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Medical Director's Update for Base Station Physicians' Committee June, 2011

The 2011 Policy/Procedure and Treatment Guideline changes were distributed and training is under way. Change highlights were reviewed in last month's Medical Director's Update. Please let training agencies, base hospitals or EMS know if you have any questions or clarifications.

One clarification concerns lidocaine when starting an IO line. The lidocaine used for anesthesia will now be counted toward the first dose. The change was driven by concern for smaller patients in whom the 40 mg might be close to 1 mg/kg, a significant amount. For example, if the patient was given 40 mg for anesthesia, and should receive a first dose of 150 mg of lidocaine, the first dose would be reduced to 110 mg.

Amiodarone should be administered as a piggyback infusion in 100 mL of NS given over 10 minutes.

External pacing on standing orders should begin with rate set at 60/min, although some machines are set for other acceptable rates such as 70/min. Contact EMS for questions. Energy output should be dialed up until capture occurs, usually between 50 and 100 mA. The mA should then be increased a small amount, usually about 20%, for ongoing pacing. Similar to rate, some manufacturers may recommend a somewhat different increase in the mA setting. Failure to capture may occur with faulty electrical contact, electrode placement, patient size, or underlying heart pathology. When capture occurs the patient's hemodynamic response should be evaluated.

Almost all asthma patients will respond to continuous albuterol treatment and CPAP. The rare patient in severe distress who does not respond to high dose albuterol may benefit from intramuscular epinephrine, especially if they are tiring and cannot cooperate using the aerosol. These patients can be identified by continuing very fast respiratory rates, respirations suddenly dropping toward bradycardia (rather than just decreasing due to improvement), a

patient too dyspneic to speak, or decreasing mental status. Patient conditions requiring base hospital physician order for epinephrine are based on risk of adverse events.

Measles cases are being seen in higher numbers. A separate communication on measles was sent out, but to review briefly, these cases occur in persons who travelled to Europe or Asia, or who were in contact with such persons.

Measles may be a serious disease. Immunization rates in France, for example, have declined below the 90-95% rate needed to interrupt transmission. Since 2010 there have been four deaths in France, three from pneumonia and one from encephalitis. Twenty one patients had neurologic complications.

Consider measles in patients who have a fever and a rash. Fever can spike as high as 105°F. The patient may have cough, runny nose and red conjunctiva. The rash is red, blotchy, maculopapular (flat, red with confluent tiny bumps), and typically starts on the hairline and face and then spreads downwards to the rest of the body.

Measles should be particularly suspected in those with travel outside of North or South America or contact with international travelers in the prior three weeks, and/or a history of no prior immunization for measles.

If you suspect measles place a surgical mask over the patient if tolerated. Isolate them to the degree possible with good ventilation in a transport unit. In particular, notify the receiving hospital so arrangements can be made to isolate the patient upon arrival. Cal/OSHA requires that providers use an N95 mask, although EMS personnel should be immune due to immunization or prior measles infection.

Ambulances should be decontaminated afterwards, and ventilation of the patient compartment assured. In healthcare settings rooms are generally not used for two hours after a confirmed measles case.

Pertussis remains active in the community. Children entering 7-12 grades this year are required to have a Tdap booster. Remember to suspect this in young children.

The PERT Team is an invaluable resource working with law enforcement to assure adequate evaluation and treatment for those with psychiatric illness. The EMS system thanks them for all their work. Discussion with the PERT team is scheduled for this month's meeting.

State law requires that patients placed on a 5150 for psychiatric evaluation are taken to a hospital with LPS (psychiatric care) designation. This allows the 72 hour evaluation for patients who may be a threat to themselves or others, or who are gravely disabled. Unfortunately, the LPS law does not take into account the need for medical clearances which are required in many cases. This is especially true in patients who are on scene and for some reason EMS is called or asked to transport the patient.

Destinations for patients who appear ill or injured remain the responsibility of the EMS system. The 5150 patient who appears to be injured or have a medical illness needs to be evaluated, a report made to the base hospital and an appropriate destination determined. Patients who have had a 5150 placed who then go to a non-LPS emergency department may no longer have an effective 5150 in place. Hospital staff may have to replace the 5150 as

they see appropriate, or use the 24 hour hold pursuant to Health and Safety Code section 1799.111, or writing a new 5150.

Further information should be available after this month's meeting.

Do Not Resuscitate (DNR) Orders and resuscitation decision making were discussed recently at the Base Station Physicians' Committee and Prehospital Audit Committee. In addition, a revised POLST form took effect on April 1, 2011. This would be a good time to review DNR.

Do Not Resuscitate decisions may be needed about actual cardiopulmonary resuscitation such as compressions and ventilation, and medications; or, in some cases, end of life care where the patient may need ALS interventions to attempt resuscitation because they have impaired ventilation, hypotension or other life threatening conditions.

Four instruments that address resuscitation are worth reviewing. First, the state EMS Prehospital Do Not Resuscitate (DNR) form allows the patient or their surrogate to refuse resuscitative efforts if they suffer cardiac arrest. This is usually a paper form completed and present in the home or other location. In rare cases the patient may have a wristband, although the medallion has never caught on in popularity.

Under policy and procedure S-414 field personnel are also directed to observe a written signed order in a patient's medical record. This implies that the patient is in a medical facility and it would be most commonly written in the orders in a skilled nursing facility, and the patient is being transferred elsewhere. The order may be written in the hospital for a patient transferred from an acute care hospital to a skilled nursing facility.

A newer instrument is the Physician Orders for Life Sustaining Treatment or POLST, which is really an intensity of care order sheet. The POLST addresses the patient's direction for attempted "Resuscitation" or "Do Not Attempt Resuscitation" in Section A near the top of the form. (See POLST reproduced below). Other sections address intensity of care—comfort measures only, limited additional interventions, or full treatment—as well as artificially administered nutrition. Section D of the POLST has information and signatures, and may indicate whether the patient has an advance directive naming an agent to make healthcare decisions for the patient should they become incapacitated. The Prehospital Do Not Resuscitate form and the POLST Section A directly address whether or not cardiopulmonary resuscitation should be instituted.

A different approach is the Advance Health Care Directive under the Uniform Health Care Decisions Act of California contained in the California Probate Code (see portion of form below). The Advance Health Care Directive focuses on the patient naming an agent, a power of attorney for health care, to make decisions for the patient should they become incapacitated. (Although the patient may appoint the agent to make decisions before they are incapacitated). The Advance Health Care Directive gives the agent broad power to make health care decisions for the patient, including donation of organs and other issues, although the patient is able to specifically record what they desire or place restrictions on the agent's powers.

The health care agent has the power to make resuscitation decisions for the patient and these decisions are legally binding. The agent is protected from liability for their decision making and, more importantly to us, medical personnel (including field personnel) are protected from liability or professional sanctions such as licensure actions for following the instructions of a health care agent in good faith. An individual who claims to be an agent and

is not can be punished under the health care decisions law up to and including charges of homicide. Agents are expected to follow any recorded wishes of the patient in the directive form, or, if wishes are not specified, agents are expected to use the "best interest" of the patient. Communication between the agent and the patient is encouraged so the agent understands the patient's preferences. Health care workers are not required to follow the directions of an agent if medical care desired would be ineffectual or not valid from a medical point of view.

The Advance Health Care Directive form does allow the patient to record end of life decisions and the choice to prolong life and have resuscitation is clearly worded in the document. On the other hand, if the choice selected is not to prolong life the wording makes it difficult to use in the field setting. The Directive says, "I do not want my life to be prolonged if the likely risks and burdens of treatment would outweigh the expected benefits, or if I become unconscious and, to a realistic degree of medical certainty, I will not regain consciousness, or if I have an incurable and irreversible condition that will result in my death in a relatively short time." This is so complicated it is unsuited for decision making in the field, and the patient generally will have to be taken to the hospital, if that is the issue being decided.

One should not confuse the existence of the Advance Health Care Directive with a DNR request. Completion of the Advance Health Care Directive simply appoints the agent for health care decision making and potential DNR status would only be considered in the few cases in which the choice not to prolong life is checked under Part 2.1. Again, the wording is so broad that generally this would not be a field issue unless at the direction of the base hospital.

Because the health care directive and the agent have the power to make decisions in response to information from health care providers it is important that they be taken to the hospital with the patient so that they can receive any necessary information and make decisions about the care to be provided.

The instrument itself (the written document) should be taken to the hospital as well. If the document is not available and the agent clearly communicates that they have signed the health care directive and they are the agent or have power of attorney for health care then their directions should be followed unless there is reason to think that is not the case.

Sometimes the family will say that they do not want anything done for the patient and that is the patient's expressed desire. They may have called 911 because they weren't comfortable with the dying process, wanted some specific help for the patient short of actual resuscitation, or simply want the patient taken to the hospital. Whatever their reason, field personnel should ask about existing written instruments. In any case where there is confusion it is best to make base hospital contact and let the base hospital physician participate in the decision making. This provides liability protection for the field and the base.

While it has been believed that it is always safer to perform resuscitation and then complete a process of investigation about what the patient or the family really wanted, any instruments that exist, and decision making capability. There is, however, more emphasis currently on allowing patients to make end of life decisions, and it is more possible that one could be held liable for not following instructions known to the health care provider to be valid such as the DNR order, a POLST that indicates do not resuscitate, or the instructions of the health care agent.

Some areas are employing family decision making about resuscitation at the time of an event without the existence of a written instrument or previously completed paperwork. This appears to be safe and increases the number of cases in which CPR is withheld appropriately

in the field. After discussion in our EMS system, however, it is felt that it is best to make base contact and let the base help make these decisions.

Policy S-414 will be revised this year to reflect changes in the POLST and the advance directive law.

Please let us know should you have any questions or scenarios that we could present.

The updated POLST (Physician Orders for Life-Sustaining Treatment) Form

HIPAA PERMITS DISCLOSURE OF POLST TO OTHER HEALTH CARE PROVIDERS AS NECESSARY		
Physician Orders for Life-Sustaining Treatment (POLST)		
<p>First follow these orders, then contact physician. This is a Physician Order Sheet based on the person's current medical condition and wishes. Any section not completed implies full treatment for that section. A copy of the signed POLST form is legal and valid. POLST complements an Advance Directive and is not intended to replace that document. Everyone shall be treated with dignity and respect.</p>		
Patient Last Name:		Date Form Prepared:
Patient First Name:		Patient Date of Birth:
Patient Middle Name:		Medical Record #: (optional)
<p>A CARDIOPULMONARY RESUSCITATION (CPR): <i>If person has no pulse and is not breathing. When NOT in cardiopulmonary arrest, follow orders in Sections B and C.</i></p> <p><input type="checkbox"/> Attempt Resuscitation/CPR (Selecting CPR in Section A requires selecting Full Treatment in Section B)</p> <p><input type="checkbox"/> Do Not Attempt Resuscitation/DNR (Allow Natural Death)</p>		
<p>B MEDICAL INTERVENTIONS: <i>If person has pulse and/or is breathing.</i></p> <p><input type="checkbox"/> Comfort Measures Only Relieve pain and suffering through the use of medication by any route, positioning, wound care and other measures. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. Transfer to hospital only if comfort needs cannot be met in current location.</p> <p><input type="checkbox"/> Limited Additional Interventions In addition to care described in Comfort Measures Only, use medical treatment, antibiotics, and IV fluids as indicated. Do not intubate. May use non-invasive positive airway pressure. Generally avoid intensive care. <input type="checkbox"/> Transfer to hospital only if comfort needs cannot be met in current location.</p> <p><input type="checkbox"/> Full Treatment In addition to care described in Comfort Measures Only and Limited Additional Interventions, use intubation, advanced airway interventions, mechanical ventilation, and defibrillation/ cardioversion as indicated. Transfer to hospital if indicated. Includes intensive care.</p> <p>Additional Orders: _____</p>		
<p>C ARTIFICIALLY ADMINISTERED NUTRITION: <i>Offer food by mouth if feasible and desired.</i></p> <p><input type="checkbox"/> No artificial means of nutrition, including feeding tubes. Additional Orders: _____</p> <p><input type="checkbox"/> Trial period of artificial nutrition, including feeding tubes.</p> <p><input type="checkbox"/> Long-term artificial nutrition, including feeding tubes.</p>		
<p>D INFORMATION AND SIGNATURES:</p> <p>Discussed with: <input type="checkbox"/> Patient (Patient Has Capacity) <input type="checkbox"/> Legally Recognized Decisionmaker</p> <p><input type="checkbox"/> Advance Directive dated _____ available and reviewed → Health Care Agent if named in Advance Directive: _____</p> <p><input type="checkbox"/> Advance Directive not available Name: _____</p> <p><input type="checkbox"/> No Advance Directive Phone: _____</p> <p>Signature of Physician My signature below indicates to the best of my knowledge that these orders are consistent with the person's medical condition and preferences.</p> <p>Print Physician Name: _____ Physician Phone Number: _____ Physician License Number: _____</p> <p>Physician Signature: (required) _____ Date: _____</p> <p>Signature of Patient or Legally Recognized Decisionmaker By signing this form, the legally recognized decisionmaker acknowledges that this request regarding resuscitative measures is consistent with the known desires of, and with the best interest of, the individual who is the subject of the form.</p> <p>Print Name: _____ Relationship: (write self if patient) _____</p> <p>Signature: (required) _____ Date: _____</p> <p>Address: _____ Daytime Phone Number: _____ Evening Phone Number: _____</p>		
SEND FORM WITH PERSON WHENEVER TRANSFERRED OR DISCHARGED		

HIPAA PERMITS DISCLOSURE OF POLST TO OTHER HEALTH CARE PROVIDERS AS NECESSARY		
Patient Information		
Name (last, first, middle):	Date of Birth:	Gender: <input type="checkbox"/> M <input type="checkbox"/> F
Health Care Provider Assisting with Form Preparation		
Name:	Title:	Phone Number:
Additional Contact		
Name:	Relationship to Patient:	Phone Number:
Directions for Health Care Provider		
<p>Completing POLST</p> <ul style="list-style-type: none"> Completing a POLST form is voluntary. California law requires that a POLST form be followed by health care providers, and provides immunity to those who comply in good faith. In the hospital setting, a patient will be assessed by a physician who will issue appropriate orders. POLST does not replace the Advance Directive. When available, review the Advance Directive and POLST form to ensure consistency, and update forms appropriately to resolve any conflicts. POLST must be completed by a health care provider based on patient preferences and medical indications. A legally recognized decisionmaker may include a court-appointed conservator or guardian, agent designated in an Advance Directive, orally designated surrogate, spouse, registered domestic partner, parent of a minor, closest available relative, or person whom the patient's physician believes best knows what is in the patient's best interest and will make decisions in accordance with the patient's expressed wishes and values to the extent known. POLST must be signed by a physician and the patient or decisionmaker to be valid. Verbal orders are acceptable with follow-up signature by physician in accordance with facility/community policy. Certain medical conditions or treatments may prohibit a person from residing in a residential care facility for the elderly. If a translated form is used with patient or decisionmaker, attach it to the signed English POLST form. Use of original form is strongly encouraged. Photocopies and FAXes of signed POLST forms are legal and valid. A copy should be retained in patient's medical record, on Ultra Pink paper when possible. <p>Using POLST</p> <ul style="list-style-type: none"> Any incomplete section of POLST implies full treatment for that section. <p>Section A:</p> <ul style="list-style-type: none"> If found pulseless and not breathing, no defibrillator (including automated external defibrillators) or chest compressions should be used on a person who has chosen "Do Not Attempt Resuscitation." <p>Section B:</p> <ul style="list-style-type: none"> When comfort cannot be achieved in the current setting, the person, including someone with "Comfort Measures Only," should be transferred to a setting able to provide comfort (e.g., treatment of a hip fracture). Non-invasive positive airway pressure includes continuous positive airway pressure (CPAP), bi-level positive airway pressure (BiPAP), and bag valve mask (BVM) assisted respirations. IV antibiotics and hydration generally are not "Comfort Measures." Treatment of dehydration prolongs life. If person desires IV fluids, indicate "Limited Interventions" or "Full Treatment." Depending on local EMS protocol, "Additional Orders" written in Section B may not be implemented by EMS personnel. <p>Reviewing POLST</p> <p>It is recommended that POLST be reviewed periodically. Review is recommended when:</p> <ul style="list-style-type: none"> The person is transferred from one care setting or care level to another, or There is a substantial change in the person's health status, or The person's treatment preferences change. <p>Modifying and Voiding POLST</p> <ul style="list-style-type: none"> A patient with capacity can, at any time, request alternative treatment. A patient with capacity can, at any time, revoke a POLST by any means that indicates intent to revoke. It is recommended that revocation be documented by drawing a line through Sections A through D, writing "VOID" in large letters, and signing and dating this line. A legally recognized decisionmaker may request to modify the orders, in collaboration with the physician, based on the known desires of the individual or, if unknown, the individual's best interests. <p>This form is approved by the California Emergency Medical Services Authority in cooperation with the statewide POLST Task Force. For more information or a copy of the form, visit www.caPOLST.org.</p>		
SEND FORM WITH PERSON WHENEVER TRANSFERRED OR DISCHARGED		

Advance Health Care Directive

Name _____

Date _____

You have the right to give instructions about your own health care. You also have the right to name someone else to make health care decisions for you. This form also lets you write down your wishes regarding donation of organs and the designation of your primary physician. If you use this form, you may complete or change all or any part of it. You are free to use a different form.

You have the right to change or revoke this advance health care directive at any time.

Part 1 — Power of Attorney for Health Care

(1.1) DESIGNATION OF AGENT: I designate the following individual as my agent to make health care decisions for me:

Name of individual you choose as agent: _____

Relationship _____

Address: _____

Telephone numbers: (Indicate home, work, cell) _____

ALTERNATE AGENT (Optional): If I revoke my agent's authority or if my agent is not willing, able, or reasonably available to make a health care decision for me, I designate as my first alternate agent:

Name of individual you choose as alternate agent: _____

Relationship _____

Address: _____

Telephone numbers: (Indicate home, work, cell) _____

SECOND ALTERNATE AGENT (optional): If I revoke the authority of my agent and first alternate agent or if neither is willing, able, or reasonably available to make a health care decision for me, I designate as my second alternate agent:

Name of individual you choose as second alternate agent: _____

Address: _____

Telephone numbers: (Indicate home, work, cell) _____

(1.2) AGENT'S AUTHORITY: My agent is authorized to 1) make all health care decisions for me, including decisions to provide, withhold, or withdraw artificial nutrition and hydration and all other forms of health care to keep me alive, 2) to choose a particular physician or health care facility, and 3) to receive or consent to the release of medical information and records, except as I state here:

(Add additional sheets if needed.)

(1.3) WHEN AGENT'S AUTHORITY BECOMES EFFECTIVE: My agent's authority becomes effective when my primary physician determines that I am unable to make my own health care decisions unless I initial the following line.

If I initial this line, my agent's authority to make health care decisions for me takes effect immediately. _____

(1.4) AGENT'S OBLIGATION: My agent shall make health care decisions for me in accordance with this power of attorney for health care, any instructions I give in Part 2 of this form, and my other wishes to the extent known to my agent. To the extent my wishes are unknown, my agent shall make health care decisions for me in accordance with what my agent determines to be my best interest. In determining my best interest, my agent shall consider my personal values to the extent known to my agent.

(1.5) AGENT'S POST DEATH AUTHORITY: My agent is authorized to make anatomical gifts, authorize an autopsy, and direct disposition of my remains, except as I state here or in Part 3 of this form:

(Add additional sheets if needed.)

(1.6) NOMINATION OF CONSERVATOR: If a conservator of my person needs to be appointed for me by a court, I nominate the agent designated in this form. If that agent is not willing, able, or reasonably available to act as conservator, I nominate the alternate agents whom I have named. _____ (initial here)

Part 2 — Instructions for Health Care

If you fill out this part of the form, you may strike out any wording you do not want.

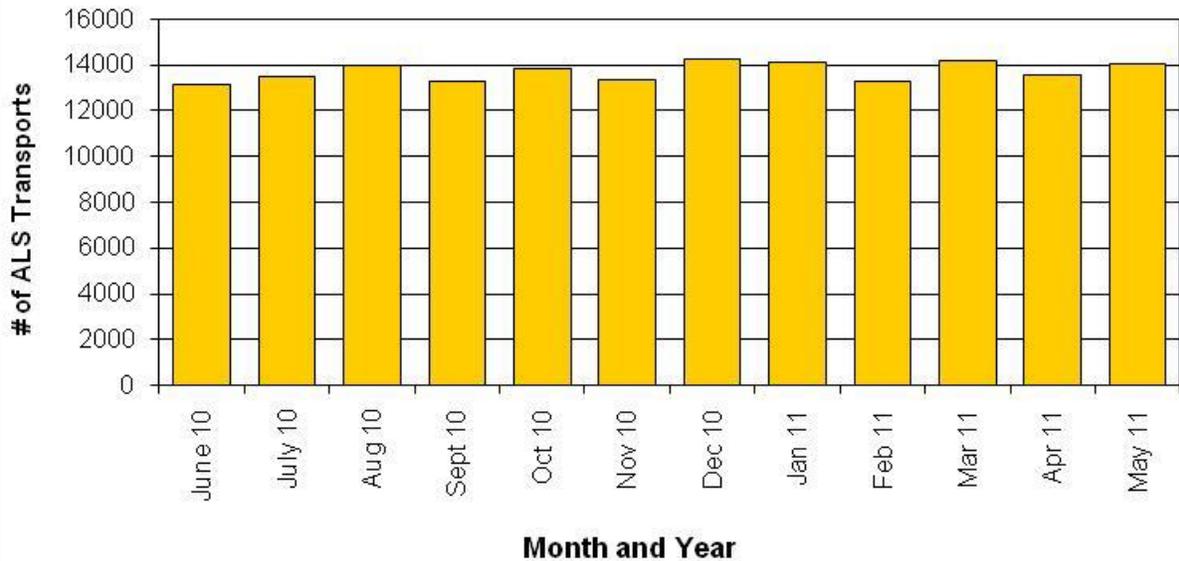
(2.1) END-OF-LIFE DECISIONS: I direct my health care providers and others involved in my care to provide, withhold, or withdraw treatment in accordance with the choice I have marked below:

- a) Choice Not To Prolong
I do not want my life to be prolonged if the likely risks and burdens of treatment would outweigh the expected benefits, or if I become unconscious and, to a realistic degree of medical certainty, I will not regain consciousness, or if I have an incurable and irreversible condition that will result in my death in a relatively short time.
- Or
- b) Choice To Prolong
I want my life to be prolonged as long as possible within the limits of generally accepted medical treatment standards.

The first two pages of the California Advance Health Care Directive Form.

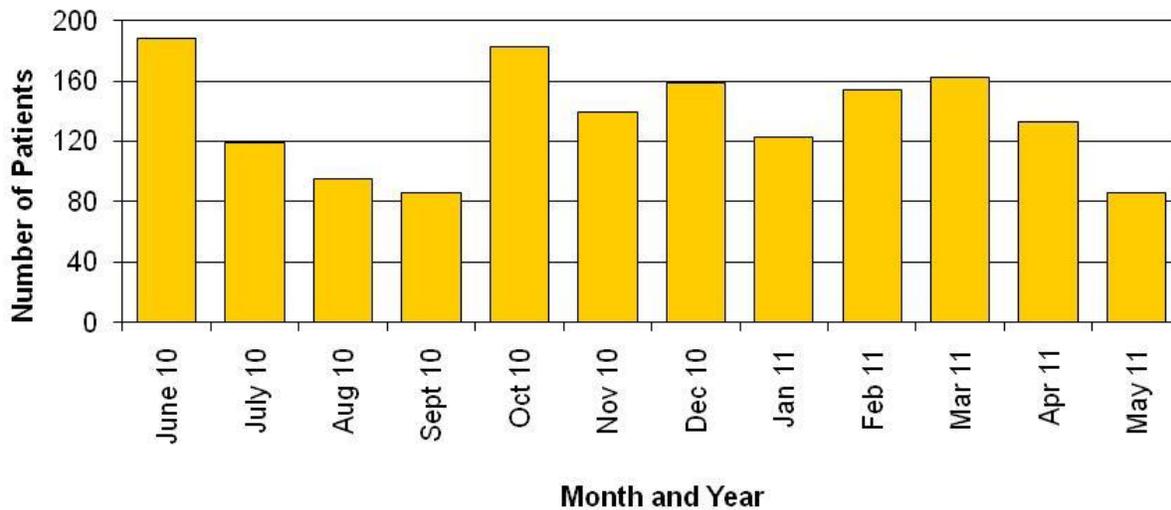
Page one contains the designation and identification of the Health Care Agent. Part 2 contains instructions for health care if they are recorded, including end-of-life care instructions in Part 2.1. Note that section (b) is clear on prolonging life. Section (a) requires considerable analysis, communication and prognostic information, usually making it unsuitable for field emergency use.

Number of ALS Transports, County of San Diego, June 2010 - May 2011

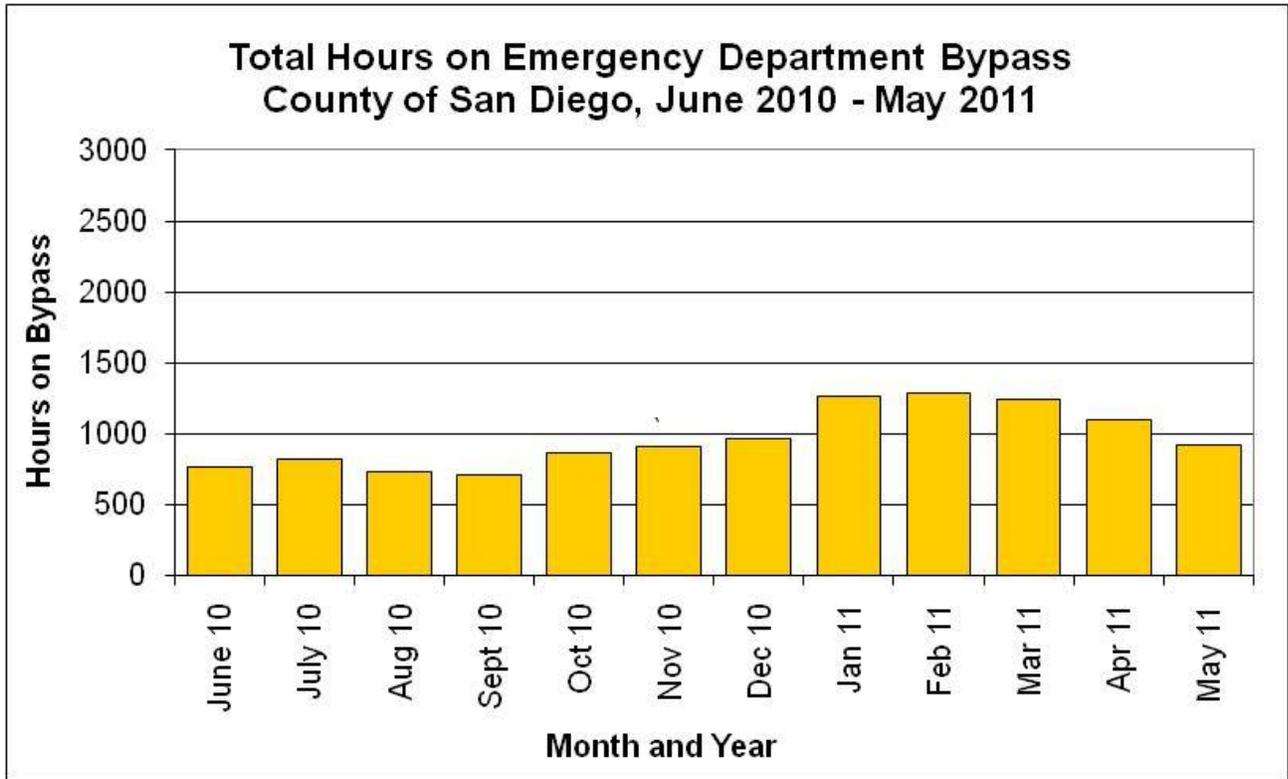


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, June 2010 – May 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other

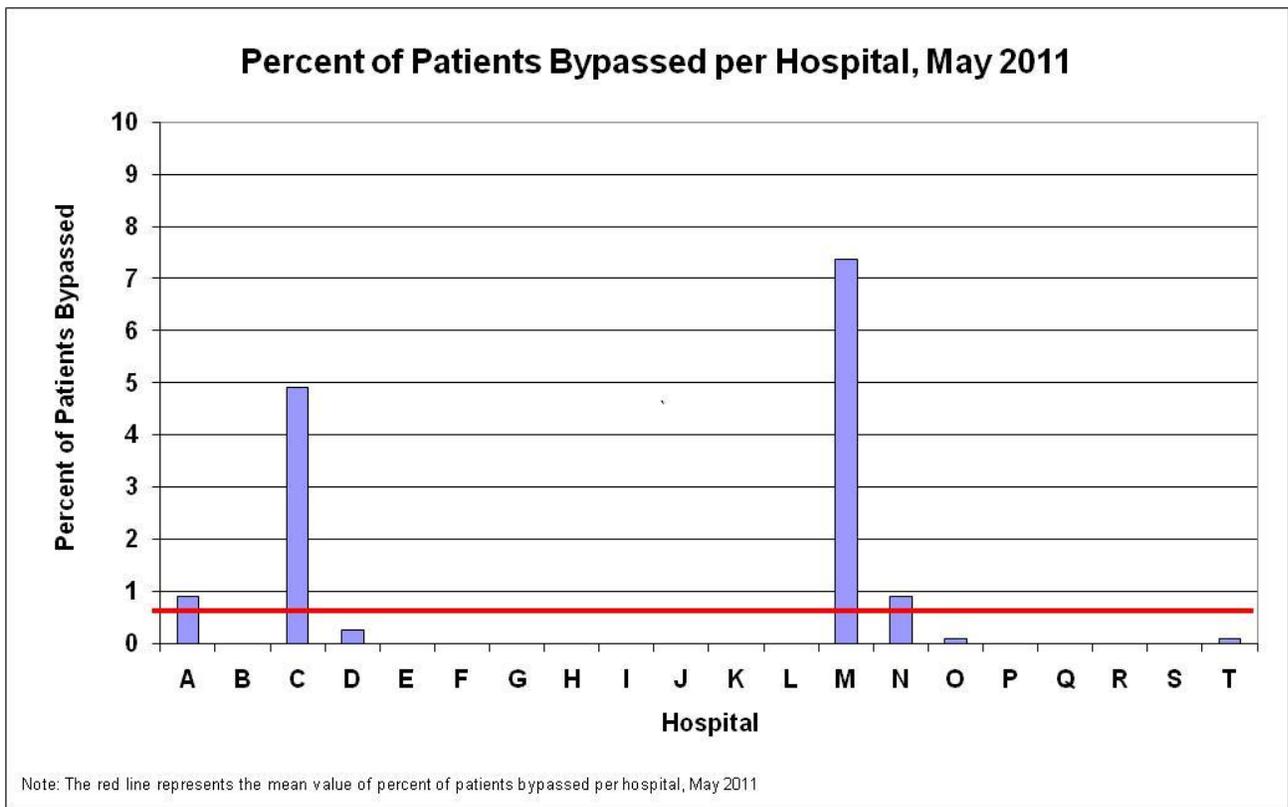
Number of Patients who Bypassed the Requested Hospital, County of San Diego, June 2010 - May 2011



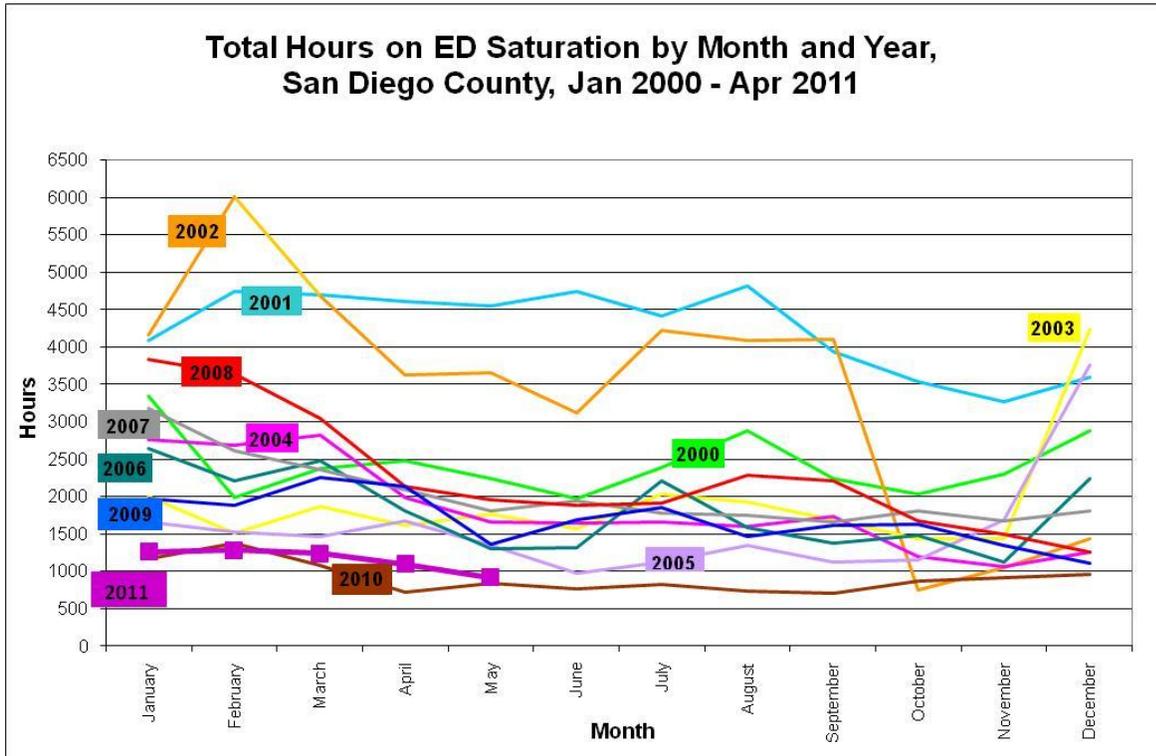
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, June 2010 – May 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



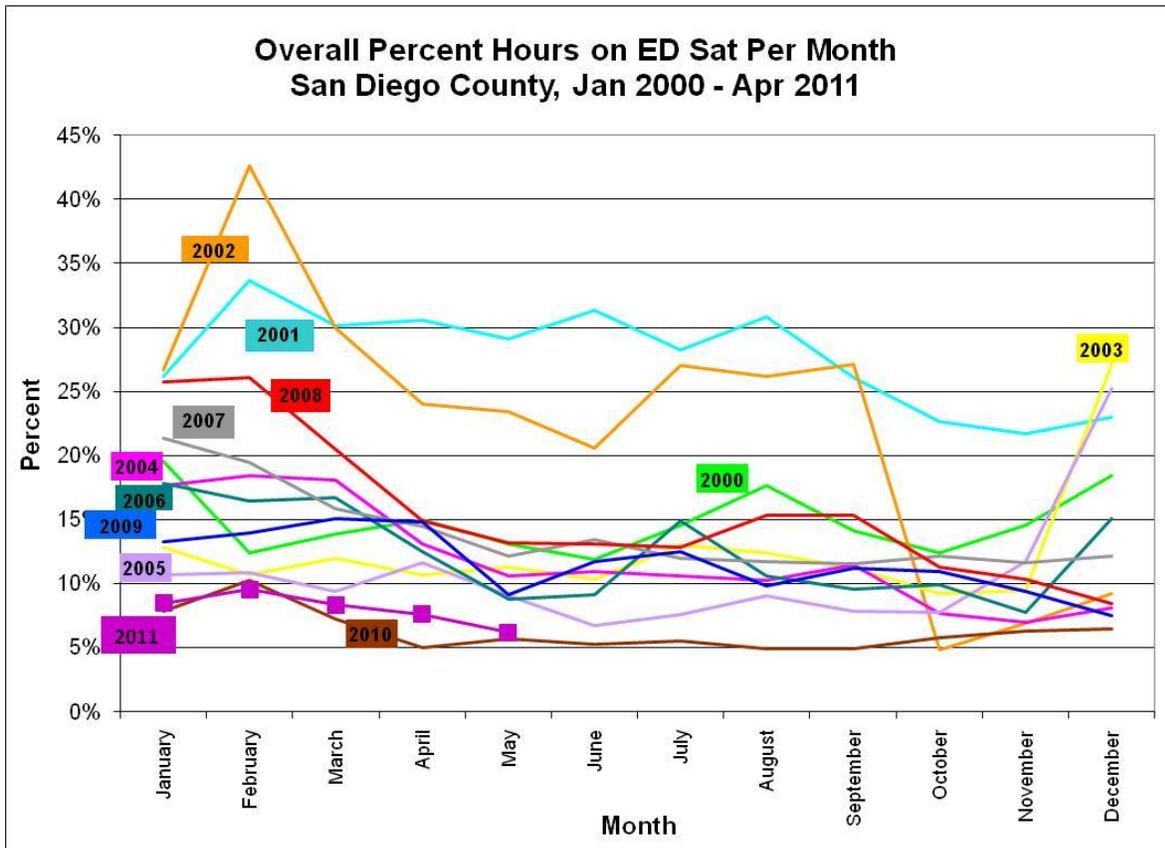
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, June 2010 – May 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, May 2011
 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other

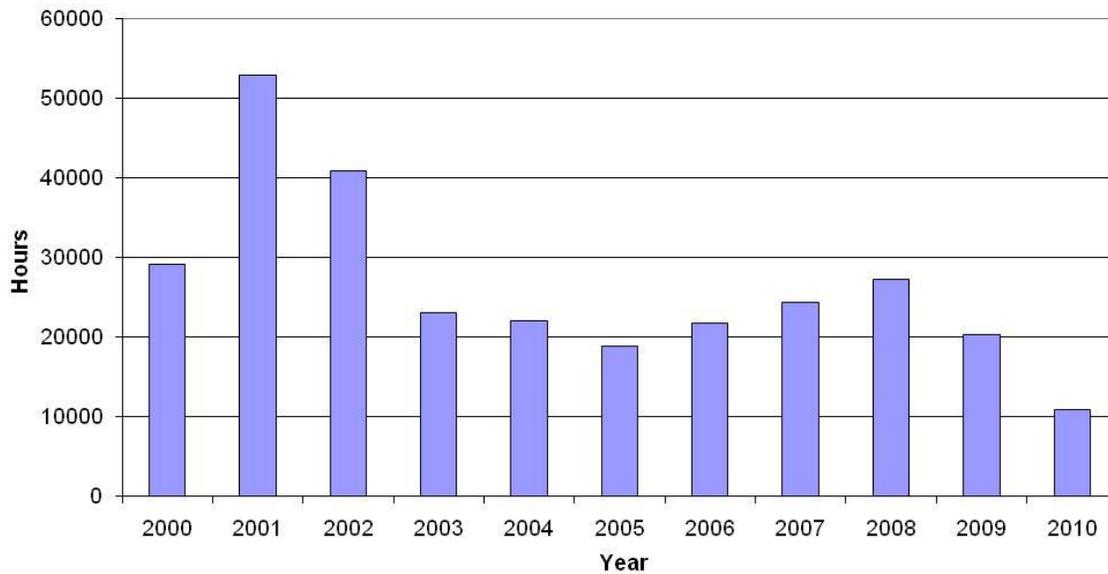


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – May 2011



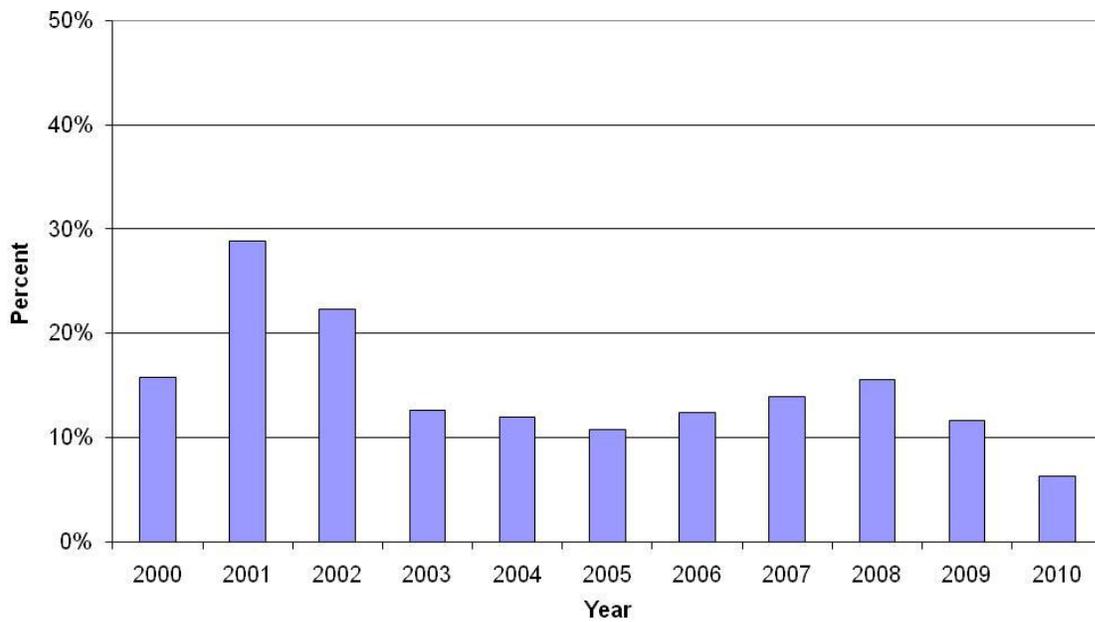
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – May 2011

Total Hours on ED Saturation by Year, San Diego County, 2000-2010



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, 2000 – 2010

Overall Percent Hours on ED Saturation by Year, San Diego County, 2000-2010



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, 2000 – 2010