

## 2011 Medical Director's Updates to BSPC

- [January](#)
- [February](#)
- [March](#)
- [April](#)
- [May](#)
- [June](#)
- [July](#)
- [November](#)



NICK MACCHIONE, FACHE  
DIRECTOR

WILMA J. WOOTEN, M.D., M.P.H.  
PUBLIC HEALTH OFFICER

## County of San Diego

HEALTH AND HUMAN SERVICES AGENCY

PUBLIC HEALTH SERVICES

1700 PACIFIC HIGHWAY, SAN DIEGO, CALIFORNIA 92101-2417  
(619) 531-5800 FAX (619) 515-6707

**Bruce E. Haynes, M.D.**  
Medical Director  
Division of Emergency Medical Services  
6255 Mission Gorge Road  
San Diego, CA 92120-3599  
(619) 285-6429 FAX:(619) 285-6531

Community Epidemiology  
Emergency & Disaster Medical Services  
HIV, STD and Hepatitis  
Immunization  
Maternal, Child and Family Health Services  
Public Health Laboratory  
PH Nursing/Border Health  
TB Control & Refugee Health  
Vital Records

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

**EMSA Awards:** Four EMS providers from San Diego received awards at the state Emergency Medical Services Commission meeting in San Francisco December 1, 2010. The awards were created to honor and recognize noteworthy or exceptional acts or service. The San Diego honorees were:

**Chris Olson:** Meritorious Service Medal, "For providing superior EMS service and innovation for over 35 years in San Diego County."

**Paul Santos:** Meritorious Service Medal, "For meritorious performance of rescue on 1 April 2010."

**Anne Marie Jensen:** Community Service Award, "For providing dedicated community service in organizing EMS social networking opportunities."

**Kevin Riutzel:** Community Service Award, "For providing dedicated community service organizing public access defibrillation programs in San Diego County."

Nominations are made to the state EMS Authority. Nominations may be made at any time, but are now open for the year 2010. For more information go to the award website at <http://www.emsa.ca.gov/about/awards/default.asp>. Let us know at EMS if you need any assistance. This is an opportunity to see that the many wonderful providers in the system are honored for their work.

**Paradise Valley stroke:** Paradise Valley Hospital is now approved to receive patients with acute stroke. They went online on December 24, 2010. Please join us in congratulating them and welcoming them in this role.

**Stroke patient IVs size:** The stroke personnel at the hospitals are requesting at least an 18 gauge IV be used when IVs are started on acute stroke patients. This will facilitate the administration of contrast for CT and other types of imaging (x-ray) studies. Remember also to make sure any witness goes to the hospital who can determine the time of the stroke onset.

**UCSD LVAD program:** The UC San Diego hospitals started a left ventricular assist device program. UC system patients with LVAD devices should be taken to Thornton Hospital or, if unable the primary option would be the Hillcrest hospital. Sharp Memorial has experience with LVAD for UCSD patients who cannot make it to one of the UC hospitals.

**Alvarado Hospital sold:** Prime Healthcare, the operators of Paradise Valley Hospital, purchased Alvarado Hospital. There are extensive personnel and operations changes occurring, but the changes are not believed to affect the emergency department.

**AEMT program approved:** The EMSTA training program has been approved to begin instruction in the new advanced EMT program. They are working on several details, but should have information on the new program. Service providers will be able to apply for designation as an AEMT provider agency. The priority is to develop programs in rural or remote areas.

**“Spice” Ingestions:** Spice is a so-called synthetic cannabis that mimics the effects of cannabis. Several cases were seen recently with agitation and tachycardia that may reflect the high dose, or some additional substance such as plants or herbs. The Poison Center reports a number of cases with hallucinations and “bad trips,” with copious emesis. Midazolam is indicated for usual indications, including severe agitation. Contact Susan Smith at EMS with any cases.

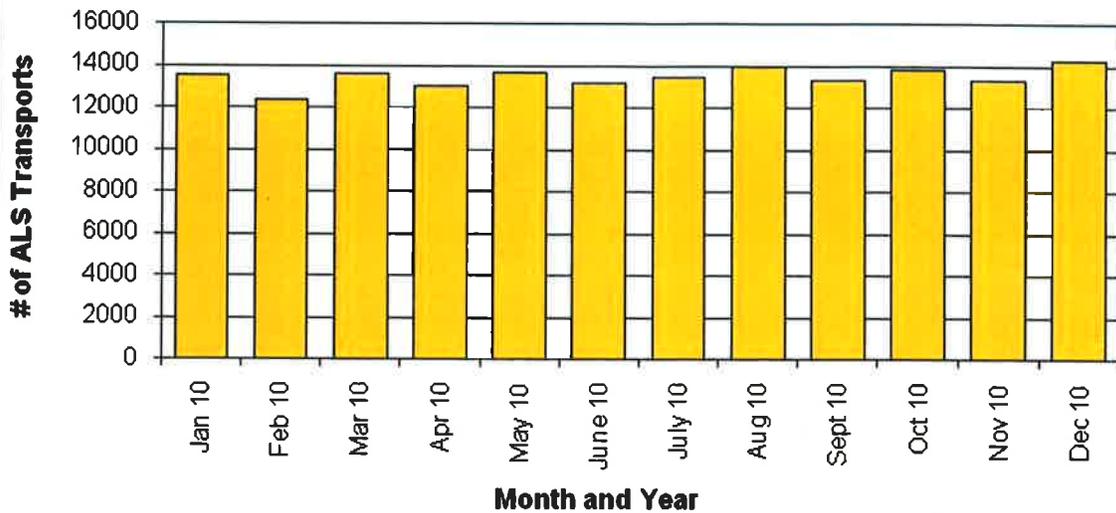
**Influenza season:** Influenza has not been prominent in the community to this point in the season. The percent of ED visits for Influenza-like illness at the monitored hospitals was 5%, higher than last year’s 4%. Influenza vaccination for EMS personnel remains important both to prevent transmission of virus to patients, and maintaining a well workforce. The San Diego County Medical Association GERM Commission recommends that influenza vaccination be mandatory for all healthcare personnel.

**Pertussis:** The county’s confirmed cases totaled 1,125 for last year. Two infants in the county died of pertussis last year. Already in 2011 there have been 6 cases equal to last year and compared to 1 for January 2009. Tdap vaccine is important for healthcare/EMS workers as well. New mandatory vaccination requirements for schools will be effective next July. Free pertussis vaccine is available at Northgate markets during January weekends from 10 am until 4 pm. More information is available at the Immunization Branch website at <http://www.sdiz.org/>.

**Norovirus:** Several outbreaks have occurred. See last month’s Report

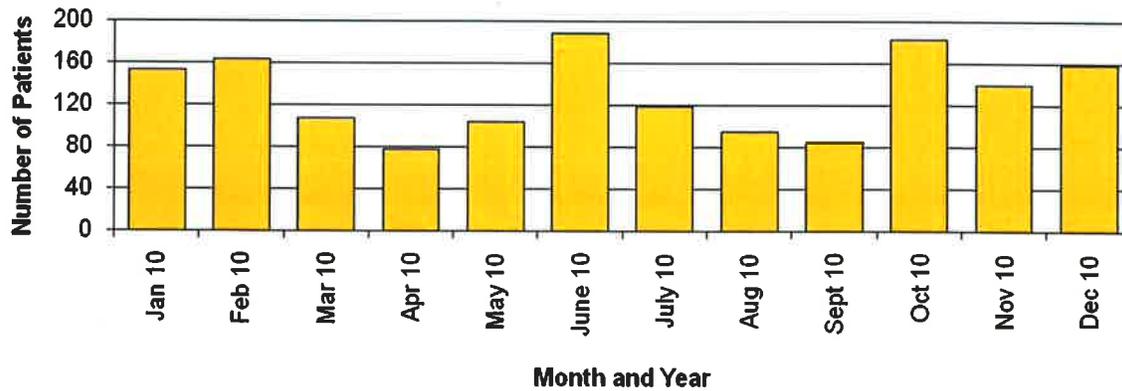
**Wound Botulism:** Several additional cases since September among black-tar heroin users. Clinical presentation includes weakness, beginning with the face and throat.

### Number of ALS Transports, County of San Diego, Jan 2010 - Dec 2010

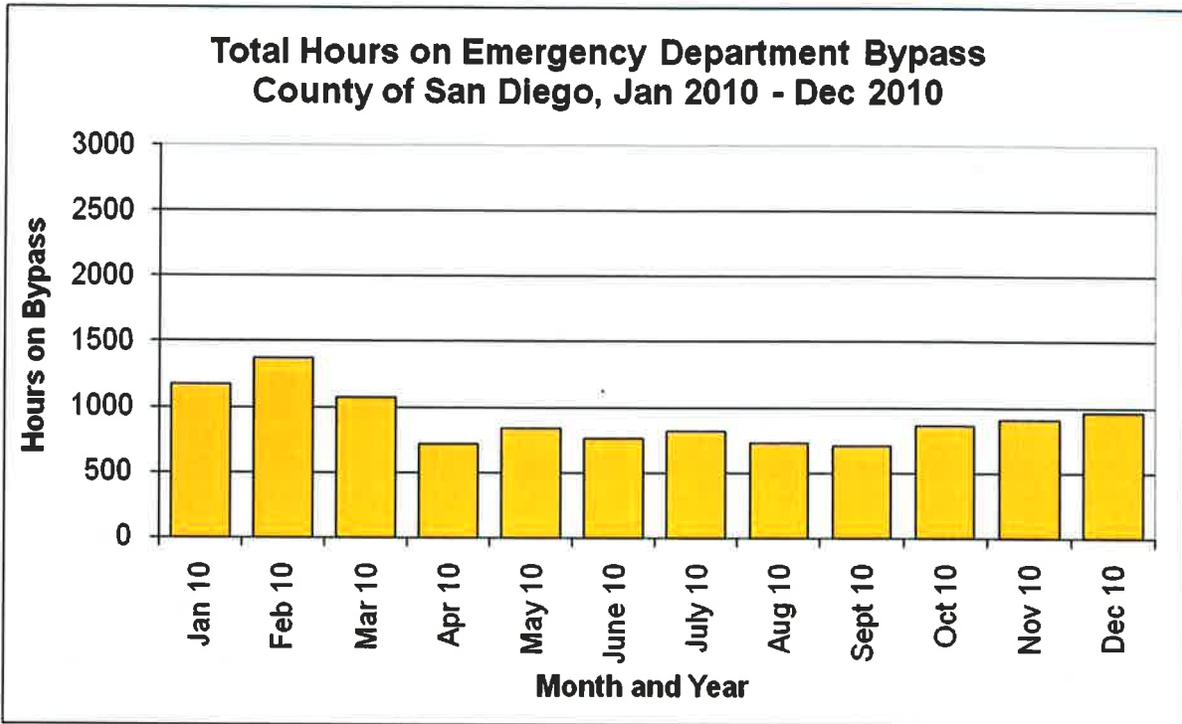


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2010 – Dec 2010 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other

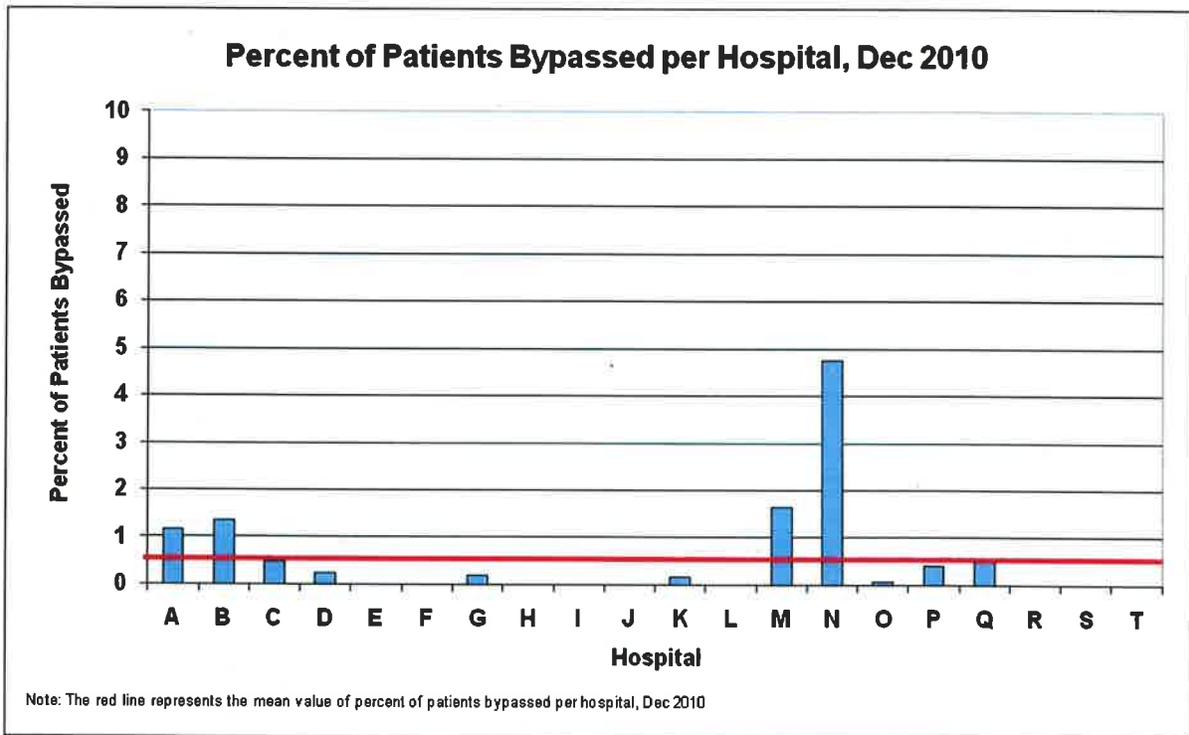
### Number of Patients who Bypassed the Requested Hospital, County of San Diego, Jan 2010 - Dec 2010



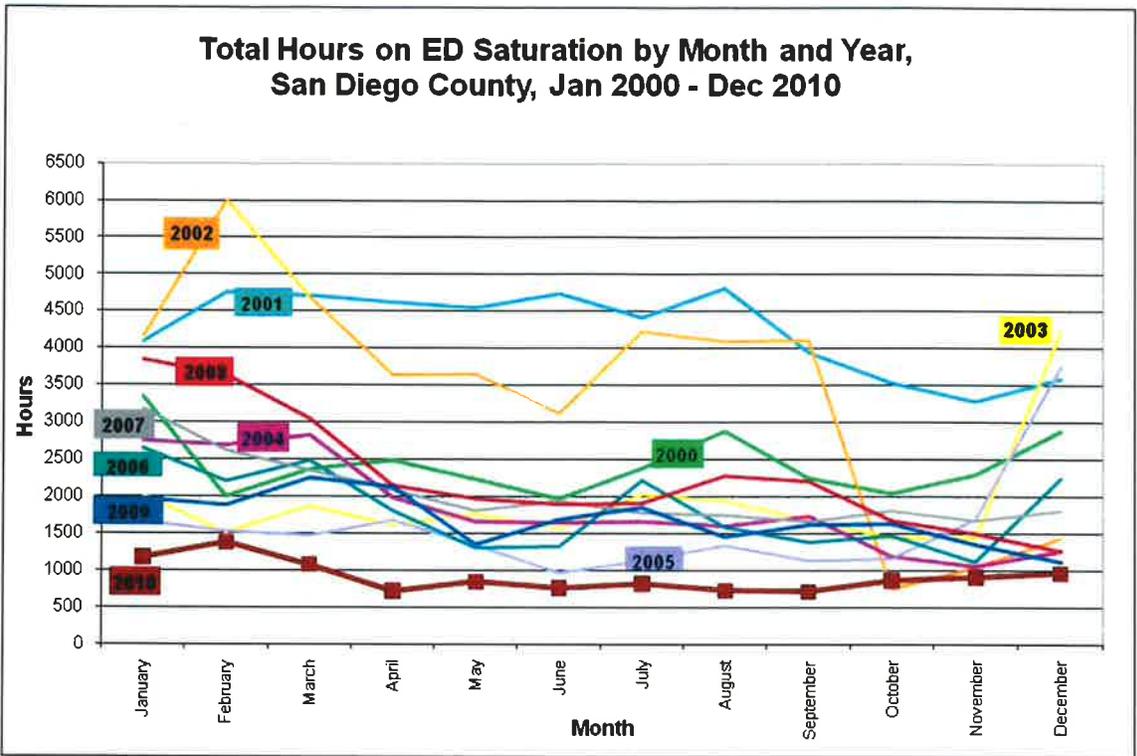
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2010 – Dec 2010 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



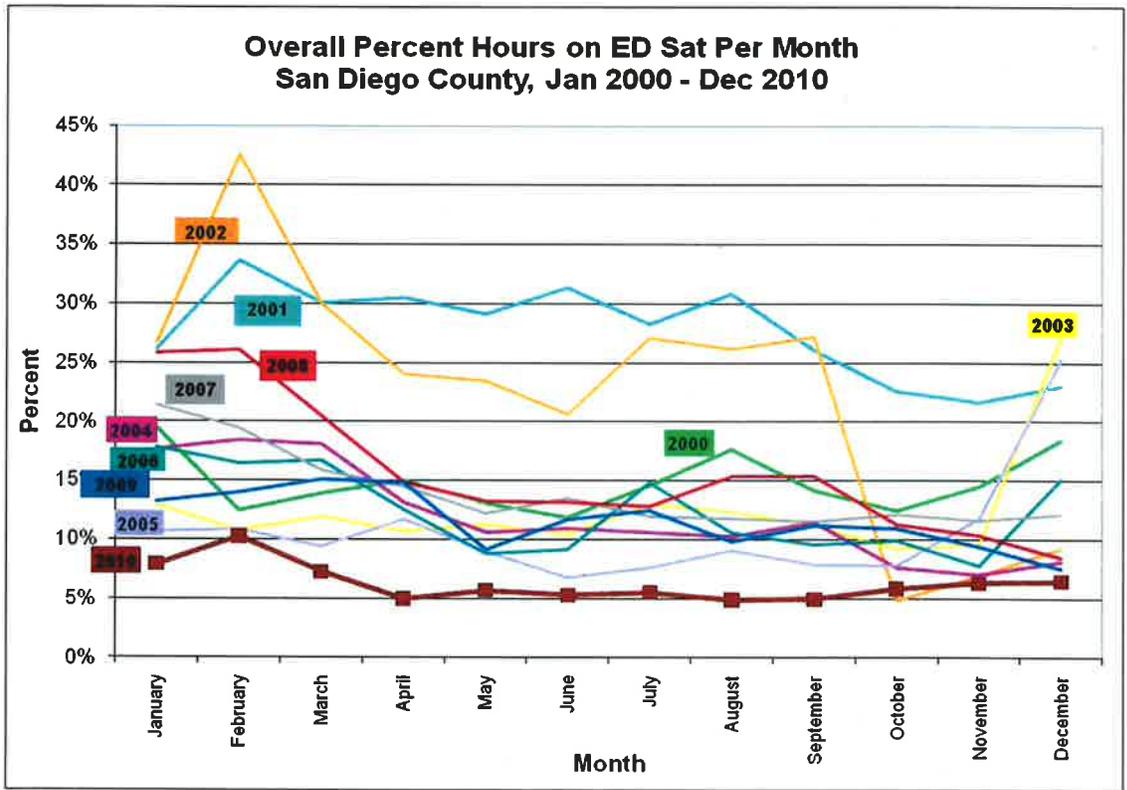
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2010 – Dec 2010



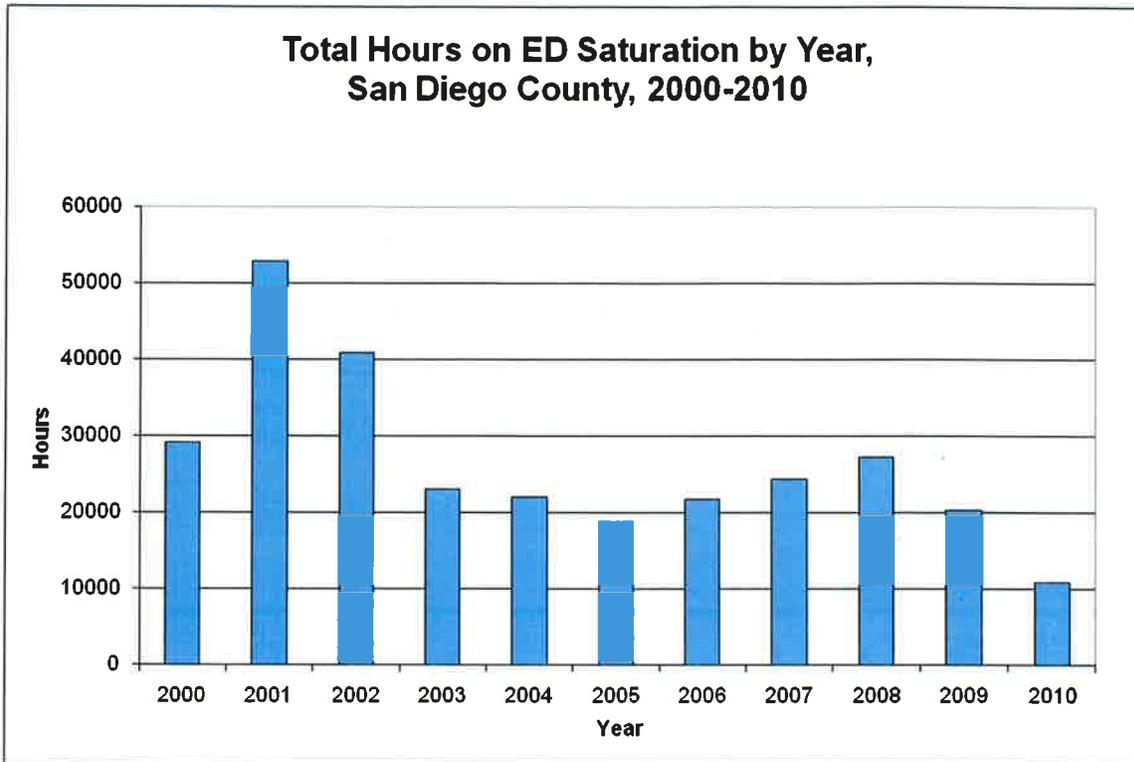
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Dec 2010  
 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



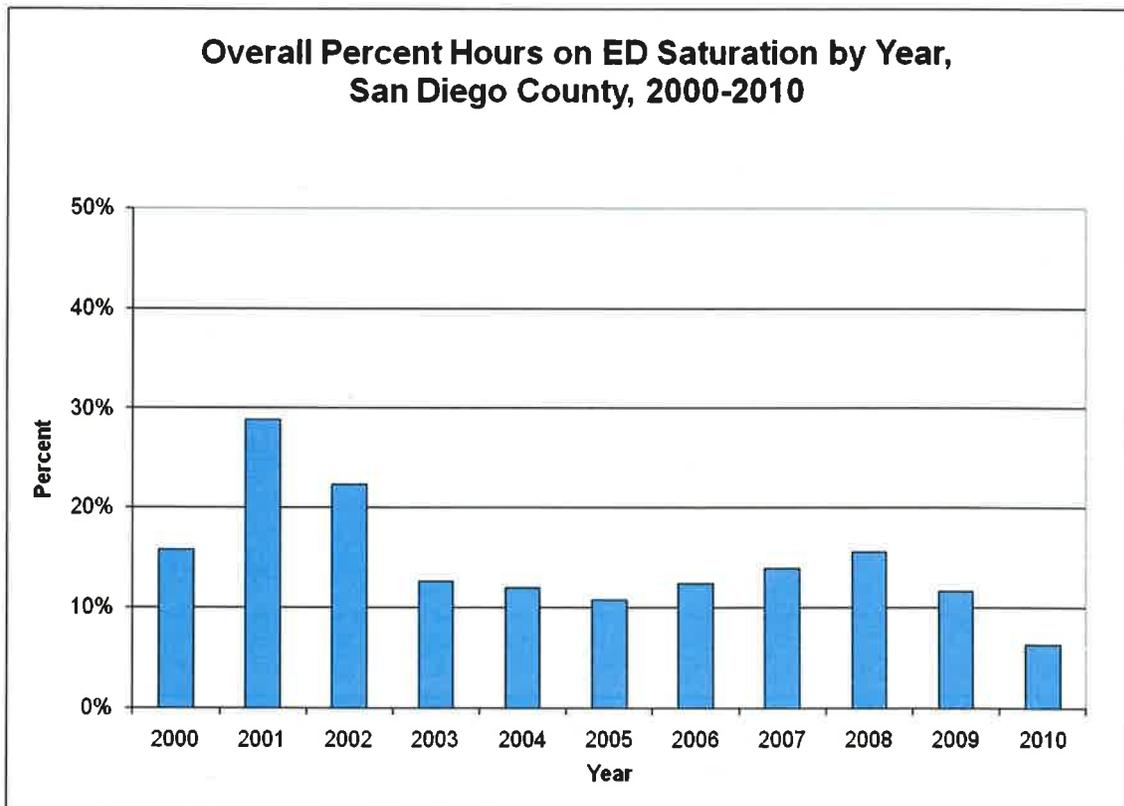
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – Dec 2010



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



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



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



NICK MACCHIONE, FACHE  
DIRECTOR

WILMA J. WOOTEN, M.D., M.P.H.  
PUBLIC HEALTH OFFICER

## County of San Diego

HEALTH AND HUMAN SERVICES AGENCY

PUBLIC HEALTH SERVICES

1700 PACIFIC HIGHWAY, SAN DIEGO, CALIFORNIA 92101-2417  
(619) 531-5800 FAX (619) 515-6707

Community Epidemiology  
Emergency & Disaster Medical Services  
HIV, STD and Hepatitis  
Immunization  
Maternal, Child and Family Health Services  
Public Health Laboratory  
PH Nursing/Border Health  
TB Control & Refugee Health  
Vital Records

**Bruce E. Haynes, M.D.**  
**Medical Director**  
Division of Emergency Medical Services  
6255 Mission Gorge Road  
San Diego, CA 92120-3599  
(619) 285-6429 FAX:(619) 285-6531

### Medical Director's Update for Base Station Physicians' Committee February 2011

**UCSD Flood:** Thank you to the other Base Hospitals and everyone in the system who assisted when UCSD's radio room was flooded. A broken pipe made the radio room unusable and the other Bases immediately picked up the load and the system reacted appropriately. Many UCSD, County and other individuals worked very hard to keep the down time for the radio room at a minimum. Again, a great job and congratulations to everyone involved.

**Offload Delays:** We continue to experience fewer bypassed patients away from the hospital of choice. One complication of that effort is the potential for increased offload delays in the hospital. Field crews who have to wait more than 30 minutes for a bed with a patient, should ask to speak with the charge nurse to see if they can lend any assistance. We will look at the issues and see what improvements can be made.

**Protocols:** This year's protocol and policy changes have been through the protocol committee and will be taken to Base Station physicians at this month's meeting.

**POLST Changes:** On April 1, 2011 changes to the Physician Orders for Life-Sustaining Treatment (POLST) will be implemented. The revised POLST reflects experience with the instrument over the last two years. A number of the changes are simply clean up, but many clarify use of the document for both the prehospital setting, and healthcare facilities. The interaction between POLST and the Advance Directive is covered as well. We will send out a more detailed summary of the changes in the near future. The POLST has been added also to the standardized assessment completed upon patient admission to nursing homes in California. This should allow better information about the use of the POLST and hopefully encourage its use.

A copy of the revised POLST document is attached so that you may see the changes.

The Advance Directive often appoints a surrogate decisionmaker in the event the patient is incapacitated and cannot make their own health care decisions. The Directive does allow for a patient recording their desires for treatment, although in much less detail than the POLST. Conflicting instruction between the documents should be uncommon, but if a conflict exists the most recent

document should be followed. The POLST should be kept in a visible location at home for those who are seriously ill or in very poor health. Faxed and photocopies of the POLST are valid, and the document is valid when printed on any paper, not just the Pulsar Pink or the new Ultra Pink encouraged for visibility. The POLST is available in English, Chinese, Spanish, Farsi, Korean and Russian languages; although for use, only the English version is accepted as the field personnel must be able to understand the patient's intent in English.

**Influenza Season:** Influenza is present in the community although at low levels to this point. The number of ED visits for influenza like illness at the monitored hospitals has been running about 4%, similar to last year at this time. The number of patients dying of pneumonia or influenza-like illness is up slightly. Influenza vaccination for EMS personnel is safe and important to prevent transmission to healthcare workers, to the healthcare worker's family, and importantly, to patients. Healthcare institutions with high levels of influenza vaccination among staff have lower death rates from influenza.

**Norovirus:** There continue to be occasional sporadic outbreaks of Norovirus, sometimes in skilled nursing facilities. Recently there was confusion about EMS responses into an assisted living facility in which it was believed that the facility was "quarantined." Disease Control for the county monitors Norovirus outbreaks and but facilities are not quarantined and EMS first responders will simply use the recommended PPE. Norovirus PPE was in the Medical Director's Report in December 2010 and January 2011.

**Pertussis:** Confirmed cases are still running near last year's level and so the epidemic this year has not broken.

**Cancer Patients:** Many of the patients we treat with respiratory distress have underlying congestive heart failure, COPD, or asthma. Some have pneumonia. Patients with cancer may present with respiratory distress but not have one of our typical causes.

Pleural effusion, a collection of fluid between the lung and the pleura, occurs frequently in patients with cancer. They may have large amounts of fluid in the effusion, up to several liters. On examination you are not likely to hear rales or wheezing, although they may be heard above the level of the effusion. You may be able to appreciate diminished lung sounds on one side compared to the other if there is a unilateral effusion. Field treatment is maintaining the airway, the administration of oxygen and ventilatory assistance, if necessary. Treatment for pleural effusion is not improved with nitrates or bronchodilators.

Several other conditions may also cause shortness of breath and be difficult to recognize. One is simple upper airway obstruction due to tumor growth. The second is pericardial effusion or a collection of fluid around the heart that may lead to hypotension, jugular venous distension and diminished heart sounds. A third condition is may be superior vena cava syndrome caused by compression of the thin-walled superior vena cava carrying blood at low pressure through the mediastinum, where tumor or lymph nodes compress the vena cava. Although it is subtle and easy to miss, patients with superior vena cava syndrome often will have facial swelling with venous engorgement of the upper extremities, neck and face. The skin may have a somewhat bluish color, mimicking cyanosis. Shortness of breath and orthopnea are common.

The take home message is that patients with cancer may have a number of respiratory conditions complicating their presentation other than our most frequent complaints.

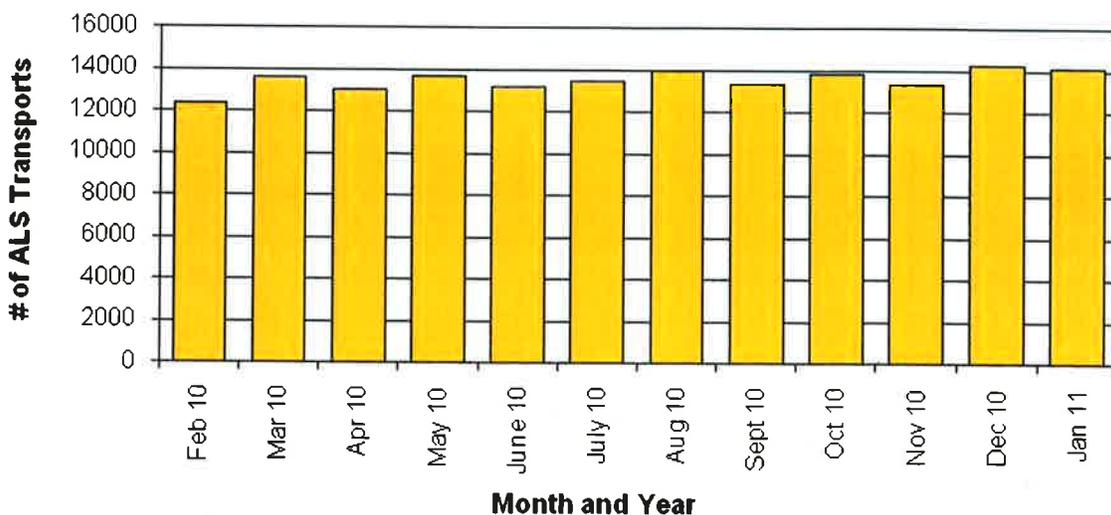
**Stroke Center Mortality:** There has been limited proof that admission to a stroke center is associated with lower death rates than other hospitals. Many studies have focused on processes of care rather than outcomes. A recent article looked at death rates for patients admitted with acute ischemic stroke at designated stroke centers and non-designated hospitals. Almost half the patients (49.4%) were

admitted to stroke centers. Those admitted to stroke centers had lower 30-day all-cause mortality (10.1% vs. 12.5%), and received thrombolytics more often (4.8% vs. 1.7%). Differences in the death rate were observed at one day, seven days and at one year follow up. So the improvement occurred rapidly after admission. The authors compared the two groups of hospitals for death rates among patients with gastrointestinal hemorrhage and acute myocardial infarction and found no difference for those conditions, emphasizing that designation as a stroke center had a discrete impact on acute stroke. (JAMA, January 26, 2011).

**COPD and Oxygen:** In EMS we provide patients with shortness of breath oxygen, often high-flow oxygen. If a rare patient needs ventilator assistance, then they are ventilated. A recent study from Australia looked at high-flow oxygen. In this case, from Tasmania in Australia about 400 patients with a worsening of their COPD were treated by paramedics and then admitted to one hospital. About 214 had a diagnosis of COPD confirmed by lung function tests. Patients received either high-flow oxygen in the field compared with titrated oxygen with an aim at maintaining the O<sub>2</sub> saturation at 88-92%. The overall death rate was 9% in the high-flow oxygen arm compared with 4% in the titrated oxygen arm. The death rate in the subgroup with confirmed COPD was 9% in the high-flow oxygen arm compared with 2% in the titrated oxygen arm. Patients receiving titrated oxygen were less likely to have respiratory acidosis or an elevated carbon dioxide level. This study challenges the practice of providing high-flow oxygen in COPD patients. (British Medical Journal).

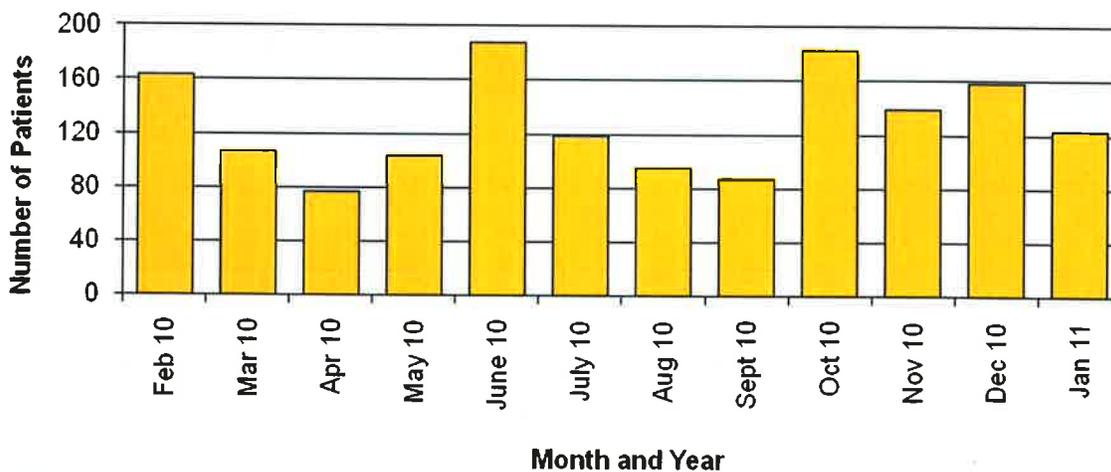
**Prehospital IVs and Trauma:** Fluid administration to patients with injuries is controversial. This is another article looking at that issue. They used the National Trauma Data Bank including 776,734 patients. According to the article, about half the patients received a prehospital IV and the overall death rate was 4.6%. Patients who received fluids were more likely to die. Surprisingly, this association was identified in nearly all subsets of trauma patients, from not just penetrating trauma but blunt trauma as well, and patients with head injury in whom fluids have been felt to be potentially beneficial. The increase in the death rate was particularly marked in patients with penetrating trauma, hypotension, severe head injury and those undergoing immediate surgery upon hospital arrival. This is another piece of evidence that administering fluids to severely injured patients in the field may be detrimental. (Annals of Surgery, February 2011).

### Number of ALS Transports, County of San Diego, Feb 2010 - Jan 2011

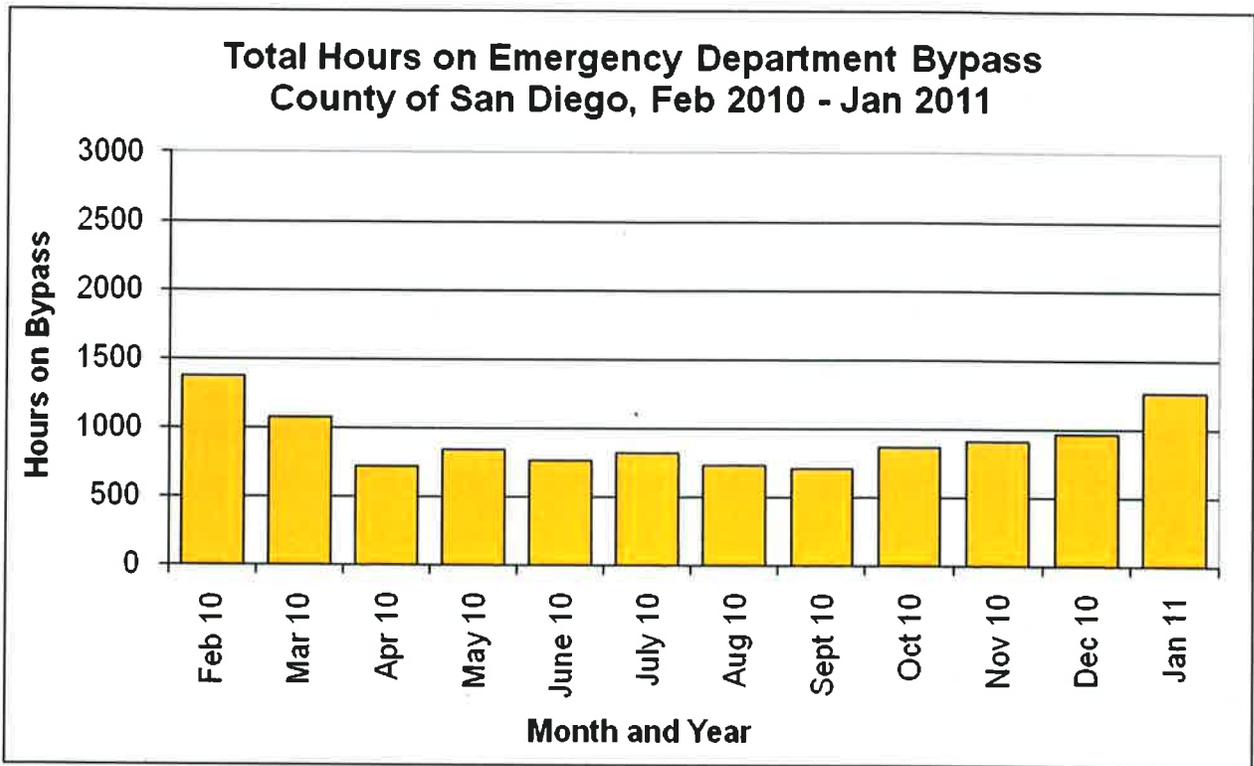


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Feb 2010 – Jan 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other

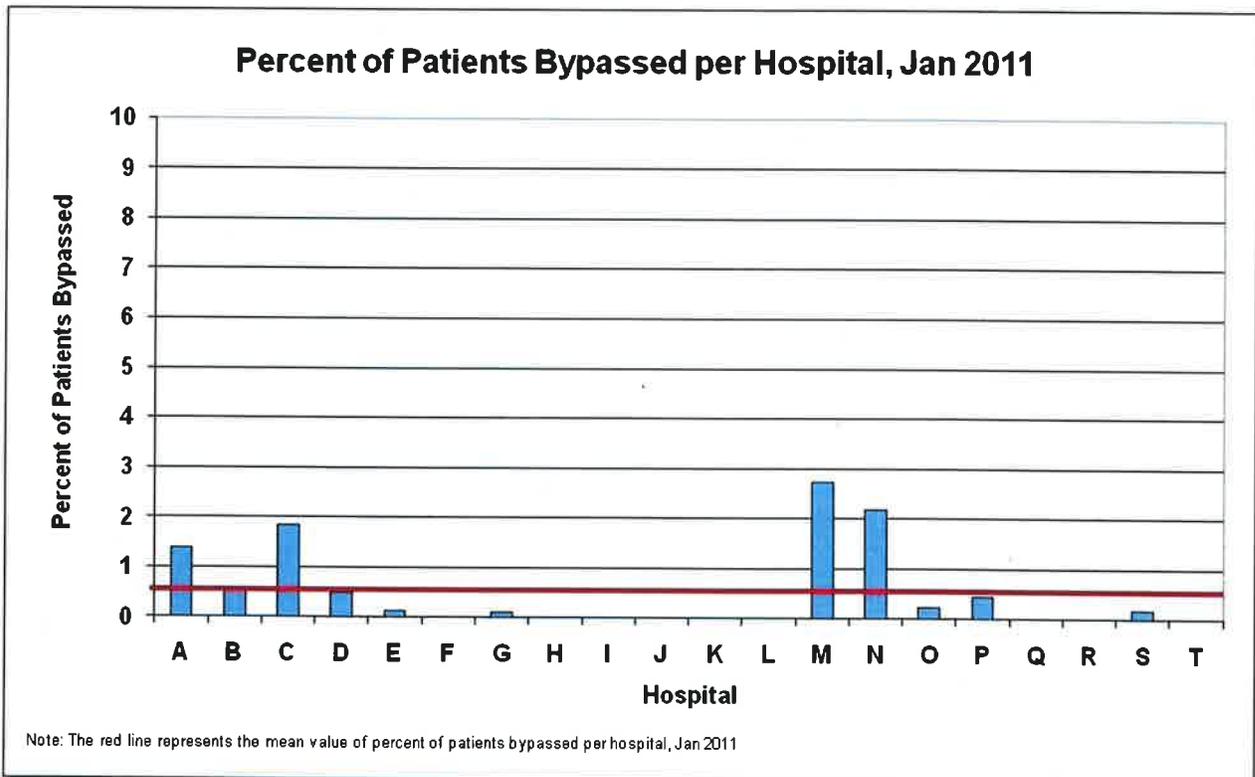
### Number of Patients who Bypassed the Requested Hospital, County of San Diego, Feb 2010 - Jan 2011



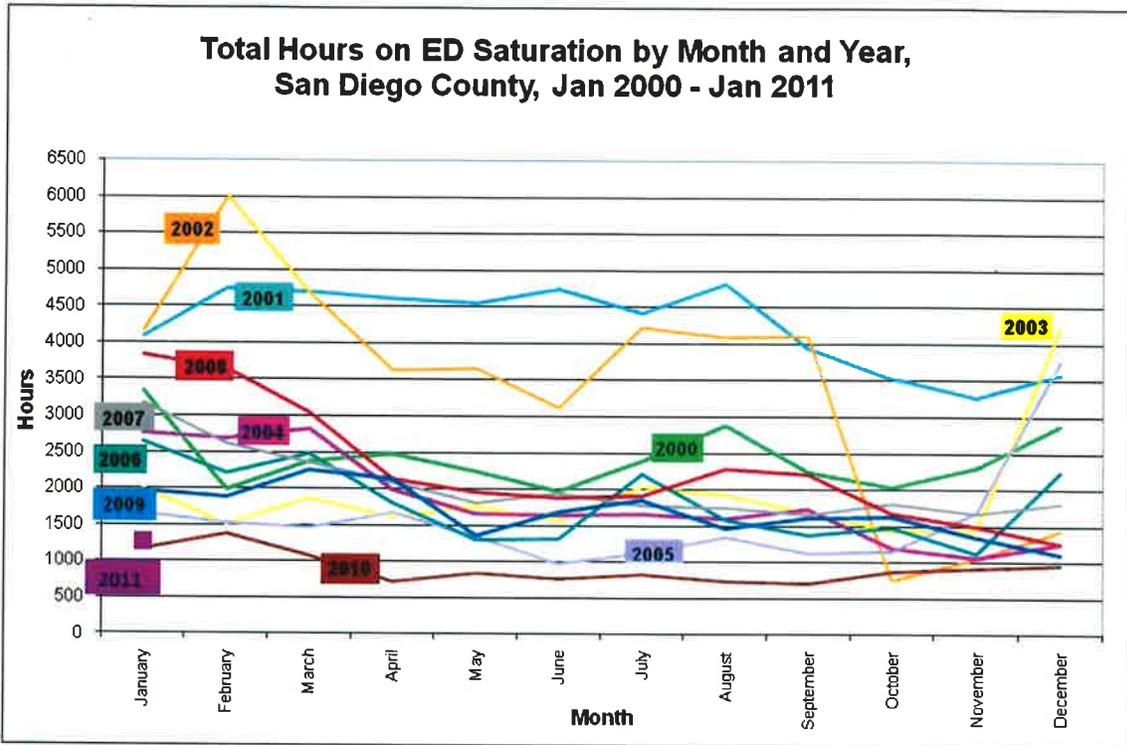
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Feb 2010 – Jan 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



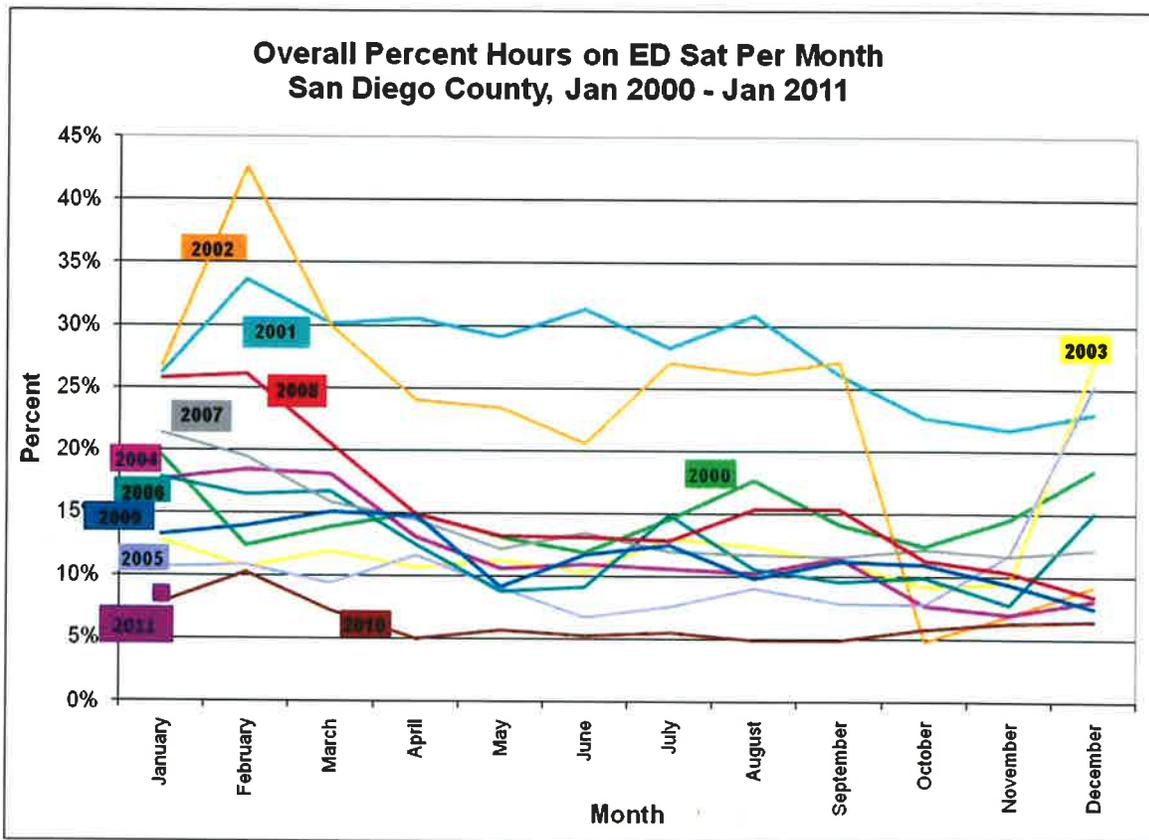
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Feb 2010 – Jan 2011



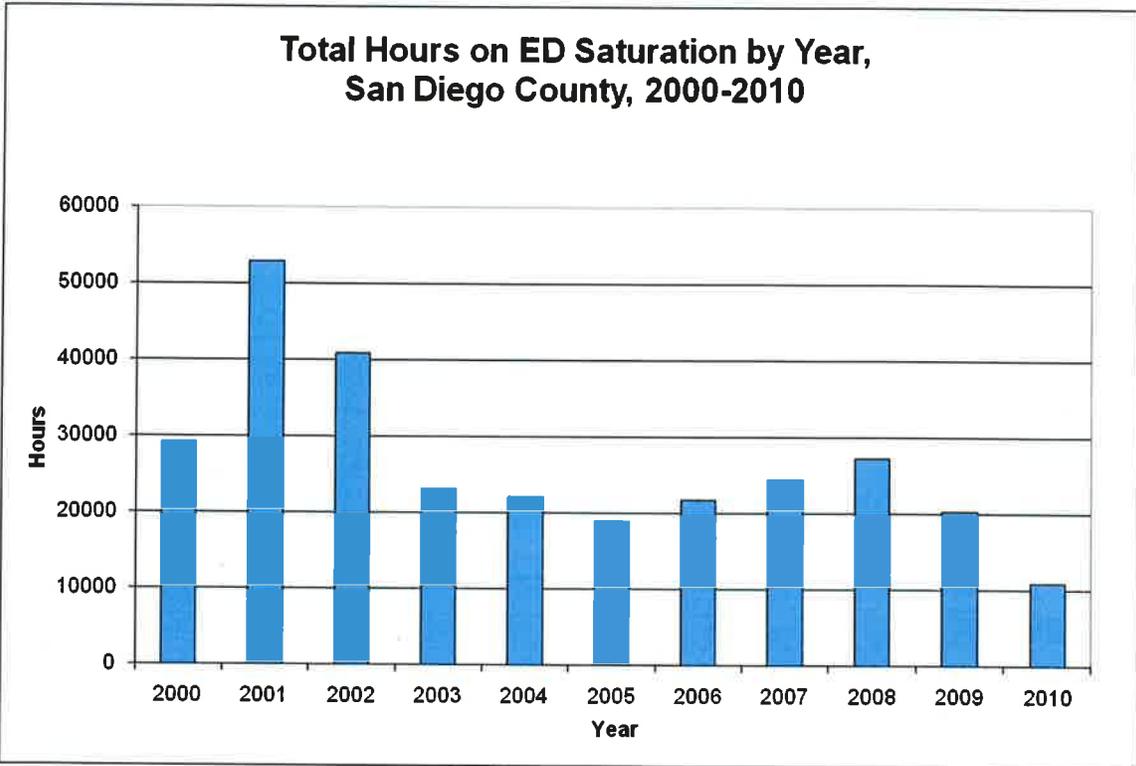
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2011  
 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



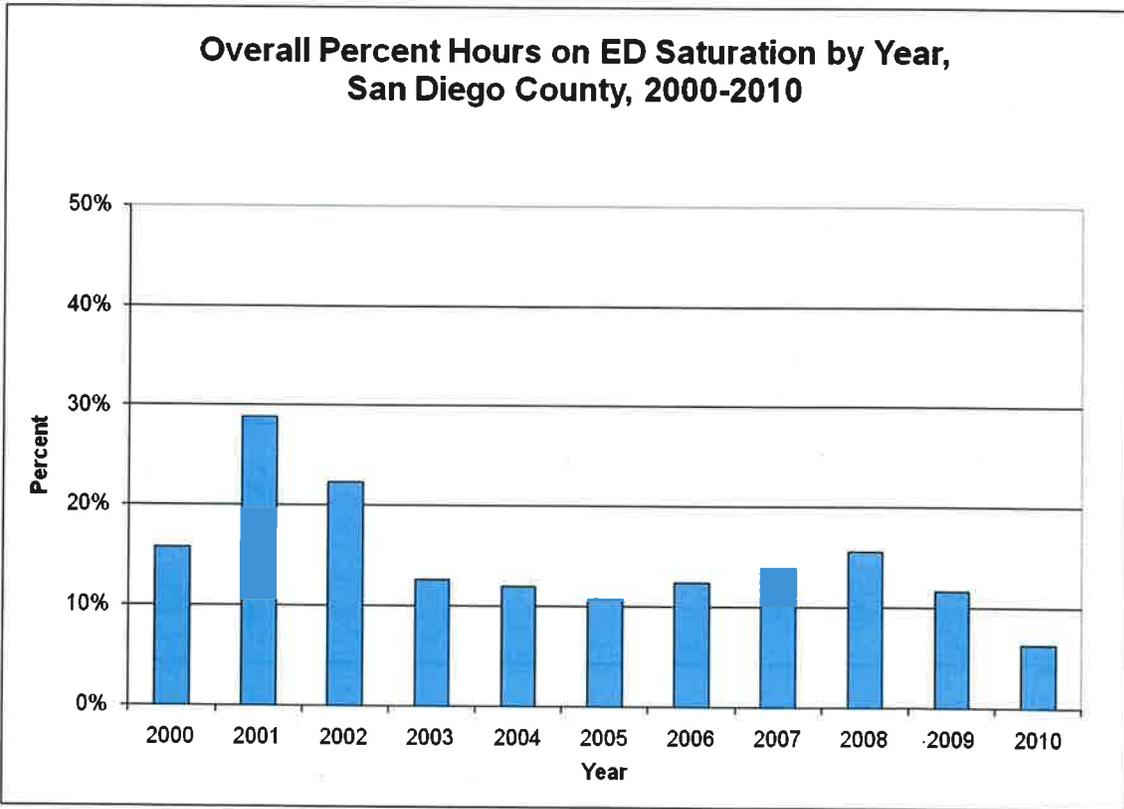
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – Jan 2011



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



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



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



NICK MACCHIONE, FACHE  
DIRECTOR

WILMA J. WOOTEN, M.D., M.P.H.  
PUBLIC HEALTH OFFICER

## County of San Diego

HEALTH AND HUMAN SERVICES AGENCY

PUBLIC HEALTH SERVICES

1700 PACIFIC HIGHWAY, SAN DIEGO, CALIFORNIA 92101-2417  
(619) 531-5800 FAX (619) 515-6707

**Bruce E. Haynes, M.D.**  
Medical Director  
Division of Emergency Medical Services  
6255 Mission Gorge Road  
San Diego, CA 92120-3599  
(619) 285-6429 FAX:(619) 285-6531

Community Epidemiology  
Emergency & Disaster Medical Services  
HIV, STD and Hepatitis  
Immunization  
Maternal, Child and Family Health Services  
Public Health Laboratory  
PH Nursing/Border Health  
TB Control & Refugee Health  
Vital Records

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

**Off-load** delays were discussed at EMOC and we continue to development thinking about the response to off-load delays when they occur. If you have a substantial off-load delay of  $\geq 30$  minutes make sure the ED charge nurse knows of it. Our goal is to develop a response to off-load delays as they occur. We will keep you posted on the this important subject.

An unknown website was put up to gather off-load delays. The owner is unknown, but use of the website is problematic as it asks for HIPAA protected information.

**Rapid Base contact:** Sometimes patients arrive at receiving hospitals rapidly after notification. This is difficult for the ED when it is crowded, and may contribute to off-load delays in some cases. Please attempt contact and notification as soon as consistent with patient care.

**Pulmonary Hypertension emergencies:** Some pulmonary hypertension patients are receiving intravenous vasodilators that maintain critical vasodilatation and prevent abnormal blood vessel growth. Interruption of the vasodilator administration may cause sudden deterioration or even death. These medications include epoprostenol (Flolan, Veletri) and treprostinil (Remodulin). Patients have been instructed to call 911 for assistance in re-instituting the medication and transport to the hospital.

If an indwelling catheter is not functioning, an IV should be started and the infusion connected to the new IV. In some cases, the issue may be the pump or cassette and the patient should have a backup. You may have to work with the patient or family to re-connect the pump. While these agents are not in the scope of practice, you are simply providing the route of administration in emergency circumstances.

Some patients are on subcutaneous pumps, while others are taking oral medications, so you may see these patients as well.

**STEMI Results:** From the 2007 start until the 2<sup>nd</sup> quarter of 2010, 3,220 patients presented with STEMI, of whom 2,425 (75%) arrived by 911. Of these, there was prehospital activation in 1,890 (78%), and 1,412 (75% of PH activated) went to the cardiac catheterization laboratory. A percutaneous coronary intervention (PCI) was performed in 1,204 patients, or 85% of those taken to the cath lab.

The door-to-balloon times reflect the great performance of field personnel, along with hospital staff including the cath lab personnel, ED staff, and cardiologists. For activated cases in the second quarter of 2010 the mean door-to-balloon time was 60 minutes. This is superb. Interestingly, non-activated cases showed a mean of 72 minutes, and walk-ins 75 minutes, both a steady drop from previous door-to-balloon times. The entire process has speeded up. This will be reflected in lower death rates from STEMI.

The number of activated cases having a door-to-balloon time  $\leq 90$  minutes is 94%. A great performance.

In the second quarter of 2010 the number of false positives dropped from around 20% to 5%. This is such a large drop it may be isolated to this quarter, but the increasing move toward transmission of ECGs should keep this down in the future. The largest cause of false positive ECGs is mimics of STEMI such as atrial fibrillation, etc. The second largest is MD activation without definite STEMI recorded, with poor quality ECG and multiple ECGs also common causes of false positives.

Thanks again to all of you for making this possible for our patients. Great work.

**Protocols:** Are going through the review process. They will be reviewed again at BSPPC, and hopefully we are near completion for this year. Changes are being considered for the allergic reaction protocol, for septic shock, and fluid administration among others. Remember to keep track of any suggestions for next year.

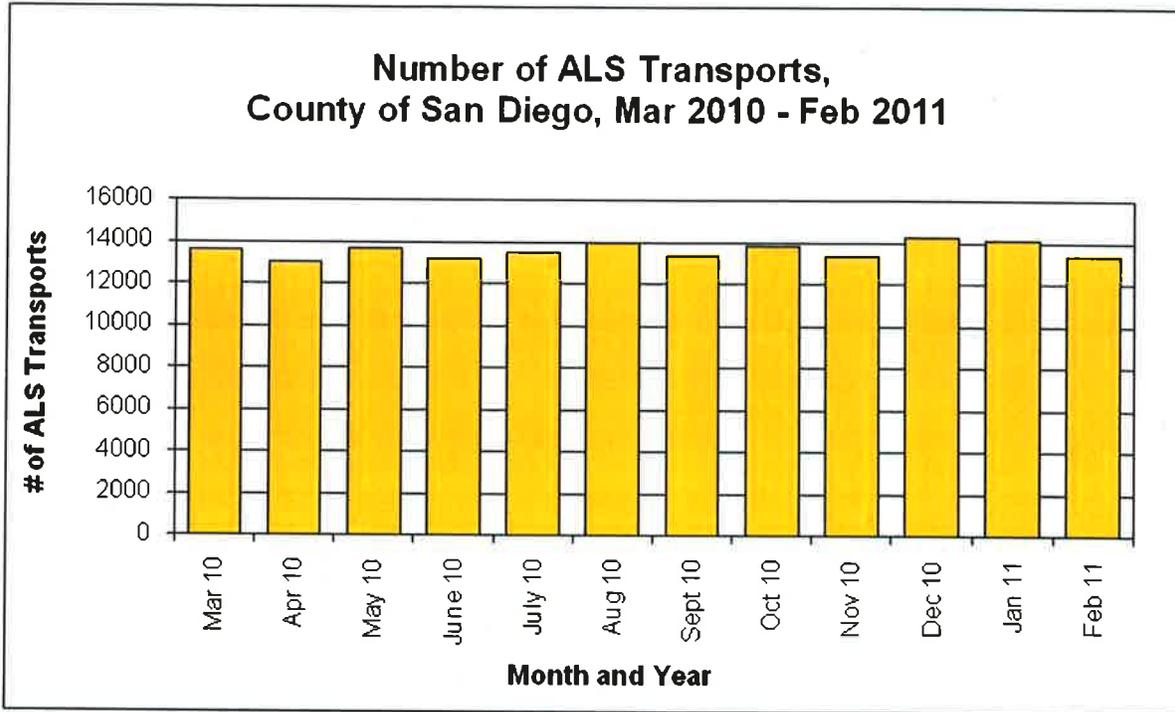
**POLST:** The new POLST form will be effective April 1, 2011. There are a number of changes that improve the readability and clarity. Old forms will continue to be valid. The POLST is valid even if not on the bright colored paper recommended. Photocopies are valid and may be faxed where needed. Hopefully we will see more use of this document.

The Advance Directive is a separate document that allows an individual to designate a decision maker for their health care decisions should they become incapacitated. The Advance Directive also allows the person to specify treatments they would either desire, or not desire.

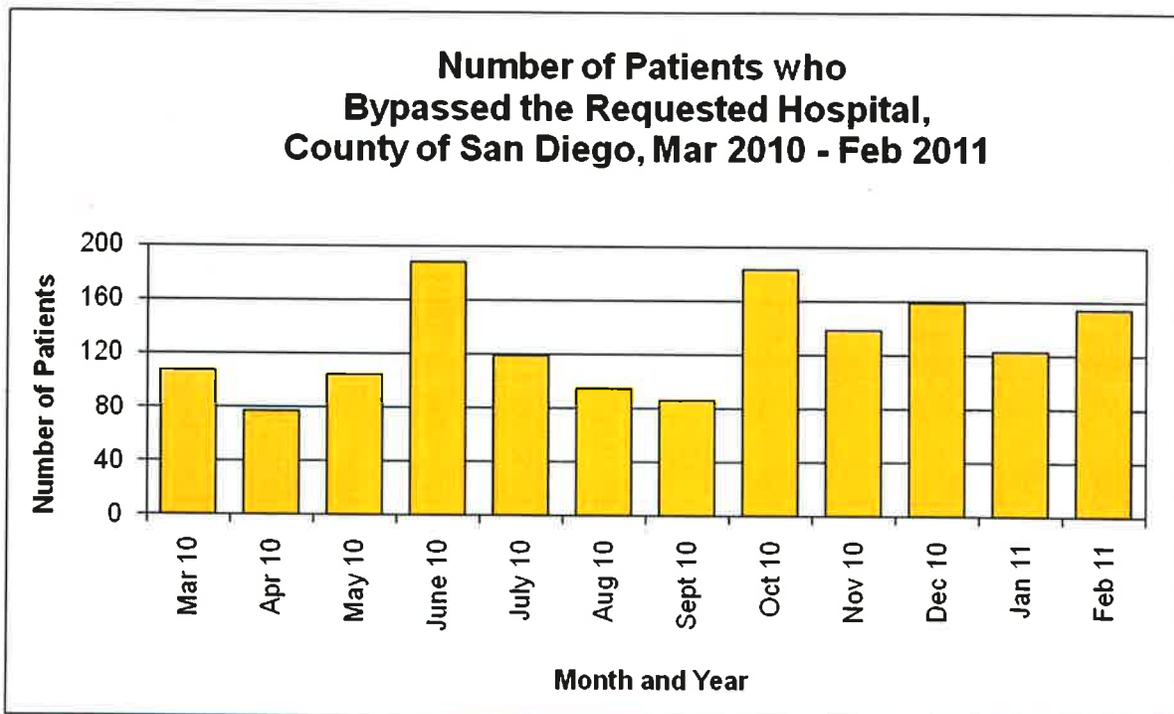
**Influenza:** The time is approaching the end of what we traditionally consider the "flu season." The number of cases seemed to peak several weeks ago, but cases seen in EDs rose last week. Next year's vaccine components have been selected so production may begin.

Health care facilities with mandatory universal vaccination have been shown to have lower death rates among patients. Influenza vaccine is most effective in younger, healthier individuals so the very young and elderly may not be protected even if vaccinated. That makes

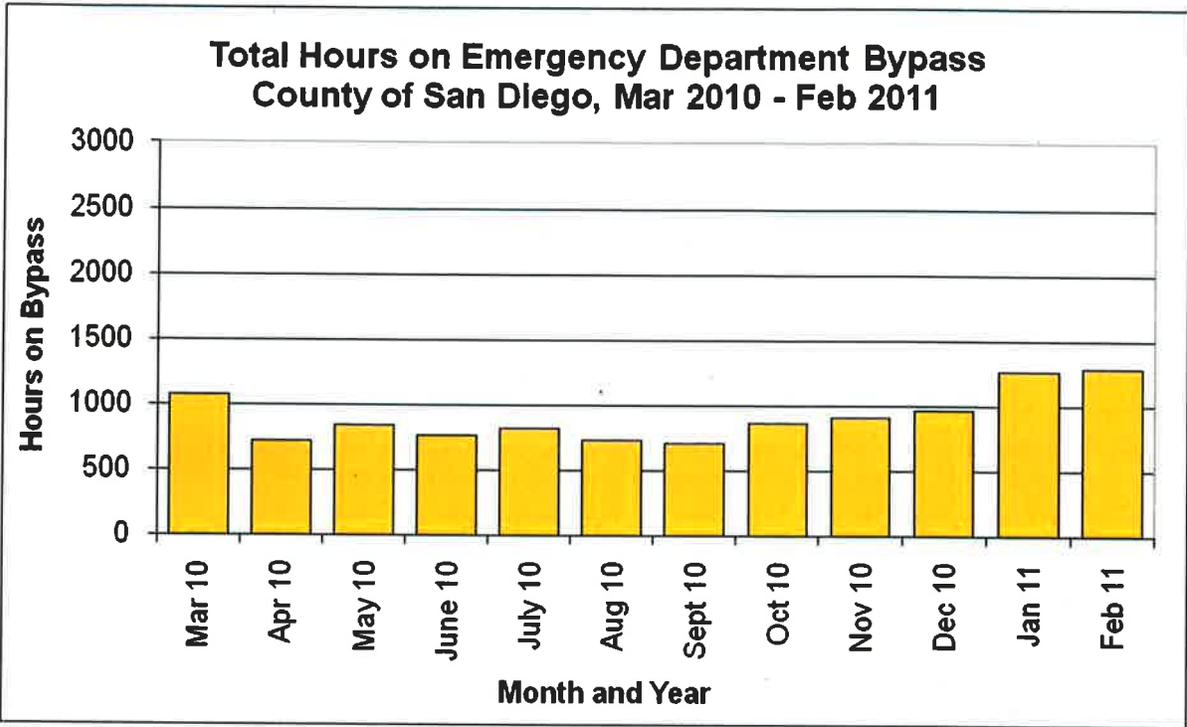
it important that persons who come into contact with them be immunized. Influenza vaccination among healthcare workers reduces absenteeism.



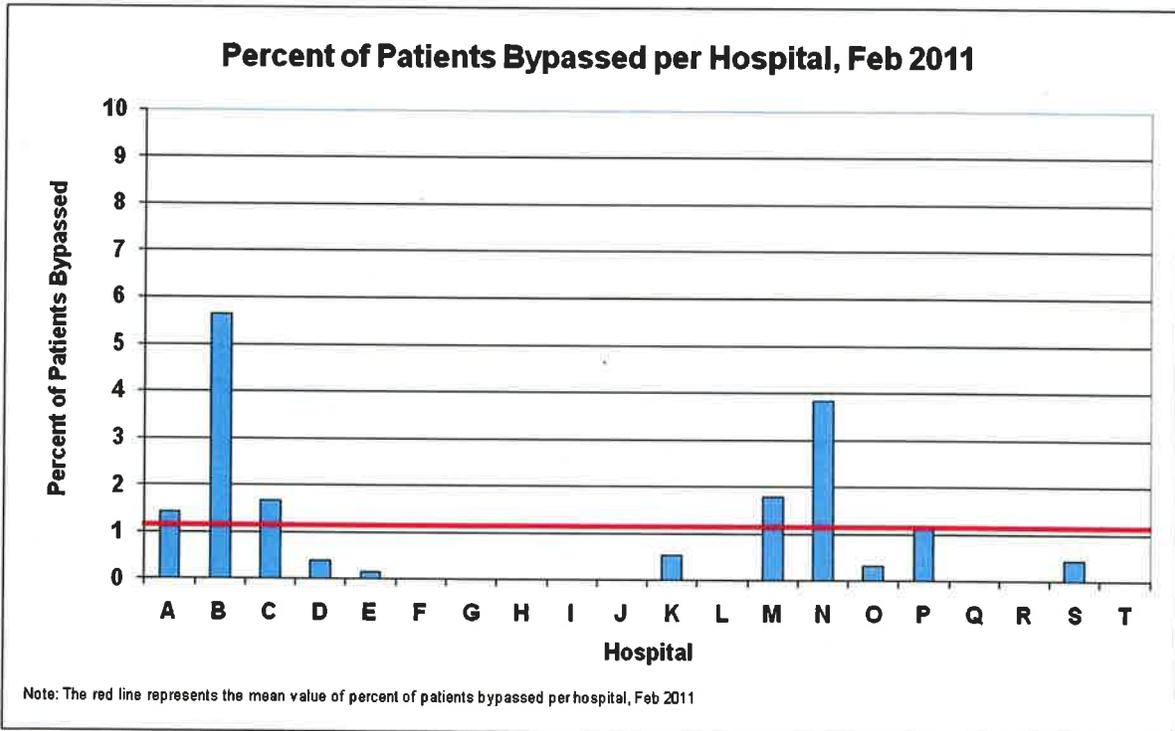
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Mar 2010 –Feb 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



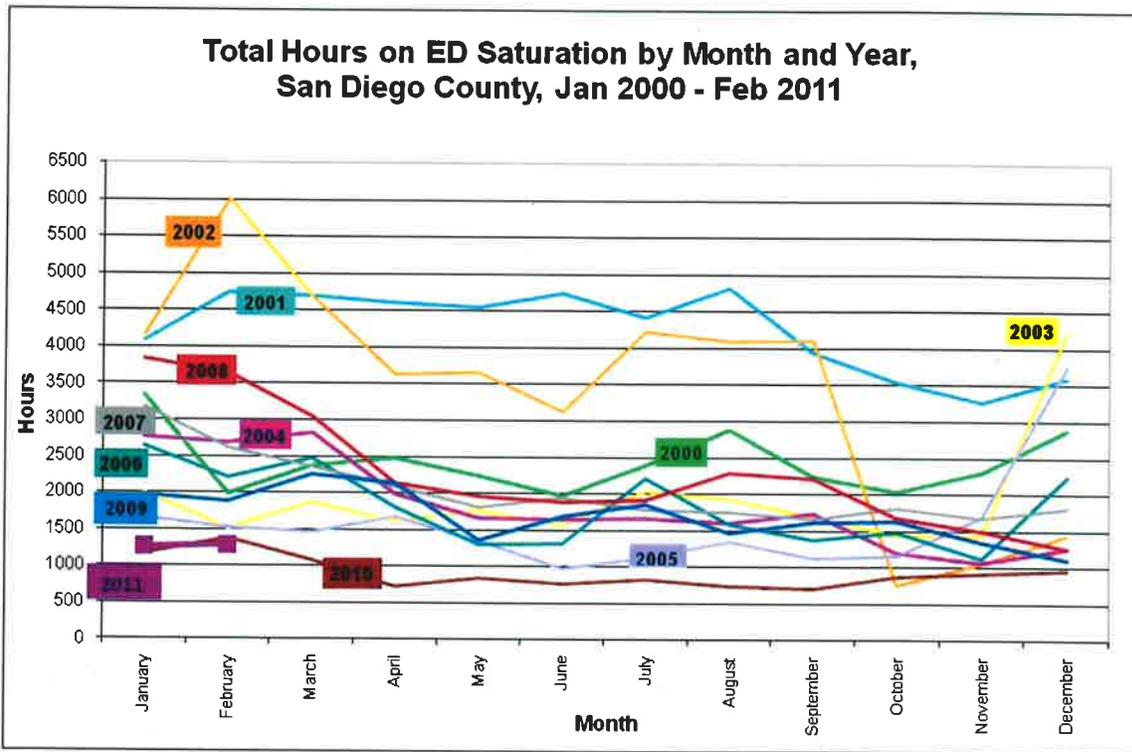
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Mar 2010 –Feb 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



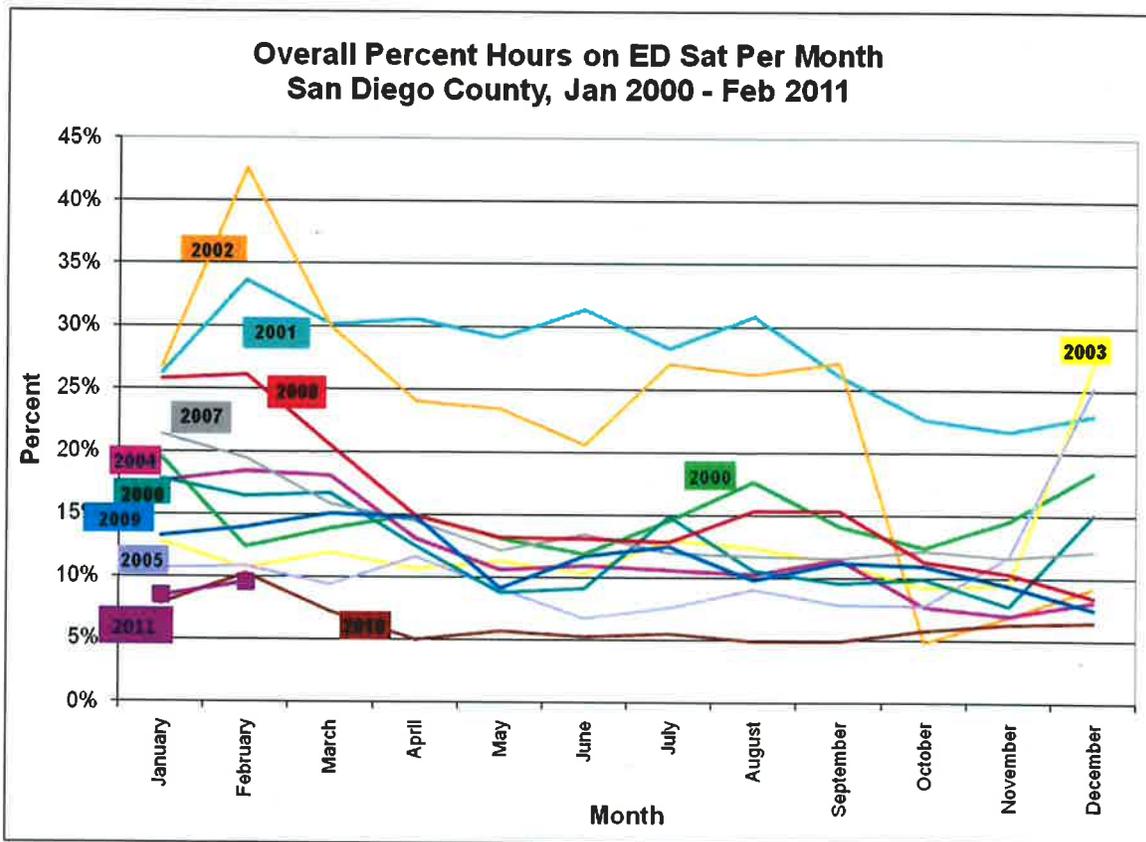
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Mar 2010 – Feb 2011



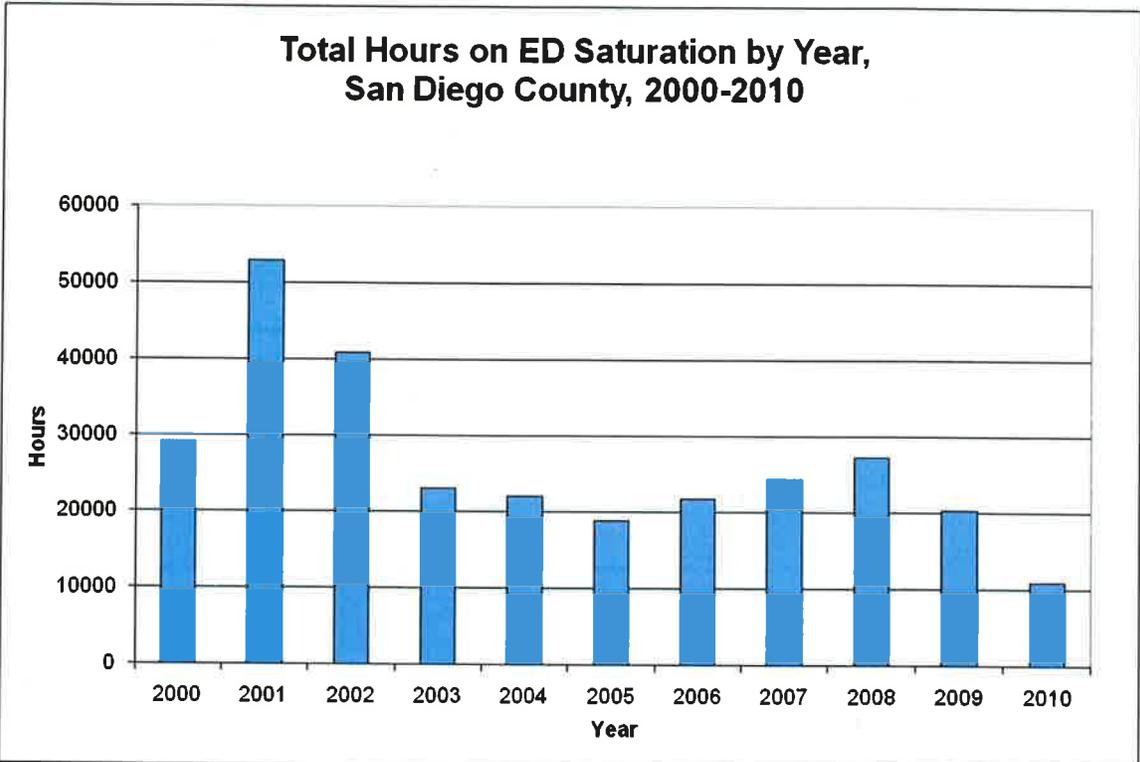
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Feb 2011  
 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



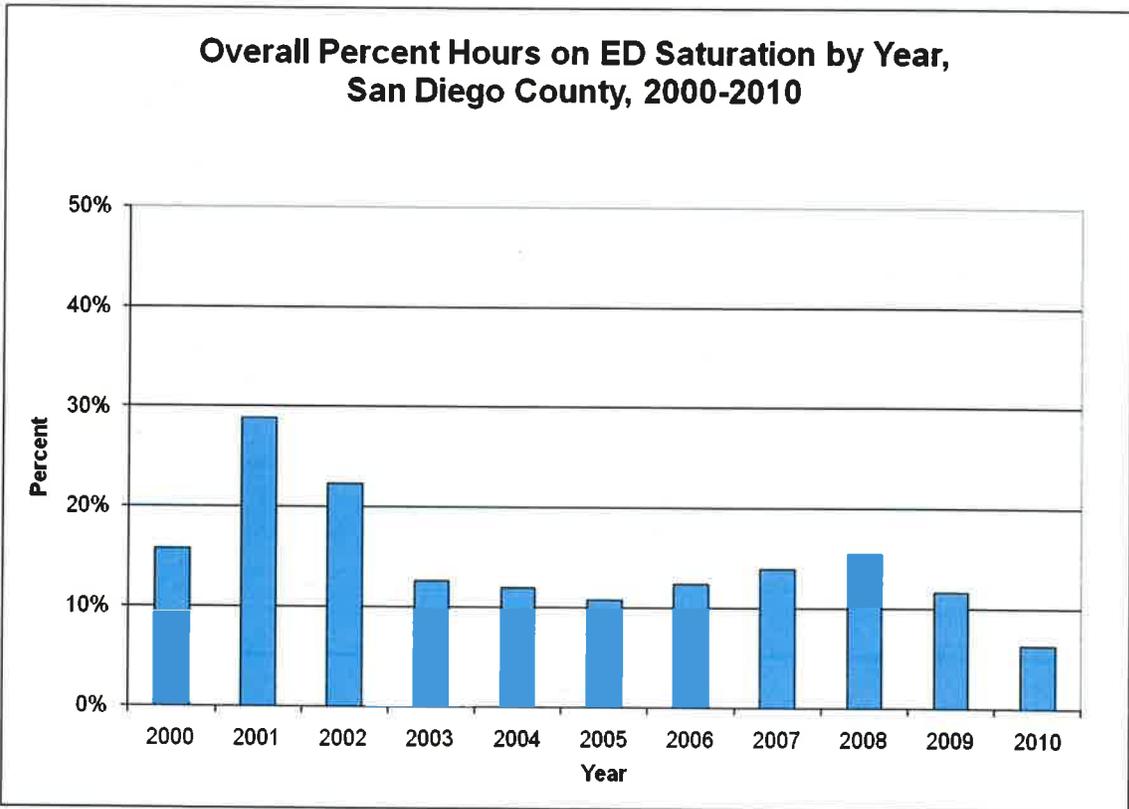
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – Feb 2011



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



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



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



NICK MACCHIONE, FACHE  
DIRECTOR

WILMA J. WOOTEN, M.D., M.P.H.  
PUBLIC HEALTH OFFICER

# County of San Diego

HEALTH AND HUMAN SERVICES AGENCY

PUBLIC HEALTH SERVICES

1700 PACIFIC HIGHWAY, SAN DIEGO, CALIFORNIA 92101-2417  
(619) 531-5800 FAX (619) 515-6707

Community Epidemiology  
Emergency & Disaster Medical Services  
HIV, STD and Hepatitis  
Immunization  
Maternal, Child and Family Health Services  
Public Health Laboratory  
PH Nursing/Border Health  
TB Control & Refugee Health  
Vital Records

**Bruce E. Haynes, M.D.**  
Medical Director  
Division of Emergency Medical Services  
6255 Mission Gorge Road  
San Diego, CA 92120-3599  
(619) 285-6429 FAX : (619) 285-6531

## Medical Director's Update for Base Station Physicians' Committee April 2011

**Janet Wicjorek**, our EMS Coordinator who covers trauma and Emergency Medical Services for Children (EMSC), is leaving for a move to the Bay area. Her husband John who works at OES on disaster preparedness has taken a position as a state regional coordinator. Janet has done great work on trauma and established a close relationship with the trauma coordinators and others. We will miss her and wish her and John success.

**Travis Kusman** accepted the position as Division General Manager of Rural Metro in Santa Clara County. Travis has been an integral member of the EMS system for years, including time as member and officer of many of our committees, in addition to his position at AMR. He has always focused on what is the best thing for our patients, and his judgment and opinions valued by those of us at EMS, as in the system at large. Our congratulations to Travis. We will miss him and wish him success in his new position.

**Off Load Delays** continue to cause concern. EMS has asked the hospitals to make prevention of off load delays a high priority. We are encouraging them to track delays. Also, to use the information in their high capacity plans when delays occur. We will be following up with them to collaborate on this important issue.

When prolonged off load delays occur, or affect numerous units at one facility, notify the EMS Duty Officer so they may be aware and see if any help can be afforded. Thanks for your help on this.

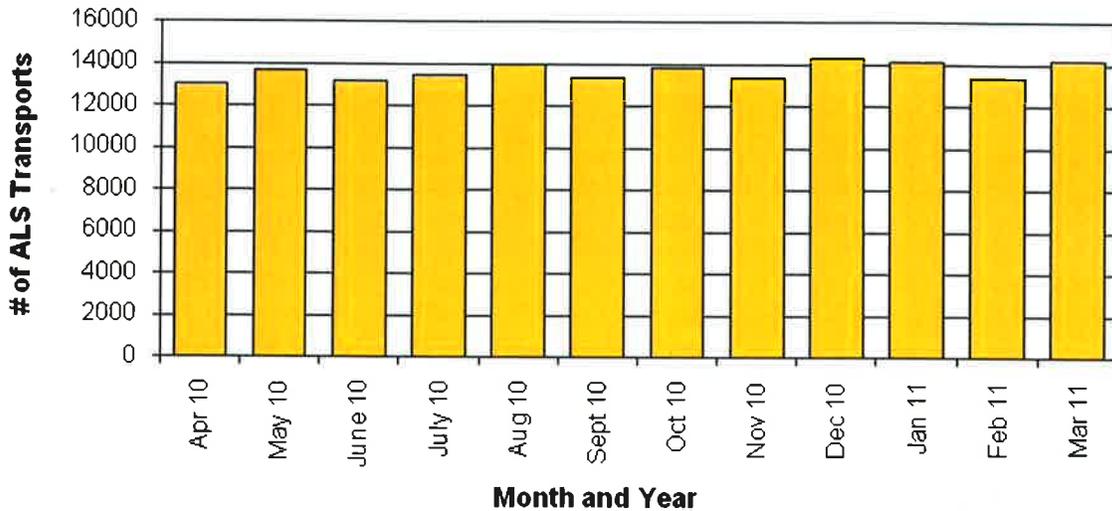
**Pradaxa (dabigatran etexilate)** is a new anticoagulant used in atrial fibrillation and other conditions. It is attracting considerable attention as monitoring with blood tests is unnecessary, in contrast to Coumadin. It is not as easily reversed as Coumadin, however, if there is an injury or bleeding episode, so expect to hear more about this.

**BLS transport issues** led Emergency Medical Services to send the providers a communication addressing some of the problems. We are receiving reports of excessive use of

code 3 lights and siren responses. This is not appropriate to simply reduce response times for BLS transfers, and requires notification of local public safety agencies. In a number of cases patient care records are not left with the patient in the hospital ED after a transfer. This makes it difficult and time consuming for the emergency department to obtain needed information on the patient. Upon arrival to transport a patient, the BLS crew must identify the patient by checking wrist bands, talking to facility staff, and examining the chart if necessary. Finally, the BLS providers must have a contact for quality improvement follow-up. Contact Michael Marx at EMS for any questions or information.

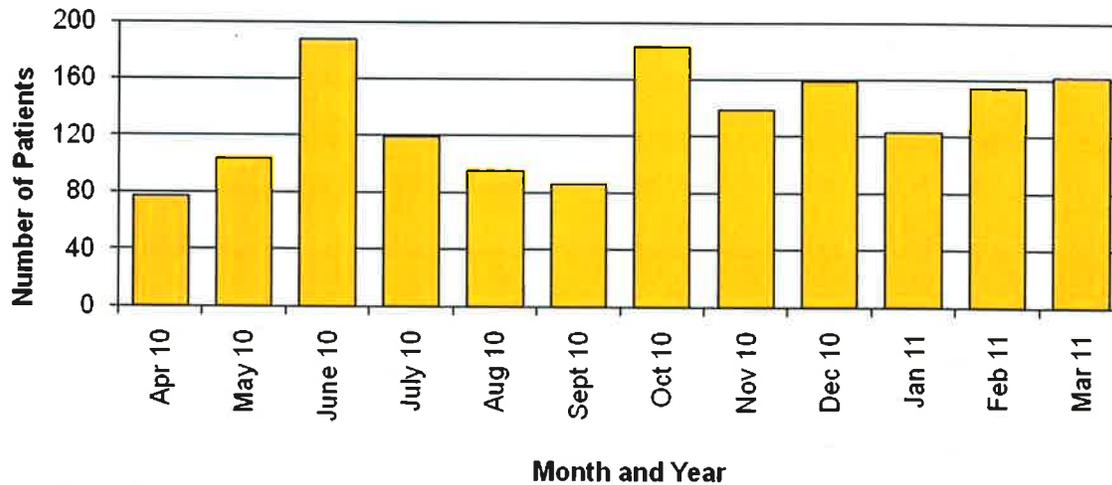
**EMOC**, led by chair Roneet Lev M.D., issued Emergency Department Guidelines for narcotic prescriptions. These recommend that patients with chronic pain have prescriptions provided by their caregiver. Patients who received a recent prescription for narcotics as determined by hospital medical records, or by the CURES database (a statewide database of controlled substance prescriptions) should not receive narcotic prescriptions for the same condition, but rather see their provider.

### Number of ALS Transports, County of San Diego, Apr 2010 - Mar 2011

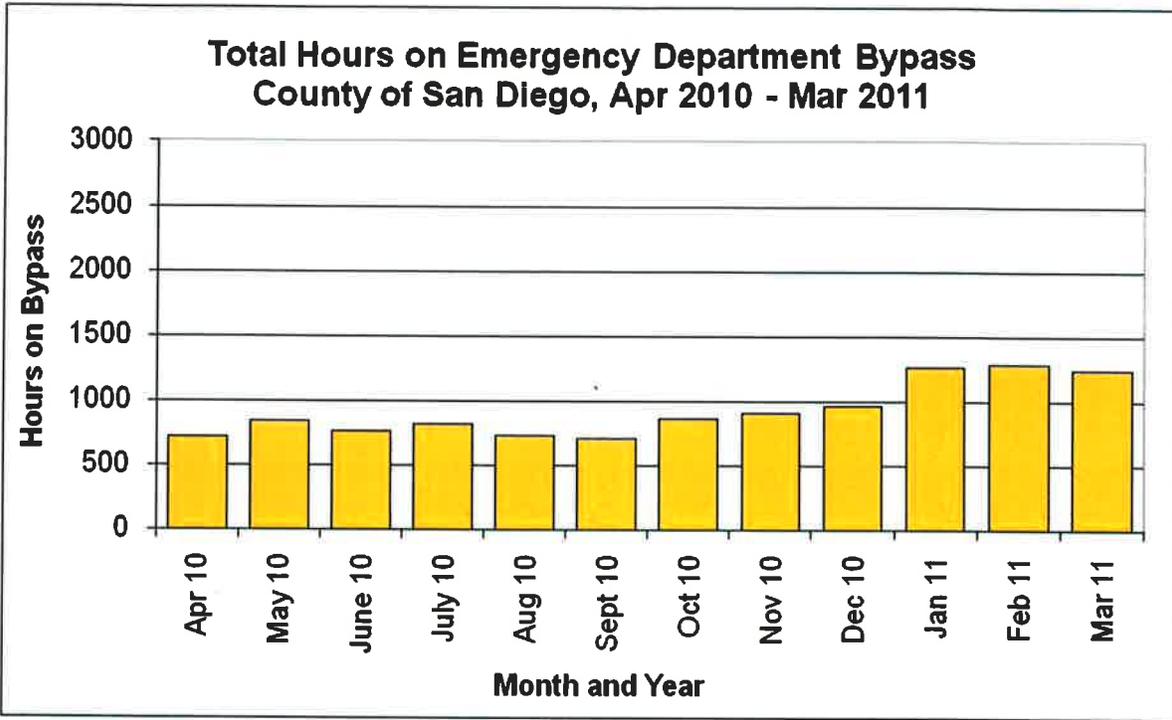


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Apr 2010 – Mar 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other

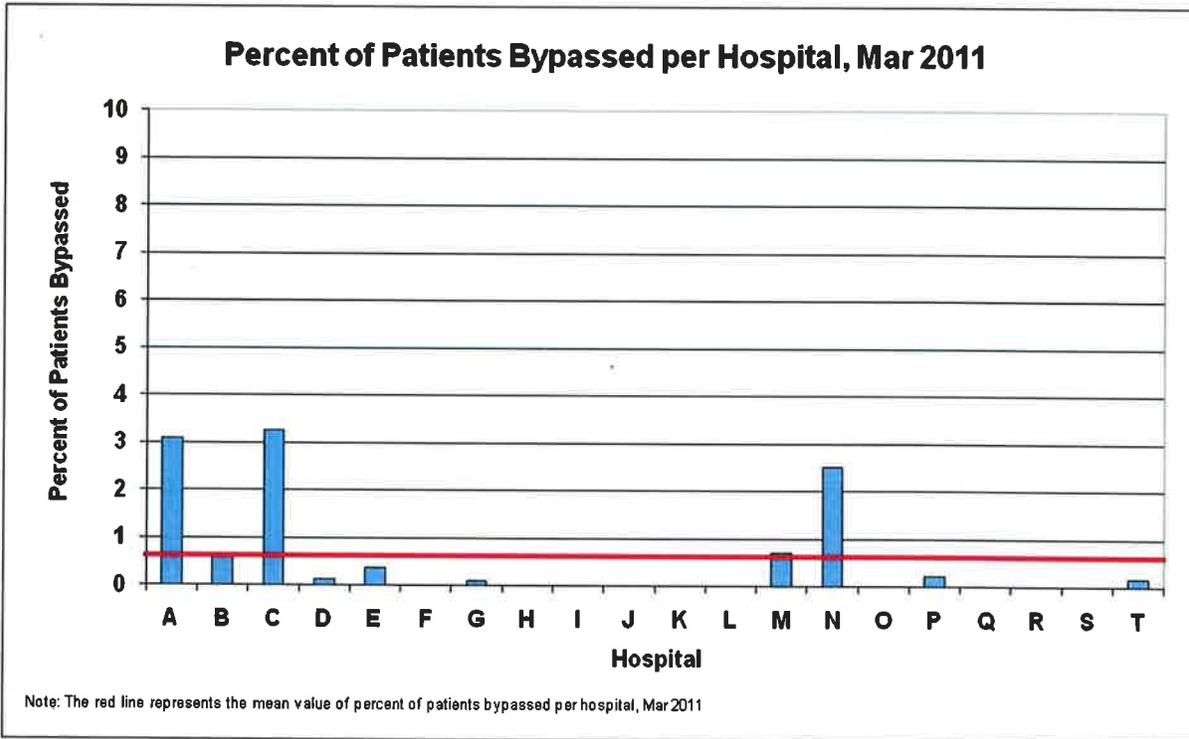
### Number of Patients who Bypassed the Requested Hospital, County of San Diego, Apr 2010 - Mar 2011



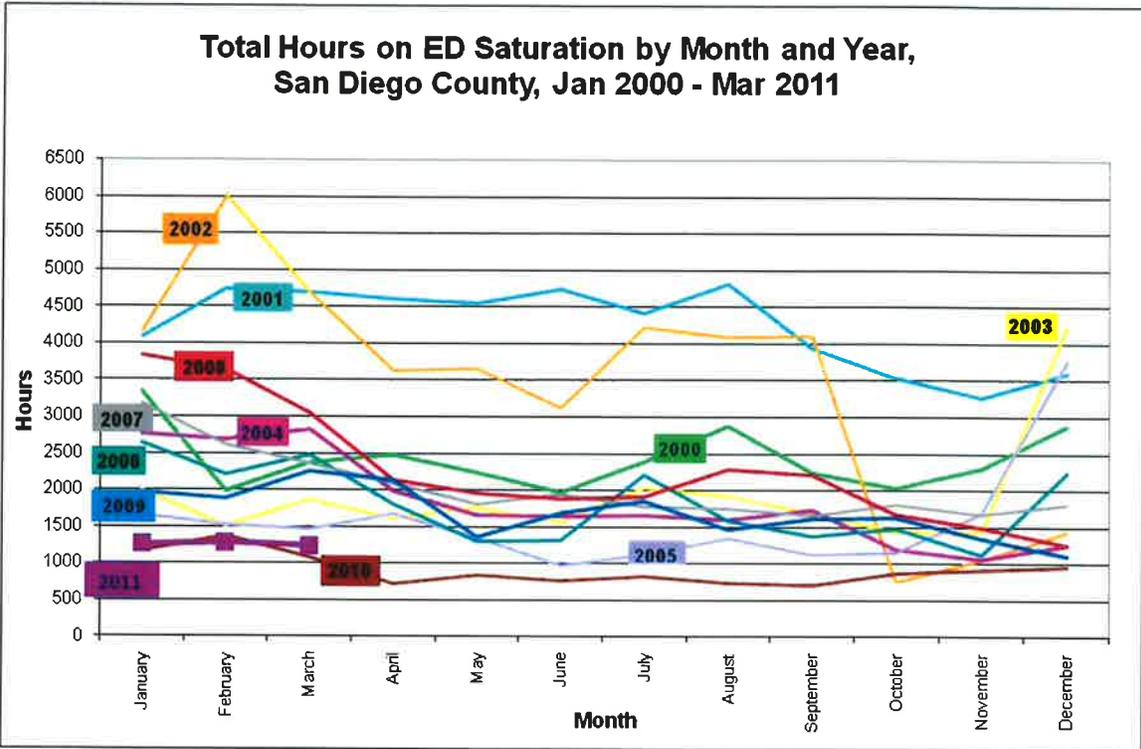
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Apr 2010 – Mar 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



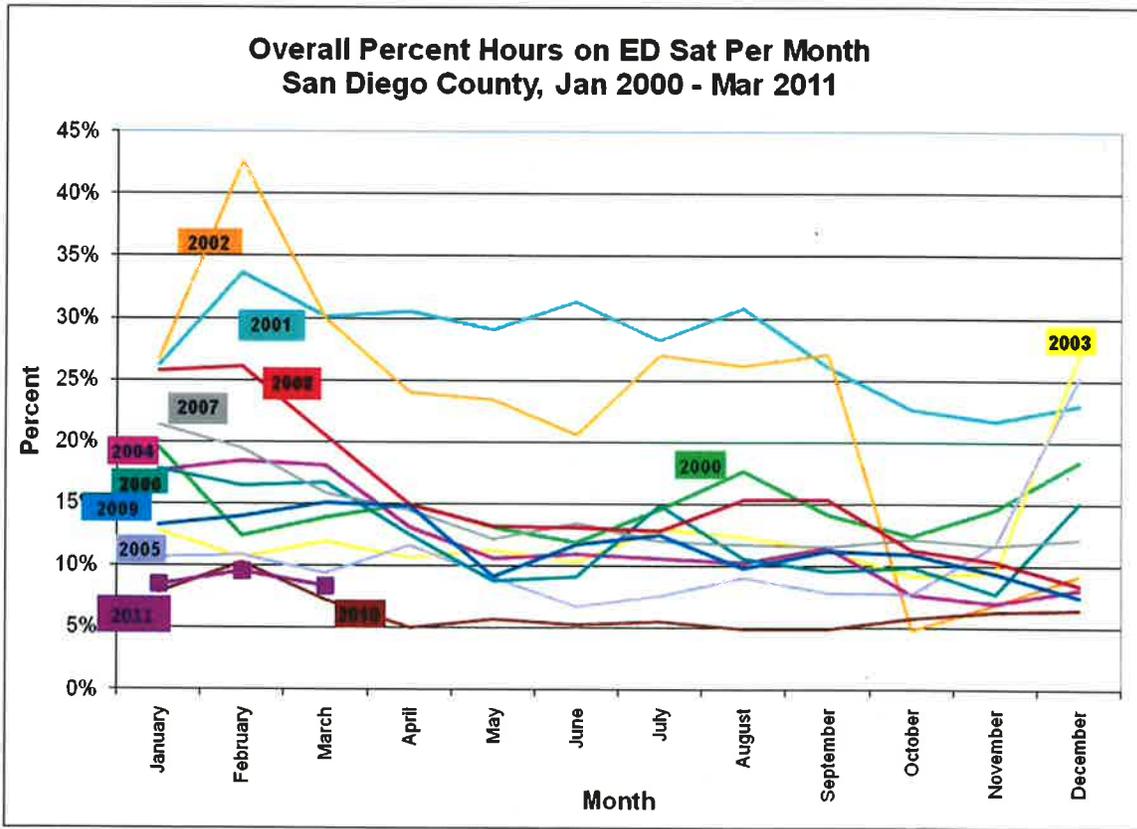
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Apr 2010 – Mar 2011



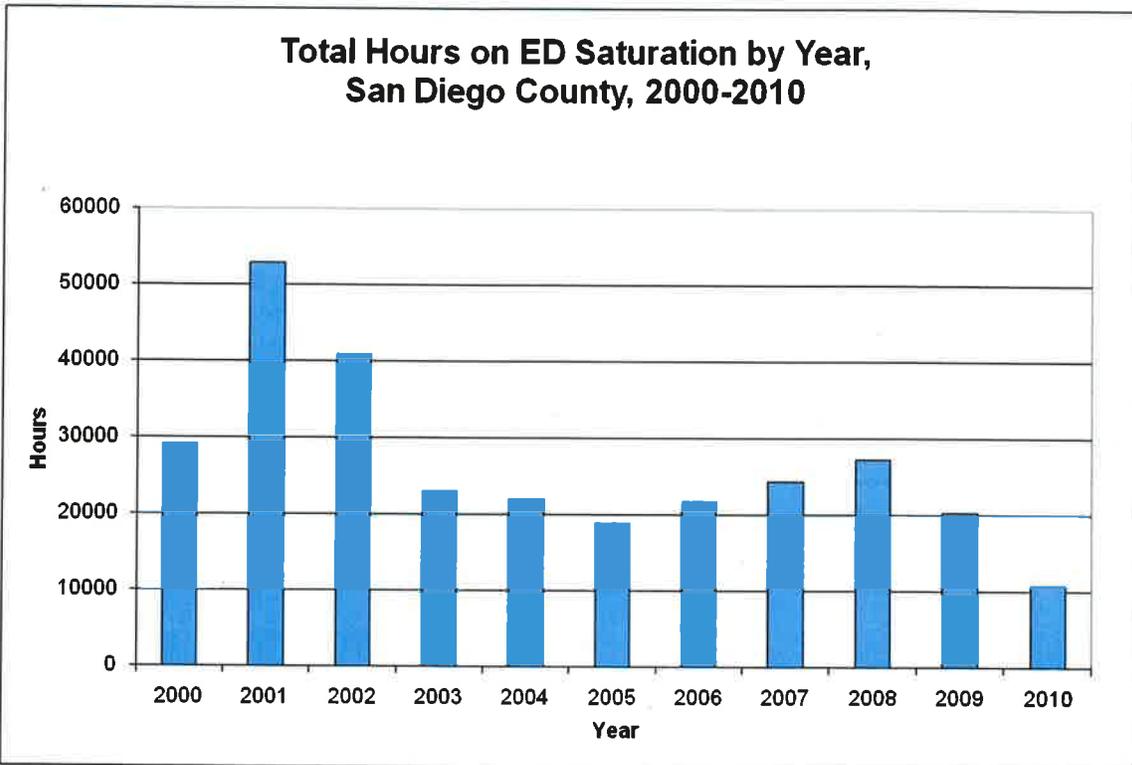
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Mar 2011  
 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



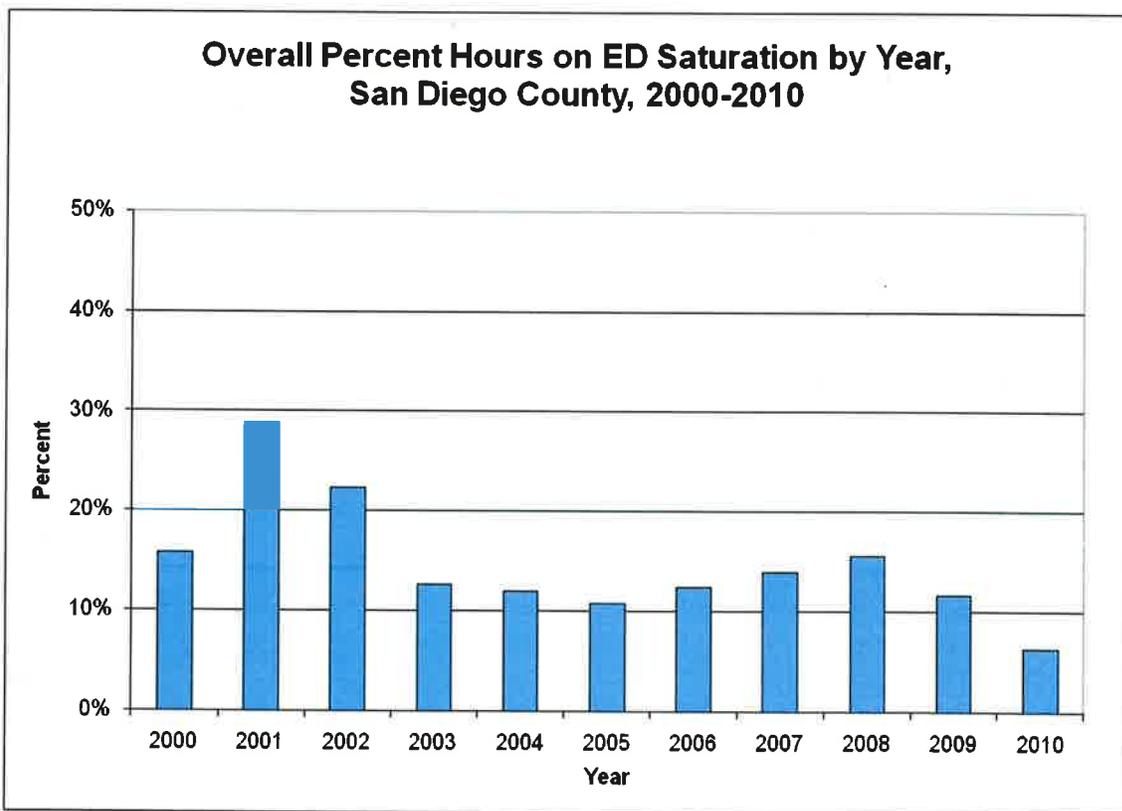
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – Mar 2011



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



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



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



NICK MACCHIONE, FACHE  
DIRECTOR

WILMA J. WOOTEN, M.D., M.P.H.  
PUBLIC HEALTH OFFICER

# County of San Diego

HEALTH AND HUMAN SERVICES AGENCY

PUBLIC HEALTH SERVICES

1700 PACIFIC HIGHWAY, SAN DIEGO, CALIFORNIA 92101-2417  
(619) 531-5800 FAX (619) 515-6707

Community Epidemiology  
Emergency & Disaster Medical Services  
HIV, STD and Hepatitis  
Immunization  
Maternal, Child and Family Health Services  
Public Health Laboratory  
PH Nursing/Border Health  
TB Control & Refugee Health  
Vital Records

**Bruce E. Haynes, M.D.**  
Medical Director  
Division of Emergency Medical Services  
6255 Mission Gorge Road  
San Diego, CA 92120-3599  
(619) 285-6429 FAX:(619) 285-6531

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

**Off Load Delays:** Field providers recognizing the likelihood of an off-load delay upon arriving at the ED should contact the charge nurse to assist with transfer of the patient. It is important the hospital understand you are waiting for a bed, in particular, if you are aware of an impact on the field due to multiple units experiencing off load delay. For situations with many units waiting at an ED, or waiting for prolonged times, contact the EMS duty officer so they may evaluate the situation and cause.

An article on the "Rise of Regional No-diversion Policies" appears in this month's Annals of Emergency Medicine in the News and Perspective section. The article describes the "ping-pong" effect that occurs with diversion, and outlines no diversion policies in Massachusetts. The impact of patient boarders in the ED is covered as well.

**Protocols:** New protocols are finished and in-services close to beginning. Protocol changes include fluid boluses for suspected volume depletion, and a target blood pressure of 80 mm Hg for suspected abdominal aneurysms, consistent with avoidance of unnecessarily high pressures and use of crystalloid fluid such as normal saline in persons who may be bleeding heavily. The allergy/anaphylaxis protocol has been separated into stepwise sections from mild to acute anaphylaxis, and Atrovent added. Hypoglycemia is now defined as <60 mg/dL. In Altered Mental Status use of naloxone is simplified, and Versed doses and times between administration shortened and better defined.

Use of the 12-lead and nitroglycerin in chest pain is better defined. Pacing is moved to Standing Order, including the use of pain medications in that setting. An option for amiodarone is added for "perfusing" ventricular tachycardia and post-conversion. Patients who are resuscitated from cardiac arrest with an initial rhythm of ventricular fibrillation or ventricular tachycardia, but who remain unconscious, will be directed to a STEMI receiving center. This will allow reperfusion with percutaneous coronary interventions (angioplasty), as well as use of therapeutic hypothermia. Evidence suggests that patients may benefit from post

arrest hypothermia, and we will employ moderate hypothermia until more evidence is gained from controlled trials. Atropine and sodium bicarbonate are deleted from the PEA protocol.

The use of heat for jellyfish stings, similar to its use in stingray wounds now, will be added to the protocol as an option, based on recent evidence and ACLS. Fluid challenges for heat exhaustion are newly added. Use of shunts and fistulas for access will be limited to immediate need for therapy. CPAP is added for drowning.

Activated charcoal use will be limited to ingestions within 60 minutes. Cyanide antidotes amyl nitrite, sodium thiosulfate, or hydroxocobalamin will be added to the protocols for use if the medications are available at the site of the poisoning. They will not be in the ALS inventory.

Rapid diagnosis and treatment of sepsis is receiving attention in hospitals. To help early diagnosis and notification of the receiving hospital, criteria are established for identification of possible sepsis, and SO fluid boluses are added.

For trauma a target blood pressure of 80 mm Hg is established. Again, the thinking is to avoid raising the blood pressure and increasing blood loss while infusing saline, washing out coagulation factors, and dislodging clots trying to form.

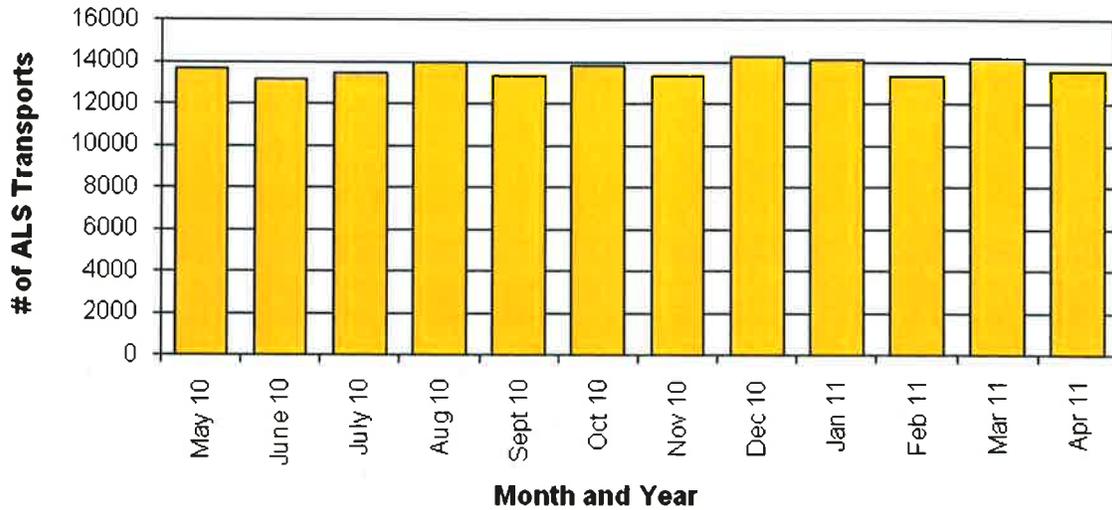
Morphine administration is changed to try and improve pain control, with the addition of Zofran for narcotic induced nausea.

For pediatrics, use of albuterol and nebulized epinephrine are better defined. Also added is a criterion of neuro deficit for instituting spinal stabilization, and the starting of fluids in trauma patients en-route.

Please let us know of any suggestions.

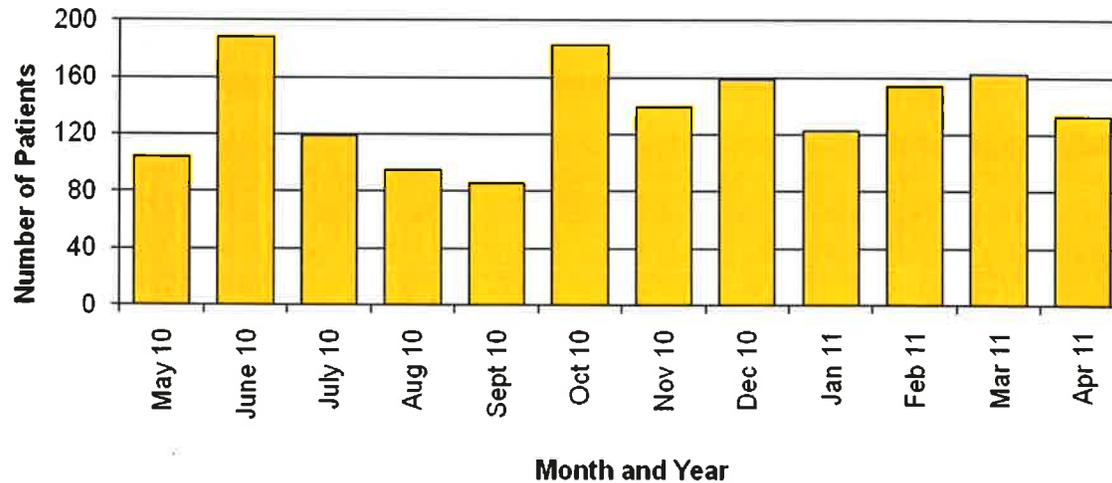
**CEMSIS:** The state data system already has about one half million records. This should give us a better picture of EMS around the state. Thanks for your help on data collection.

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

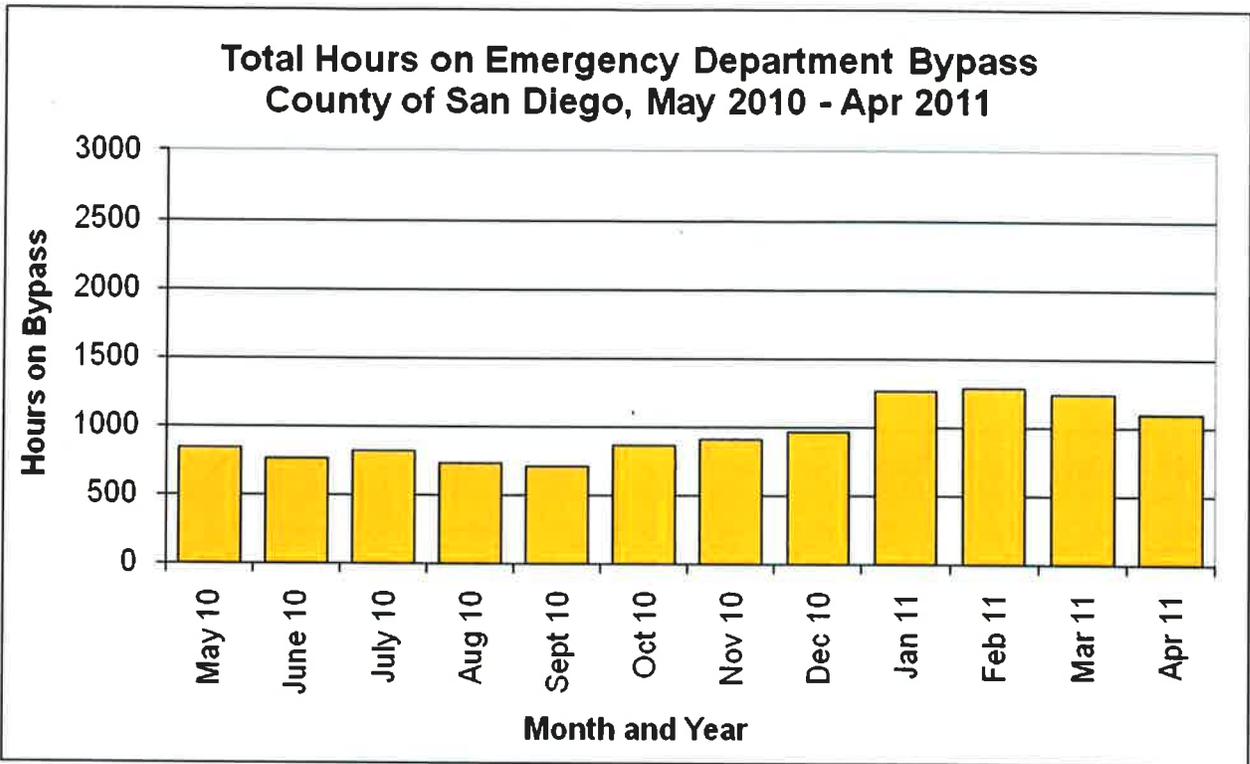


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, May 2010 – Apr 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other

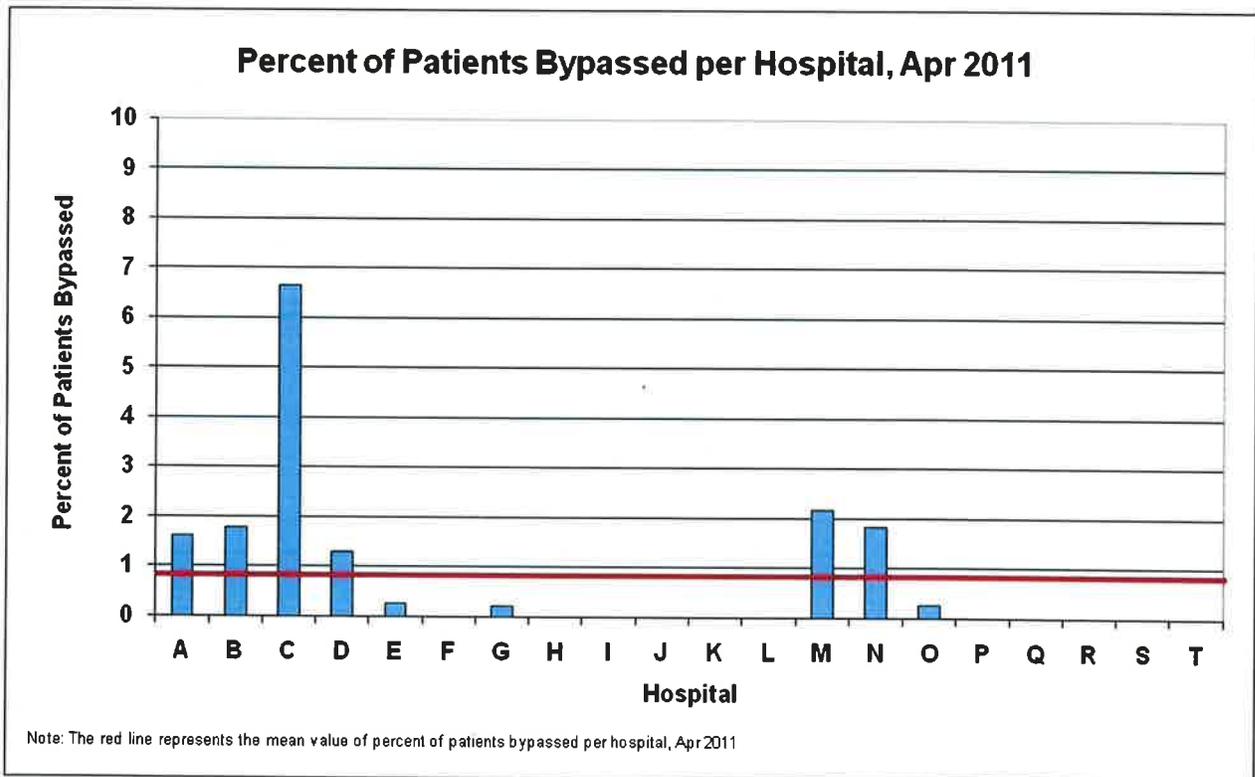
### Number of Patients who Bypassed the Requested Hospital, County of San Diego, May 2010 - Apr 2011



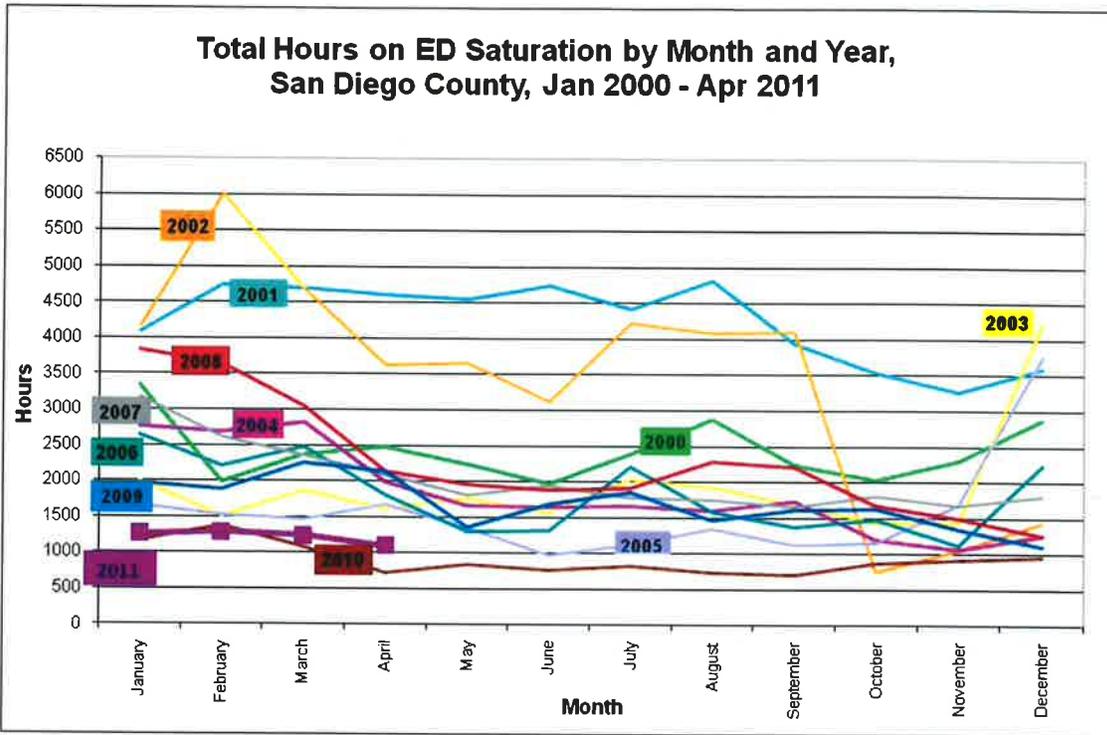
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, May 2010 – Apr 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



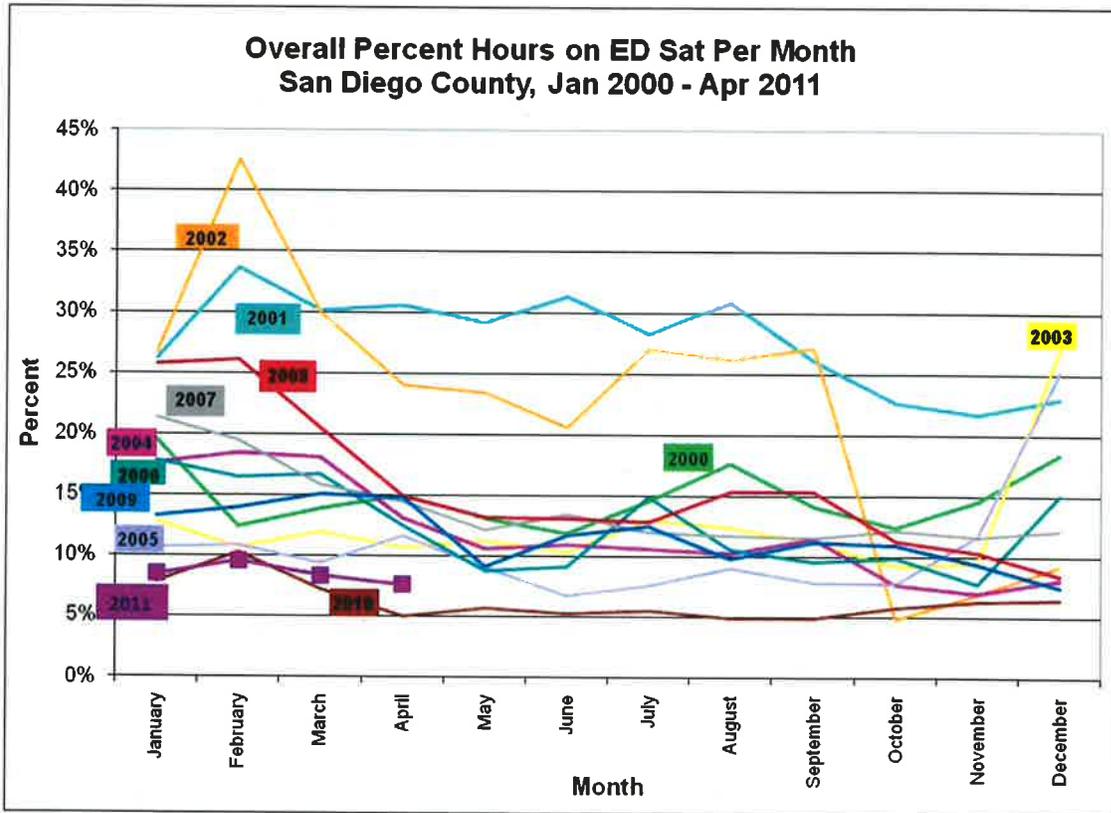
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, May 2010 – Apr 2011



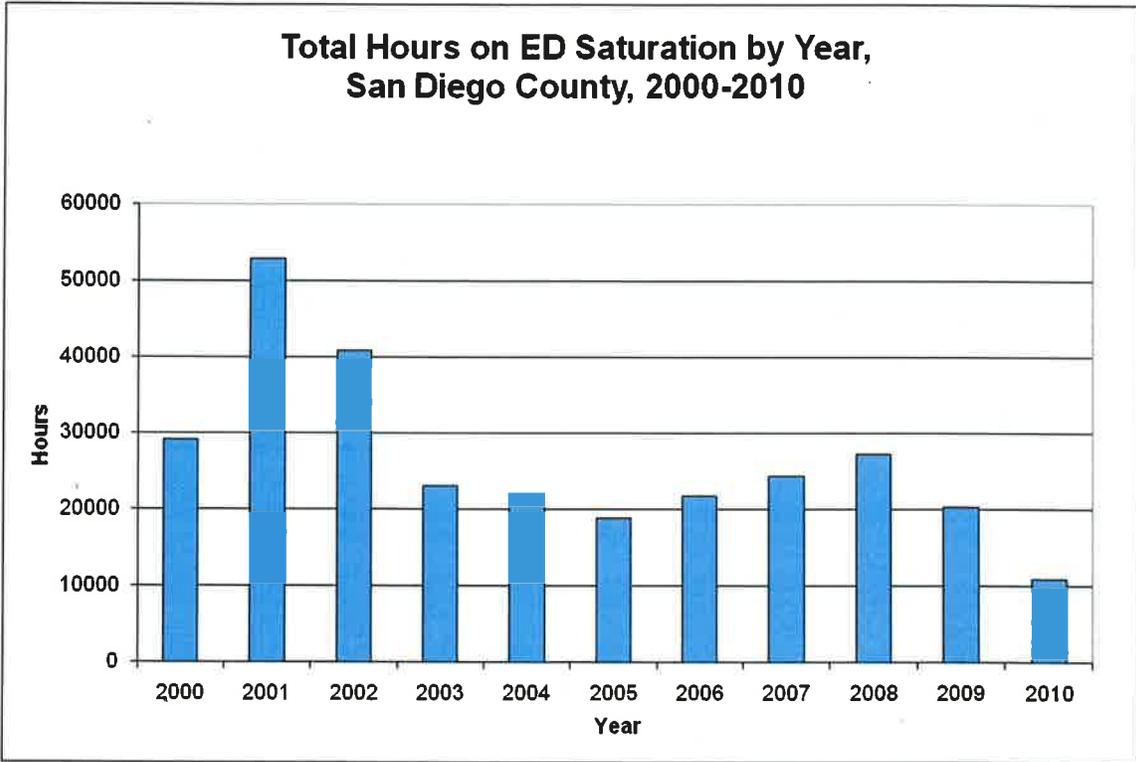
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Apr 2011  
 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



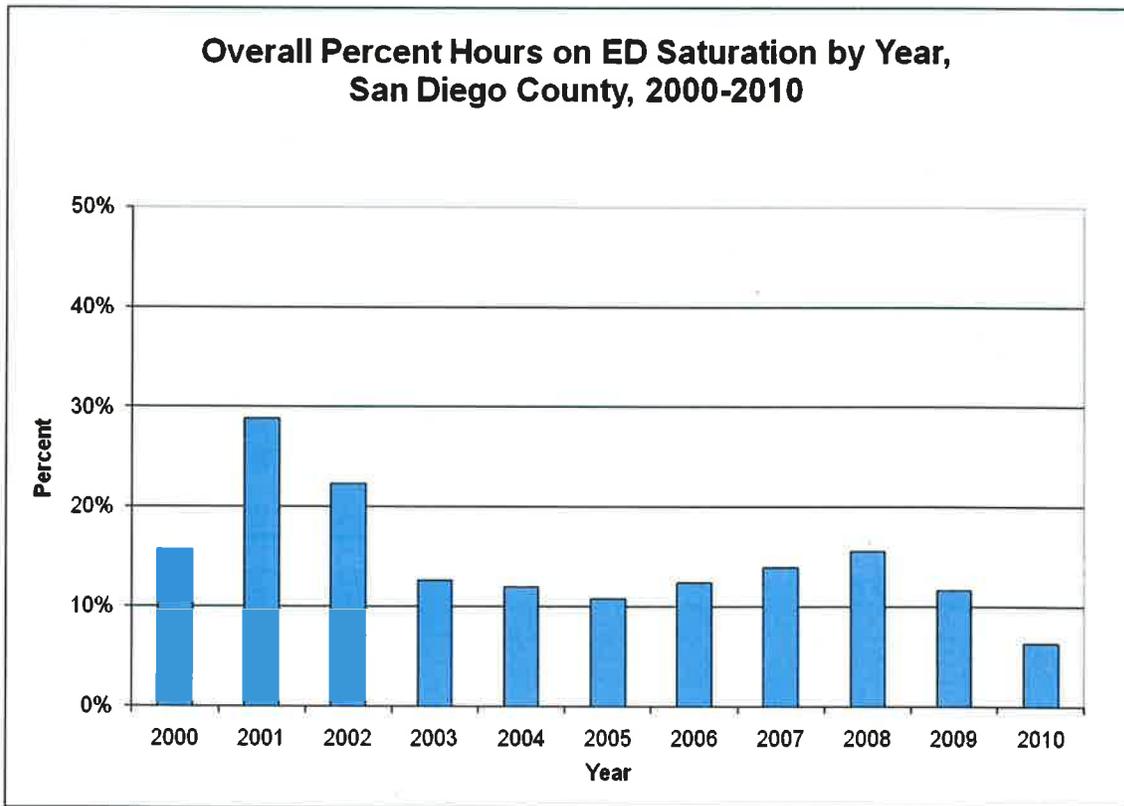
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – Apr 2011



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



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



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



NICK MACCHIONE, FACHE  
DIRECTOR

WILMA J. WOOTEN, M.D., M.P.H.  
PUBLIC HEALTH OFFICER

## County of San Diego

HEALTH AND HUMAN SERVICES AGENCY

PUBLIC HEALTH SERVICES

1700 PACIFIC HIGHWAY, SAN DIEGO, CALIFORNIA 92101-2417  
(619) 531-5800 FAX (619) 515-6707

**Bruce E. Haynes, M.D.**  
**Medical Director**  
Division of Emergency Medical Services  
6255 Mission Gorge Road  
San Diego, CA 92120-3599  
(619) 285-6429 FAX:(619) 285-6531

Community Epidemiology  
Emergency & Disaster Medical Services  
HIV, STD and Hepatitis  
Immunization  
Maternal, Child and Family Health Services  
Public Health Laboratory  
PH Nursing/Border Health  
TB Control & Refugee Health  
Vital Records

### **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)**

First follow these orders, then contact physician. This is a Physician Order. Please based on the person's current medical condition and wishes. Any patient not completing implies full treatment for that section. A copy of the signed POLST form is kept and will POLST complements an Advance Directive and is not intended to replace that document. Everyone that be treated with dignity and respect.

EMSA #111-B (Revised 4/2011)

Patient Last Name	Date Form Prepared
Patient First Name	Patient Date of Birth
Patient Middle Name	Medical Record # (optional)

**A CARDIOPULMONARY RESUSCITATION (CPR):** *If person has no pulse and is not breathing, when NOT in cardiopulmonary arrest, follow orders in Sections B and C.*

Attempt Resuscitation/CPR (Including CPR in Section A **regardless** selecting Full Treatment in Section E)

Do Not Attempt Resuscitation/DNR (Allow Natural Death)

**B MEDICAL INTERVENTIONS:** *If person has pulse and/or is breathing.*

**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.**

**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.

**Full Treatment:** In addition to care described in Comfort Measures Only and Limited Additional Interventions, use intubation, advanced airway interventions, mechanical ventilation, and defibrillator/ cardioversion as indicated. **Transfer to hospital if indicated.** Includes intensive care.

**Additional Orders:**

**C ARTIFICIALLY ADMINISTERED NUTRITION:** *Offer food by mouth if feasible and desired.*

No artificial means of nutrition, including feeding tubes. Additional Orders:

Trial period of artificial nutrition, including feeding tubes.

Long-term artificial nutrition, including feeding tubes.

**D INFORMATION AND SIGNATURES:**

Discussed with:  Patient (if not capacity)  Legally Recognized Decisionmaker

Advance Directive dated: \_\_\_\_\_ available and reviewed in \_\_\_\_\_ Health Care Agent if named in Advance Directive: \_\_\_\_\_ Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Advance Directive not available

No Advance Directive

**Signature of Physician**

Print Physician Name: \_\_\_\_\_ Physician Phone Number: \_\_\_\_\_ Physician License Number: \_\_\_\_\_

Physician Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Signature of Patient or Legally Recognized Decisionmaker**

By signing this form, the legally recognized decisionmaker acknowledges that the request regarding the medical services is consistent with the best interests of, and with the best interests of, the individual who is the subject of the form.

Print Name: \_\_\_\_\_ Relationship (write out if patient): \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_ Daytime Phone Number: \_\_\_\_\_ Evening Phone Number: \_\_\_\_\_

**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, Initial): \_\_\_\_\_ Date of Birth: \_\_\_\_\_ Gender:  M  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**

**Completing POLST**

- 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 discuss 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, or 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 local/community policy.
- Certain medical conditions or treatments may prohibit a person from resting in a residential care facility (or 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 Fax paper when possible.

**Using POLST**

- Any incomplete section of POLST implies full treatment for that section.

**Section A**

- 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."

**Section B**

- 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.

**Revising POLST**

It is recommended that POLST be reviewed periodically. Review is recommended when:

- 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.

**Modifying and Voiding POLST**

- 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 accompanied by drawing a line through Sections A through E, 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 wishes of the individual or, if unknown, the individual's best interests.

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](http://www.caPOLST.org).

**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.

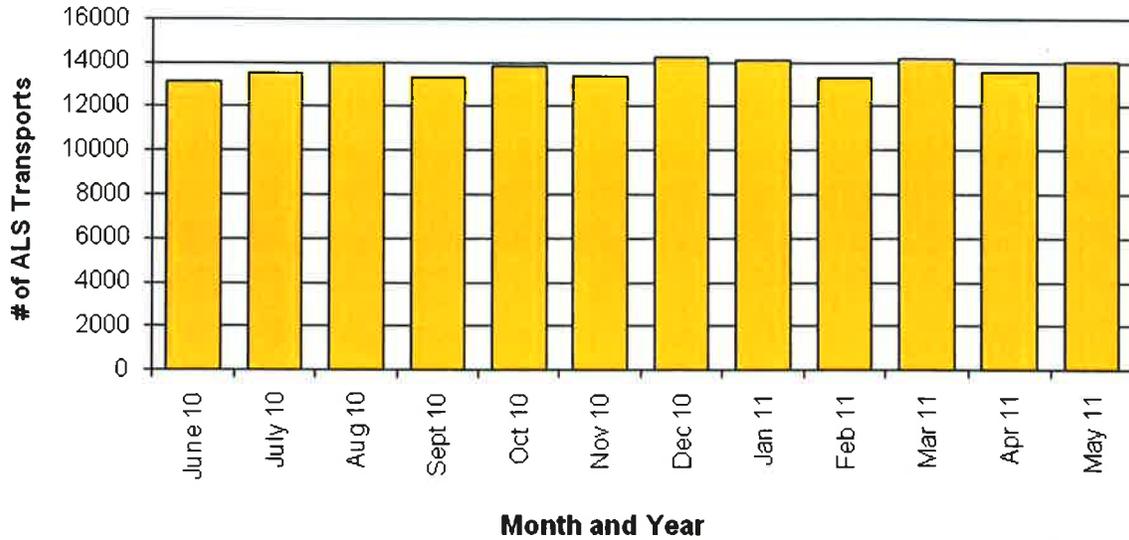
(2.1) END-OF-LIFE DECISIONS: I direct my health care providers and others involved in my care to provide, withhold, or withdraw treatment in accordance with the choice I have marked below:

- 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.

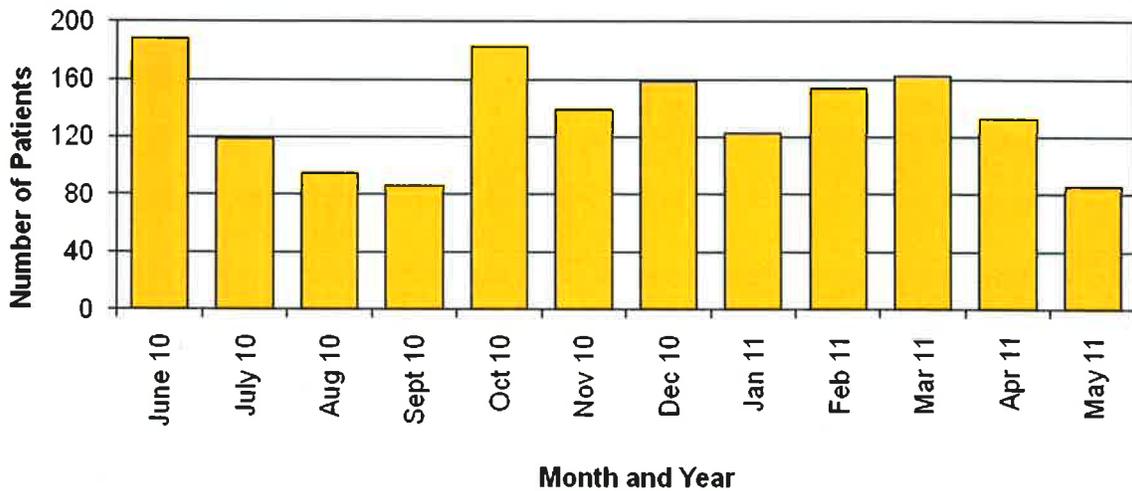
Page one contains the designation and identification of the Health Care Agent. Part 2 contains instructions for health care if they are recorded, including end-of-life care instructions in Part 2.1. Note that section (b) is clear on prolonging life. Section (a) requires considerable analysis, communication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

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

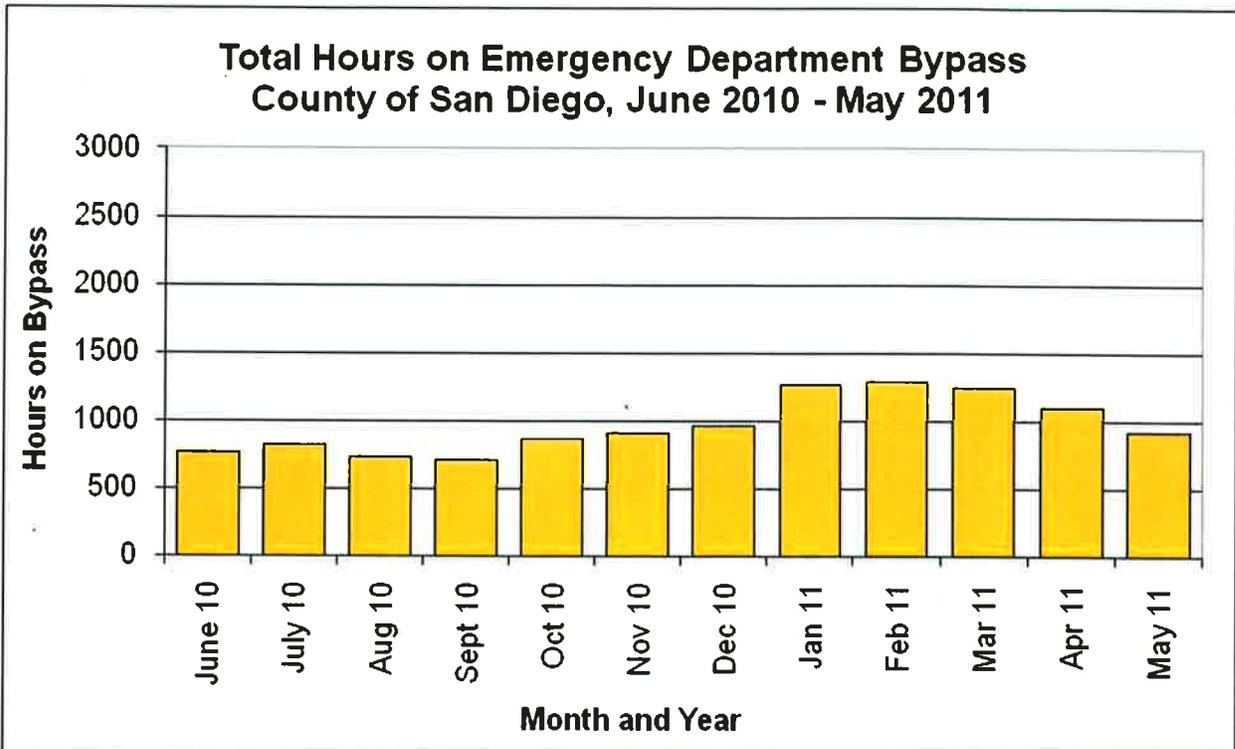


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, June 2010 – May 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other

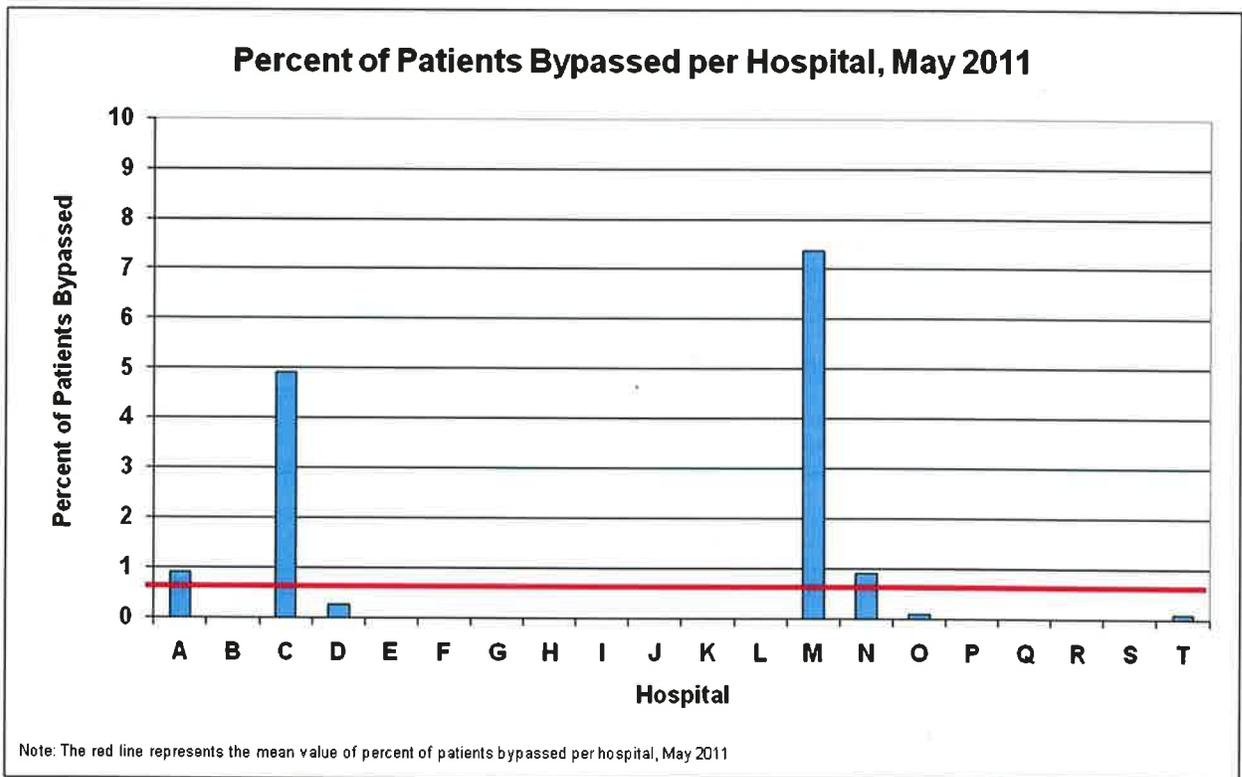
### Number of Patients who Bypassed the Requested Hospital, County of San Diego, June 2010 - May 2011



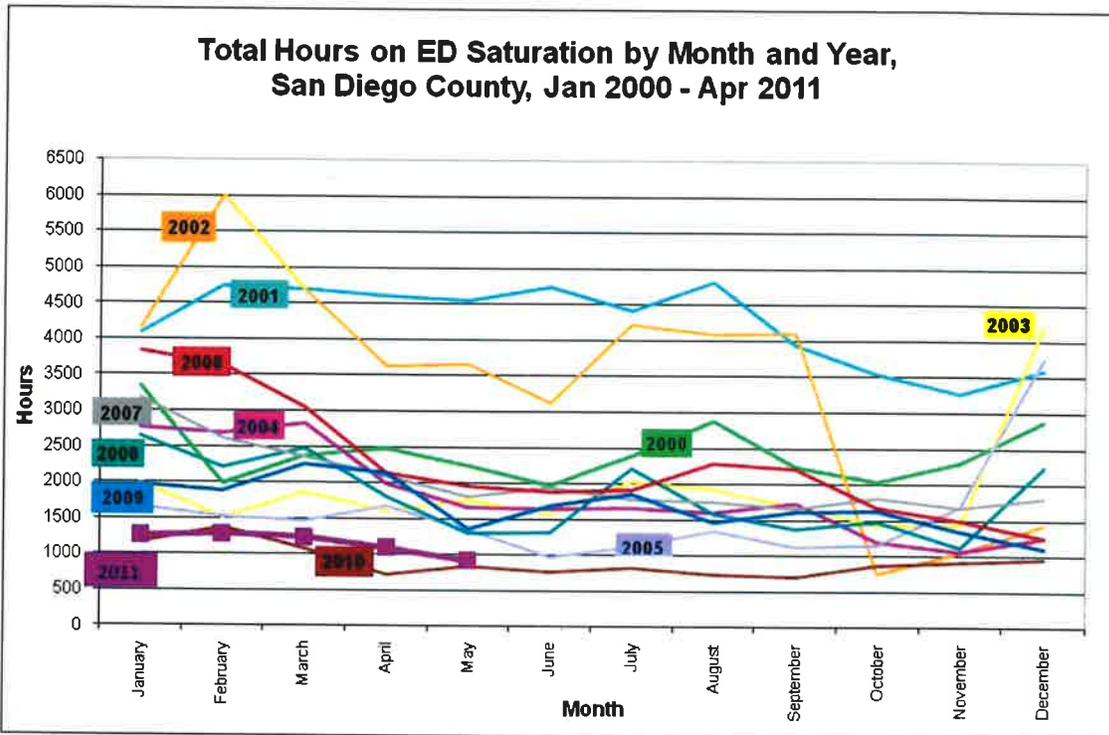
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, June 2010 – May 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



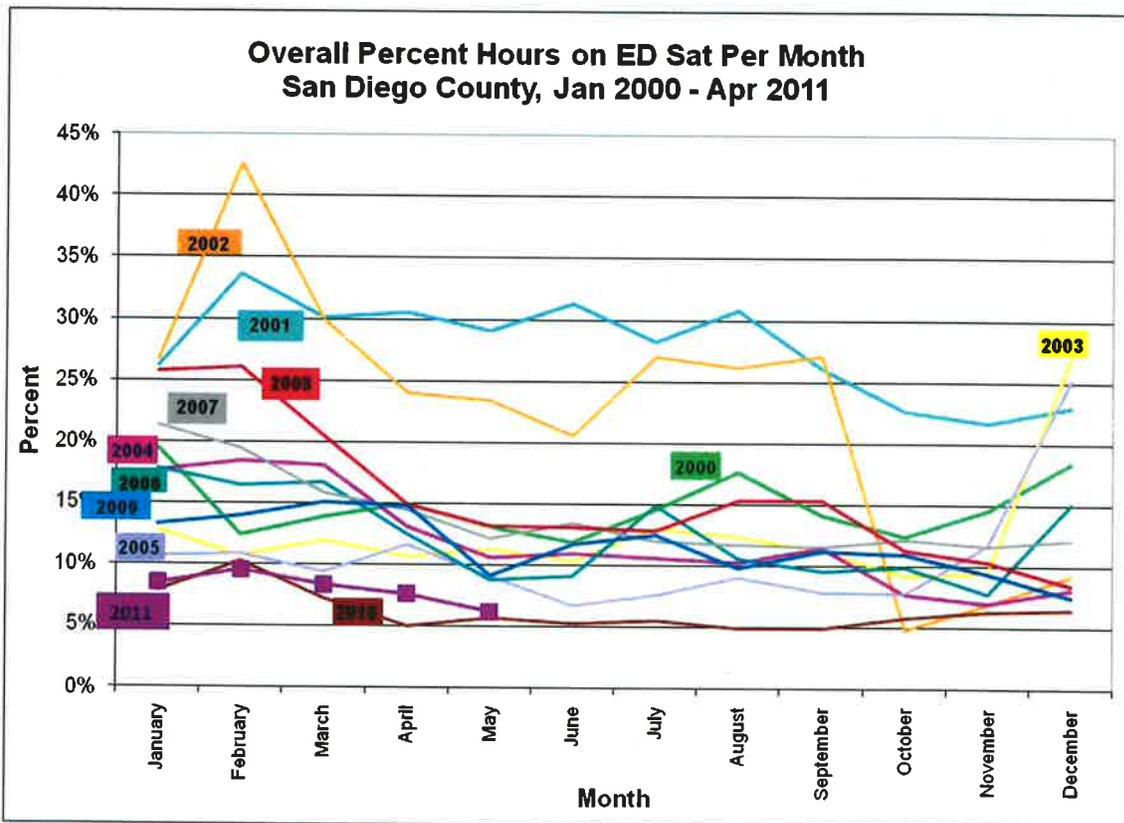
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, June 2010 – May 2011



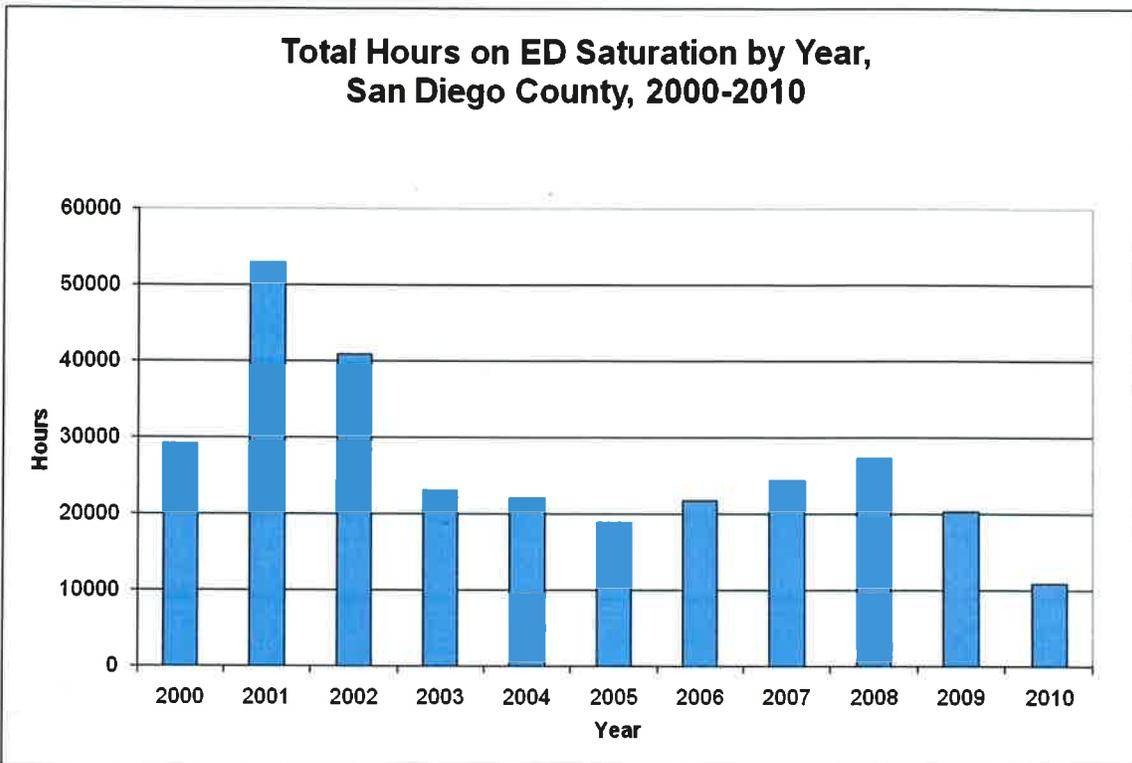
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, May 2011  
 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



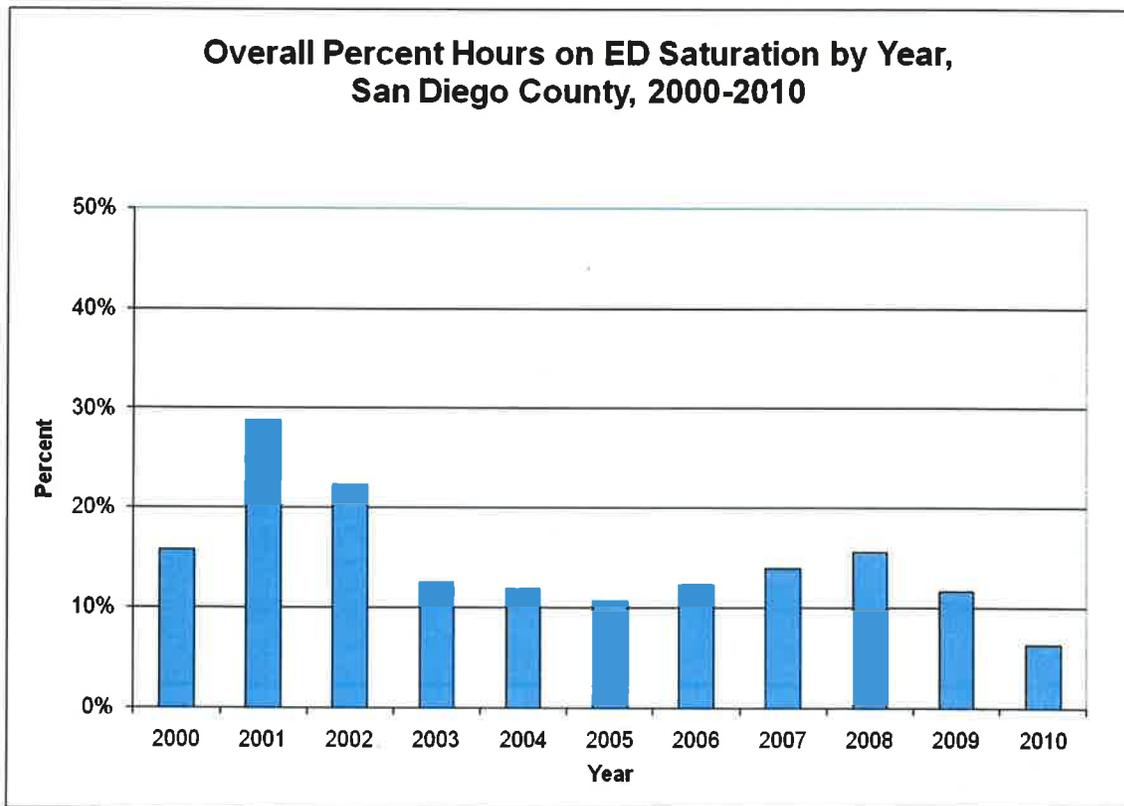
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – May 2011



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



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



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



NICK MACCHIONE, FACHE  
DIRECTOR

WILMA J. WOOTEN, M.D., M.P.H.  
PUBLIC HEALTH OFFICER

## County of San Diego

HEALTH AND HUMAN SERVICES AGENCY

PUBLIC HEALTH SERVICES

1700 PACIFIC HIGHWAY, SAN DIEGO, CALIFORNIA 92101-2417  
(619) 531-5800 FAX (619) 515-6707

Community Epidemiology  
Emergency & Disaster Medical Services  
HIV, STD and Hepatitis  
Immunization  
Maternal, Child and Family Health Services  
Public Health Laboratory  
PH Nursing/Border Health  
TB Control & Refugee Health  
Vital Records

**Bruce E. Haynes, M.D.**  
Medical Director  
Division of Emergency Medical Services  
6255 Mission Gorge Road  
San Diego, CA 92120-3599  
(619) 285-6429 FAX:(619) 285-6531

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

**Please notify hospitals early of patients contaminated with hazmat type substances.** It is important to give the hospital a chance to evaluate the potential for ED contamination that would result in a closure for evaluation and/or decontamination. The hospital staff can meet the patient just outside the ED door and determine whether the patient needs immediate treatment (always the priority), and whether they need decontamination. This may be the substance as simple as tear gas spray, pepper spray, etc.

**Off load delays** do occur. If they are prolonged (estimated >30 min) or involve multiple units you may notify the EMS Duty Officer. They can help determine what the cause seems to be, the efforts being undertaken to resolve the problem, and other issues.

**A Burn surge plan is under development.** This will develop a process for dealing with a large scale incident with many significant burns. A focus will be concentrating the most severely injured in the UCSD burn center, but use the trauma centers and 911 receiving hospitals for patients as well. It will also address the need for transfers within and outside the county in large events, and patient care education and treatment communication.

**The STEMI system continues to perform well.** EMS will provide some detail at today's meeting. The major challenge continues to be false positive cases and effective transmission of 12-lead EKGs.

**Flu season is on the horizon, but it is time to assure vaccine.** Orders and vaccination plans should be reviewed. There likely will be a small change in the indications/contraindications. Some hospitals around the country report improved patient outcomes with mandatory health care worker vaccination.

**Tdap vaccination should be obtained for those who have not received it.** For school children, there is a new vaccine booster requirement for entry into 7-12 grades.

**Measles** was reviewed in last month's Medical Director's Report. Remain on the lookout for cases so they can be isolated upon arrival at the hospital. See last month's report for details.

**Pointers for glove use were forwarded by a hospital infectious disease practitioner.** Gloves should not be donned to drive the vehicle to the scene, but rather when you arrive on scene. Cleansing hands before glove placement with an alcohol based agent is recommended.

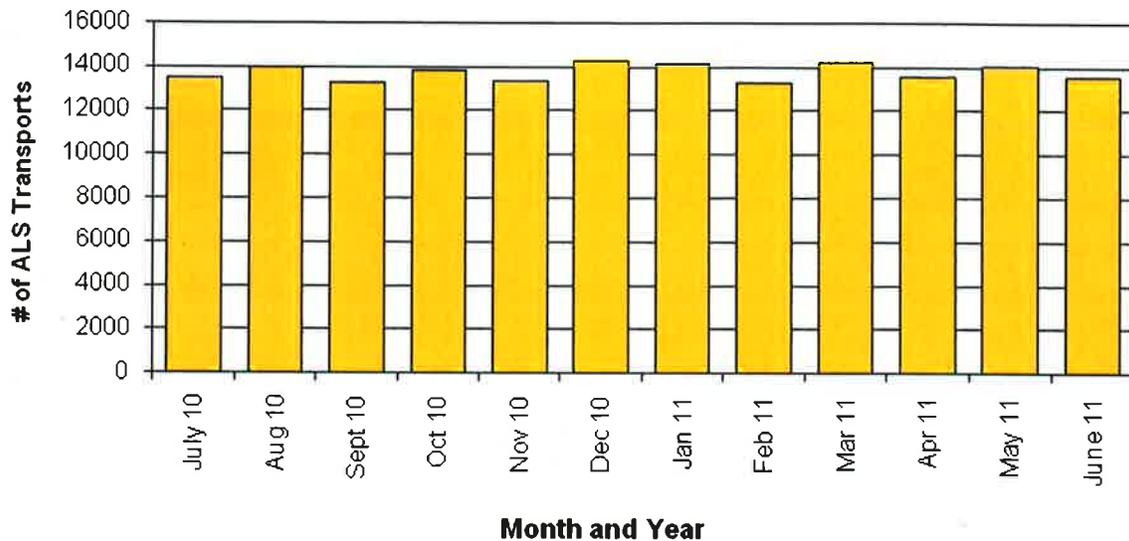
If gloves become contaminated by blood or body fluids, hands should be cleaned and gloves should be changed before transport once the patient is stabilized. Once care of the patient is transferred at the hospital, gloves should be removed and hands cleaned, either washing (if visibly soiled) or with cleanser. Gurney rails can be cleaned if necessary before leaving ED.

EMS personnel have been observed continuing to wear gloves placed in the field "throughout" the hospital on their way out. Hand hygiene is a requirement after patient contact. Not performing appropriate hand hygiene and using gloves inappropriately may spread organisms throughout the hospital, impeding infection control efforts. Efforts to prevent healthcare associated infections are a major thrust of improvement in the health care system.

**The Emergency Nurses Association released standard metrics** to evaluate emergency department crowding. Signed by nine health care organizations including the American College of Emergency Physicians, the metrics will allow collection of standard data on the patient's visit to the ED. The document is available at <http://www.ena.org/media/PressReleases/Pages/ReduceEDCrowding.aspx>.

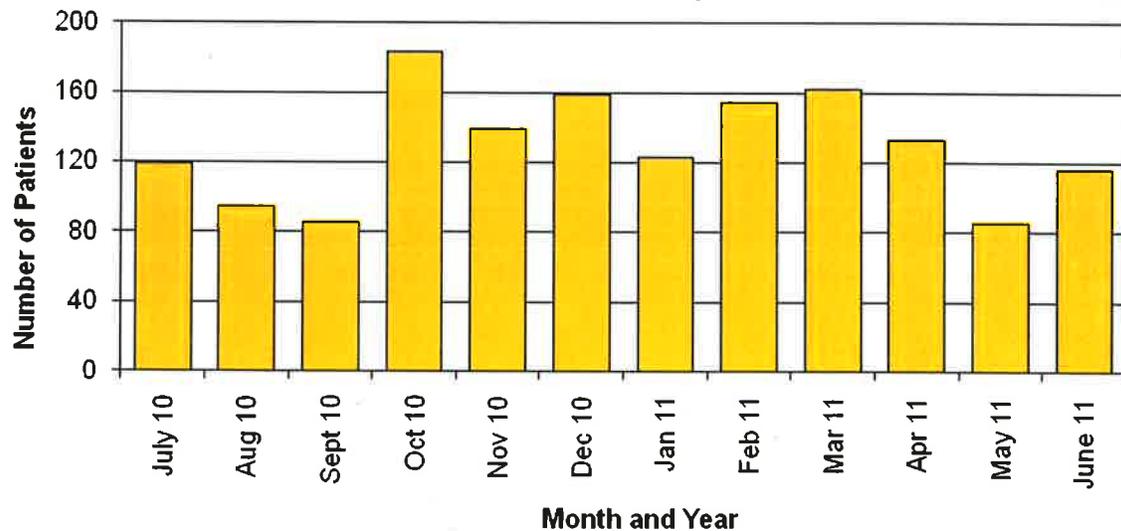
**The March letter to BLS providers** was reviewed in the April Medical Director's Report. Just as a reminder, BLS providers should be aware of rules and notifications governing code 3 response. Agencies must leave a patient care record with the patient in the hospital. The identity of patients being transported should be established before transport. Finally, each BLS agency must have a contact person and telephone number for quality improvement inquiries from the Base Hospitals.

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

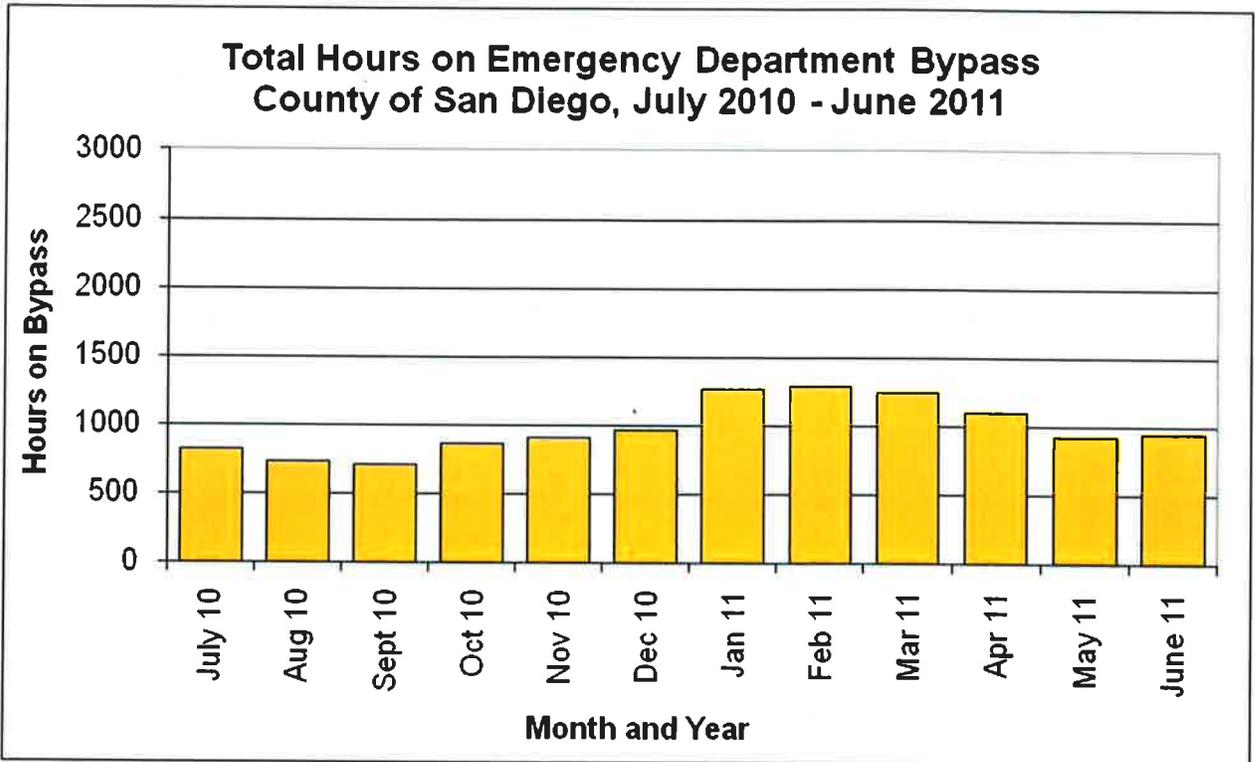


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, July 2010 – June 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other

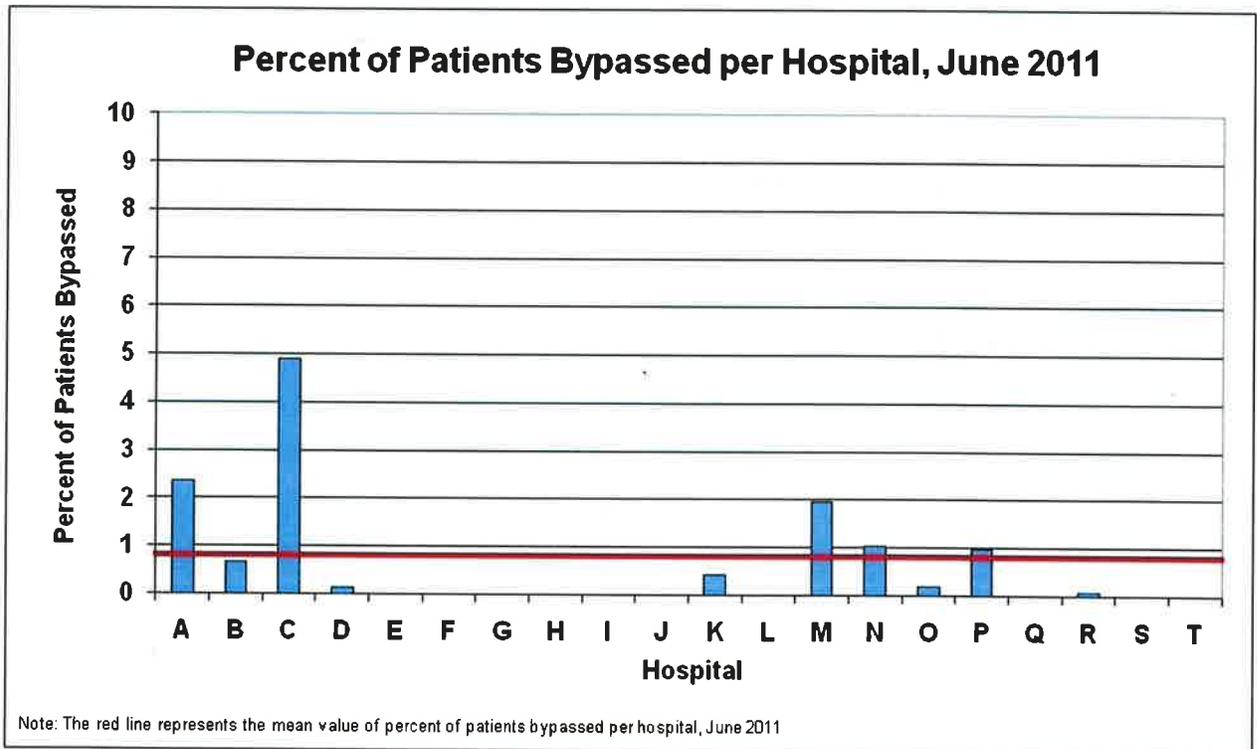
### Number of Patients who Bypassed the Requested Hospital, County of San Diego, July 2010 - June 2011



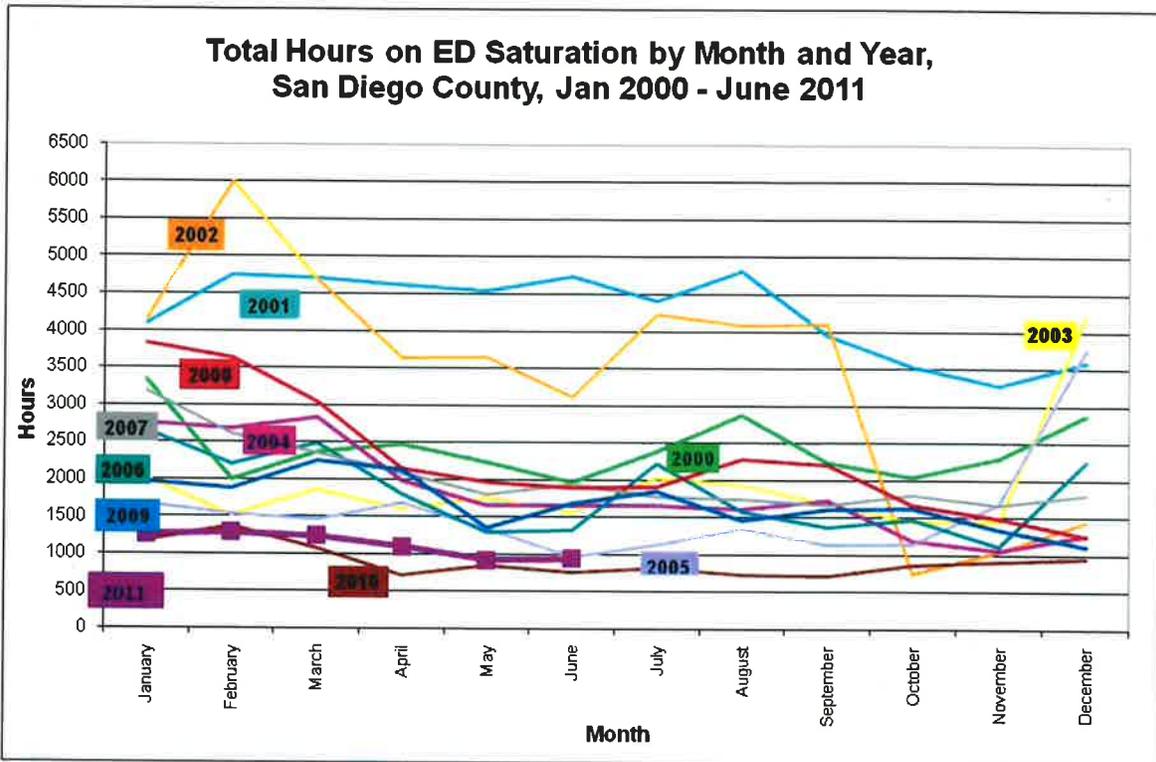
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, July 2010 – June 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



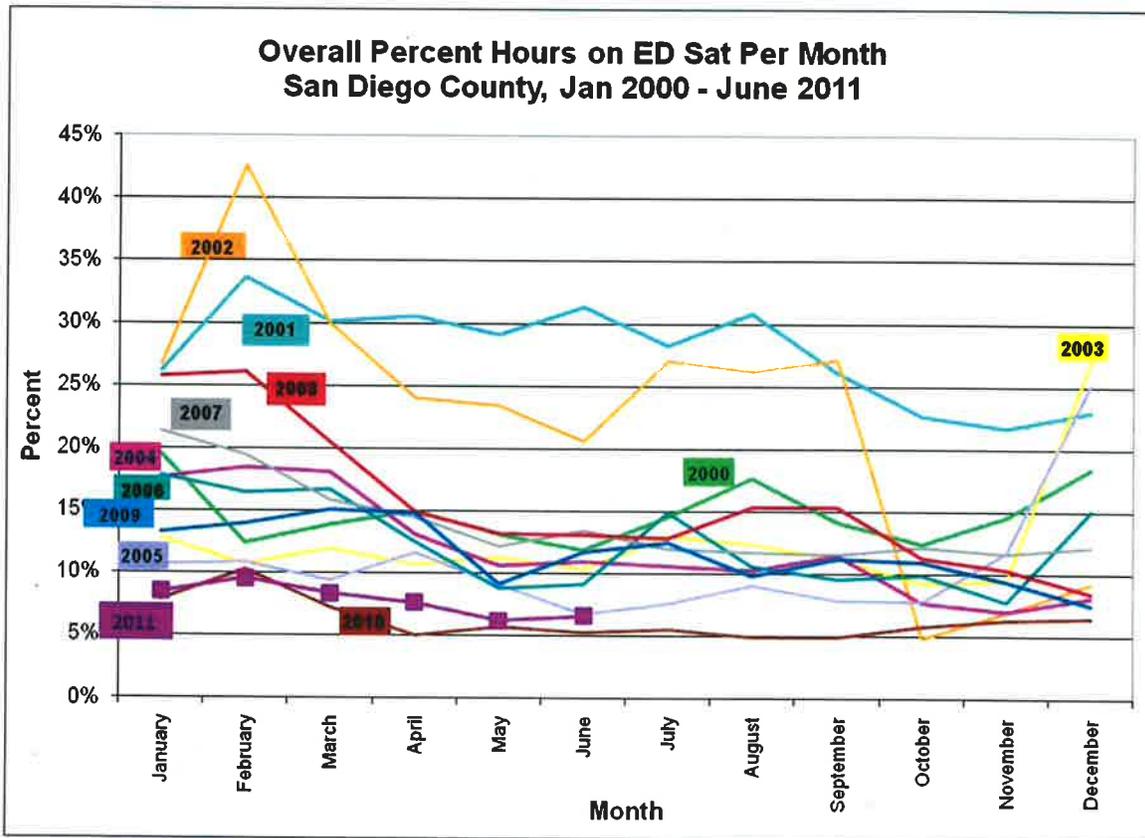
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, July 2010 – June 2011



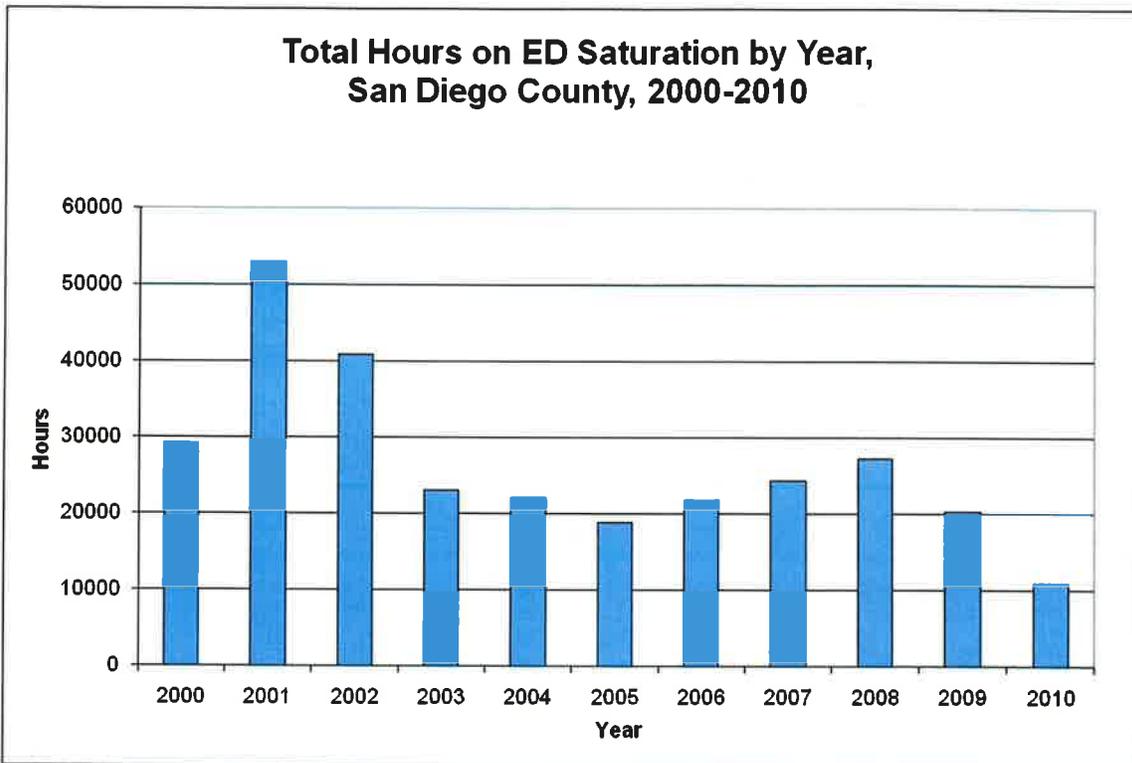
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, June 2011  
 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



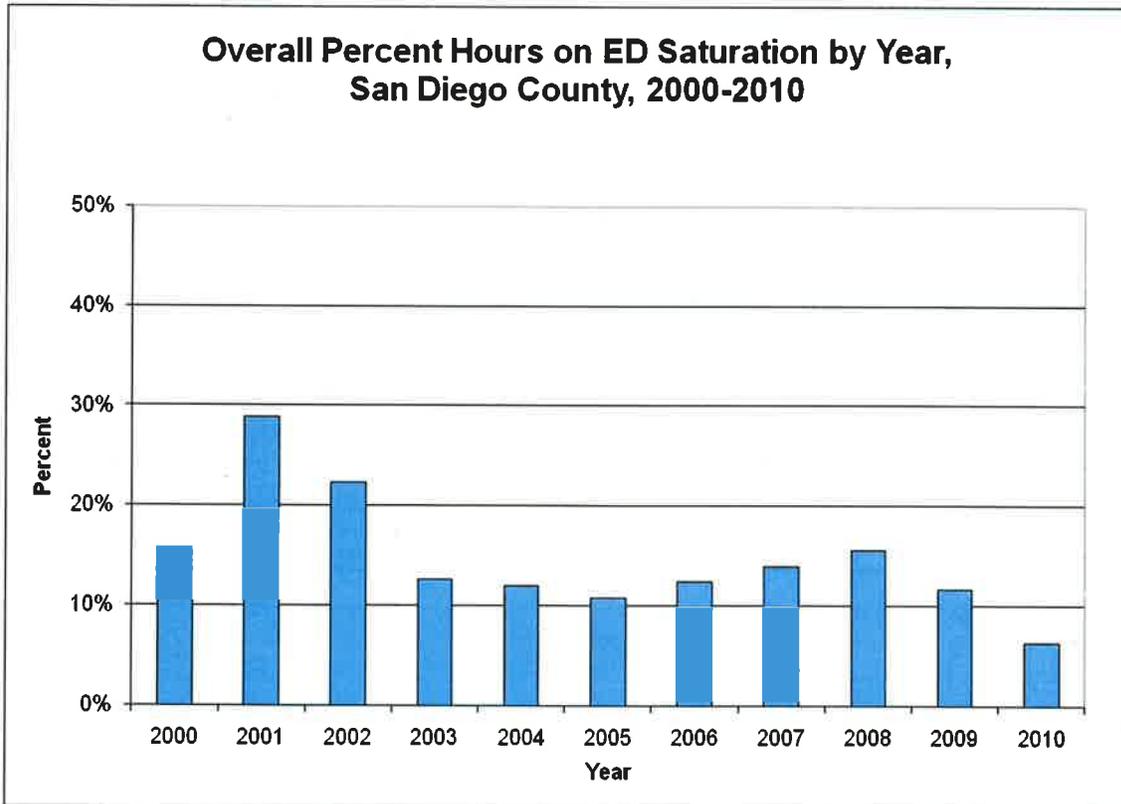
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – June 2011



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



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



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



NICK MACCHIONE, FACHE  
DIRECTOR

WILMA J. WOOTEN, M.D., M.P.H.  
PUBLIC HEALTH OFFICER

## County of San Diego

HEALTH AND HUMAN SERVICES AGENCY

PUBLIC HEALTH SERVICES

1700 PACIFIC HIGHWAY, SAN DIEGO, CALIFORNIA 92101-2417  
(619) 531-5800 FAX (619) 515-6707

**Bruce E. Haynes, M.D.**  
Medical Director  
Division of Emergency Medical Services  
6255 Mission Gorge Road  
San Diego, CA 92120-3599  
(619) 285-6429 FAX:(619) 285-6531

Community Epidemiology  
Emergency & Disaster Medical Services  
HIV, STD and Hepatitis  
Immunization  
Maternal, Child and Family Health Services  
Public Health Laboratory  
PH Nursing/Border Health  
TB Control & Refugee Health  
Vital Records

### **Medical Director's Update for Base Station Physicians' Committee November, 2011**

**Duty Officer contact is for immediate help.** You may contact the EMS Duty Officer for assistance when prolonged off load delays occur, e.g. over 30 minutes, or there are multiple units delayed. (Your agency policy may require notifying a supervisor). The duty officer should be called after working with the hospital staff fails to resolve the situation. Please do not call the duty officer if you have left scene and do not need immediate help. Please leave a contact number for the duty officer to contact you.

**As we head into the flu/viral season the Capacity Plan** has been reviewed. Some changes have been made and it is out for additional comment. The finalized plan should be available soon.

**So far there is little influenza in the community. Influenza vaccine is critical.** Surveillance of emergency room visits and laboratory testing shows there are still only scattered cases of influenza in the community.

Influenza vaccines are important for health care workers. Those who receive the vaccine are less likely to miss work. When ill, health care workers often work despite symptoms of illness. More importantly influenza can be transmitted before persons have symptoms of illness.

The vaccine is most effective in younger, healthier individuals. The very young, the elderly and immunocompromised persons of all ages may not be protected even if immunized. It is important those who come in contact with these groups be immunized. Influenza vaccination decreases mortality in the patients health care workers care for.

One caution about influenza vaccine in the past has been use in persons who are allergic to eggs. This has been changed somewhat after recent studies demonstrated safe receipt of vaccine in persons with egg allergy. The national Advisory Committee on Immunization

Practices developed an algorithm for influenza vaccination for persons who report allergy to eggs. It is available at the CDC website in the MMWR of August 26, 2011. Persons with anaphylactic reactions to egg are still excluded.

**Tale of Our Cities** meeting is December 12, 2011. Registration is now available on-line.

**Ondansetron (Zofran) is the subject of a drug safety communication** by the FDA. In a small number of cases the drug was correlated to prolongation of the QT interval on the EKG, in some cases when used with other drugs, and so a potential risk for ventricular tachycardia. The drug is used extensively in clinical practice without problems. One group in whom there may be increased risk are those with congenital long QT syndrome. FDA is requiring that the manufacturer conduct a thorough QT study to assess the drug's potential to prolong the QT interval.

EMS send out a communication on November 1, 2011 outlining this issue. We will continue to use ondansetron as we have, and await the evaluation to come. Contact EMS for any questions.

**The poison control center** must followup on patients about whom it is consulted. The PCC requires patient information in order to follow the patient later as one of the caregivers.

**The federal Ryan White act was renewed.** This describes the potentially life-threatening infectious diseases to which emergency response employees may be exposed by body fluid exposures, aerosolized airborne and droplets. Examples of body fluid contacts include hepatitis B and C, HIV virus, anthrax, rabies, and viral hemorrhagic fevers. If an emergency response employee is exposed to an agent the medical facility is given guidelines for making determinations whether there was an exposure. We have separate California law covering exposures so those procedures remained in place during the time Ryan White was not effective.

**State EMS is moving forward with regulations.** They will likely release proposed regulations for EMS for Children systems, and later STEMI system and stroke system regulations.

**Opioid pain relievers** are involved in an increasing number of deaths. OPRs as they are called are associated with more deaths than heroin and cocaine combined. The death rate of overdoses increased three times from 1991 and 2007. Solutions are aimed at careful use of OPRs, identifying inappropriate use, limiting prescribing to one practitioner for some patients, and other efforts. The challenge is to allow safe and effective pain treatment, while avoiding inappropriate use. The DEA continues to offer drug turn in days to reduce "left over" narcotics in homes.

**The 10-year review of the trauma system** at last month's BSPC meeting revealed several interesting things. The number of trauma patients per 100,000 population is flat over the last

10 years. The total number of patients has trended up with population, although it dropped slightly in 2009 and 2010. The former typical patient was someone 20—54 years of age injured in a motor vehicle incident. Over the last 10 years this has changed so the typical patient is older—over 45 years of age, and injured in a fall.

This may be due partly to an older population. More likely is the recognition that falls in the elderly sometimes cause severe injuries. This is complicated by the large number of patients on anticoagulants compared to the past. The risk of a life threatening injury, especially head injury, is higher among those taking anticoagulants. Overall, falls are now the leading mechanism of injury, followed by motor vehicle occupants, assaults, sports/recreation and motorcycles. The most severely injured overall are motorcycle injury patients. While males outnumber females at all ages, it is especially pronounced starting in the teenage and 20 years. The mean length of stay is 3 days, the median 1 day, indicating most patients have a short stay, but a few much longer.

**Stroke system data** shows the system is functioning well. The first full year of data, for 2010 was recently compiled. For that year, the stroke hospitals reported 4,935 patients of whom 69% were ischemic stroke, 11% intracerebral bleeds (ICBs), 5% subarachnoid bleeds, and 15% transient ischemic attacks (TIAs). Just over half of the patients arrived by EMS, 52% with walk-ins 38%, and interfacility transfers 10%. Use of EMS was more common for ICBs, and a little less common for TIAs and subarachnoid hemorrhages. The largest fraction of the patients were age 80+ (28%), with 70-79 (22%), 60-69 (18%), 50-59 (13%), and 40-49 (7%). Gender distribution was even. Discharge location was home for the largest group (43%), or home with home care in some. Most of the rest went to skilled nursing facilities or to rehabilitation facilities. Eight percent died.

Of the EMS transported patients 40% arrived in 4 hours or less. Of these 27% received intravenous tPA. Among tPA recipients 32% received tPA in 60 minutes or less. This is excellent and compares favorably with a large study this year on door to needle time in stroke. Generally, patients who receive tPA within 60 minutes of hospital arrival have improved outcomes, with fewer complicating intracerebral bleeds.

**The STEMI system has seen 4,101 patients** as of the last reporting date, the first quarter of 2011. Seventy six percent arrived by 911 and 78% of those were prehospital activations. Among the activations 73% went to the cath lab, with 62% receiving a percutaneous coronary intervention (angioplasty, etc.). The 11% who didn't get an intervention may have had severe disease and had surgery, or in some cases had mild disease or another diagnosis.

The number of cases jumped in the first quarter of 2011, but in the past the numbers have varied from quarter to quarter.

False positive EKGs were stable from 2007 through 2009 at about 20%. They then decreased, to 5% in the second quarter of 2010. In the subsequent three quarters the false positive rate rose steadily back to 20%. This occurred despite more availability of EKG transmission.

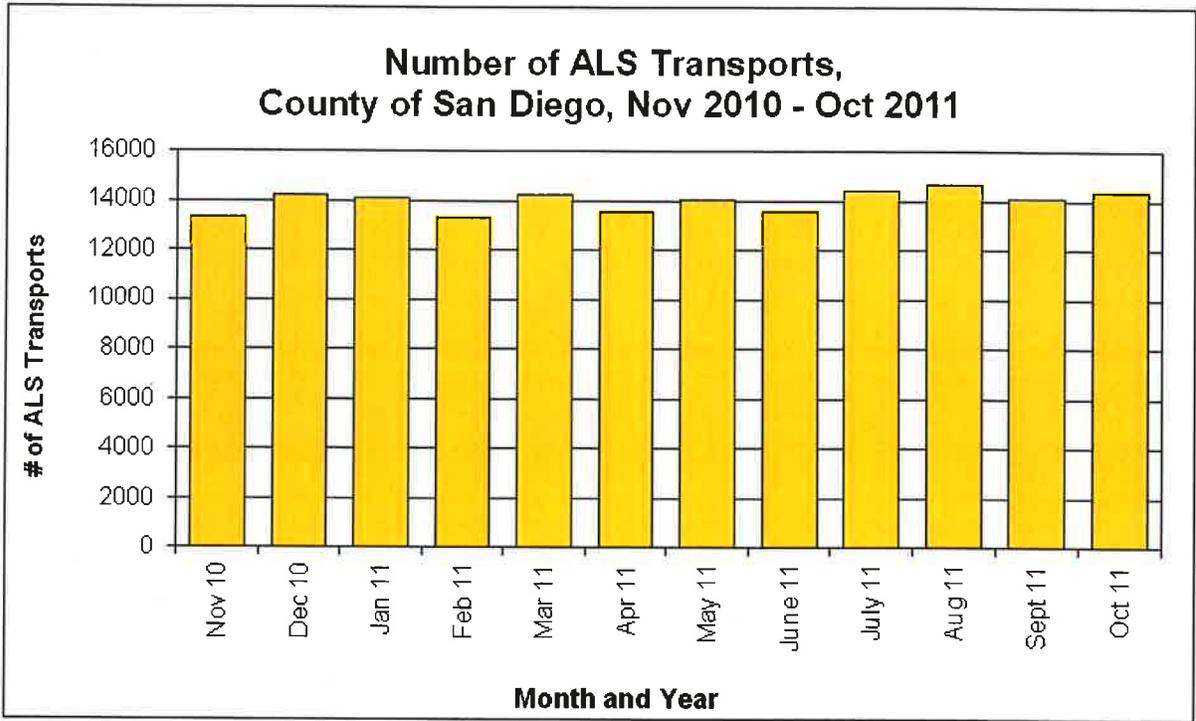
Reasons include most commonly mimics of STEMI on the EKG and MD activation despite no STEMI reading on the EKG. Less common reasons are multiple EKGs performed until one shows STEMI, poor quality EKGs, and medic overreads. Causes of mimics include atrial flutter or dysrhythmias, bundle branch block and others. Mimics would likely be much less common if EKGs were performed only in patients with chest pain, as the false positive rate has been shown to increase when done for atypical presentations. Poor quality EKGs have leads off (not all 12 with a reading), muscle tremor, wandering baseline, electrical interference or other errors that are read as STEMI by the interpretive program.

Data collection on field prehospital 12-lead to device time is also collected and the majority of these cases had times less than 90 minutes.

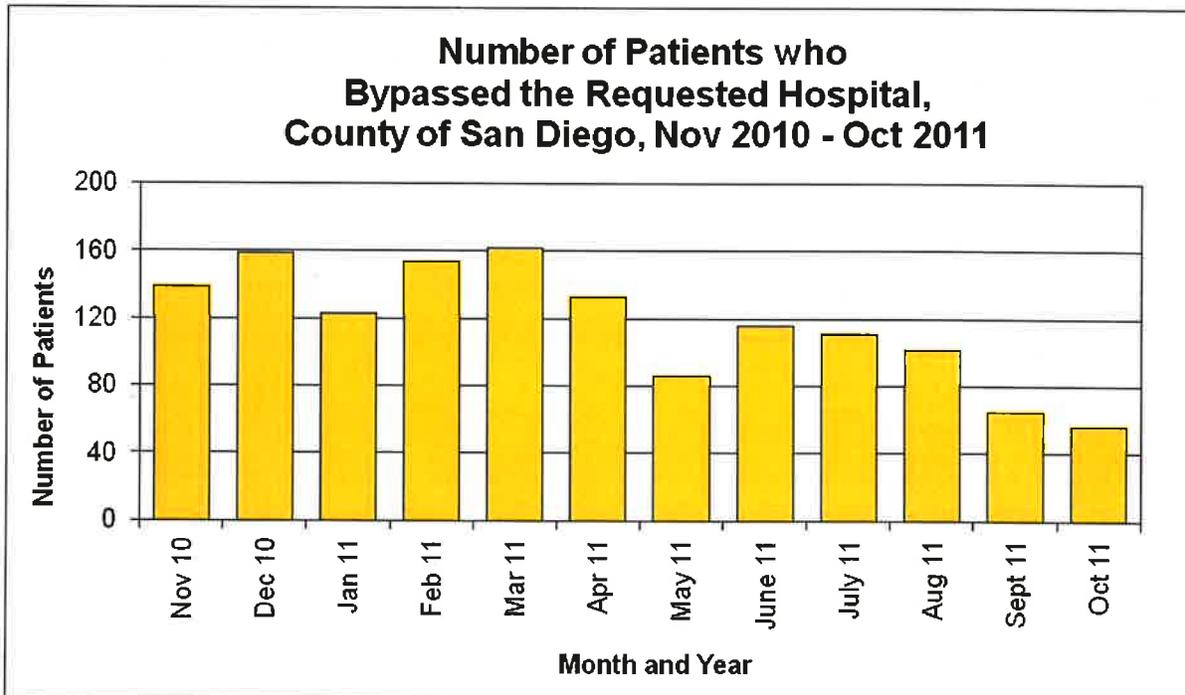
The Cardiovascular Advisory Committee meets quarterly to discuss issues about the STEMI system. After much discussion they recommended changing the revascularization time from door to balloon time to door to device time. This better reflects other data systems and the real reperfusion time. Devices include balloon angioplasty, thrombectomy/clot aspiration, direct use of stent, or guidewire use. For the first quarter of 2011, median prehospital activated patient door to device time was 57 minutes; non-activated 69 minutes; and walk in 76 minutes. This is similar to the mean door to balloon time for the first quarter 2011 and to the 2007-2010 data. For activated patients 95% have a door to balloon time  $\leq$ 90 minutes.

While door to balloon or device times are stable, from 2007 on there has been continuing reduction in door to balloon times for non-activated and walk in patients. Although not down to activated patient levels, they are approaching that level and are much faster than before the system existed.

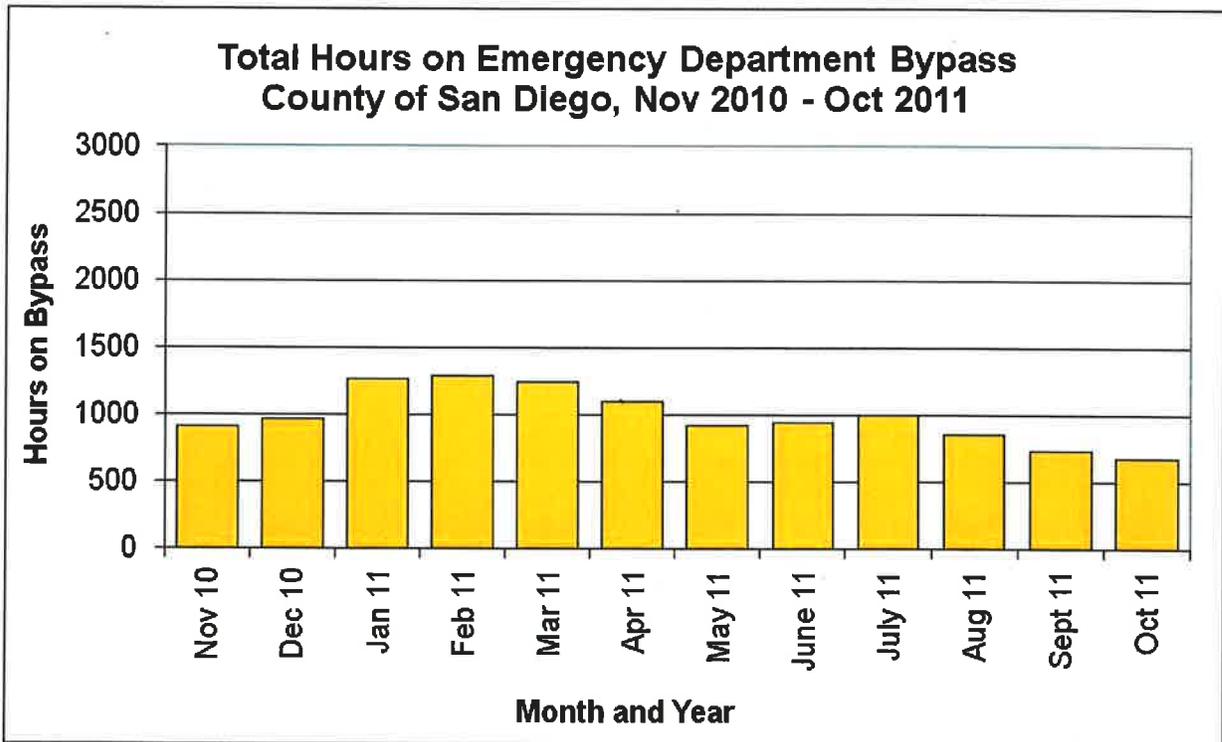
The STEMI system is meeting our expectations. Reperfusion times are excellent, and quality markers are all as expected. The current challenge is to implement EKG transmission and reduce the false positive rate on EKGs and subsequent unnecessary activations.



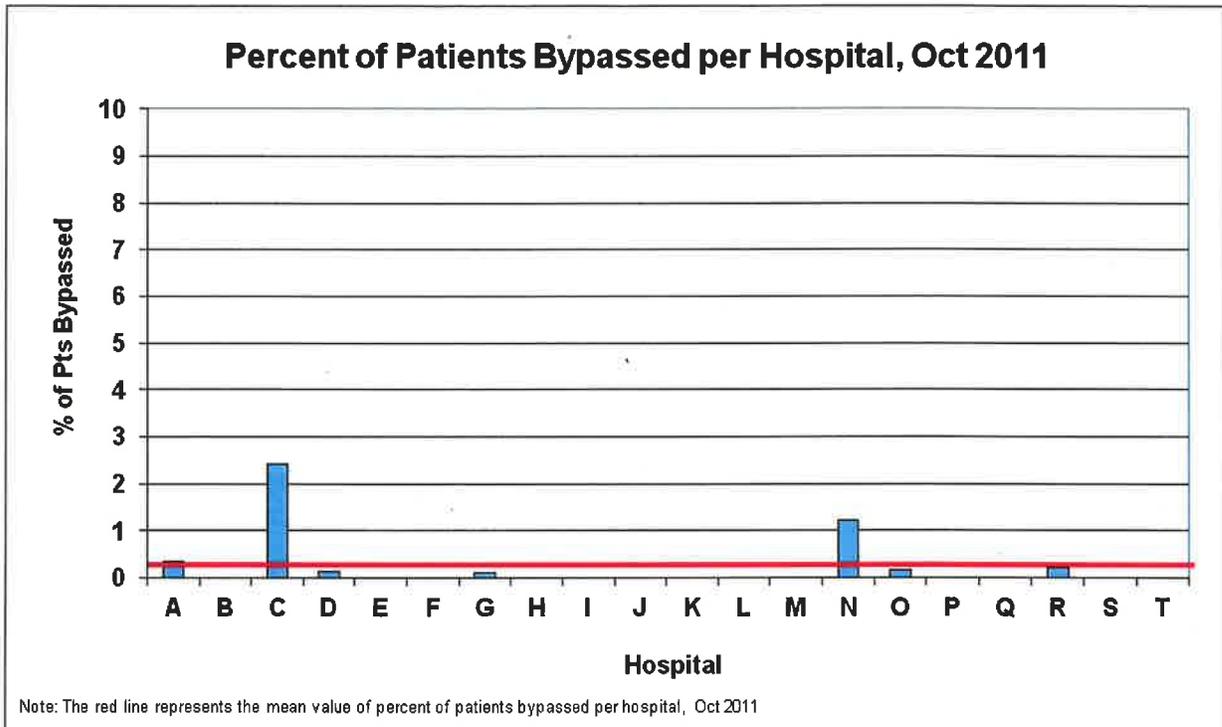
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Nov 2010 – Oct 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



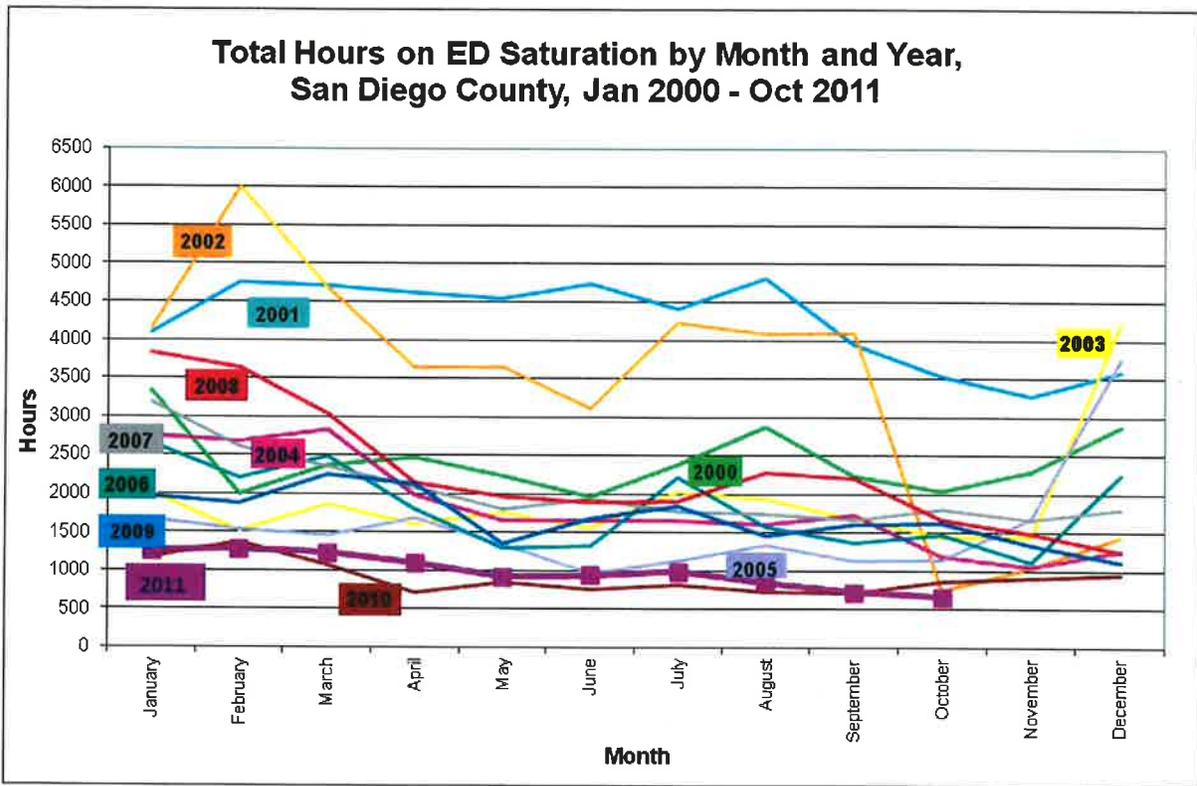
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Nov 2010 – Oct 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



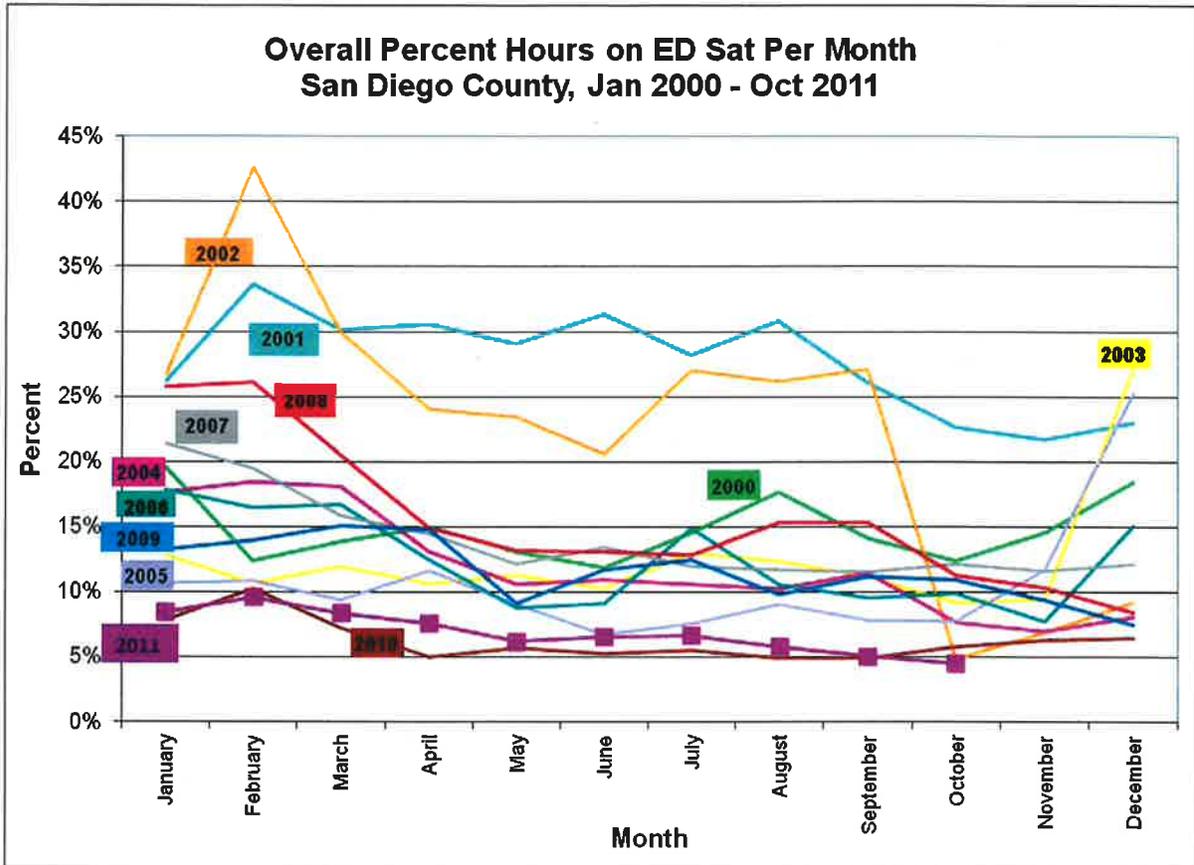
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Nov 2010 – Oct 2011



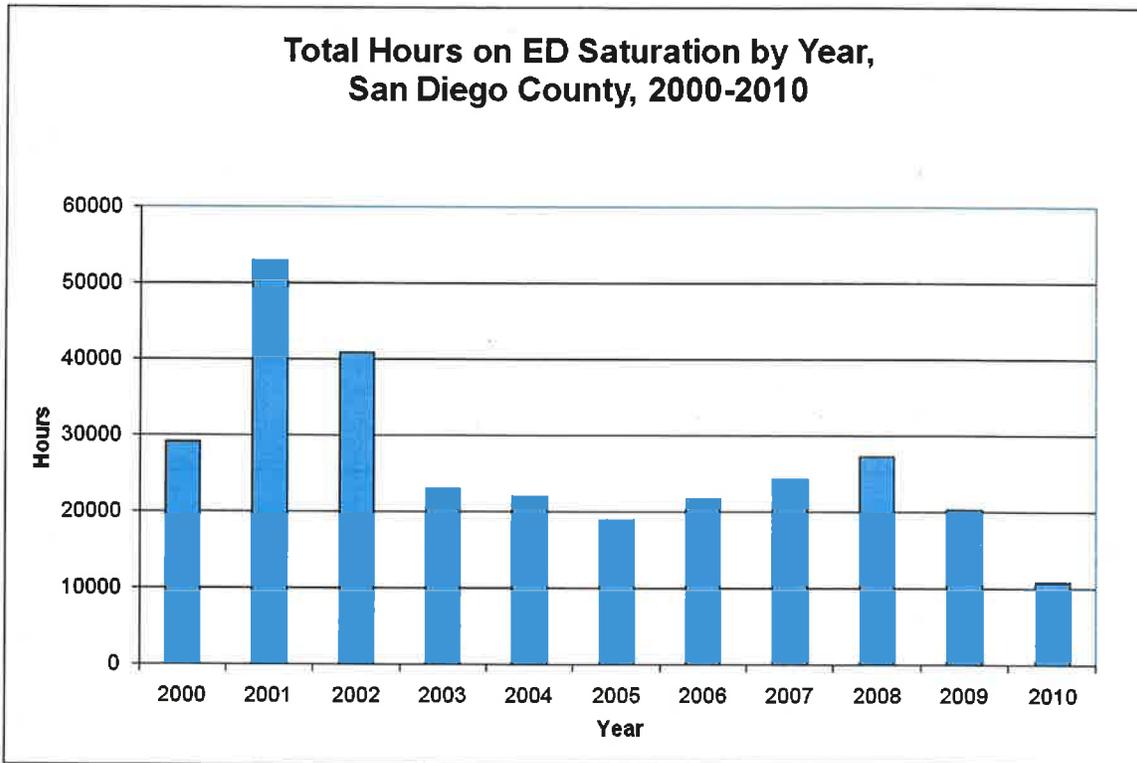
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Oct 2011  
Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



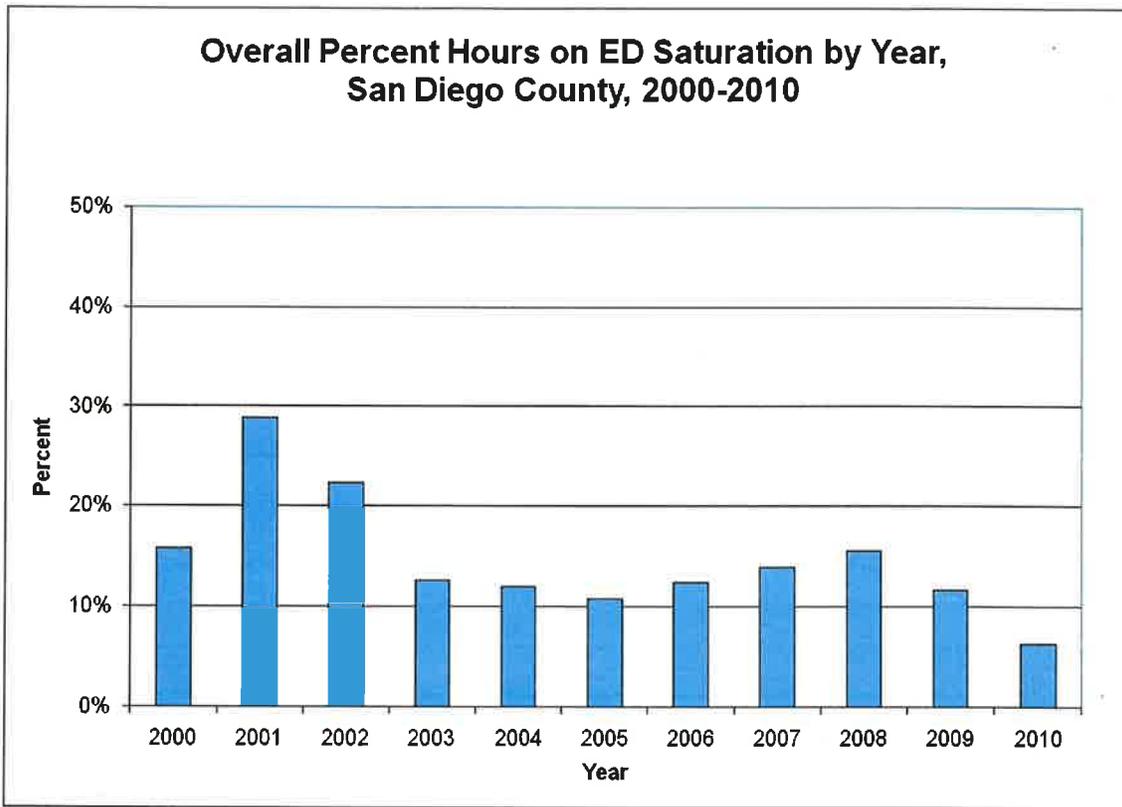
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – Oct 2011



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



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



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