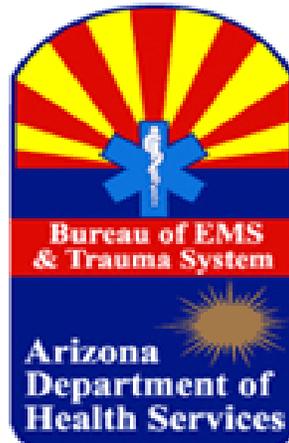


**ARIZONA DEPARTMENT OF HEALTH SERVICES
BUREAU OF EMERGENCY MEDICAL SERVICES AND TRAUMA SYSTEM**



**LEVEL IV TRAUMA CENTERS
PERFORMANCE MEASURES:
PATIENT DEMOGRAPHICS
ARIZONA STATE TRAUMA REGISTRY 2012**

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**Data and Quality Assurance Section
Report No. 14-1-LV4**

Purpose:

The purpose of this report is to provide Arizona's Level IV Trauma Centers with their individual patient demographics benchmarked against the aggregate.

This analysis will help the designated trauma centers understand their patients and target their prevention programs to the proper populations.

Measures:

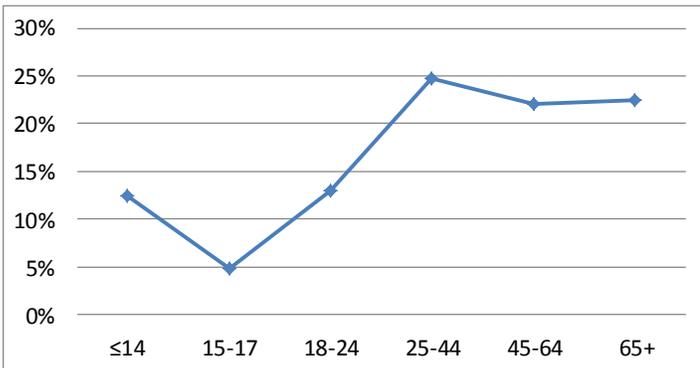
The [Arizona State Trauma Registry 2012](#) (ASTR) queried cases with an "Emergency Department (ED) or Hospital Arrival Date" (D1_04) of January 1, 2012, to December 31, 2012. The following measures were compared:

1. Patient Demographics
 - Age, Race/Ethnicity, County of Injury, Payer Mix
2. Fall Demographics
3. Motor Vehicle Traffic (MVT) Demographics
4. Disposition and Transfers

For additional information on data elements and definitions please refer to the [ASTR data dictionary](#).

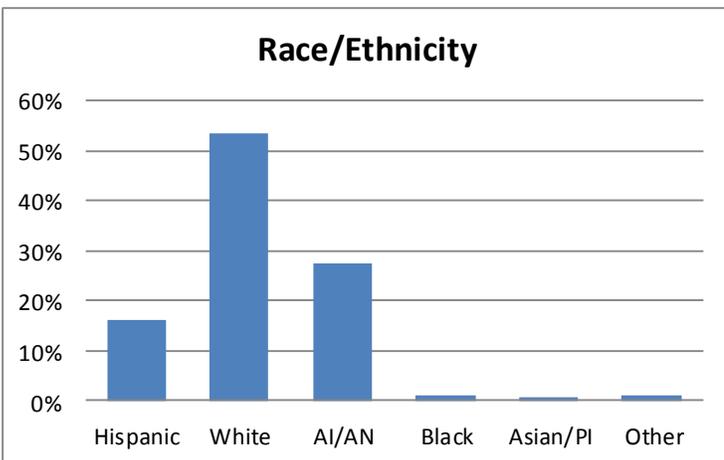
This quarterly report includes data from the twenty (20) state designated Level IV Trauma Centers located primarily in the rural areas of Arizona. The Arizona State Trauma Registry (ASTR) received data on 4,344 trauma patients treated at these Level IV Trauma Centers in 2012.

Graph 1: Age distribution of trauma patients at Level IV Trauma Centers in Arizona



Arizona’s volume for trauma patients in level IV Trauma Centers is highest for 25 to 44 year olds. About 12% of trauma patients are pediatric (≤14 years).

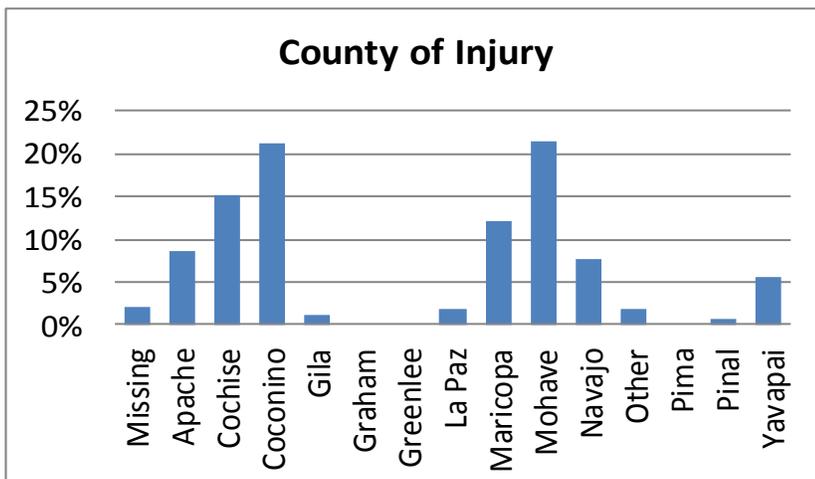
Graph 2: Race/ethnicity distribution of trauma patients at Level IV Trauma Centers in Arizona



Statewide, Level IV Trauma Centers report that a majority of patients are White (53%), followed by American Indian/Alaskan Native (27%) and Hispanic (16%).

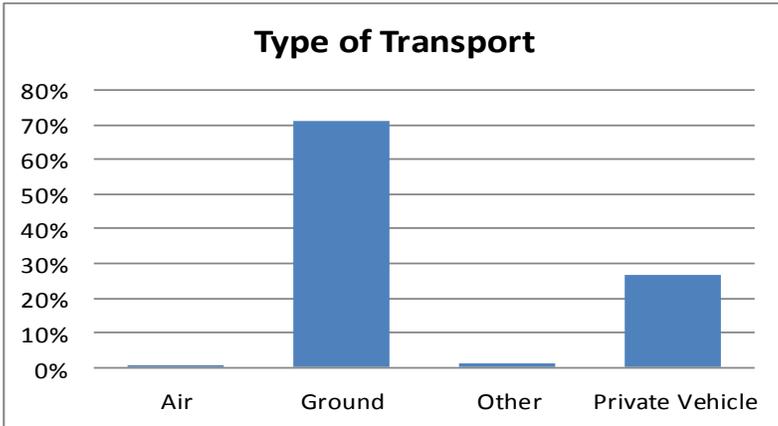
AI/AN=American Indian or Alaskan Native; Asian/PI= Asian Pacific Islander; ND=Not Documented

Graph 3: Incident county of trauma patients at Level IV Trauma Centers in Arizona



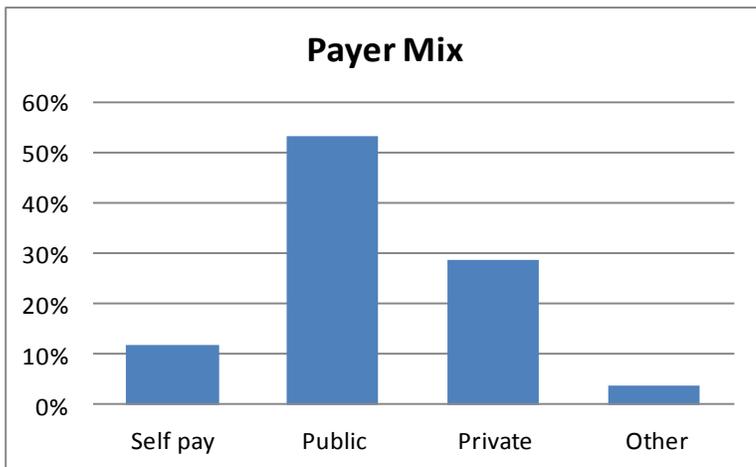
The distribution of trauma patients by Arizona’s counties are presented (left). The highest proportion of injury occurred in Mohave county followed by Coconino county.

Graph 4: Method of transport for trauma patients at Level IV Trauma Centers in Arizona



In 2012, a majority of Arizona’s Level IV Trauma Center patients arrived by ground ambulance (71%). Twenty-seven percent (27%) arrived by private vehicle.

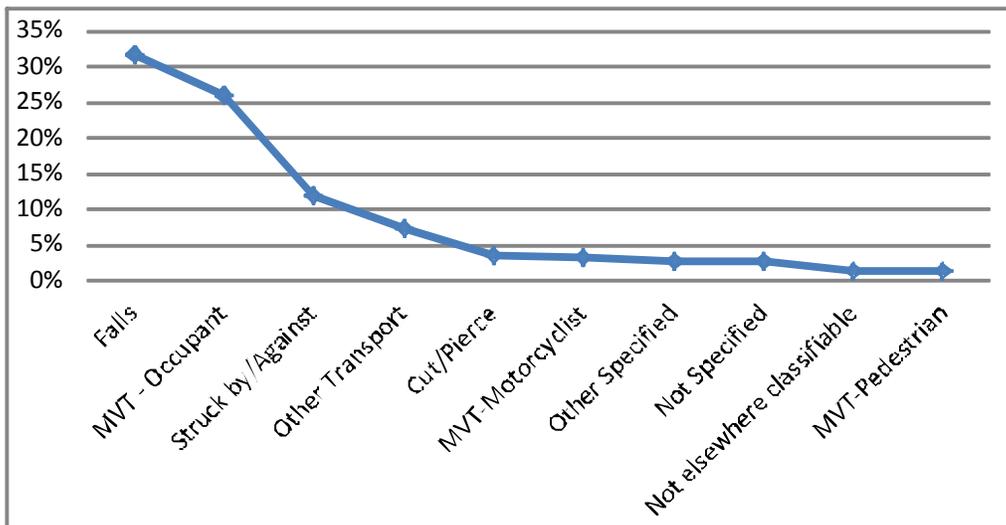
Graph 5: Payor mix for trauma patients at Level IV Trauma Centers in Arizona



Over half of trauma patients are covered by Medicaid/AHCCCS, Medicare, or other government programs.

It is important to note that trauma care is costly. In 2012, Level IV Trauma Centers charged a total of \$63,870,236.

Graph 6: Mechanism of injury for trauma patients at Level IV Trauma Centers in Arizona



In 2012, the majority of traumatic injuries occurred from falls (30%), followed by occupants being involved in a Motor Vehicle Traffic (MVT) collision (25%). Some examples of “MVT occupant” are a driver or passenger in an automobile.

Table 1: Patient demographics for falls presenting to Level IV Trauma Centers in Arizona

	N	%
Total falls in 2012	1,382	100.0%
Age		
≤14	188	13.6%
15-17	53	3.8%
18-24	80	5.7%
25-44	182	13.1%
45-64	269	19.4%
65+	610	44.1%
Gender		
	1	0.0%
F	691	50.0%
M	690	49.9%
Ethnicity		
Missing/Not Documented	7	0.5%
Hispanic	239	17.2%
White	906	65.5%
American Indian or Alaska Native	208	15.0%
Black or African American	7	0.5%
Asian Pacific Islander	2	0.1%
Other	13	0.9%

As falls were the primary mechanism of injury for trauma patients, demographic information is presented to assist each center with their injury prevention efforts.

Of the falls seen by Level IV Trauma Centers, nearly half of the patients were older than 65 years of age (44%). The ethnic group with the largest number of falls was White.

For information on fall prevention please visit:

Healthy Aging: <http://www.azdhs.gov/phs/healthy-aging/hacn/falls-prevention.htm>

Center of Disease Control and Prevention: <http://www.cdc.gov/HomeandRecreationalSafety/Falls/index.html>

Bureau infographics: <http://www.azdhs.gov/bems/graphs/index.php?pg=infographics>

Table 2: Trauma patient demographics for MVTs presenting to Level IV Trauma Centers in Arizona

	N	%
Total MVT-occupant	1,133	100.0%
Age		
≤14	126	11.1%
15-17	73	6.4%
18-24	187	16.5%
25-44	305	26.9%
45-64	278	24.5%
65+	164	14.4%
Gender		
F	573	50.5%
M	560	49.4%
Ethnicity		
Missing or Not Documented	4	0.3%
Hispanic	191	16.8%
White	636	56.1%
American Indian or Alaska Native	259	22.8%
Black or African American	15	1.3%
Asian Pacific Islander	12	1.0%
Other	16	1.4%
Car Restraint		
Missing or Not Documented	14	1.2%
None	376	33.1%
Car Restraint	743	65.5%

MVT=Motor Vehicle Traffic

In 2012, there were 1,133 MVT injuries reported by the level IV Trauma Centers. Females had a slightly higher proportion of MVT injuries than males.

Among ethnic groups the largest number of MVT traumas occurred in Whites and American Indians/Alaskan Natives.

Of those patients who were treated at Arizona’s Level IV Trauma Centers for an MVT related injury, 66% were using a car restraint.

Passengers not wearing seat belts make up a higher proportion of trauma injuries, incur higher costs at a hospital, and are more likely to be **under the influence of alcohol**.

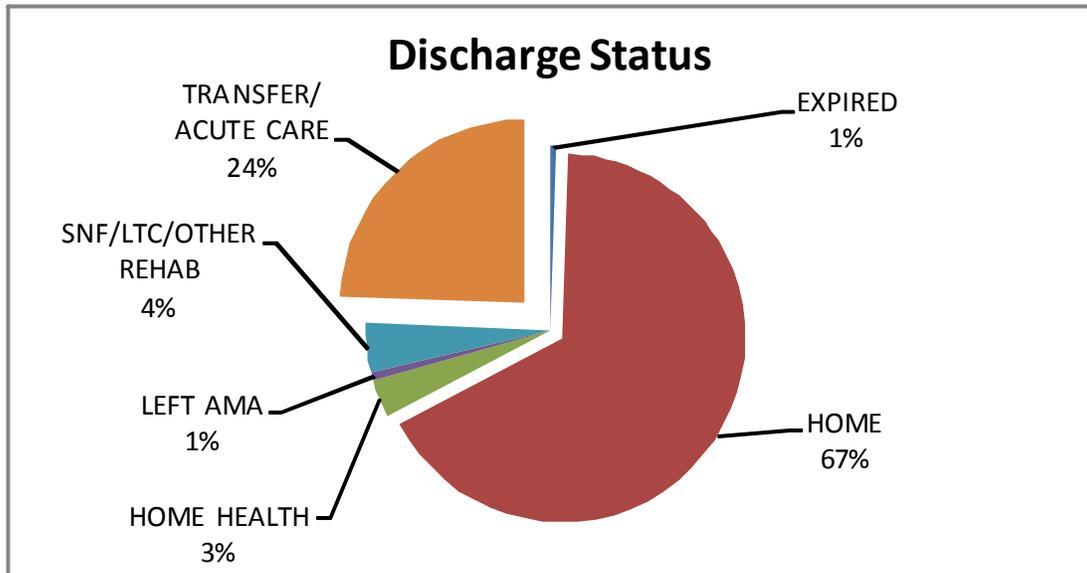
For additional information and resources please visit:

ADHS factsheets: <http://www.azdhs.gov/bems/data/quality-assurance-reports.php?pg=gohs>

GOHS safety information (seatbelt use): http://www.azdps.gov/Information/Seat_Belts/

GOHS safety information (impaired driving): http://www.azdps.gov/Information/Impaired_Driving/

Graph 7: Discharge disposition for trauma patients at Level IV Trauma Centers in Arizona



LTC=Long Term Care; Left AMA= Left Against Medical Advice; SNF=Skilled Nursing Facility

Table 3: Discharge disposition for falls presenting to Level IV Trauma Centers in Arizona

Discharge Disposition	N	%
Not Answered	2	0.0%
Expired	30	0.6%
Home	2,889	66.5%
Home Health	140	3.2%
Left against medical advice	39	0.8%
Skilled Nursing Facility/Long Term Care /Other Rehab	187	4.3%
Transfer/ Acute Care	1,057	24.3%
Total Patients	4,344	100.0%

The vast majority of Level IV trauma patients were discharged home (67%). Keeping patients near their community may allow for faster recovery and lower medical costs.

Twenty-four percent (24%) of trauma patients were injured severely enough to be transferred to a facility with a higher level of care.

Table 4: Discharge facility for transferred trauma patients at Level IV Trauma Centers in Arizona

Discharge Facility	2012	
	N	%
AZ Non-Trauma Center	139	13.0%
Not Applicable or Not Documented	3	0.2%
Level IV Trauma Center	27	2.5%
Level I Trauma Center	666	62.6%
Level III Trauma Center	21	1.9%
Out of State - Acute Care Facility - California	6	0.5%
Out of State - Acute Care Facility - Mexico	1	0.0%
Out of State - Acute Care Facility - Nevada	187	17.5%
Out of State - Acute Care Facility - New Mexico	5	0.4%
Out of State - Acute Care Facility - Utah	8	0.7%
Total Patients	1,063	100.0%

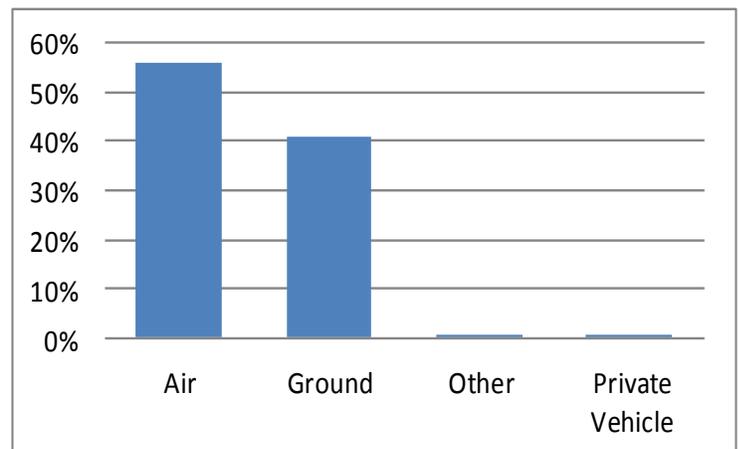
Most patients went to an Arizona designated trauma center (63%). Level IV Trauma Centers reported that 666 patients were transferred to an Arizona Level I Trauma Center. Level I Trauma Centers reported receiving 847 patients from Level IV Trauma Centers.

There were 181 trauma cases that were either under-reported (by Level IV Trauma Centers) or over-reported (by Level I Trauma Centers).

Table 5: Mode of transport for transferred trauma patients at Level IV Trauma Centers

Mode of Transport	N	%
Total Transfers reported by Level I	847	100.0%
Missing	16	1.8%
Air	474	55.9%
Ground	349	41.2%
Other	1	0.1%
Private Vehicle	7	0.8%

Graph 8: Mode of transport for transferred trauma patients at Level IV Trauma Centers



Over 56% of patients were transported by air ambulance. Air transport should be reserved for severely injured patients as costs and risks may be substantially higher when compared to ground ambulances.