



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 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 a 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.

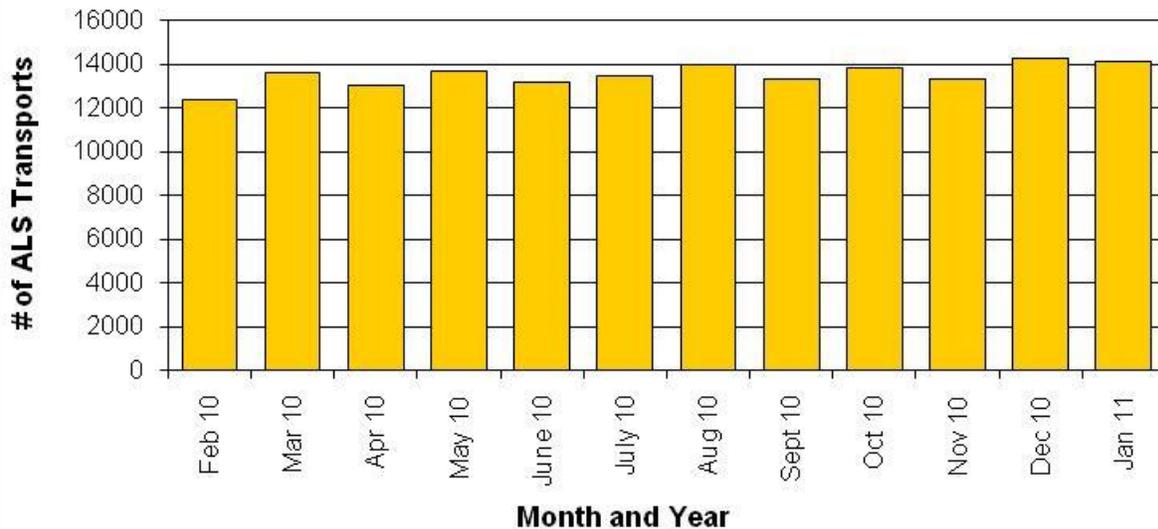
**Stroke Center Mortality:** There has been limited proof that admission to a stroke center is associated with lower death rates than other hospitals. Many studies have focused on processes of care rather than outcomes. A recent article looked at death rates for patients admitted with acute ischemic 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).

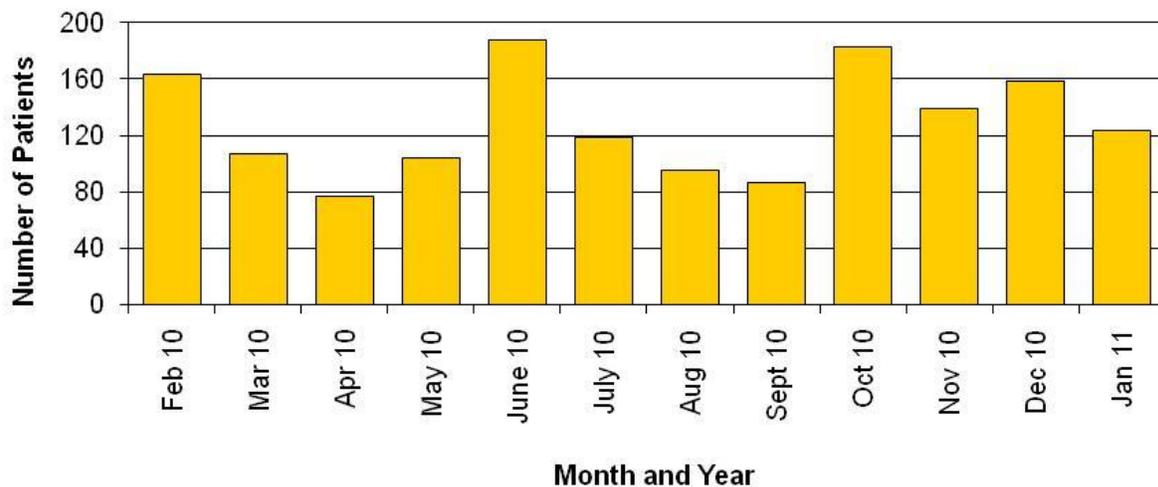
**Prehospital IVs and Trauma:** Fluid administration to patients with injuries is controversial. This is another article looking at that issue. They used the National Trauma Data Bank including 776,734 patients. According to the article, about half the patients received a prehospital IV and the overall 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

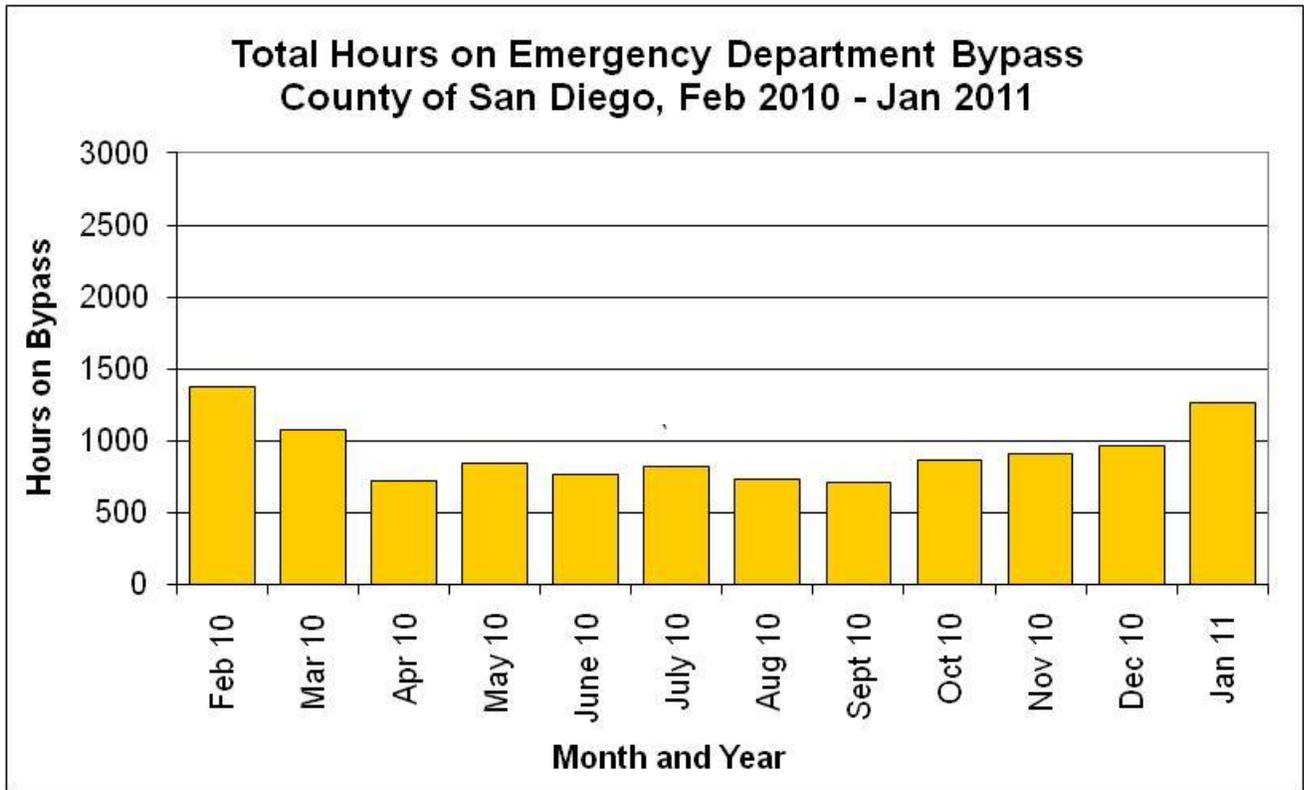


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Feb 2010 – Jan 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other

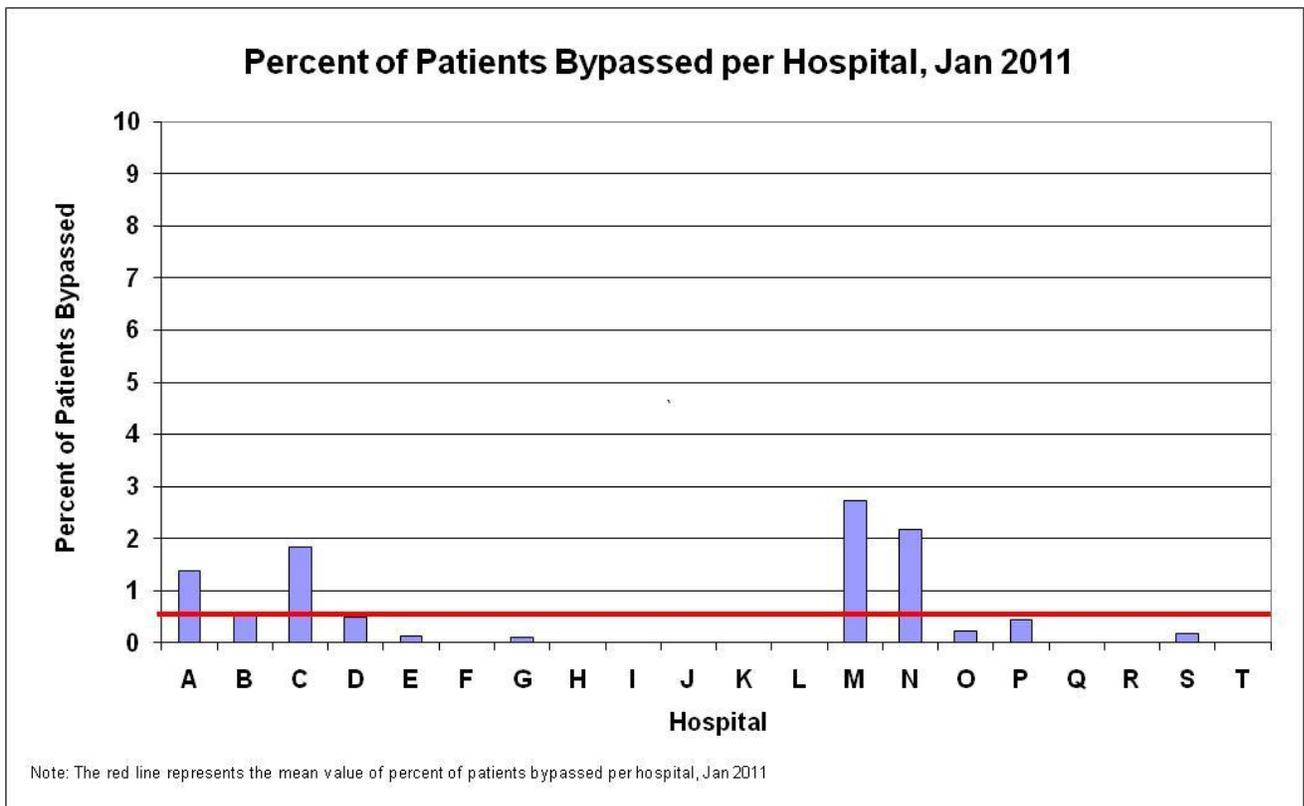
### Number of Patients who Bypassed the Requested Hospital, County of San Diego, Feb 2010 - Jan 2011



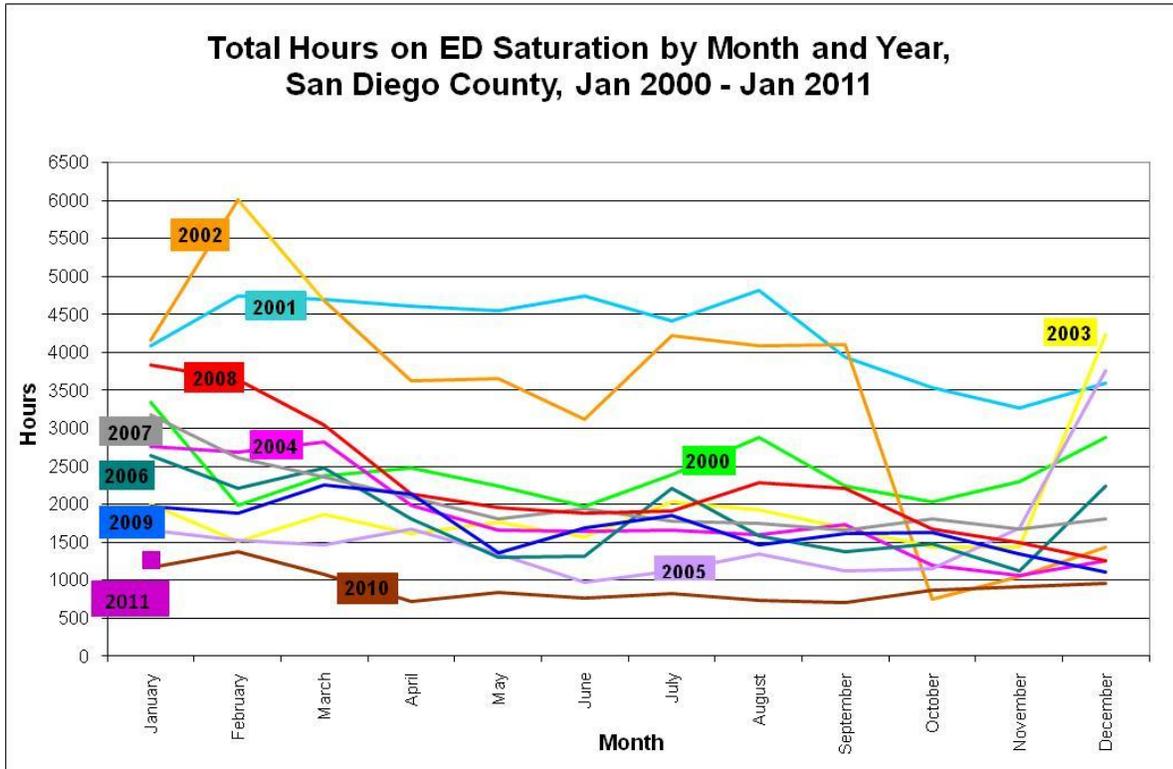
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Feb 2010 – Jan 2011 Note: Numbers based on Run Outcomes of Transport by Unit and Transport by Other



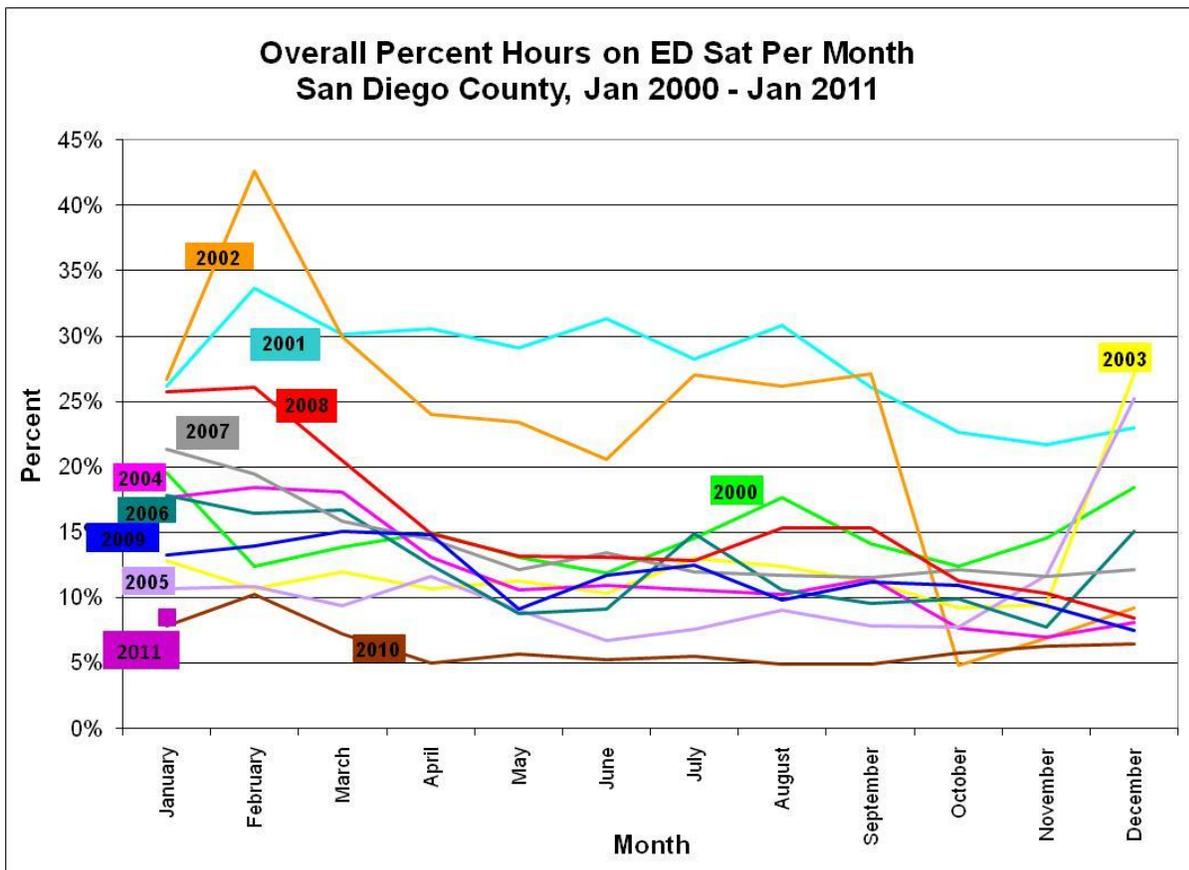
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Feb 2010 – Jan 2011



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

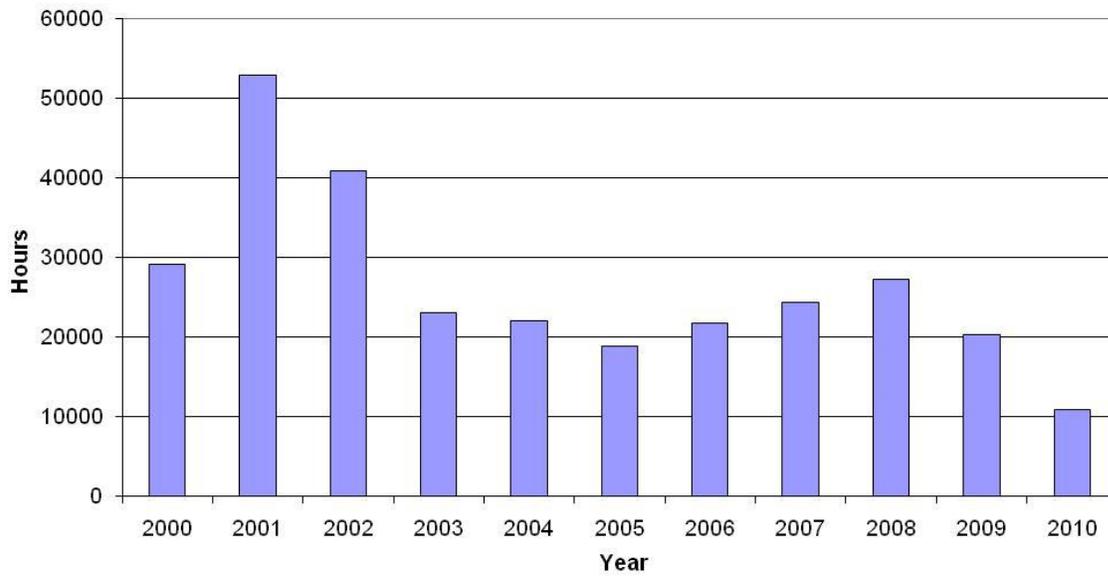


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – Jan 2011



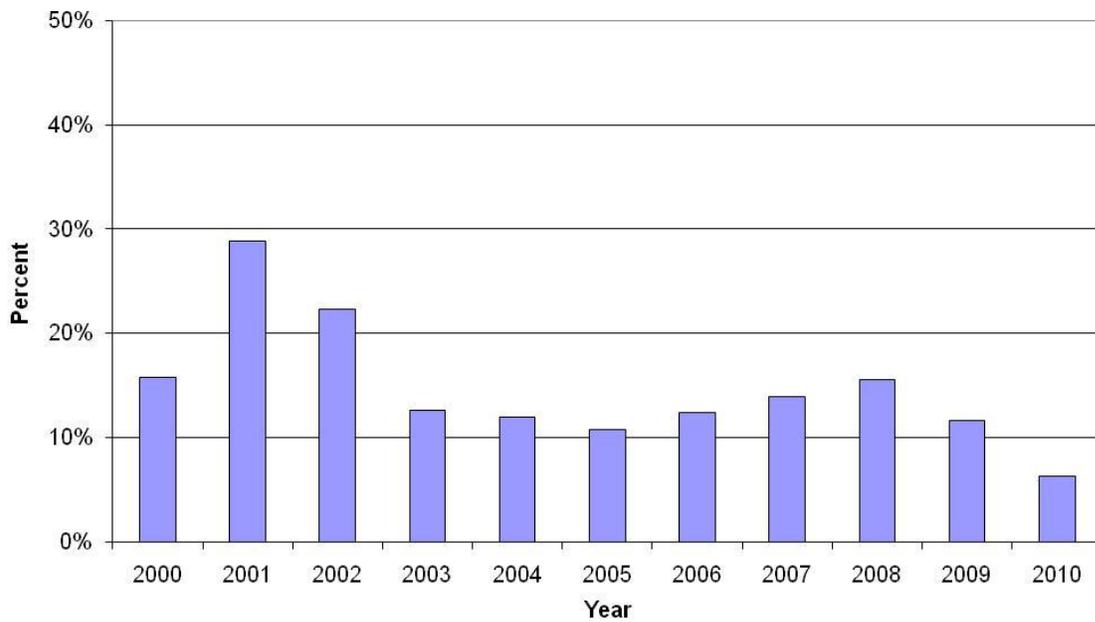
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, MICN Records, Jan 2000 – Jan 2011

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



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

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



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