

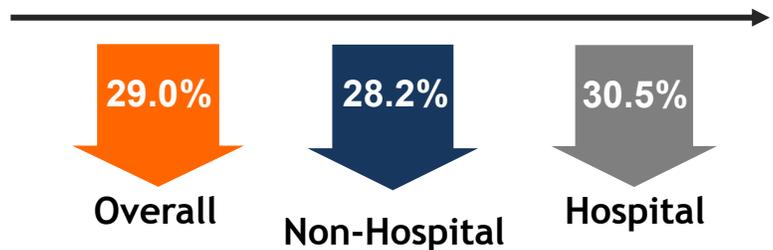
In 2006, Arizona began incorporating rural hospitals into our statewide trauma system: coordinating care, collecting data, and implementing best practices for patients.

This report provides a synopsis of important changes in injury and trauma related death since 2006.

During this period, Arizona's trauma and injury mortality rates decreased by 29% and 16%, respectively. This decrease may be due to improvements in clinical care, engineering of safer roads and cars, injury prevention initiatives, and the expansion of trauma centers into rural Arizona.

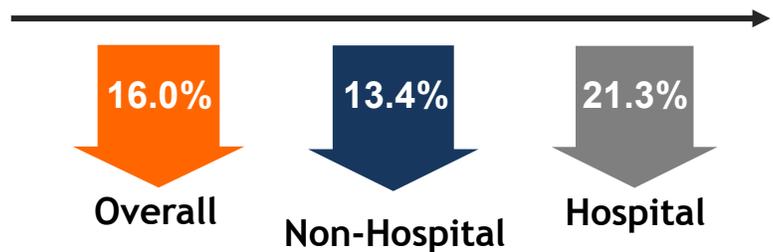
Trauma Deaths

PERCENT CHANGE 2006-2014



Injury Deaths

PERCENT CHANGE 2006-2014



Arizona Trauma* Death Decreased from 2006 to 2014

Year	Overall		Non-Hospital		Hospital	
	Age-Adjusted Rate	Percent Change	Age-Adjusted Rate	Percent Change	Age-Adjusted Rate	Percent Change
2006	58.0	-	37.9	-	20.1	-
2007	51.0	-12.1%	33.3	-12.1%	17.7	-12.3%
2008	47.3	-7.1%	31.1	-6.6%	16.2	-8.1%
2009	42.7	-9.7%	28.3	-8.9%	14.4	-11.2%
2010	45.7	+6.9%	30.4	+7.2%	15.3	+6.3%
2011	46.9	+2.6%	31.2	+2.9%	15.6	+2.0%
2012	45.0	-3.9%	30.2	-3.3%	14.8	-5.3%
2013	46.5	+3.2%	30.4	+0.4%	16.1	+9.0%
2014	41.2	-11.4%	27.2	-10.4%	14.0	-13.2%

The age-adjusted trauma mortality rate per 100,000 Arizona residents went from 58.0 in 2006 to 41.2 in 2014, a decrease of 29.0%.

*Trauma includes a subset of injury patients likely to be treated at a trauma center and was defined to reflect the Arizona State Trauma Registry's (ASTR) inclusion criteria.

Arizona Injury Death Decreased from 2006 to 2014

Year	Overall		Non-Hospital		Hospital	
	Age-Adjusted Rate	Percent Change	Age-Adjusted Rate	Percent Change	Age-Adjusted Rate	Percent Change
2006	84.6	-	57.1	-	27.5	-
2007	78.6	-7.1%	54.1	-5.2%	24.5	-10.9%
2008	74.0	-5.8%	51.3	-5.3%	22.8	-7.0%
2009	72.2	-2.4%	50.1	-2.3%	22.1	-2.7%
2010	76.2	+5.6%	52.9	+5.7%	23.3	+5.3%
2011	75.9	-0.4%	52.2	-1.3%	23.7	+1.5%
2012	73.1	-3.7%	50.8	-2.7%	22.3	-5.9%
2013	76.0	+4.0%	52.7	+3.7%	23.3	+4.7%
2014	71.0	-6.6%	49.4	-6.2%	21.6	-7.3%

<p>2006-14</p>	<p>2006-14</p>	<p>2006-14</p>
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The age-adjusted injury mortality rate per 100,000 Arizona residents went from 84.6 in 2006 to 71.0 in 2014, a decrease of 16.0%. In the same time, injury mortality in the United States increased by 1.3%*.

The decrease in Arizona's injury mortality rate translates to over **5,000** lives saved.

*Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [cited 2015 Dec 31]. Available from URL: www.cdc.gov/injury/wisqars

Future Steps

Although Arizona has made progress in reducing injury mortality, Arizona's rate remains well above the national average. Arizona should continue to focus on initiatives aimed at enhancing access to trauma care, and reducing injury through prevention.

Some strategies are to:

- Expand training for evidence-based Traumatic Brain Injury care, to all hospitals.
- Collect additional information on traumatic deaths to better understand risk and severity; particularly deaths involving children, the elderly, and Arizona American Indians.
- Expand data reporting to include the financial and social implications injuries have on Arizonans.
- Support injury prevention initiatives, performance improvement training, and analytical capability to optimize outcomes for patients.

Methodology

Data Sources (2006-2014)

- **Mortality Data:** Arizona Department of Health Services, Vital Statistics Information Management System—Electronic Death Registry <http://azdhs.gov/licensing/vital-records/index.php>
- **Population Denominators:** Arizona Health Status and Vital Statistics population estimates, available on the Arizona Vital Statistics website <http://azdhs.gov/plan/menu/info/pop/index.php>
- **National Data:** Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. www.cdc.gov/injury/wisqars

Population

- **Injury Inclusion:** All Arizona deaths with an underlying cause of injury
 - ICD-10 Codes: V01-Y36, Y85-Y87, Y89, U01-U03
- **Trauma Inclusion:** All injury deaths that reflect the Arizona State Trauma Registry's inclusion criteria
 - ICD-10 Codes: V01-W64, W85-W87, X00-X19, X33, X58-X59, X72-X84, X93-Y09, Y22-Y34, Y35
- **Exclusions:** Arizona resident deaths that occurred outside of Arizona
- **Hospital vs. Non-Hospital:** Hospital includes inpatient and emergency department deaths, all other deaths are non-hospital

Statistical Methods

- **Age-Adjusted Rates:** Age-Adjusted mortality rates were calculated per 100,000 Arizona residents by the direct method of standardization using the 2000 U.S. standard population.
- **Lives Saved:** Expected number of deaths was calculated by applying the age-adjusted overall injury mortality rate in 2006 to the population estimates for 2007-2014. The observed number of deaths from 2007-2014 was then subtracted from the expected number of deaths to obtain the number of lives saved.