Utah Health Status Update:

Emergency Department Encounters in Utah

March 2008 Utah Department of Health

Encounters with patients in hospital emergency departments (ED) are a significant segment in the continuum of emergency medical care. ED encounter data provide a measure of outcomes of pre-hospital emergency services as well as a starting point for evaluating in-hospital trauma care and subsequent rehabilitation services. Consumers, employers, payers, policymakers, and providers can use encounter data to better understand the health care needs of Utah citizens, patterns of ED utilization, and the burden of injury and illness throughout the state. The Utah Emergency Department database consists of 722,302 records on average per year of ED encounters at 42 acute care hospitals in Utah.

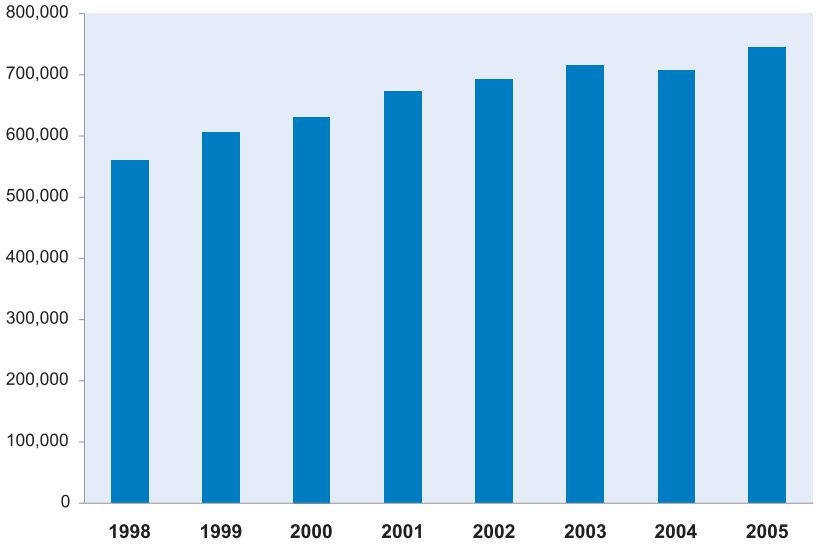
Data from the last eight years shows that the number of ED encounters is trending upwards. During 2005, there were 744,354 encounters with Utah hospital EDs, about 29.4 encounters per 100 persons in the state. ED encounters increased 33% from 1998 until 2005, whereas, population estimates show only an 18% increase over the same time period.

The total charge for the 744,354 visits in 2005 was $1,765,989,350, 707,153 visits in 2004 was $1,596,977,904, and 715,400 visits in 2003 was $1,399,204,322. Of the total ED encounters in 2005, 664,523 (89.2%) required no subsequent admission to the hospital, while 76,831 (10.7%) did require a subsequent admission. Total charges for the outpatient visits were $551,071,393 and $1,241,917,957 for the inpatient admissions in 2005; outpatient visits were $454,862,463 and inpatient visits were $1,142,115,441 in 2004; and in 2003, outpatient visits were $395,963,083 and inpatient visits were $1,003,241,239.

There were 544,006 visits (75% of total) to urban hospitals and 178,297 visits (25%) to rural hospitals on average per year for 2003–05. The distribution of charges, however, differ from urban to rural settings, 84% of charges are in urban hospitals and rural hospital charges totaling 16% in rural. Figure 2 illustrates these data.

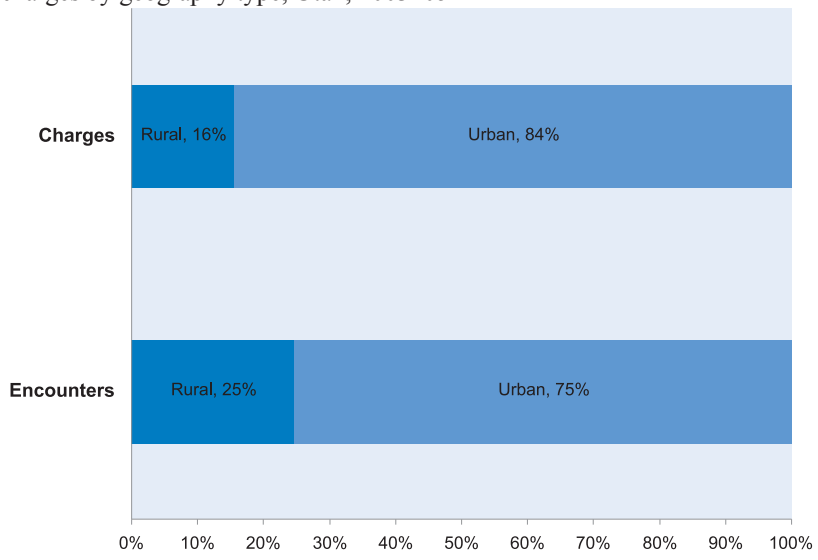
Increasing Numbers of ED Encounters

Figure 1. Total number of ED encounters in Utah, 1998–2005



ED Encounters and Charges by Geography Type

Figure 2. Percentage distribution of the number of ED encounters and charges by geography type, Utah, 2003–05



As in prior years, more women (54%) than men (46%) had ED encounters during 2003–05. The distribution of ED encounters by age group is shown in Figure 3. Persons aged 1 to 4 years, 20 to 24 years, and 25 to 29 had disproportionately higher numbers of encounters than those in other age groups.

Injury and poisoning represented the most frequent disease category (30%) of all ED encounters in 2003–05, and resulted in total charges of $403,748,681 or 23% of total ED encounter charges. Unintentional

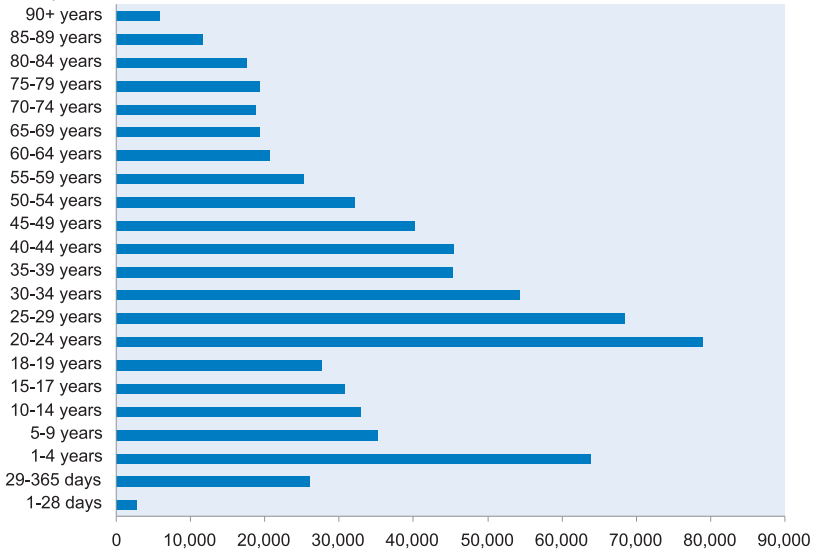
injuries represented 88% of encounters due to injury and poisoning, with charges totaling $338,967,132. Intentional injuries accounted for 5.0% of injury and poisoning encounters and $32,192,522 in charges. There were 15,668 encounters in 2005 coded as visits due to adverse effects of medical treatment, or 7% of all injury and poisoning encounters, which resulted in charges totaling $102,525,667. The average statewide charge per encounter for unintentional injuries, intentional injuries, and adverse effects of medical treatment were $1,425, $2,510 and $5,822, respectively.

Among ED encounters due to unintentional injury, the most frequent causes of injury were falls (30%), struck by/against an object or person (14%), and traffic-related motor vehicle injuries (13%). The distribution of unintentional injury ED encounters by cause of unintentional injury is shown in Figure 4.

The primary source of payment for ED encounters in 2003–05 was managed care (24.7%). Blue Cross/Blue Shield and 'Other commercial care' paid for 21.3% of encounters. ED Encounters paid by Medicare (14.6%), Medicaid (19.7%), CHIP (0.7%), and 'Other government sources' (4%) in 2003–05 combined to 39% of encounters. Encounters classified as 'Self-pay' for payment source were 8%.

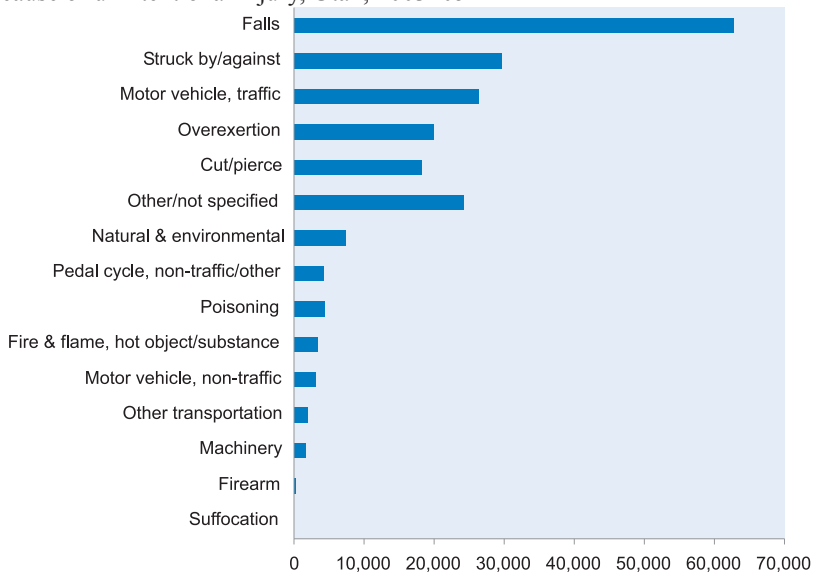
ED Encounters by Age Group

Figure 3. Average annual number of ED encounters by patient's age group, Utah, 2003–05



Unintentional Injury ED Encounters by Cause

Figure 4. Average annual number of unintentional injury ED encounters by cause of unintentional injury, Utah, 2003–05



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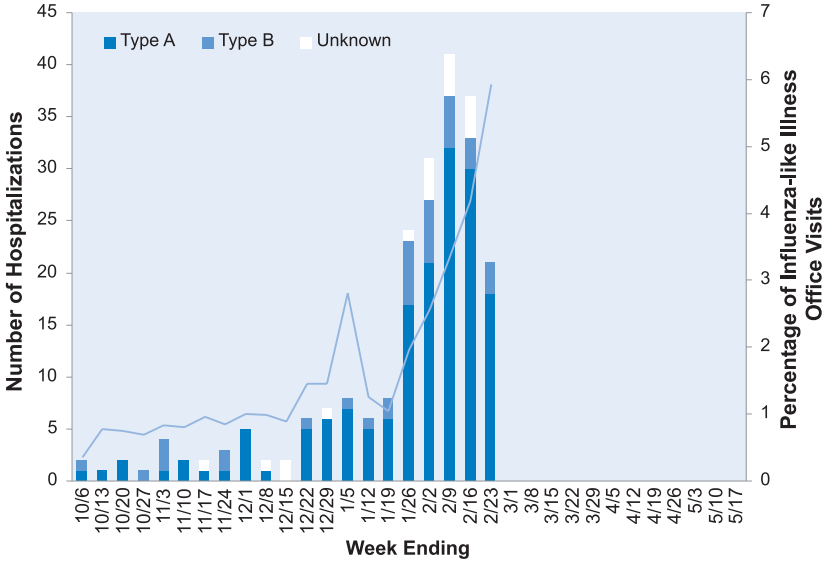
Breaking News, February 2008

Influenza Update

To date, 219 influenza-associated hospitalizations have been reported in Utah for the 2007–2008 season, compared to 143 at this time last year. 74% have been type A, 16% have been type B, and 10% have been undifferentiated. Roughly 40% of all hospitalizations have been in children less than 5 years old. Influenza-like illness rates began to rapidly increase at the end of January, and have been increasing each week since. Rates passed the established threshold for Utah last week, indicating a statewide outbreak of influenza. Last week, 49 of 50 states, including Utah, reported widespread influenza transmission.

2007–2008 Influenza Season in Utah



The CDC has determined that 2 of the 3 influenza virus strains in the 2007–2008 vaccine are not optimally matched to the current strains circulating in the U.S. However, vaccination continues to be recommended because the vaccine can still provide partial protection against the mismatched strains and reduce the risk for influenza-related complications and deaths. Recently, the CDC detected a growing number of influenza viruses resistant to the antiviral drug oseltamivir (Tamiflu). The extent of this resistance, and its implications for future use, is still being studied. No resistance has been detected to zanamivir (Relenza), a related antiviral. In the past, a high percentage of influenza viruses have been resistant to adamantane type antivirals (amantadine, rimantidine) and their use is not recommended.

Community Health Indicators Spotlight, February 2008

Very Low Birth Weight Infants: Are they being delivered at facilities appropriate for their care?

The rates of prematurity are increasing in Utah as in the U.S. as a whole. The preterm birth rate in Utah in 2006 was 9.9% of all live births, representing 5,309 infants. A small proportion of premature infants are born weighing less than 1500 grams and are considered very low birth weight (VLBW); in Utah 1.05% of infants born in 2006 were VLBW representing 563 infants. These are the most vulnerable among premature infants and their survival and long term functioning depends on expert perinatal and neonatal care received at health facilities appropriately equipped to deliver high risk infants. Most studies that link neonatal outcomes with levels of perinatal care indicate that morbidity and mortality for VLBW infant are improved when delivery occurs at the appropriate level facility, even after adjustments for severity of illness.[1]

The American Academy of Pediatrics (AAP) published Guidelines in 2004 that classify health facilities on the basis of functional capabilities for neonatal intensive care. These classifications are outlined in the table.

The Healthy People 2010 objective is for 90% of VLBW infants to be delivered at facilities appropriate for high-risk deliveries (Level 3). In Utah during 2006 approximately 84% of VLBW infants were delivered at Level 3 facilities. While a small proportion of VLBW deliveries will continue to take place at Level 1 or 2 facilities due to an inability to safely transport laboring mothers prior to a precipitous delivery or due to known fetal complications precluding survival, it appears that there is room for improvement in assuring that these fragile newborns are delivered at facilities best equipped to assure their survival and well being. Adherence to the AAP Guidelines will assure provision of an increasingly complex quality of care for these newborns.[2]

American Academy of Pediatrics (AAP) Definitions of Facilities Based on Capabilities of Neonatal Care

Classification	Description
Level 1	Provide a basic level of newborn care to infants at low risk.
Level 2	Provide care to infants who are moderately ill with problems that are expected to resolve rapidly. In general, care in this setting should be limited to newborns > 32 wks. weighing > 1500 gms.
Level 3	Provide care to preterm, VLBW infants and have continuously available personnel and equipment to provide life support for as long as needed.

1. Blackmon, L., *The role of the hospital of birth on survival of extremely low birth weight, extremely preterm infants*. Neo Reviews, 2003. **4**: p. 147-157.
2. AAP, *Levels of Neonatal Care*. Pediatrics, 2004. **114**: p. 1341-1347.

Monthly Health Indicators Report

(Data Through January 2008)

Monthly Report of Notifiable Diseases, January 2008	Current Month # Cases	Current Month # Expected Cases (5-yr average)	# Cases YTD	# Expected YTD (5-yr average)	YTD Standard Morbidity Ratio (obs/exp)
Campylobacteriosis (Campylobacter)	18	15	18	15	1.2
Enterotoxigenic Escherichia coli (E. coli)	3	3	3	3	0.9
Hepatitis A (infectious hepatitis)	1	2	1	2	0.6
Hepatitis B (serum hepatitis)	1	2	1	2	0.4
Influenza†	Weekly updates at http://health.utah.gov/epi/diseases/flu				
Measles (Rubeola, Hard Measles)	0	0	0	0	--
Meningococcal Diseases	3	1	3	1	5.0
Norovirus	7	2*	7	2*	4.7
Pertussis (Whooping Cough)	37	21	37	21	1.8
Salmonellosis (Salmonella)	19	14	19	14	1.4
Shigellosis (Shigella)	2	3	2	3	0.7
Varicella (Chickenpox)	93	92*	93	92*	1.0
Viral Meningitis	3	5	3	5	0.6

Notifiable Diseases Reported Quarterly, 4th Qtr 2007	Current Quarter # Cases	Current Quarter # Expected Cases (5-yr average)	# Cases YTD	# Expected YTD (5-yr average)	YTD Standard Morbidity Ratio (obs/exp)
HIV	26	24	91	86	1.1
AIDS	10	11	39	45	0.9
Chlamydia	1,560	1,241	5,685	4,187	1.4
Gonorrhea	205	186	800	600	1.3
Tuberculosis	11	8	39	34	1.2

Program Enrollment for the Month of January 2008	Current Month	Previous Month	% Change§ From Previous Month	1 Year Ago	% Change§ From 1 Year Ago
Medicaid	159,018	158,267	+0.5%	163,867	-3.0%
PCN (Primary Care Network)	19,015	19,116	-0.5%	16,237	+17.1%
CHIP (Children's Health Ins. Plan)	31,225	31,454	-0.7%	31,821	-1.9%

Medicaid Expenditures (in Millions) for the Month of January 2008	Current Month	Expected/ Budgeted for Month	Fiscal YTD	Budgeted Fiscal YTD	Variance - over (under) budget
Capitated Mental Health	$ 8.0	$ 9.0	$ 58.1	$ 54.0	$ 4.1
Inpatient Hospital	$ 16.0	$ 16.3	$ 110.9	$ 111.3	($ 0.4)
Outpatient Hospital	$ 7.0	$ 6.7	$ 44.9	$ 46.1	($ 1.1)
Long Term Care	$ 15.6	$ 16.5	$ 106.8	$ 112.5	($ 5.8)
Pharmacy	$ 10.0	$ 10.5	$ 72.0	$ 78.6	($ 6.6)
Physician/Osteo Services‡	$ 7.5	$ 5.5	$ 36.9	$ 37.3	($ 0.4)
TOTAL HCF MEDICAID	$ 117.7	$ 135.3	$ 846.9	$ 868.5	($ 21.7)

Health Care System Measures	Number of Events	Rate per 100 Population	% Change§ From Previous Year	Total Charges in Millions	% Change§ From Previous Year
Overall Hospitalizations (2006)	272,404	9.9%	-0.9%	$ 3,874.8	+10.7%
Non-maternity Hospitalizations (2006)	161,398	5.7%	-2.5%	$ 3,235.3	+11.0%
Emergency Department Encounters (2006)	670,168	24.7%	-1.3%	$ 667.2	+20.6%
Outpatient Surgery (2005)	308,300	11.7%	-0.5%	$ 947.7	+12.1%

Annual Community Health Measures	Current Data Year	Population at Risk	Number Affected	Percent/ Rate	% Change§ From Previous Year
Overweight and Obesity (Adults 18+)	2006	1,777,802	976,000	54.9%	+1.3%
Cigarette Smoking (Adults 18+)	2006	1,777,802	174,200	9.8%	-15.0%
Influenza Immunization (Adults 65+)	2006	217,313	156,700	72.1%	+3.4%
Health Insurance Coverage (Uninsured)	2006	2,582,371	306,500	11.9%	+2.5%
Motor Vehicle Crash Injury Deaths	2006	2,582,371	296	11.5 / 100,000	-0.7%
Suicide Deaths	2006	2,582,371	357	13.8 / 100,000	+1.6%
Diabetes Prevalence	2006	2,582,371	105,600	4.1%	-0.7%
Coronary Heart Disease Deaths	2006	2,582,371	1,563	60.5 / 100,000	-2.3%
All Cancer Deaths	2006	2,582,371	2,600	100.7 / 100,000	+1.4%
Births to Adolescents (Ages 15-17)	2006	58,992	981	16.6 / 1,000	+5.9%
Early Prenatal Care	2006	53,475	42,237	79.0%	+0.3%
Infant Mortality	2006	53,475	269	5.0 / 1,000	+12.2%
Childhood Immunization (4:3:1:3:3)	2006	51,016	41,000	80.4%	+8.5%

* Due to limited historical data, the average is based upon 4 years of data for norovirus, varicella, and West Nile virus infections.
† Influenza activity is now widespread in Utah. Influenza-like illness activity is above baseline statewide. As of February 26, 2008, 219 influenza-associated hospitalizations have been reported to the UDOH. More information can be found at http://health.utah.gov/epi/diseases/flu.
§ % Change could be due to random variation.
‡ Medicaid payments reported under Physician/Osteo Services do not include enhanced physician payments.
Note: Data for notifiable diseases are preliminary and subject to change upon the completion of ongoing disease investigations. Active surveillance for West Nile Virus has ended until the 2007 season.