- Written emergency stroke care protocols
- Written transfer agreement with a hospital with neurosurgical expertise
- Director of stroke care to oversee hospital stroke policies and procedures (this may be a clinical staff member or the designee of the hospital administrator)
- Ability to administer intravenous tPA
- Ability to perform emergency brain imaging (eg, CT scan) at all times
- Ability to conduct emergency laboratory testing at all times
- Maintenance of a stroke patient log

Additionally, ASRHs have well-developed relationships with regional PSCs and CSCs for additional support. Stroke expertise and neuroimaging interpretation in ASRHs are often in the forms of telemedicine and teleradiology, which require close collaboration within the regional stroke system of care. Many ASRHs do not have sufficient resources to establish and maintain a stroke unit; thus, in some circumstances, once patients are diagnosed and initial treatments delivered, patients are transported to a PSC or CSC. ASRHs are also responsible for EMS stroke education and integration into the stroke system of care. The development of ASRHs has the potential to greatly extend the reach of stroke systems of care into underserved regions.

Telemedicine or "Telestroke"

With the rapid growth of telemedicine for stroke, more data are now available supporting the use of telemedicine

to deliver stroke care in regions without local stroke expertise.^{58,59} Telemedicine (also called *telestroke*) may help solve the shortage of neurologists and radiologists, allowing hospitals to become acute stroke ready.^{2,3} Many uses of telemedicine for stroke involve a hub-and-spoke model, in which the hub hospital, often a tertiary stroke center, provides specialty services to spoke hospitals. Telemedicine is integrated audio and visual remote assessment. Telemedicine can provide 24/7 acute stroke expertise to hospitals without full-time neurological or radiological services at the spoke hospital.⁶⁰ Although the technological sophistication and prices of the systems can vary, it is essential that the system have the capability to provide 2-way real-time audiovisual conferencing and share the images. The benefits of telestroke are several: Telestroke optimizes the use of intravenous rtPA to treat patients in hospitals without an on-site neurologist,⁶¹ decreases time to initiate intravenous rtPA, and provides treatment with similar safety as PSCs (symptomatic intracerebral hemorrhage [sICH] in 2%–7%, in-house mortality rate 3.5%).^{62–65} Although the economic issues regarding the use of telestroke remain to be fully explored, the benefit of telestroke in extending timely stroke care to remote hospitals is clear. These benefits include immediate access to specialty consultations, reliable neurological examinations, and National Institutes of Health Stroke Scale (NIHSS) scores; high rates of intravenous fibrinolysis with low rates of hemorrhage; and mortality rates and functional outcomes of intravenous fibrinolysis comparable to those in randomized trials.^{66–68} Therefore, when the physical presence of a stroke team physician at the bedside is not possible, telestroke should be established so that additional hospitals can potentially meet the criteria to become ASRHs and PSCs.^{69,70}

Teleradiology

Teleradiology is a critical aspect of stroke telemedicine and is defined as the ability to obtain radiographic images at one location and transmit them to another for diagnostic and consultative purposes.⁷¹ According to these standards of practice, the Centers for Medicare and Medicaid Services provide reimbursement for both intrastate and interstate teleradiology services,^{72,73} and the TJC and other accrediting bodies play an important role in the performance, appraisal, and credentialing of teleradiology systems.⁷⁴ There are only a limited number of studies describing the use of teleradiology to read non-contrast-enhanced CT scans of the brain.^{75–78} These studies have mainly focused on the feasibility of a teleradiology approach for stroke,⁷⁹ including some that used personal digital assistants^{77,78} and smartphones.^{80,81} One pilot study provided encouraging preliminary evidence that neurologists with stroke expertise can determine radiological intravenous rtPA eligibility via teleradiology.⁸² Additional studies involving larger samples are necessary to validate these results.

Stroke Care Quality Improvement Process and Establishment of Data Repositories

There is now sufficient literature supporting the initiation of stroke care quality improvement processes. The success of such processes relies on the establishment of quality databases so that data on the performance of quality

measurements can be captured. For all certified PSCs, there is an established database to capture the performances on the 8 TJC-mandated quality measures for stroke care. Although all certified PSCs submit their performance data to TJC quarterly, it is beneficial for all hospitals to establish a stroke care data repository. Hospitals can then routinely track their stroke care quality measurements, identify gaps and disparities in providing stroke care, and use these data to design programs to address the gaps or disparities. One such example is the Paul Coverdell National Acute Stroke Registry, which collects data from 8 participating states. Data from the first 4 prototype registries in Georgia, Massachusetts, Michigan, and Ohio showed that overall, 4.51% of ischemic stroke patients were receiving intravenous rtPA on admission.⁸³ By conducting process improvement programs, the Michigan Paul Coverdell National Acute Stroke Registry showed that documentation of the reasons for not giving intravenous rtPA increased by 13%.⁸⁴ Another example showed that hospitals participating in the Paul Coverdell National Acute Stroke Registry had significant improvements in 9 of the 10 performance measures from 2005 to 2009, with one being that the average annual use of intravenous rtPA increased by 11%.⁸⁵

Get With The Guidelines (GWTG)-Stroke, provided by the AHA/ASA, is a patient management and data collection tool that ensures continuous quality improvement of acute stroke treatment and stroke prevention. It focuses on care team protocols to ensure that stroke patients are managed according to evidence-based medicine. Currently, there are >1500 hospitals in the United States using the GWTG-Stroke program.⁸⁶ From 2003 to 2007, a study of 322 847 hospitalized stroke patients in 790 US academic and community hospitals voluntarily participating in the GWTG-Stroke program showed significant improvement in stroke care by participating in the program. Improvements in receipt of guidelines-based care within the 5-year period were as follows: intravenous rtPA use within 2 hours, from 42.9% to 72.84%; antithrombotics within 48 hours of admission, from 91.46% to 97.04%; DVT prophylaxis, from 73.79% to 89.54%; discharged on antithrombotic medication, from 95.68% to 98.88%; anticoagulation for atrial fibrillation, from 95.3% to 98.39%; treatment of low-density lipoprotein cholesterol levels >100 mg/dL, from 73.63% to 88.29%; and smoking cessation efforts with either medication or counseling, from 65.21% to 93.61%.⁸⁷ A previous study of adherence to evidence-based interventions associated with the process improvement and internet-based data collection showed that the use of intravenous rtPA for patients with ischemic stroke presenting within 2 hours of onset improved from 23.5% to 40.8%. Eleven of 13 quality stroke care measurements showed statistically and clinically significant improvement.⁸⁸

More recent analysis of the first 1 million patients from 1392 hospitals in GWTG-Stroke showed significant improvements over time from 2003 to 2009 in quality of care (all-or-none measure, 44.0% versus 84.3%; +40.3%, $P<0.0001$).⁸⁹ GWTG-Stroke also found disparities in stroke care between men and women. Women received less defect-free care than men (66.3% versus 71.1%; adjusted odds ratio [OR], 0.86; 95% confidence interval [CI], 0.85–0.87) and were less likely to be discharged home (41.0% versus 49.5%; adjusted OR, 0.84; 95% CI, 0.83–0.85).⁹⁰

Nevertheless, stroke care quality improvement should be an ongoing process for every hospital. One example of this process improvement is to shorten the door-to-needle time to <60 minutes. For every 15-minute reduction of door-to-needle time, there is a 5% lower odds of in-hospital mortality (adjusted OR, 0.95; 95% CI, 0.92–0.98; $P=0.0007$). However, from this set of GWTG-Stroke data, among 25 504 acute ischemic stroke patients treated with intravenous rtPA within 3 hours of symptom onset at 1082 hospital sites, only 26.6% of patients had a door-to-needle time of the recommended ≤ 60 minutes.⁹¹

Conclusions and Recommendations

All patients with stroke and at risk for stroke benefit from the development of stroke systems of care. States and regions should be encouraged to engage all regional stakeholders to build stroke systems, which in the end will improve patient outcomes through prevention and treatment of stroke, as well as poststroke rehabilitation.

Recommendations

1. The creation of PSCs is recommended (Class I; Level of Evidence B). The organization of such resources will depend on local resources. The stroke system design of regional ASRHs and PSCs that provide emergency care and that are closely associated with a CSC, which provides more extensive care, has considerable appeal. (Unchanged from the previous guideline¹³)
2. Certification of stroke centers by an independent external body, such as TJC or state health department, is recommended (Class I; Level of Evidence B). Additional medical centers should seek such certification. (Revised from the previous guideline¹³)
3. Healthcare institutions should organize a multidisciplinary quality improvement committee to review and monitor stroke care quality benchmarks, indicators, evidence-based practices, and outcomes (Class I; Level of Evidence B). The formation of a clinical process improvement team and the establishment of a stroke care data bank are helpful for such quality of care assurances. The data repository can be used to identify the gaps or disparities in quality stroke care. Once the gaps have been identified, specific interventions can be initiated to address these gaps or disparities. (New recommendation)
4. For patients with suspected stroke, EMS should bypass hospitals that do not have resources to treat stroke and go to the closest facility most capable of treating acute stroke (Class I; Level of Evidence B). (Unchanged from the previous guideline¹³)
5. For sites without in-house imaging interpretation expertise, teleradiology systems approved by the Food and Drug Administration (FDA) or equivalent organization are recommended for timely review of brain CT and MRI scans in patients with suspected acute stroke (Class I; Level of Evidence B). (New recommendation)
6. When implemented within a telestroke network, teleradiology systems approved by the FDA (or equivalent organization) are useful in supporting

rapid imaging interpretation in time for fibrinolysis decision making (Class I; Level of Evidence B). (New recommendation)

7. The development of CSCs is recommended (Class I; Level of Evidence C). (Unchanged from the previous guideline¹³)
8. Implementation of telestroke consultation in conjunction with stroke education and training for healthcare providers can be useful in increasing the use of intravenous rtPA at community hospitals without access to adequate onsite stroke expertise (Class IIa; Level of Evidence B). (New recommendation)
9. The creation of ASRHs can be useful (Class IIa; Level of Evidence C). As with PSCs, the organization of such resources will depend on local resources. The stroke system design of regional ASRHs and PSCs that provide emergency care and that are closely associated with a CSC, which provides more extensive care, has considerable appeal. (New recommendation)

Emergency Evaluation and Diagnosis of Acute Ischemic Stroke

Given the narrow therapeutic windows for treatment of acute ischemic stroke, timely ED evaluation and diagnosis of ischemic stroke are paramount.^{92,93} Hospitals and EDs should create efficient processes and pathways to manage stroke patients in the ED and inpatient settings. This should include the ability to receive, identify, evaluate, treat, and/or refer patients with suspected stroke, as well as to obtain access to stroke expertise when necessary for diagnostic or treatment purposes.

A consensus panel convened by the National Institutes of Neurological Disorders and Stroke (NINDS) established goals for time frames in the evaluation of stroke patients in the ED.^{94,95} At this same symposium, the “stroke chain of survival” was promoted as a template for identifying critical events in the ED identification, evaluation, and treatment of stroke patients (Table 5). By using this template and the time goals, hospitals and EDs can create effective systems for optimizing stroke patient care.⁹⁷

Emergency Triage and Initial Evaluation

ED patients with suspected acute stroke should be triaged with the same priority as patients with acute myocardial infarction or serious trauma, regardless of the severity of neurological deficits. Although specific data on the efficacy of stroke screening tools and scoring systems are lacking for ED triage,

Table 5. ED-Based Care

Action	Time
Door to physician	≤ 10 minutes
Door to stroke team	≤ 15 minutes
Door to CT initiation	≤ 25 minutes
Door to CT interpretation	≤ 45 minutes
Door to drug ($\geq 80\%$ compliance)	≤ 60 minutes
Door to stroke unit admission	≤ 3 hours

CT indicates computed tomography; and ED, emergency department. Source: Bock.⁹⁶

MEDICAID SAVINGS WITH IMPROVED ACUTE STROKE CARE IN HAWAII

Stroke is the leading cause of long-term disability and the fourth leading cause of death in the adult population in the United States.¹ States have substantial influence on acute stroke care through policies related to primary stroke centers (PSCs) and emergency medical services (EMS) routing protocol. Efforts to support these policies can have significant impacts on improving stroke system of care, patient outcomes, and hence Medicaid expenditure on stroke-related care in a state. This fact sheet presents these impacts on Medicaid expenditure on nursing home care for Medicaid enrollees with acute ischemic stroke (AIS) based on an economic model with Hawaii-specific information.

Stroke Facts in Hawaii

- About 795,000 Americans annually suffer from a stroke.² AIS accounts for about 87% of all strokes. Among AIS survivors ≥ 65 years, 26% were institutionalized in a nursing home after 6 months.²
- Stroke affected 2.2% of the state population and accounted for 671 deaths in Hawaii in 2009.^{3,4}
- Medicaid spent an estimated \$58 million on stroke-related care in 2011.⁵

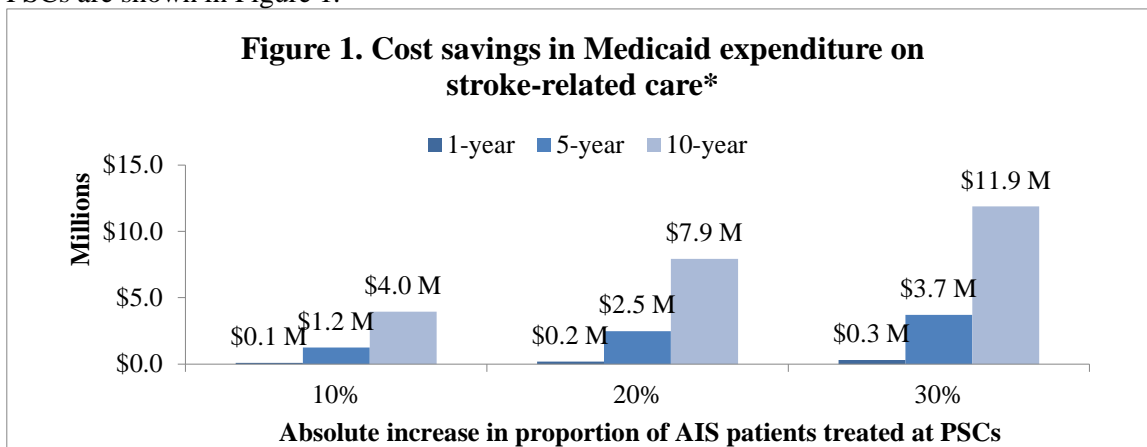
Stroke Care

Intravenous tissue plasminogen activator (IV-tPA) improves neurological outcomes and reduces disability for eligible AIS patients when administered within 3 hours of symptom onset.⁶ Currently, $< 5\%$ of AIS patients are treated with IV-tPA.^{7,8}

- Lack of organized stroke care remains a significant challenge to receiving IV-tPA treatment.
- Hawaii has 1 Joint Commission-certified PSCs.⁹ More patients receive IV-tPA in PSCs with at least one year certification versus non-PSC hospitals (6.5 vs. 0.9%).¹⁰
- On average, 2.5% of AIS patients receive IV-tPA with local services. Integrating an EMS routing protocol within a PSC can further increase the treatment rate to 10.5%.¹¹

Potential Medicaid Savings with Improved Acute Stroke Care

- Medicaid savings with different assumptions of an increase in the proportion of AIS patients treated at PSCs are shown in Figure 1.



*Accounts for additional AIS patients treated each year

- A 20% absolute increase in the proportion of AIS patients treated at PSCs will lead to:
 - 50 more patients receiving IV-tPA per year and 4 fewer patients with disability per year.
 - Medicaid savings of \$195,838 at one year, and \$2.5 million and \$7.9 million at five and ten years, respectively.
- The integration of an EMS system within a PSC versus local services will lead to:
 - 356 more patients receiving IV-tPA per year and 29 fewer patients with disability per year.
 - Medicaid savings of \$1.4 million at one year, and \$17.7 million and \$56.6 million at five and ten years, respectively.

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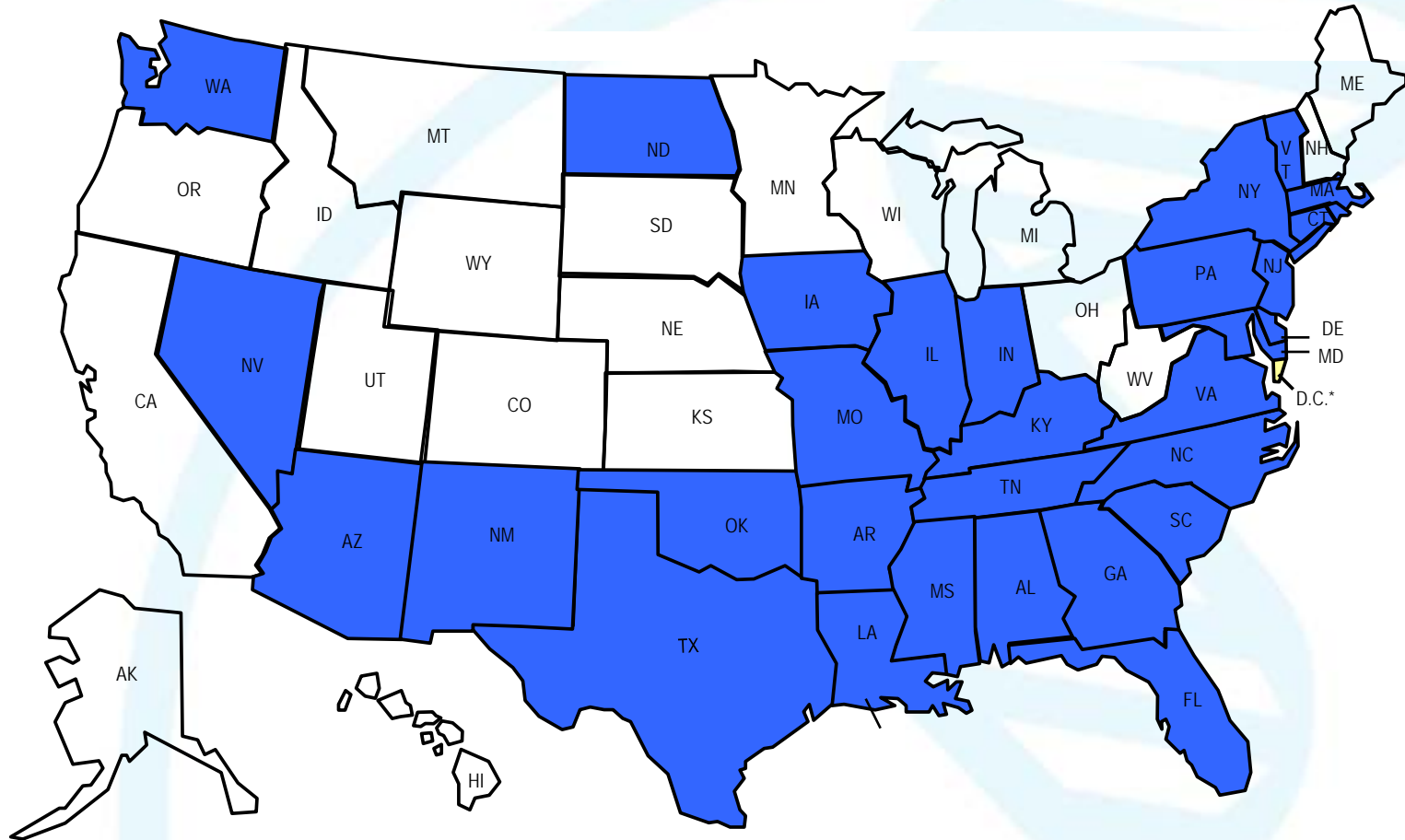
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AHA Model Legislation

- Designation of hospitals by Depts of Health based on TJC criteria for Primary Stroke Centers (PSC)
 - Recognize other certification levels as they become available
- EMS assessment, treatment and transport
 - Adoption of EMS stroke triage assessment tool
 - Pre-hospital care protocols, including routing
 - Training requirements
- Continuous quality improvement plan
 - State-wide database
 - Analysis, identification of interventions & recommendations
- Coverage for telemedicine services
- Stroke systems of care task force

31 states have passed legislation to advance stroke system of care:

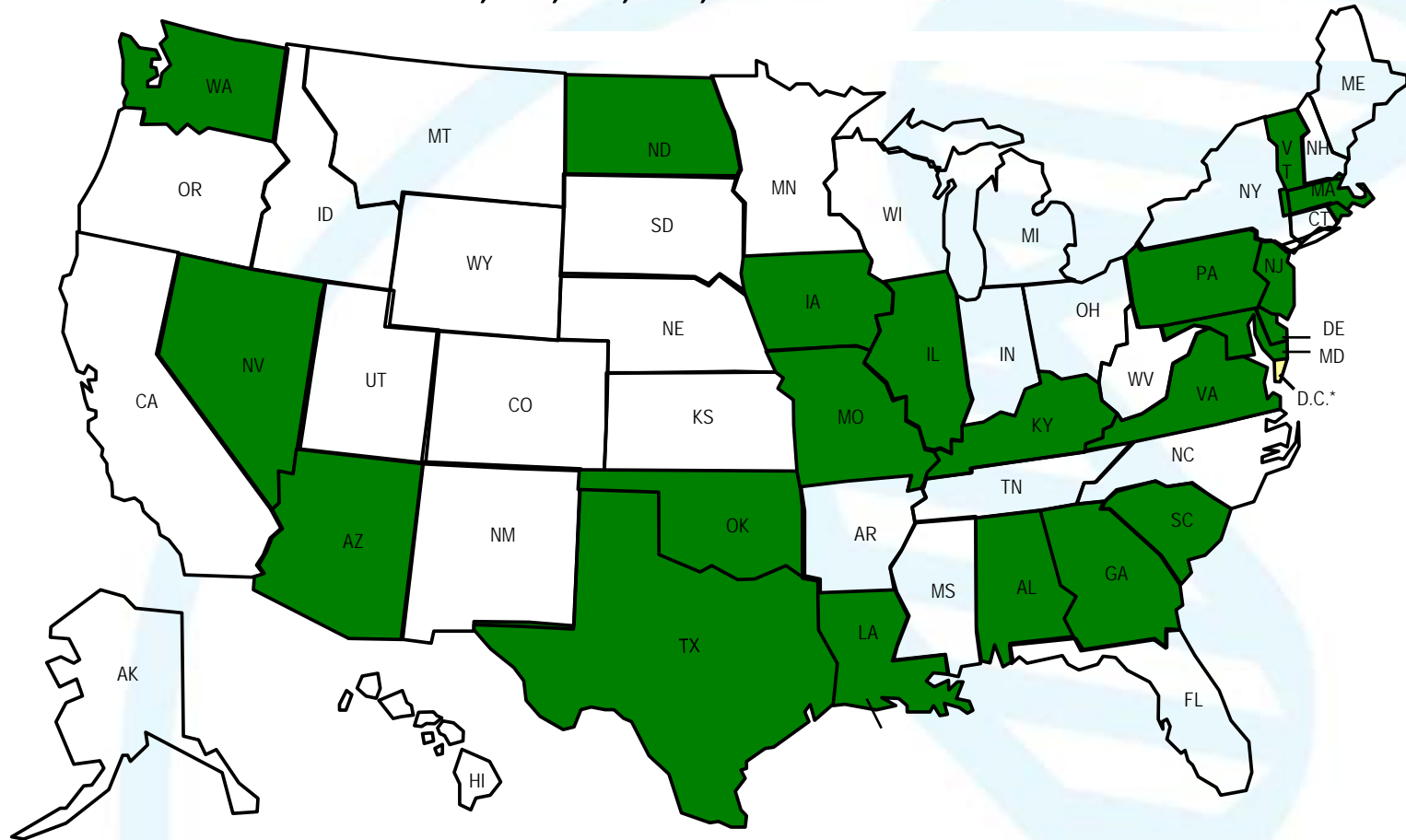
AZ, AL, AR, CT, DE, FL, GA, IL, IN, IA, KY, LA, MA, MD, MS, MO, NC, ND, NJ, NV, NM, NY, OK, PA, RI, TN, TX, SC, VA, VT, WA



The legislation and rules passed in these states includes a variety of elements found in the model bill and places their respective state on the path to a successful stroke system of care.

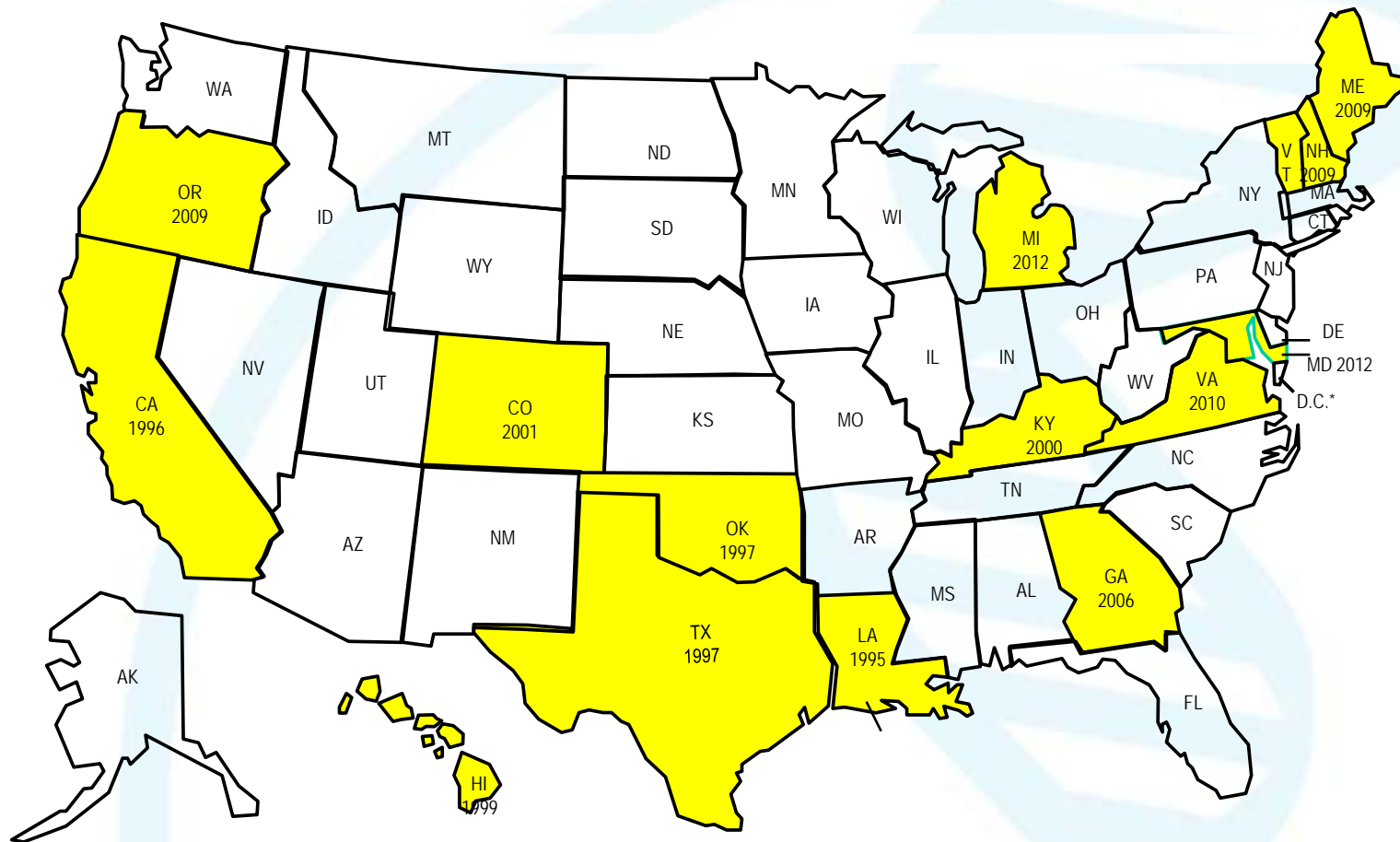
22 states are in the process of implementing rules regarding stroke care:

AL, AZ, DE, GA, IA, IL, KY, LA, MA, MD, MO, NV, ND, NJ, OK, PA, RI,
TX, SC, VT, VA, WA



- Some states take multiple years to implement regulations
- Try to mandate 1-2 year implementation after legislation

15 States have passed legislation that mandates that private payers reimburse for telemedicine consults



CA, CO, GA, HI, KY, LA, ME, **MD**, **MI**, NH, OK, OR, TX, VA, **VT**



HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE
Rep. Angus L.K. McKelvey, Chair

February 25, 2013 at 2:30 p.m.
Conference Room 325

Supporting HB 1482 HD 1: Relating to Health

The Healthcare Association of Hawaii advocates for its member organizations that span the entire spectrum of health care, including all acute care hospitals, as well as long term care facilities, home care agencies, and hospices. In addition to providing quality care to all of Hawaii's residents, our members contribute significantly to Hawaii's economy by employing over 40,000 people. Thank you for this opportunity to testify in support of HB 1482 HD 1, which creates an infrastructure for the classification of three levels of stroke hospitals that is designed to improve the care of stroke patients.

Each year more than 700,000 Americans have a stroke, with about 160,000 dying from stroke-related causes (National Institute of Neurological Disorders and Stroke website, National Institutes of Health). Stroke is the third leading cause of death in the United States when considered independently of other cardiovascular diseases. Stroke also remains a leading cause of serious, long-term disability in the United States.

Major advances have been made in the past several decades regarding stroke prevention, treatment, and rehabilitation. However, significant obstacles remain in ensuring that scientific advances are consistently translated into clinical practice.

The American Heart Association, the American Stroke Association, and the Brain Attack Coalition have performed extensive research on stroke care and have compiled the most effective evidence-based practices in organized formats that can be adopted by hospitals. This bill requires hospitals in each of the three levels to adopt the appropriate set of practices. This bill is part of a national effort to ensure that stroke patients receive the best possible care.

Thank you for the opportunity to testify in support of HB 1482 HD 1.



AMERICAN OSTEOPATHIC ASSOCIATION

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February 22, 2013

The Honorable Angus L.K. McKelvey
Chair, House Committee on Consumer Protection & Commerce
Hawaii State Capitol, Room 320
Honolulu, HI 96813

Dear Chairman McKelvey:

The American Osteopathic Association (AOA) is writing to urge you to amend the statutory language of § 323-B(c) within HB 1482. Our proposed amendment would recognize the AOA's Healthcare Facilities Accreditation Program (AOA/HFAP) as an accrediting body deemed sufficient to provide hospitals with accreditation status as a level I comprehensive stroke center, level II primary stroke center or level III stroke support facility. As currently written, HB 1482 fails to explicitly recognize AOA/HFAP certification for stroke centers, which are in line with both the American Heart Association and the Brain Attack Coalition's criterion at each level. Excluding an accrediting organization that is equipped to license hospital stroke centers in a user-friendly and cost-effective manner is a disservice to health care facilities within Hawaii and an indirect detriment to the patients within them.

AOA/HFAP is a nationally recognized accreditation organization conducting accreditation surveys for more than 65 years. AOA/HFAP meets or exceeds all standards required by the Centers for Medicare and Medicaid Services (CMS) to provide accreditation to hospitals, ambulatory care/surgical facilities, mental health facilities, physical rehabilitation facilities, clinical laboratories and critical access hospitals, and has maintained its deeming authority continuously since the inception of CMS. AOA/HFAP is also recognized by the National Committee for Quality Assurance (NCQA), Accreditation Council for Graduate Medical Education (ACGME) and 38 State Departments of Public Health.

AOA/HFAP requests that § 323-B(c) (in approximate wording) be amended to the following:

“Hospitals or health care facilities that submit documentation showing accreditation or certification from the American Heart Association, American Stroke Association, or Brain Attack Coalition as a comprehensive stroke center, primary stroke center, or stroke support facility shall be presumed to meet the criteria in subsection (a) for recognition as a level I comprehensive stroke center, level II primary stroke center, or level III stroke support facility, as applicable. The department may accept and consider an accreditation or certification from The Joint Commission, Healthcare Facilities Accreditation Program, or other nationally recognized organizations that use criteria consistent with the American Heart Association, American Stroke Association, or Brain Attack Coalition's criteria...”

The Honorable Angus L.K. McKelvey

February 22, 2013

Page 2

AOA/HFAP accreditation is equivalent to the accreditation that is already recognized in the language of § 323-B(c). HFAP has been certifying primary stroke centers since 2006, and as standards and market demand have evolved, so has the program into three types of certification: stroke ready center certification (level III), primary stroke center certification (level II) and comprehensive stroke center certification (level I). The foundation of the AOA/HFAP stroke center certification standards are built on the American Heart Association guidelines, as well as the Brain Attack Coalition's criteria. Stroke centers certified by AOA/HFAP are also required to submit clinical performance measures to HFAP, the American Heart Association 'Get with the Guidelines' and CMS on a quarterly basis, as per best practice guidelines and the 2013 CMS directive.

Survey standards focus on the same core areas as the Joint Commission and similarly are guided by recommendations set forth from the Brain Attack Coalition and American Heart Association/American Stroke Association. These include (but are not limited to) organization support, service infrastructure, treatment protocols for diagnosis, assessment, clinical care, rehabilitative referrals and discharge preparation. Recognizing the equivalency of AOA/HFAP is consistent with the purpose of § 323-B(c) in establishing a stroke system of care in Hawaii by recognizing three levels of care and establishing requirements for the measuring, reporting and monitoring of stroke care performance.

We urge you to recognize AOA/HFAP's equivalent certification survey standards by amending HB 1482. Should you need any additional information, please feel free to contact Joseph L. Cappiello, BSN, MA, HFAP Chief Operating Officer, at (800) 621-1773, ext. 8072.

Sincerely,



Ray E. Stowers, DO, FACOFP *dist.*
President, AOA

CC: Norman E. Vinn, DO, AOA President-elect
Mark A. Baker, DO, Chair, AOA Department of Governmental Affairs
Joseph A. Giaimo, DO, Chair, AOA Bureau of State Government Affairs
Les Barrickman, DO, President, Hawaii Association of Osteopathic Physicians and Surgeons
John B. Crosby, JD, AOA Executive Director
Sydney Olson, AOA Associate Executive Director, Advocacy and Government Relations
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Nicholas A. Schilligo, MS, Director, AOA Division of State Government Affairs
Amy Bolivar, Manager, Executive Projects and Communications
Marcia Batchelder, Executive Director, Hawaii Association of Osteopathic Physicians and Surgeons

As a young stroke survivor (I had a stroke at the age of 31 years old) I believe that improving the stroke system of care in Hawaii is imperative to allow people like me who suffer stroke to have a fair chance to continue on with a “normal” life after stroke. Stroke is one of the leading causes of disability in the United States; and improved stroke systems of care help reduce the severity of the disability that can result from strokes. I feel very fortunate to have been close to a hospital designated as a primary stroke center when I had my stroke. Due to the immediate treatment and fast thinking of the doctors in emergency room in Englewood New Jersey, I was administered a tPA promptly to dissolve my clot and allow the blood to resume flowing through my brain. I was in an induced coma for three days, due to the severity of the clot and brain swelling. Once stabilized, I was transferred to a comprehensive stroke center (Overlook Hospital in Summit NJ) to handle my treatment upon awakening.

Fortunately, I woke up; and within a couple of weeks I was able to regain most of my gross motor movements, and today I am proud to say that while I am not 100% better physically (I have still not regained the fine motor dexterity of my left hand), from a cognitive standpoint I am able to function at a very high level. I recently passed the Hawaii Bar Exam, and am a practicing attorney again. I understand that Hawaii has unique issues with providing immediate care to people who suffer strokes in less populated areas, especially on the neighbor islands, however, people living in all areas of Hawaii need to have fast access to effective medical treatment when they are faced with a life threatening health event like stroke, especially when the time delay in obtaining treatment could be the difference between being bound to a wheelchair to maintaining the ability to run. Improving stroke systems of care will help to ensure that people in Hawaii have a fair chance at enjoying all the unique joys and pleasures that Hawaii has to offer even after a devastating event like stroke. I’m thankful that I can still go hiking and running when I want to. And most importantly, I’m thankful that I am able to meaningfully participate in the workforce as an attorney to be a voice for others. I am also extremely grateful to have the opportunity to voice my support for a bill like this.