

# Putting the Pieces Together

**Using OSHPD Data to  
Understand Health and  
Healthcare Patterns:  
Descriptive Reports and Research Briefs**

Presenter:  
Mary Tran, PhD, MPH



# Kinds of healthcare information you can find in the data

- Patient information:
  - Demographics, source of admission, and area of residence
  - Diagnoses, procedures, type of discharge
  - Source of payment, length of stay, charges
  
- Facility information:
  - Hospital type of ownership, capacity, financing
  - Staffing ratios, time on diversion
  - Area of location
  
- Examples of possible linkages, with IRB approvals:
  - Hospitalization records with death certificates
  - Hospitalization records with outpatient visits
  - Multiple hospitalizations over time for the same patient



## Examples of subjects you can address:

- Specific types of illness or injury that are leading to hospitalization—trends, demographics, geography
- How patients are utilizing the healthcare system (who goes where for what kind of care?)
- Reflections of public health trends (as revealed by patterns of hospitalization or ED visits)
- Trends in sources of payment for healthcare
- Tracking capacity of the healthcare system

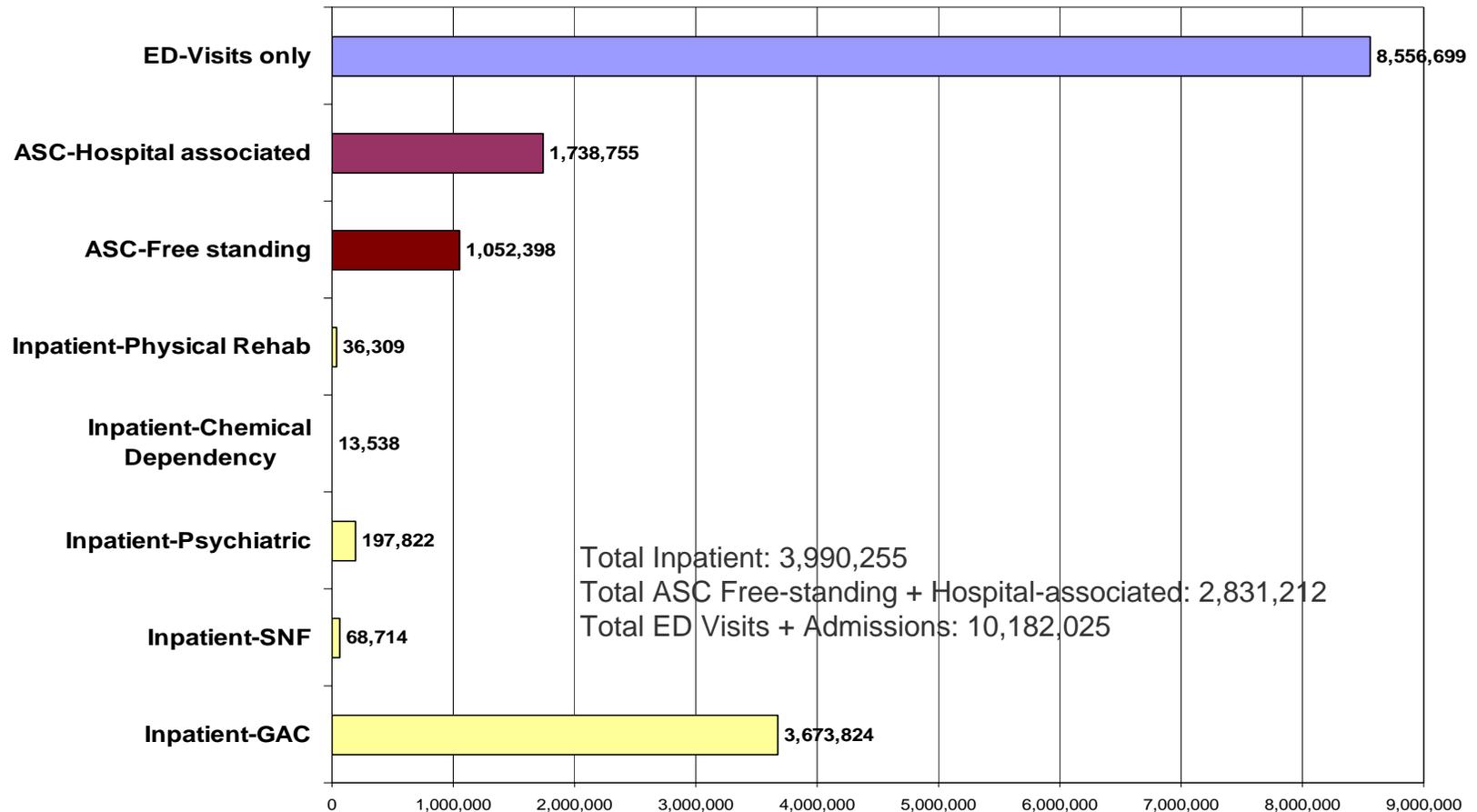


# Examples of analyses from OSHDP reports

# How many episodes of care happen in emergency rooms, compared to hospitalizations?



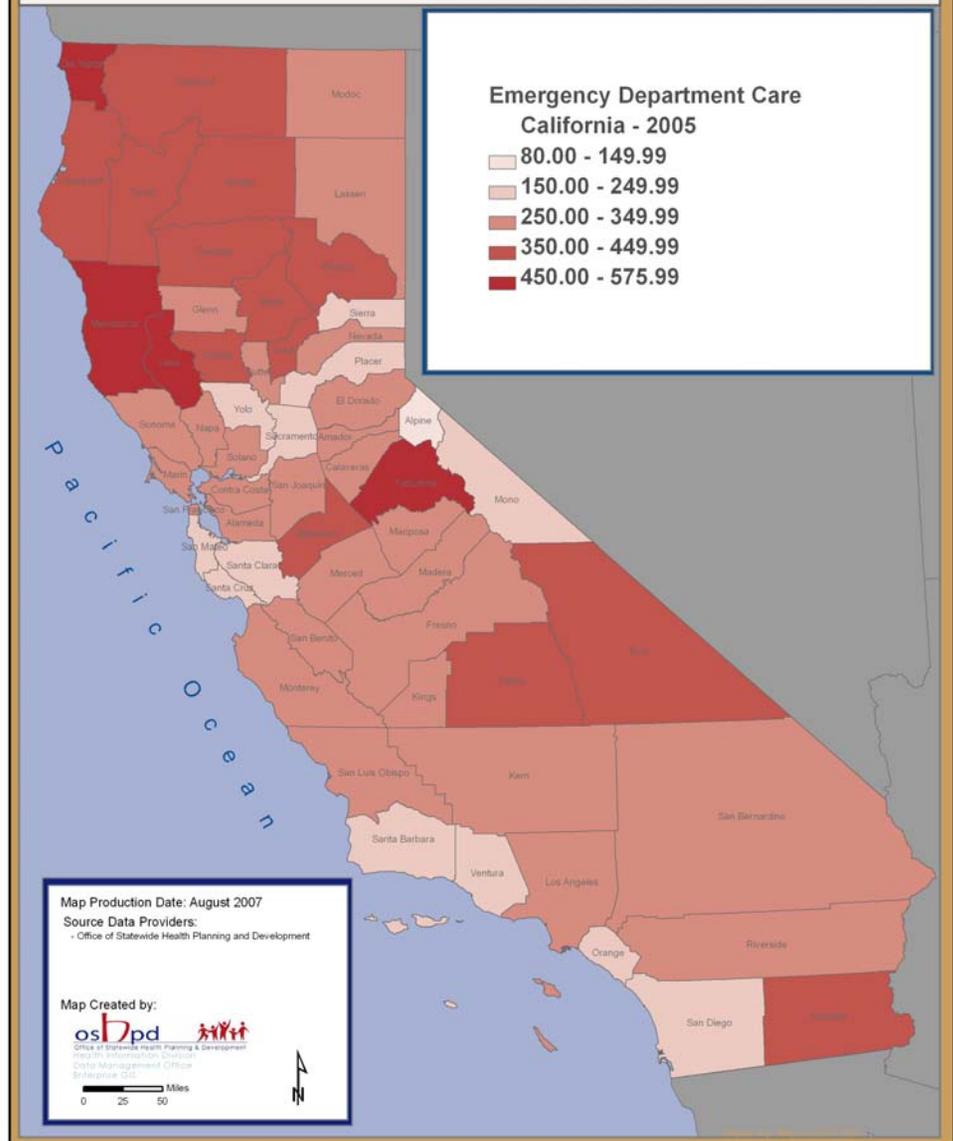
Patient Profile Report, 2005



Do urban areas  
make more use of  
emergency rooms  
for medical care?

Patient Profile Report, 2005

Utilization Rate of Emergency Department Care  
Visits per 1,000 population





Are the same types of procedures routinely performed in inpatient vs. outpatient settings?

Patient Profile Report, 2005

Top 10 Procedures for Inpatient and Outpatient Encounters. California, 2005								
Principal Procedure (CCS Code)	GENERAL ACUTE CARE		ASC FREE-STANDING		ASC HOSPITAL BASED		EMERGENCY DEPARTMENT	
	F	M	F	M	F	M	F	M
Other procedures to assist delivery	239,767							
Cesarean section	163,197							
Repair of current obstetric laceration	55,651							
Hysterectomy, abdominal and vaginal	49,647							
Respiratory intubation, mechanical ventilation	35,436	39,091						
Blood transfusion	34,224	25,586						
Upper gastrointestinal endoscopy, biopsy	34,025	30,266	54,451	38,031	64,570	46,700		
Prophylactic vaccinations and inoculations	31,789	23,531						
Forceps, vacuum, and breech delivery	30,211							
Episiotomy	29,136							
Circumcision		55,094						
PTCA		38,471						
Appendectomy		23,304						
Cardiac catheterization		23,116					22,632	
Other vascular catheterization, not heart		20,415						
Colonoscopy and biopsy			151,050	130,478	124,217	107,128		
Lens and cataract procedures			80,454	52,988	65,994	44,443		
Insertion of catheter, injection to spinal canal			73,888	57,198	37,955	26,574		
OR procedures on skin and breast			27,242		18,177			
Procedures on muscles and tendons			14,104	13,879			17,542	
Excision of semilunar cartilage of knee			13,776	18,385			20,742	
Procedures on eyelids, conjunctiva, cornea			13,163	8,254				
Decompression peripheral nerve			11,781					
Other OR therapeutic procedures on joints			10,348	12,405				
Inguinal and femoral hernia repair				8,544			36,896	
Arthroplasty other than hip or knee				6,177				
Excision of skin lesion							15,268	
Lumpectomy, quadrantectomy of breast					30,977			
Cholecystectomy					22,449			
D and C after delivery					18,617			
Pathology					18,450			
Interview, evaluation, consultation							1,181,059	1,034,969
Laboratory - Chemistry and Hematology							142,021	99,541
Suture of skin and subcutaneous tissue							92,509	185,634
Traction, splints, and other wound care							78,742	95,264
Diagnostic radiology							78,115	80,593
Routine chest X-ray							49,284	45,036
Electrocardiogram							39,638	30,630
Microscopic examination							38,500	22,573
Incision and drainage (skin, subQ)							23,512	28,540
<b>Total number of encounters</b>	<b>1,477,340</b>	<b>908,067</b>	<b>590,471</b>	<b>454,982</b>	<b>968,245</b>	<b>761,625</b>	<b>2,209,650</b>	<b>2,015,345</b>



# Are patients with Do Not Resuscitate (DNR) orders more likely to die in the hospital?

## Research Brief: In-Hospital Mortality

**Table 2. In-Hospital Mortality, by End-of-Life Care Preference**

	<b>Total Cases</b>	<b># Survived</b>	<b># Died</b>	<b>% Died</b>
Total	3,997,182	3,912,714	84,468	2.11
Both Types of Order	12,864	5,534	7,330	56.98
Palliative Care Order	9,555	4,449	5,106	53.44
DNR Order	149,182	125,365	23,817	15.97
Neither	3,825,581	3,777,366	48,215	1.26

# What patient factors are associated with in-hospital death?

Research Brief:  
In-Hospital Mortality

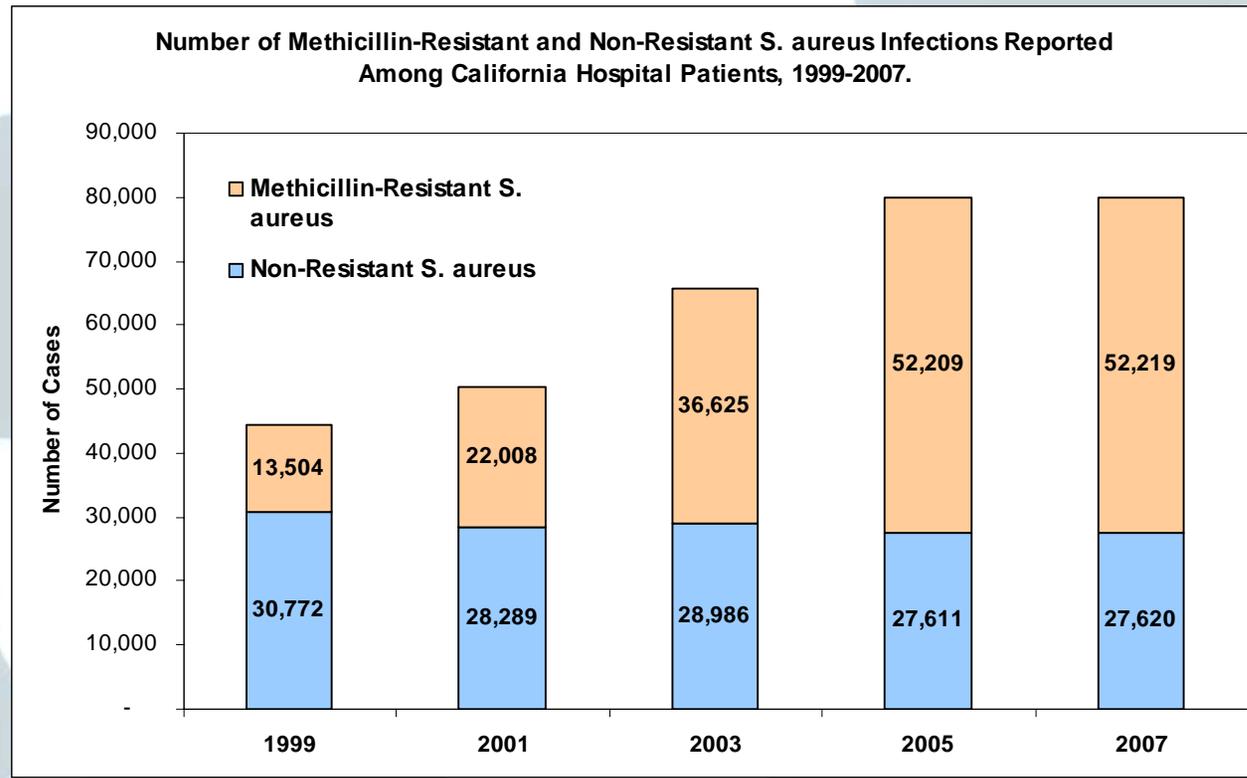
**Table 4. Logistic Regression Analysis of Risk Factors for In-Hospital Death**

Risk of In-Hospital Death		Odds Ratio	95% Confidence Interval
<b>Age (per decade)</b>		1.3	1.2 - 1.3
<b>Race/Ethnicity</b>	White	Reference group	
	Other/Multiple Races	1.2	1.2 - 1.3
	African American	1.2	1.2 - 1.3
	Asian/Pacific Islander	1.2	1.2 - 1.3
	Native American	1.2	1.0 - 1.4
	Hispanic	1.1	1.1 - 1.2
<b>End-of-Life Preference</b>	None	Reference group	
	Both Palliative and DNR	43.1	41.5 - 44.8
	Palliative Only	41.3	39.5 - 43.2
	DNR Only	6.5	6.4 - 6.6
<b>Primary Payer</b>	Private Insurance	Reference group	
	Self-Pay	1.8	1.7 - 1.9
	Other Payer	1.6	1.4 - 1.8
	Medi-Cal	1.6	1.6 - 1.6
	Other Indigent Program	1.5	1.3 - 1.7
	Other Government	1.3	1.2 - 1.4
	Medicare	1.1	1.1 - 1.2
	County Indigent Workers Compensation	0.6 0.5	0.5 - 0.6 0.4 - 0.6
<b>Type of Condition</b>	Other type of condition	Reference group	
	Septicemia	8.1	7.9 - 8.3
	Liver Disease	4.6	4.3 - 4.8
	Cancer	2.6	2.5 - 2.7
	Stroke	2.6	2.5 - 2.7
	Pneumonia/Influenza	1.7	1.6 - 1.7
	Heart Disease	1.2	1.1 - 1.2
	Medical Complications	1.1	1.1 - 1.2



# How many cases of MRSA infection have been reported among California hospital patients?

Research Brief: MRSA Infections in California Hospital Patients.





# Where has the MRSA rate increased most among hospital patients?

Research Brief: MRSA in California Hospital Patients





# Comparing hospital-associated vs. free-standing ASCs: Are their post-procedure hospital admission rates the same?

APHA presentation, 2008

	<u>Ambulatory Surgery Care</u>		<u>Inpatient Care</u>
	<u>Hospital-Assoc.</u>	<u>Free-Standing</u>	<u>Hospital</u>
Age Mean (SD)	52.37 (20.9)	55.07 (19.0)	56.85 (19.39)
Gender % Male	50.4	45.0	45.3
Race/ethnicity % Hispanic	21.8	15.1	22.3
% Native Amer.	0.4	0.4	0.2
% Asian / PI	8.6	10.6	8.0
% African Amer.	4.5	2.6	7.0
% White	58.4	46.7	58.8
% Other / Multi.	3.5	4.8	2.8
% Unknown	2.8	19.9	1.0
Payer % Medicare	30.3	36.7	38.6
% Medi-Cal	9.9	4.4	12.5
% Private Insurance	50.9	50.7	42.0
% Self Pay	2.8	1.9	3.3
% Other	3.7	3.1	3.7
% Missing	2.5	3.2	0.0
Comorbidity Index Mean (SD)	0.30 (0.62)	0.07 (0.27)	0.96 (1.17)
Death % In-house	0.01	No deaths	0.8
% 30-Days	0.25	0.18	1.75
Inpatient Admits % w/in 15 days (#)	2.23 (24,247)	0.99 (6,326)	---



# Other reports in the pipeline

- HIV/AIDS: Trends in Hospital and Emergency Room Patients
- Gunshot Wounds: Trends in Hospital and Emergency Room Patients
- Geographic Differences in Ratio of CABG to PTCA Procedures Performed
- Chronic Illnesses: Patterns of Healthcare Utilization
- Emergency Rooms: Patterns of Utilization
- Status of California's Safety Net