

OKEMISIS Data Summary And Trend Analysis 2009-2013

Martin Lansdale, MPH

Emergency Systems

Protective Health Services

Oklahoma State Department of Health



Oklahoma
State
Department
of Health

2013 Oklahoma Population



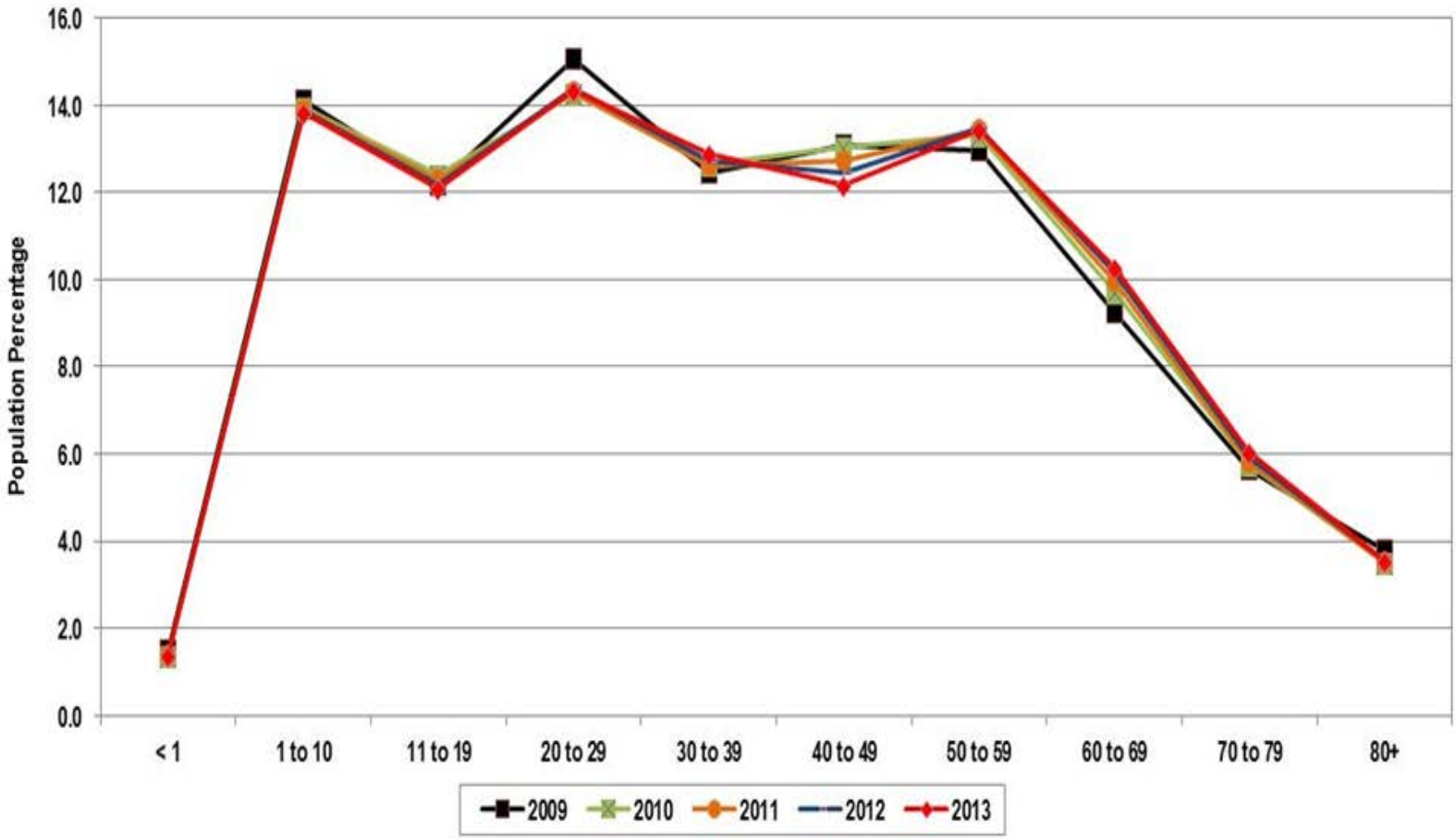
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2013 Oklahoma Population

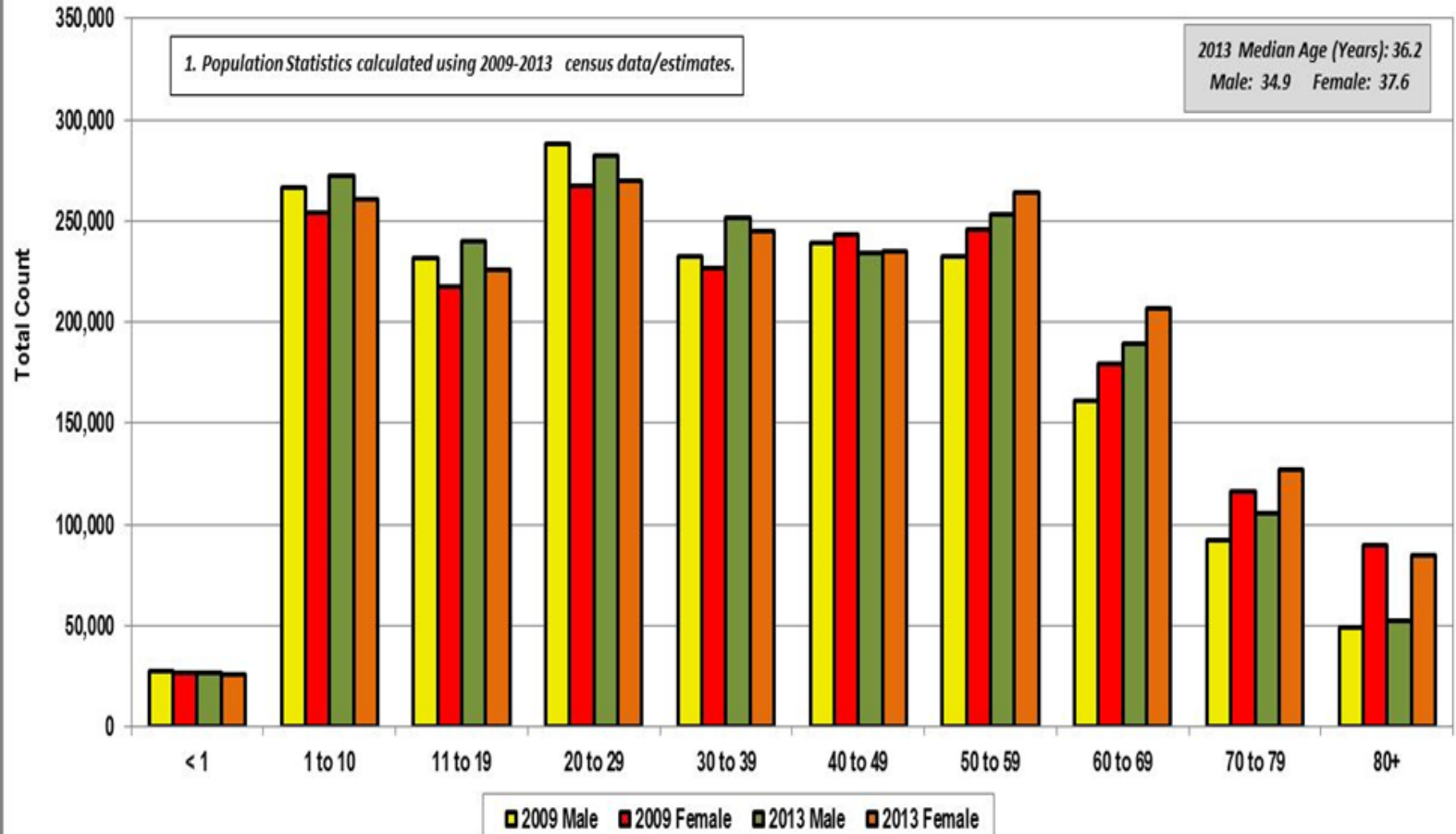
- Oklahoma saw a 10% population increase between the years 2000 and 2013.
- Just over 50% were female with more males in the age groups less than 40 and more females in the 40+ age groups.
- The median age (2013) in Oklahoma was 36.2 years with the 1 to 10 and 20 to 29 age groups making up the highest percentage of the population.
- Seventy-Five (75%) percent classified themselves as White followed by American Indian/Alaska Native (9%), Hispanic/Latino (9%), and Black/African American (7.7%).



Oklahoma Population by Age, 2009-2013



Oklahoma Population by Gender and Age, 2009-2013

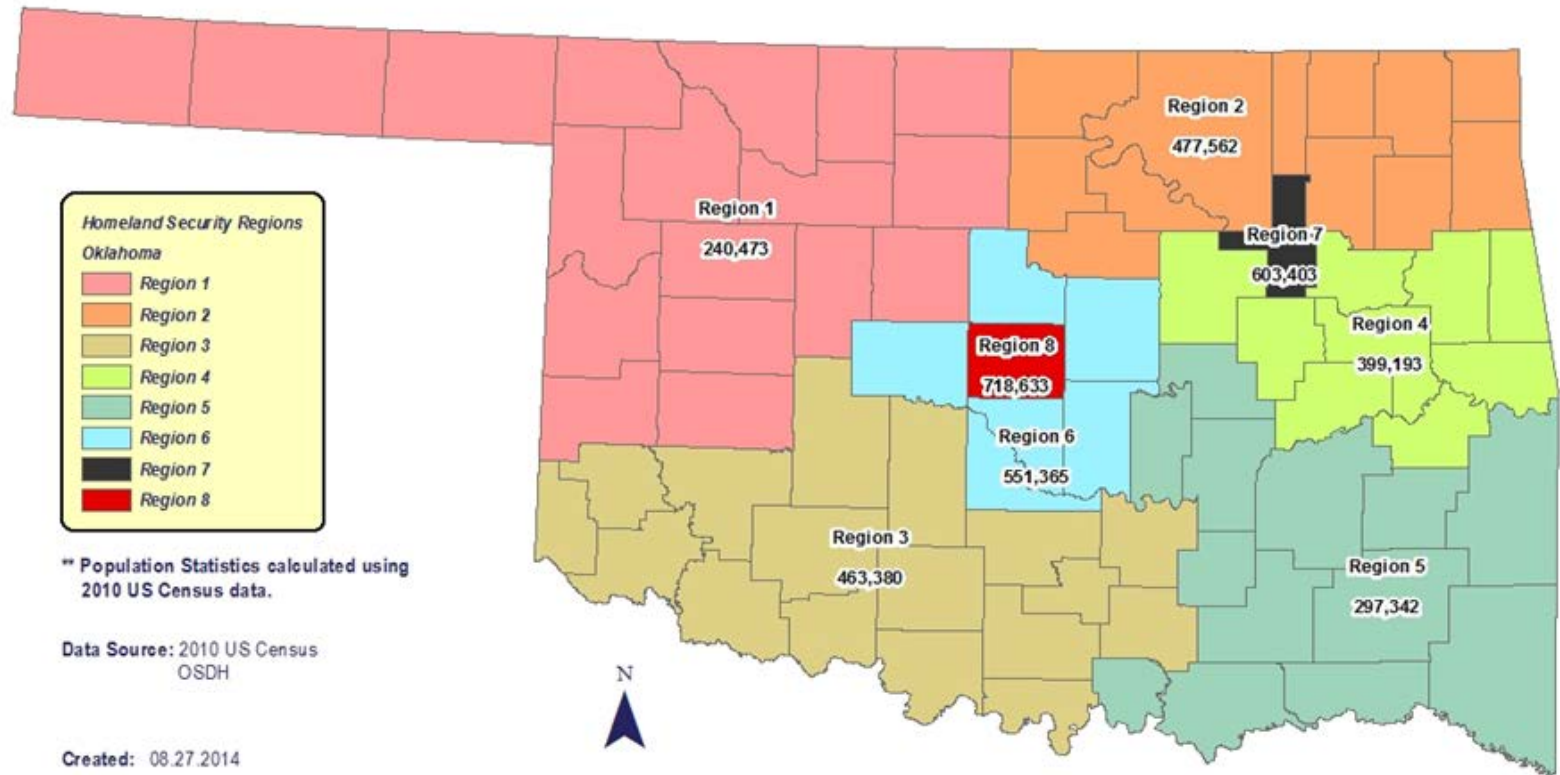


2013 Oklahoma Population

- Geographically 48.5% of the Oklahoma population in 2013 lived in 5 counties: Oklahoma (19.2%), Tulsa (16.1%), Cleveland (6.8%), Comanche (3.3%), and Canadian (3.1%) counties.
- Approximately 73% lived in 5 of the defined Homeland Security regions in Oklahoma: Regions 2,4,6,7, and 8.
- According to the Centers for Medicare and Medicaid Services (CMS), 35% of the zip codes in Oklahoma were classified as rural, 32.2% urban, and 32.7% as super rural.



Oklahoma Homeland Security Regions by Population



Homeland Security Regions
Oklahoma

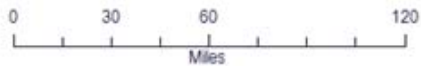
- Region 1
- Region 2
- Region 3
- Region 4
- Region 5
- Region 6
- Region 7
- Region 8

** Population Statistics calculated using 2010 US Census data.

Data Source: 2010 US Census
OSDH

Created: 08.27.2014

Projection/Coordinate System: USGS Albers Equal Area Conic



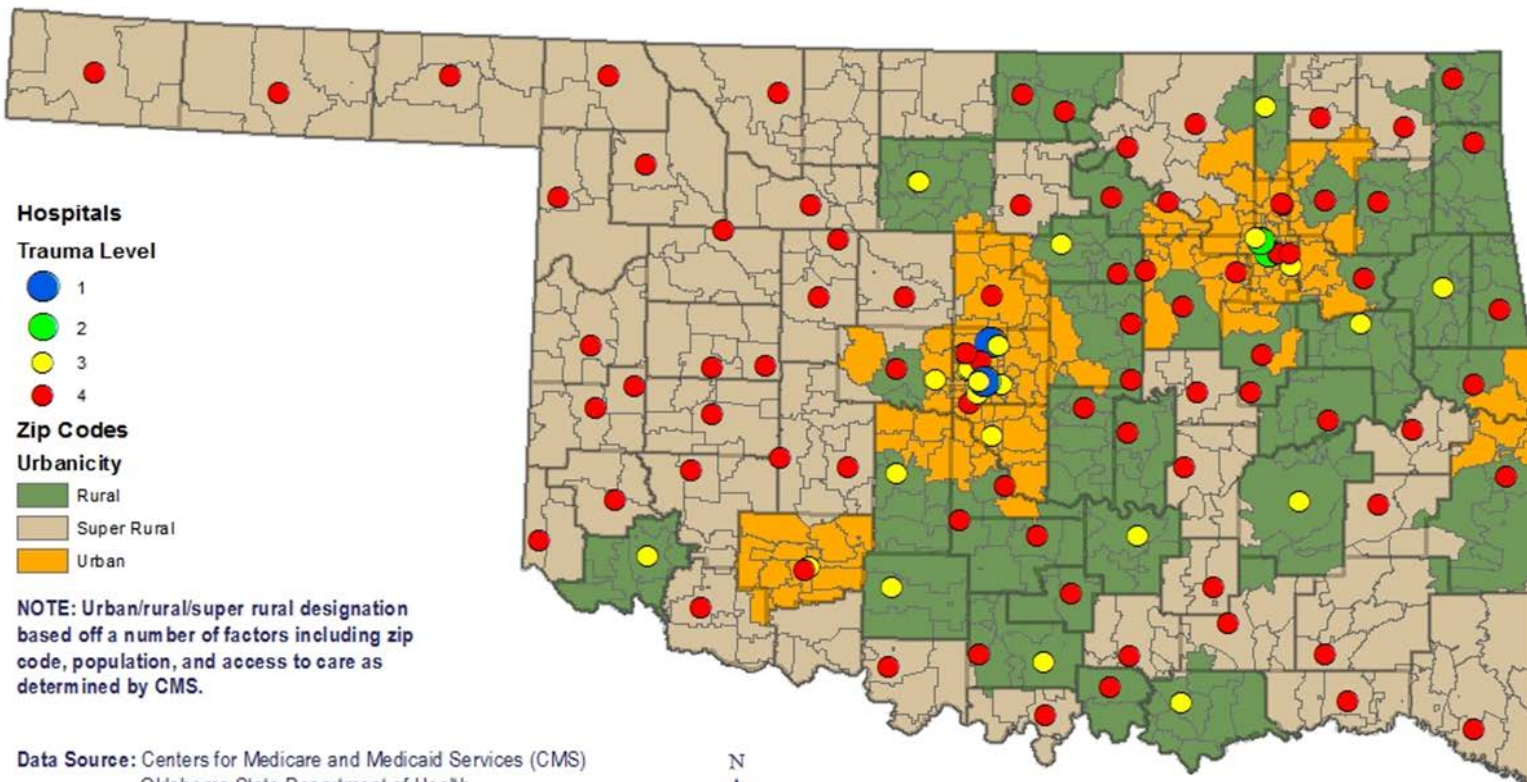
Disclaimer: This map is a compilation of records, information and data from various city, county and state offices and other sources, affecting the area shown, and is the best representation of the data available at the time. The map and data are to be used for reference purposes only. The user acknowledges and accepts all inherent limitations of the map, including the fact that the data are dynamic and in a constant state of maintenance.



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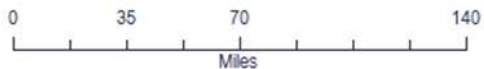


CMS Zip Codes and Hospital Trauma Level, Oklahoma 2014



Created: 07.11.14

Projection/Coordinate System: USGS Albers Equal Area Conic



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Oklahoma Agency Licensure



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Agency Licensure

- State of Oklahoma has 5 types of agency licensure: Basic Life Support (BLS), Intermediate Life Support (ILS), Paramedic Life Support (PLS), Specialty Care, and stretcher aid vans.
- Transporting ground and air ambulance agencies can have more than one license type but all air services must have at least a PLS license (separate from a Specialty Care License).
- Oklahoma also has Emergency Medical Response Agencies (EMRA's), previously known as first responders, which are non-transporting agencies.



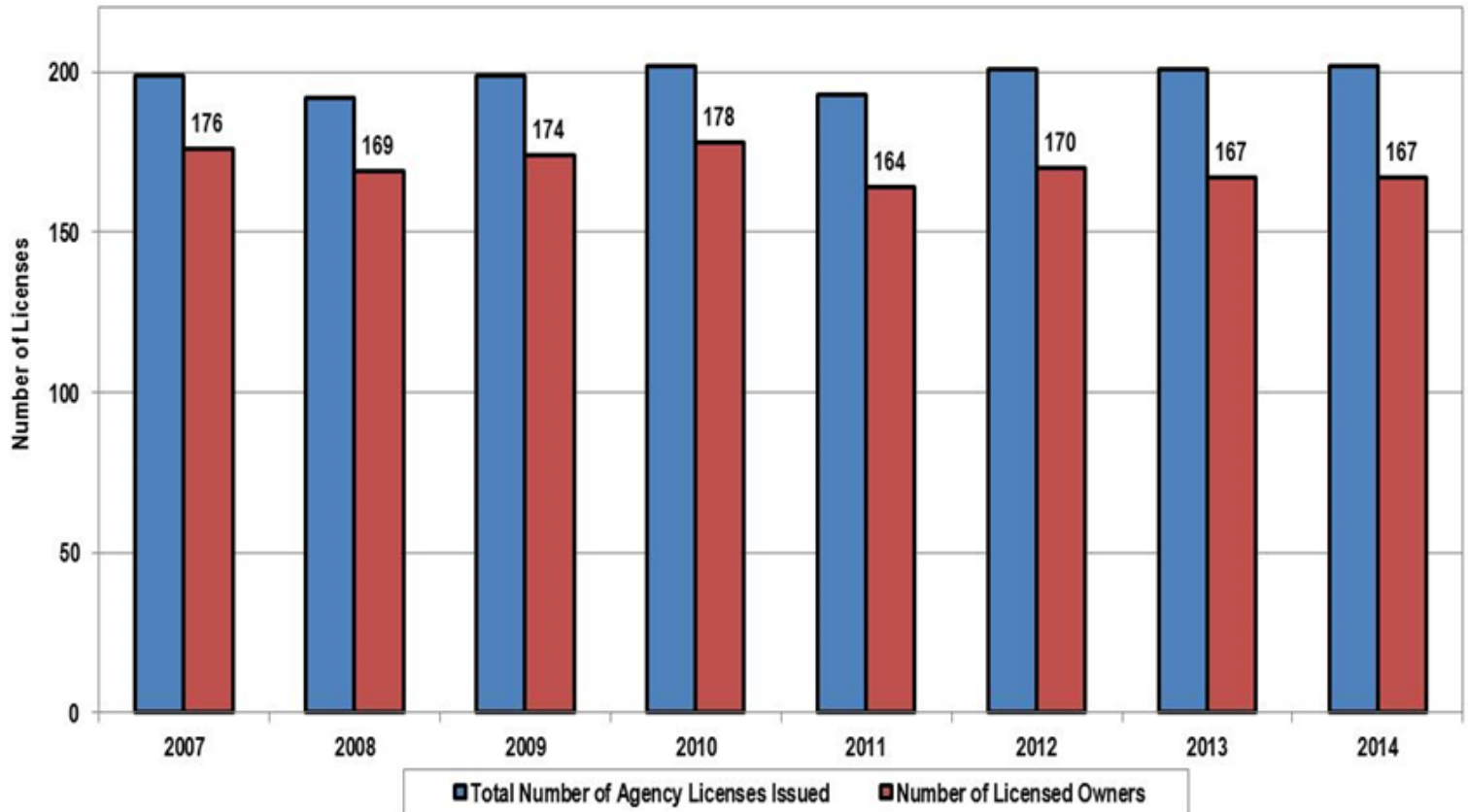


Agency Licensure

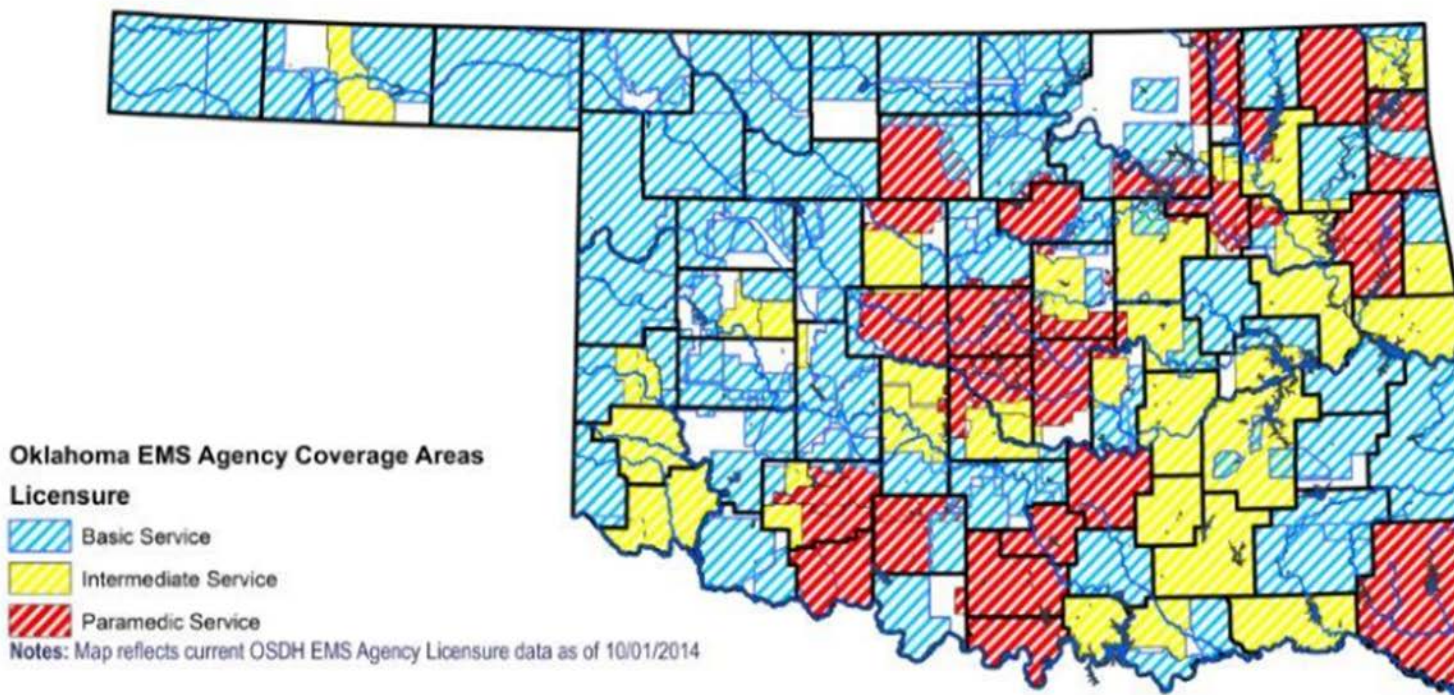
- In 2014, Oklahoma had 203 licensed services (transporting EMS agencies) and 148 EMRA's.
- Out of the 203 transporting licensed services, 45.8% were Basic Level Services (BLS), 28.5% Paramedic Level Services (PLS), 16.2% Intermediate Level Services (ILS), 9.3% Specialty Care Services, and 3.4% Stretcher Aid Vans.
- Approximately 18% of the licensed services were air services with a majority of the licensed transporting services being ground ambulance agencies (only 7 stretcher aid van services in Oklahoma).



Agency Licensure, Transport Ambulance Services, Oklahoma 2007-2014



Oklahoma EMS Agency Coverage Areas, 2014



Data Source: OSDH Emergency Systems EMS Agency Licensure data

Created: 10.08.2014

Created by: Johnnie.L.Gilpen Jr. MS NREMT-I (johnnieg@health.ok.gov)
Projection/Coordinate System: NAD 1983 State Plane Oklahoma North FIPS 3501



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EMS Personnel (Transporting Agencies)



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EMS Personnel

- Oklahoma has 3 levels of EMS personnel licensure: EMT, Intermediate, and Paramedic along with certification for Emergency Medical Responders (EMR's).
- All EMT's must have a state license to work as an EMT while EMR's can have either state certification or national registry certification.
- In 2014 Oklahoma had 9,751 licensed/certified personnel of which 17% were certified EMR's, 48.9% basic EMT's, 7.7% Intermediates, and 26.4% Paramedics.
- Licensed transporting ambulance agencies employed 5,669 people across the state in 2014.



EMS Personnel

- 69.9% were Full Time Employee's (FTE's), 20.7% were Part Time, and 9.3% were volunteer's.
- There were a total of 51 transporting agencies in Oklahoma that had a high percentage of volunteers in their workforce of which 14 had all volunteers, 10 between 75%-99% volunteers, and 4 had between 50%-74% volunteers.
- 23 agencies had a majority of full time employee's (FTE's) in 2014.



Table 1: EMS Work Force

Zero FTE*:	22 Agencies (10%)
1-6 FTE:	52 Agencies (26%)
7-12 FTE:	43 Agencies (21%)
13-18 FTE:	21 Agencies (10%)
19-25 FTE:	20 Agencies (10%)
26-50 FTE	25 Agencies (12%)
52 - 100 FTE	5 Agencies (2%)
101 - 399 FTE	6 Agencies (3%)

**Full Time Employee's (FTE).*



OKEMISIS



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OKEMISIS

- According to Oklahoma EMS regulations, all licensed and transporting EMS ambulance services are required to submit patient run data into the OKEMISIS (Oklahoma Emergency Medical Services Information System) database, <https://okemisis.health.ok.gov>).
- Data is due on a monthly basis and EMS agencies have until the last business day of the following month to submit (EMRA's and stretcher aid vans are not required to report data).
- Agencies can submit their data for free using the various run forms on OKEMISIS, by third-party vendor, or post their run data through a field bridge. Web services are also available (must be approved by OSDH staff) for XML submission.



EMS Service Call Executive Summary



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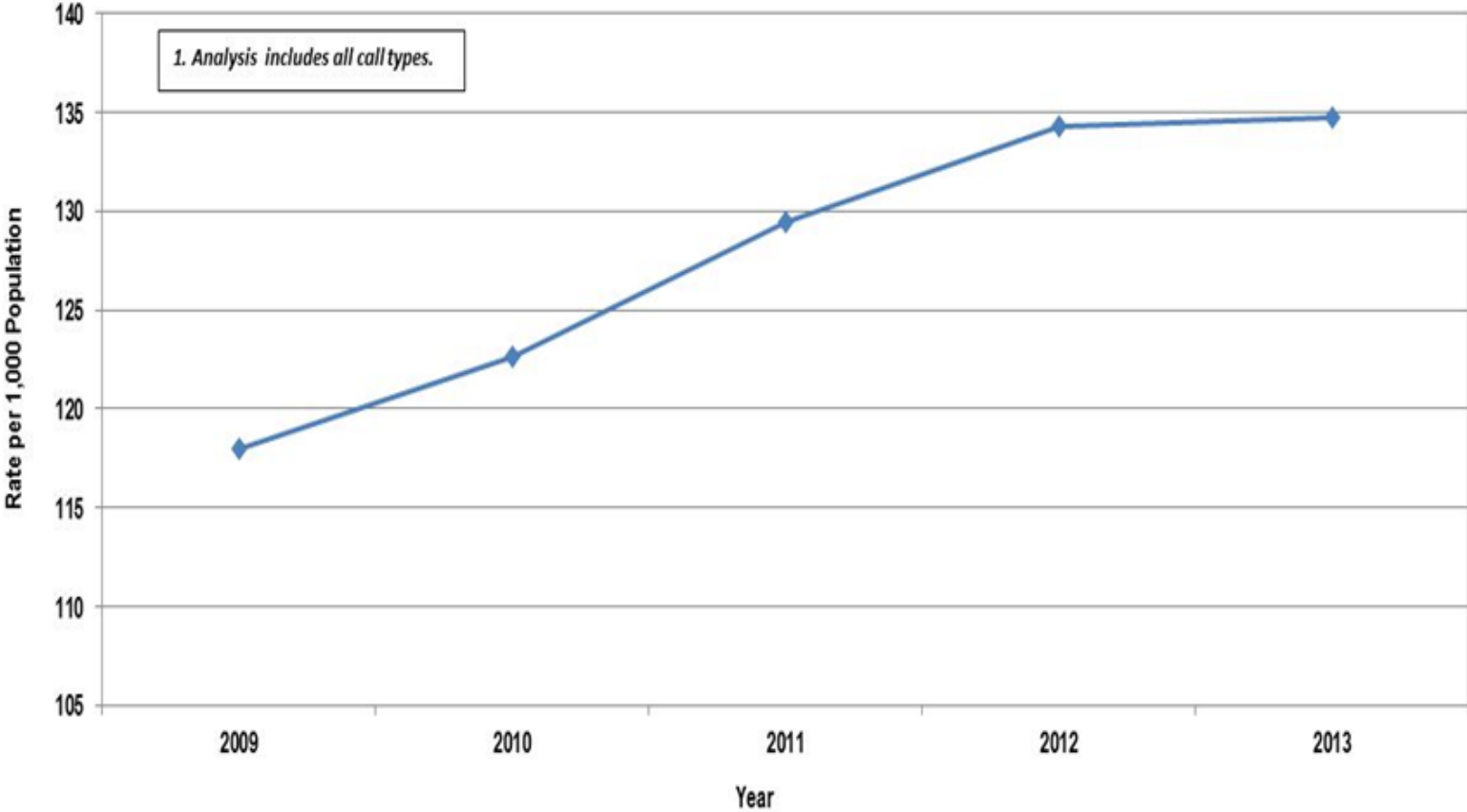


Executive Summary

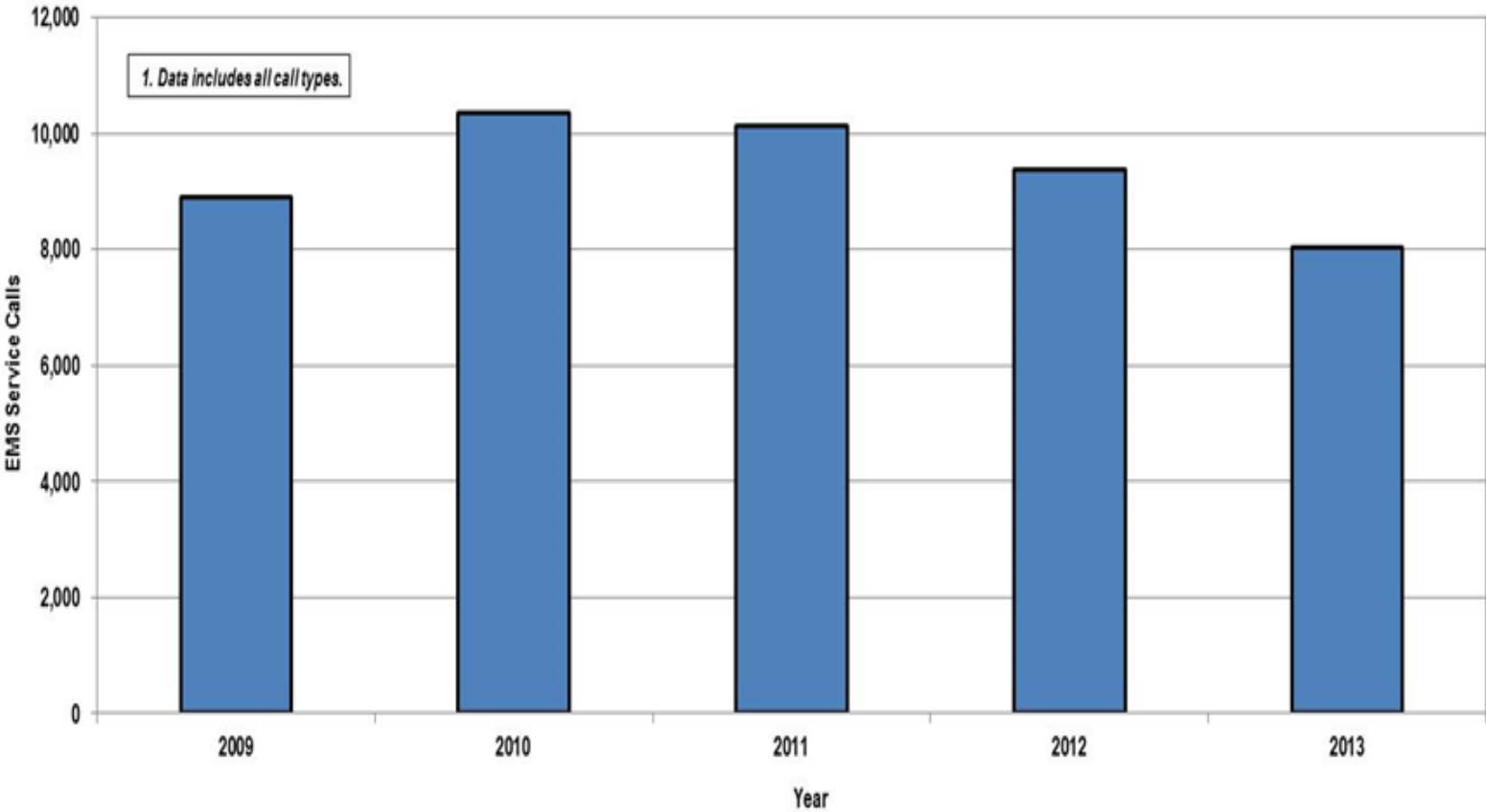
- Between 2009 and 2013 Oklahoma saw a 19.3% increase in the number of EMS service calls.
- Ground EMS services (98.06%) responded to a majority of the service calls during this time period.
- Eighty Percent (80%) of the total call volume was 911 responses followed by inter-facility transfers (10.5%).
- Approximately 75% were treated and transported by EMS followed by patient refusals (10.4%).
- Fifty-four percent (54%) of all the EMS Service Calls occurred in urban areas followed by 31.9% from rural and 10.5% from super rural areas.



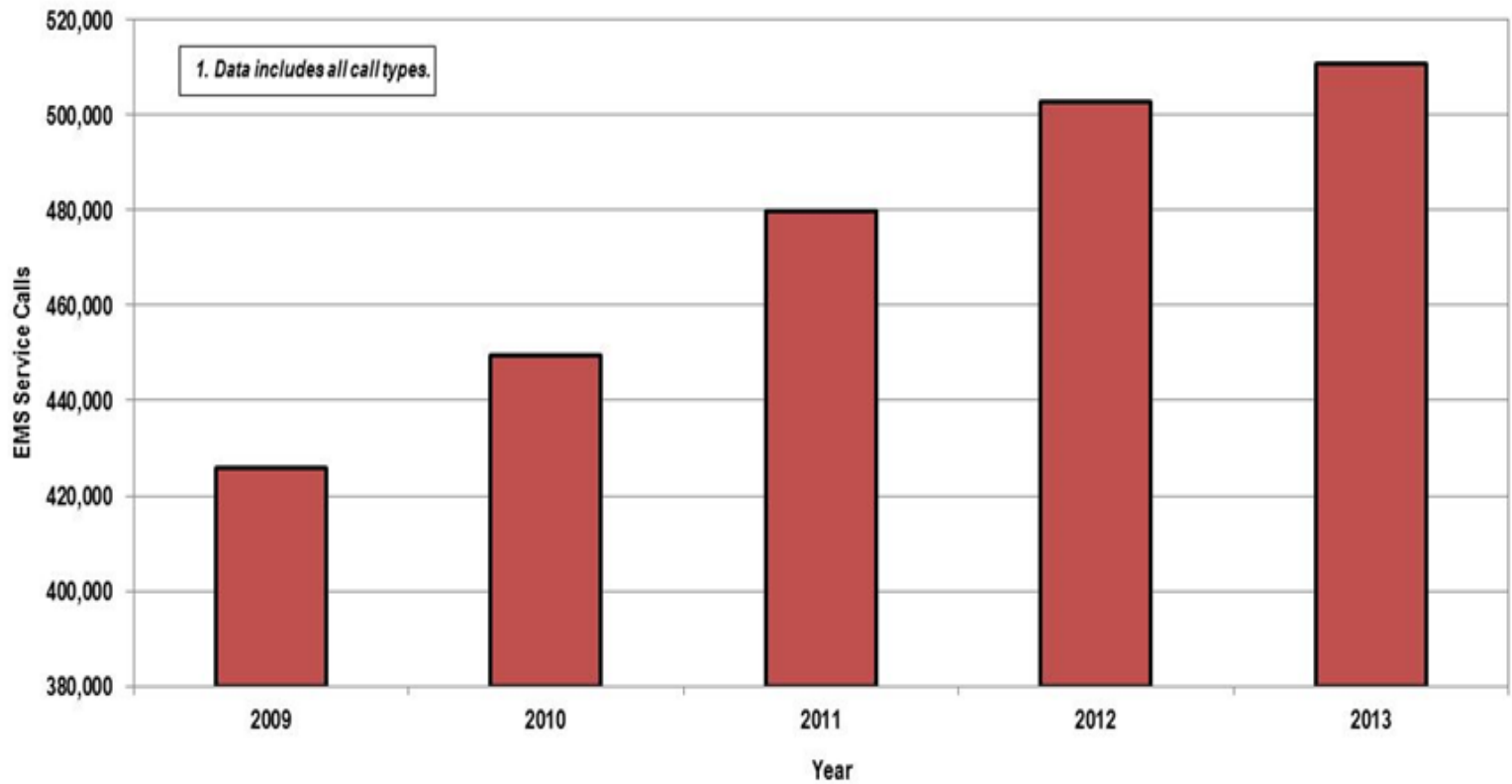
EMS Service Call Rate/1,000 Population, Oklahoma 2009-2013



EMS Service Calls by Service Type, Air Services, Oklahoma 2009-2013



EMS Service Calls by Service Type, Ground Services, Oklahoma 2009-2013



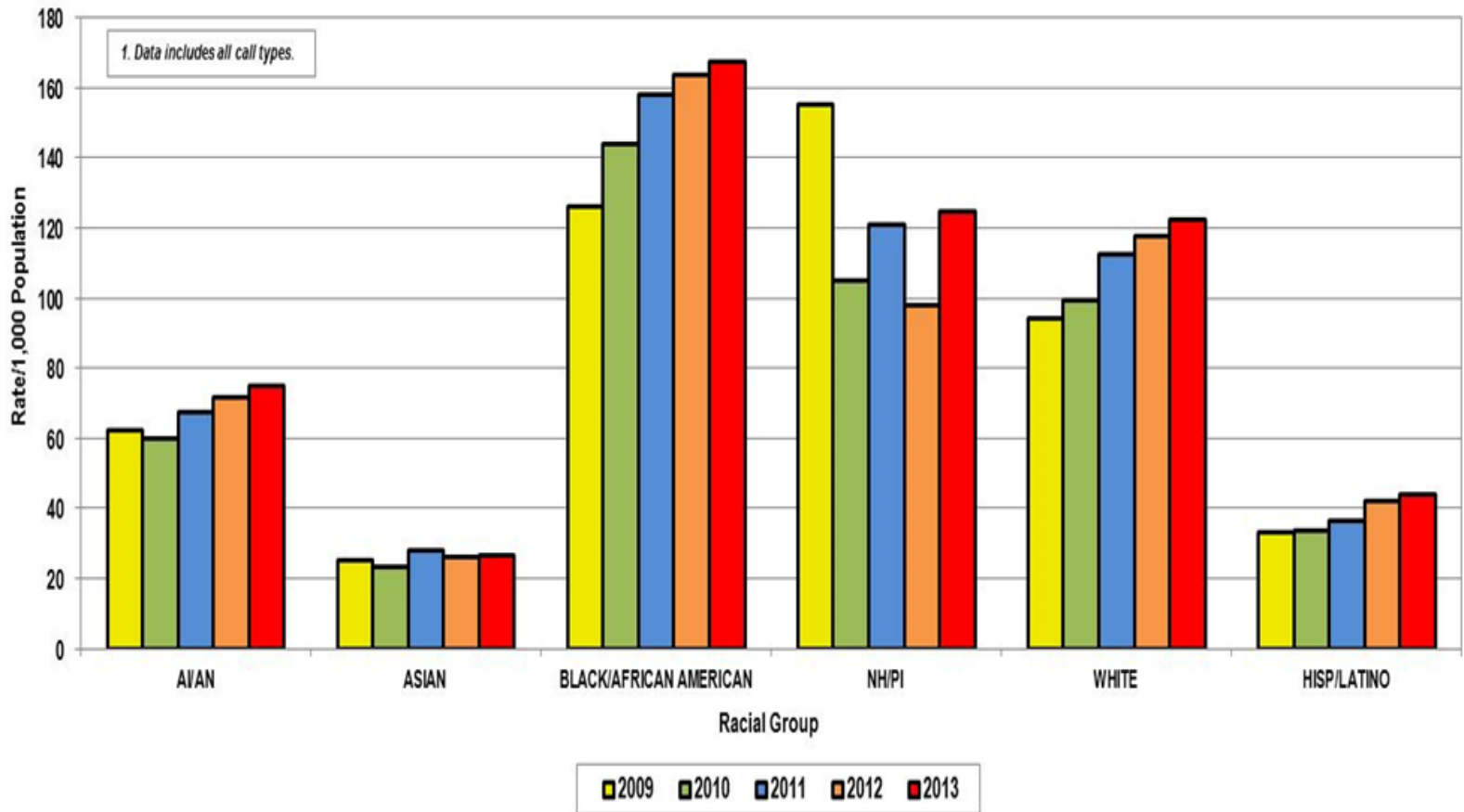


Service Call Demographics

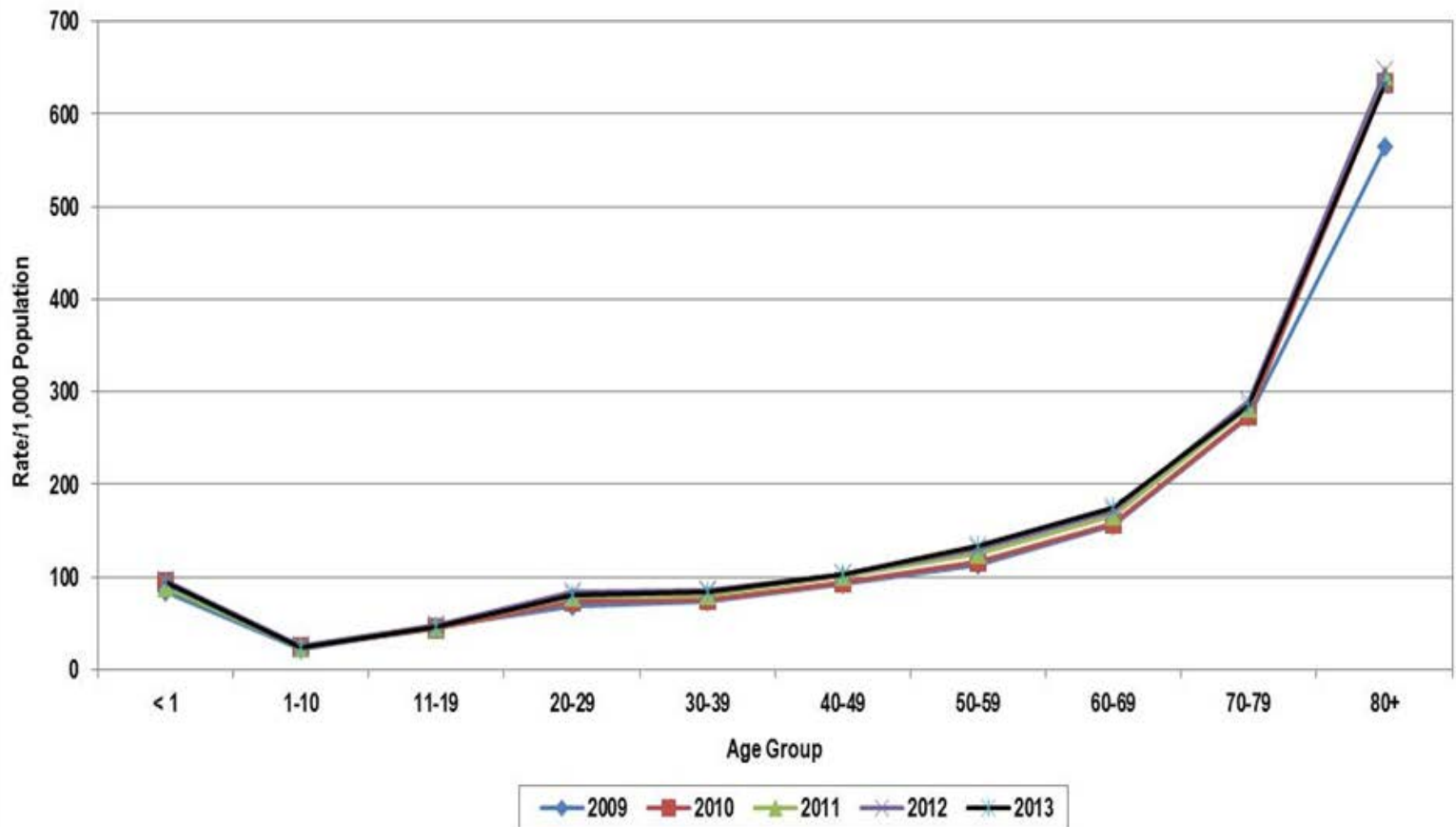
- A majority of the service calls were female (50.6%) with the 70 to 79 and 80+ age groups making up 33% of the total call volume.
- Call frequency was similar for Males and Females by age group except for the 60 to 69, 70 to 79, and 80+ age groups which had more females than males.
- Oklahoma EMS service calls reported White as the patient's racial category 70.9% of the time followed by Black/African Americans (9.9%) and American Indian/Alaska Natives (5.1%).
- Black/African Americans had the highest rate of EMS service calls at 167.4/1,000 population followed by the White racial category at 122.4/1,000 population in 2013.



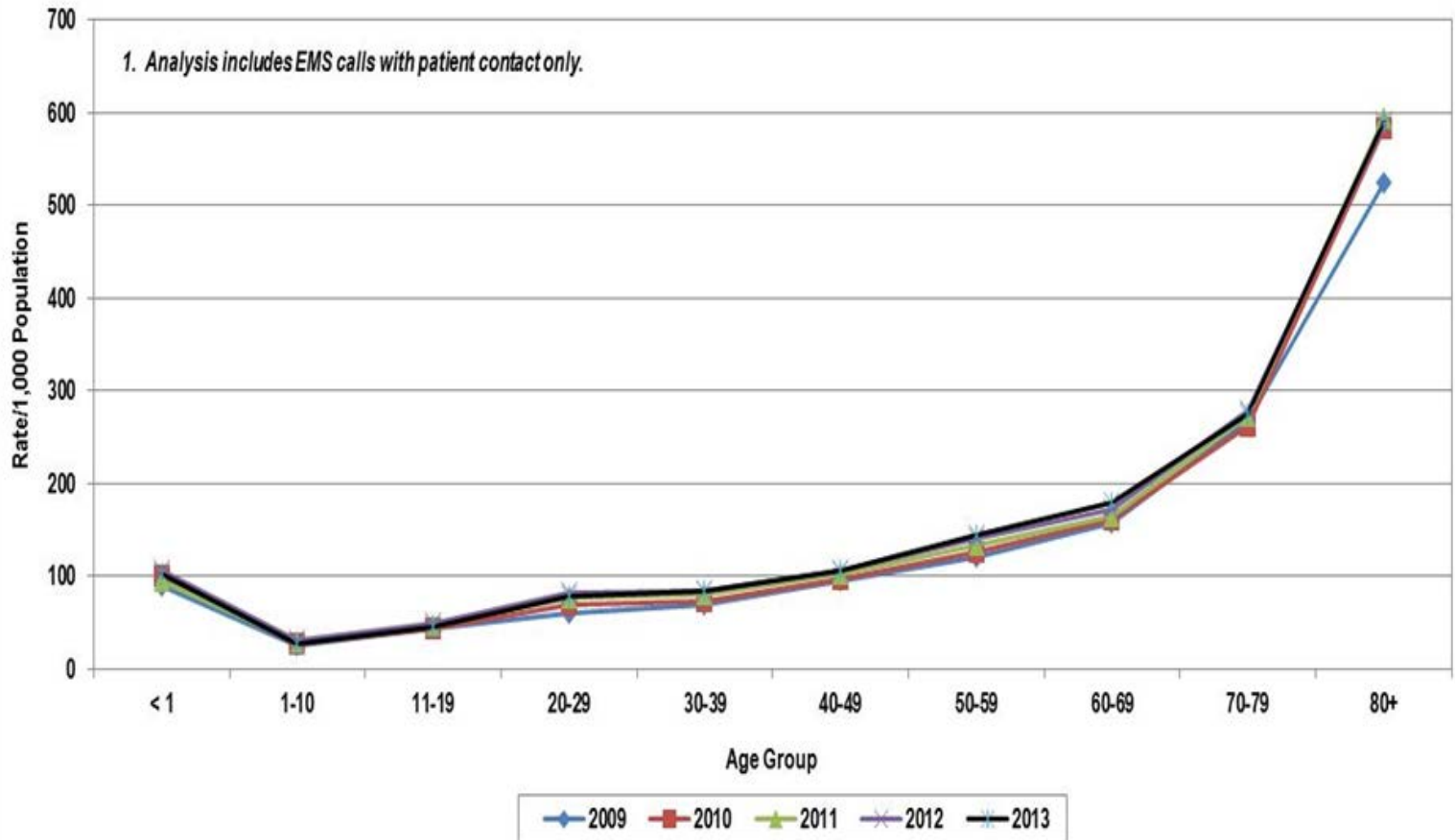
EMS Service Calls by Racial Group, Rate per 1,000 Population, Oklahoma 2009-2013



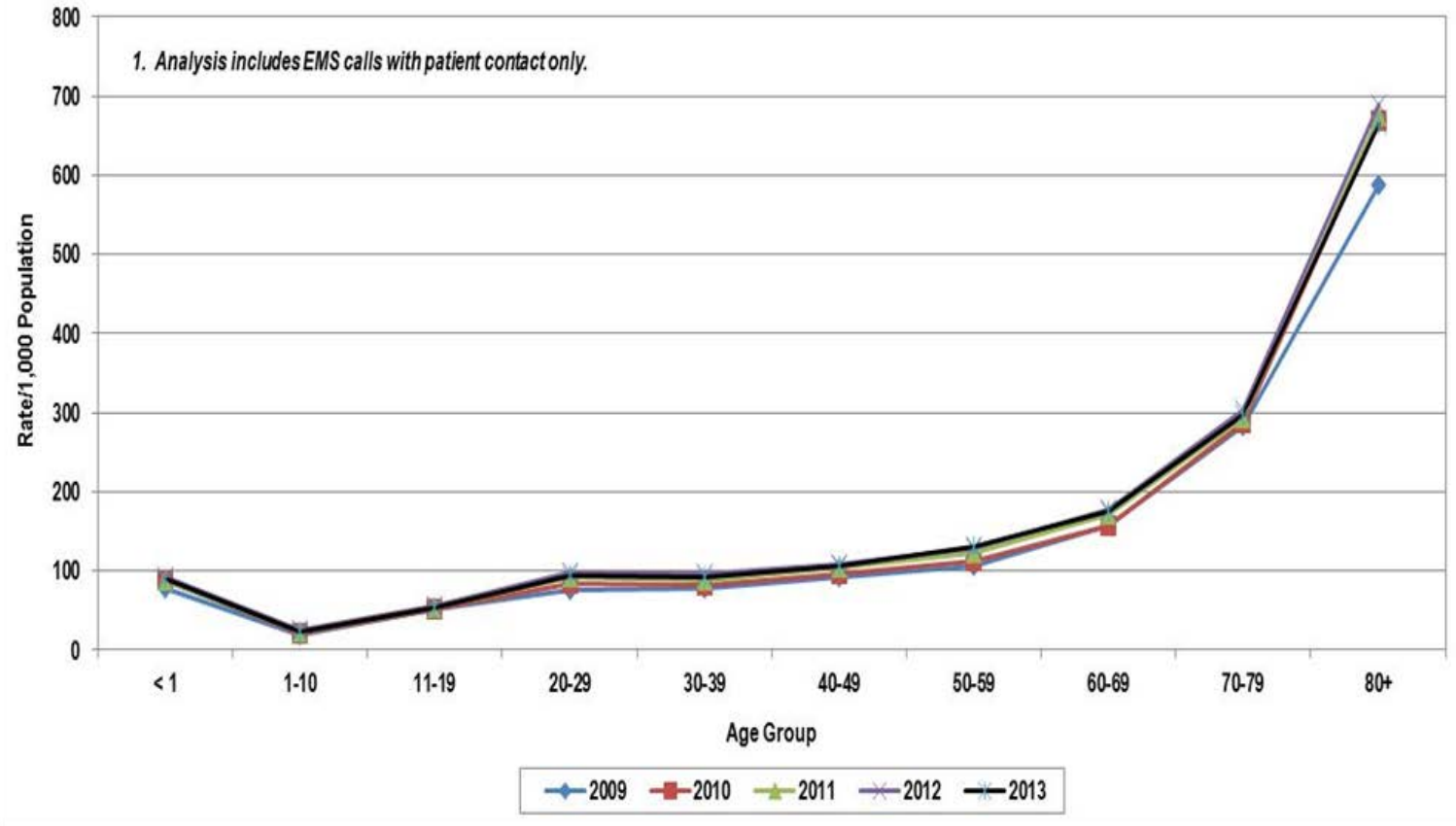
EMS Service Call Rate/1,000 Population by Age Group, Oklahoma 2009-2013



EMS Service Call Rate by Age and Gender, Males, Oklahoma 2009-2013



EMS Service Call Rate by Age and Gender, Females, Oklahoma 2009-2013

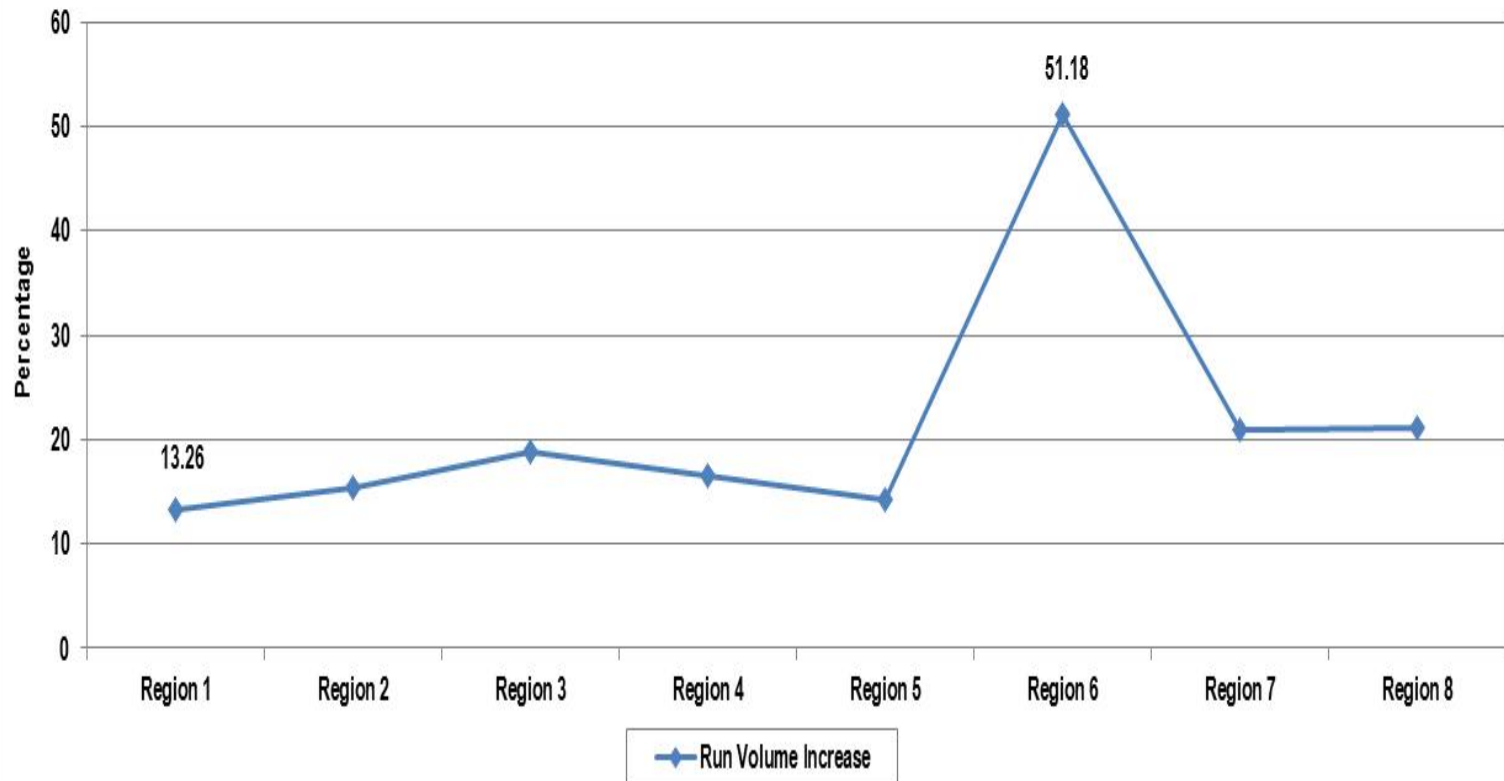


Service Calls by Geography

- Six agencies reported $\approx 52\%$ of all the service calls between 2009 and 2013 with one agency reporting 37.6% of all statewide EMS calls.
- Tulsa (Region 7) and Oklahoma (Region 8) Counties reported the most EMS service calls during the specified time period.
- EMS service calls occurred in Oklahoma City and the City of Tulsa 33.8% of the time followed by Muskogee, Norman, and Lawton.
- Region 6 (51.18%) had the highest service call volume increase between 2009 and 2013 while Region 1 had the smallest increase (13.26%).



EMS Service Call Run Volume by Incident Region, Percent Increase, Oklahoma 2009-2013



EMS Service Calls by Agency, Highest Call Volume, Oklahoma 2009-2013

EMS Agency Name*	2009	2010	2011	2012	2013	Total # of Calls	% of Total Calls
EMSA-West Division	76,887	83,546	92,062	99,352	103,154	455,001	18.90%
EMSA-East Division	81,817	87,235	90,028	95,826	97,276	452,182	18.70%
Muskogee County EMS	19,204	18,831	19,846	19,551	19,943	97,375	4.00%
EMSSTAT-Norman Reg Hosp EMS	12,357	14,093	15,521	15,804	15,679	73,454	3.10%
Midwest Reg Hosp EMS	13,129	13,109	13,256	13,436	14,279	67,209	2.90%
Pafford EMS of Oklahoma	12,235	11,583	11,802	12,738	13,493	61,851	2.60%
React EMS	9,262	9,940	9,919	10,208	10,846	50,175	2.10%
<i>*Top 6 agencies by call volume only, all call types</i>							



Service Calls by Destination

- EMS service providers were called to a home or residence 42.7% (no patient contact excluded) of the time followed by a healthcare facility (28.9%).
- St. Francis Hospital (Tulsa) received the highest volume of EMS service calls between 2009 and 2013 followed by St. John Medical Center and OU Medical Center.
- Out of the top twelve destinations (> 2% total EMS service call volume), St. Anthony Hospital- Main Campus had the biggest service call volume increase (267.8%) followed by Muskogee Regional Medical Center (29.7%) and Mercy Hospital- Oklahoma City (28.2%).



EMS Service Calls by Destination, Treated and Transported Service Calls, Oklahoma 2009-2013

*Only top twelve destinations shown.	Year					Total # of Calls	% of Total Calls	% Increase/Decrease
*Destination Facility	2009	2010	2011	2012	2013			
St. Francis Hosp, Inc. Tulsa	27,029	27,874	28,978	31,001	31,544	146,426	8.1%	16.7%
St. John Med Ctr, Inc. Tulsa	23,102	23,697	24,482	26,214	26,090	123,585	6.8%	12.9%
Nursing Home/Rest Home/Long Term Care	25,066	19,526	19,597	19,021	19,081	102,291	5.7%	-23.9%
OU Med Ctr (All)	18,729	19,994	20,225	20,854	19,979	99,781	5.5%	6.7%
Hillcrest Med Ctr- Tulsa	13,935	15,152	17,154	17,111	17,387	80,739	4.5%	24.8%
Integris Baptist Med Ctr, Inc. - OKC	14,190	14,743	16,136	16,977	16,816	78,862	4.4%	18.5%
Integris Southwest Med Ctr	10,740	11,988	12,236	11,923	13,062	59,949	3.3%	21.6%
St. Anthony Hosp	4,525	10,522	12,500	15,744	16,641	59,932	3.3%	267.8%
Norman Reg Hosp	9,490	9,087	10,133	10,553	10,937	50,200	2.8%	15.2%
Mercy Hosp- OKC	8,474	9,158	9,690	10,346	10,865	48,533	2.7%	28.2%
Null Values	10,397	8,803	9,549	10,662	6,785	46,196	2.3%	29.7%
Muskogee Reg Med Ctr	7,551	7,300	7,742	8,982	9,790	41,365	2.2%	15.2%
Midwest Reg Med Ctr	7,766	7,717	7,479	7,966	8,950	39,878	2.0%	36.5%

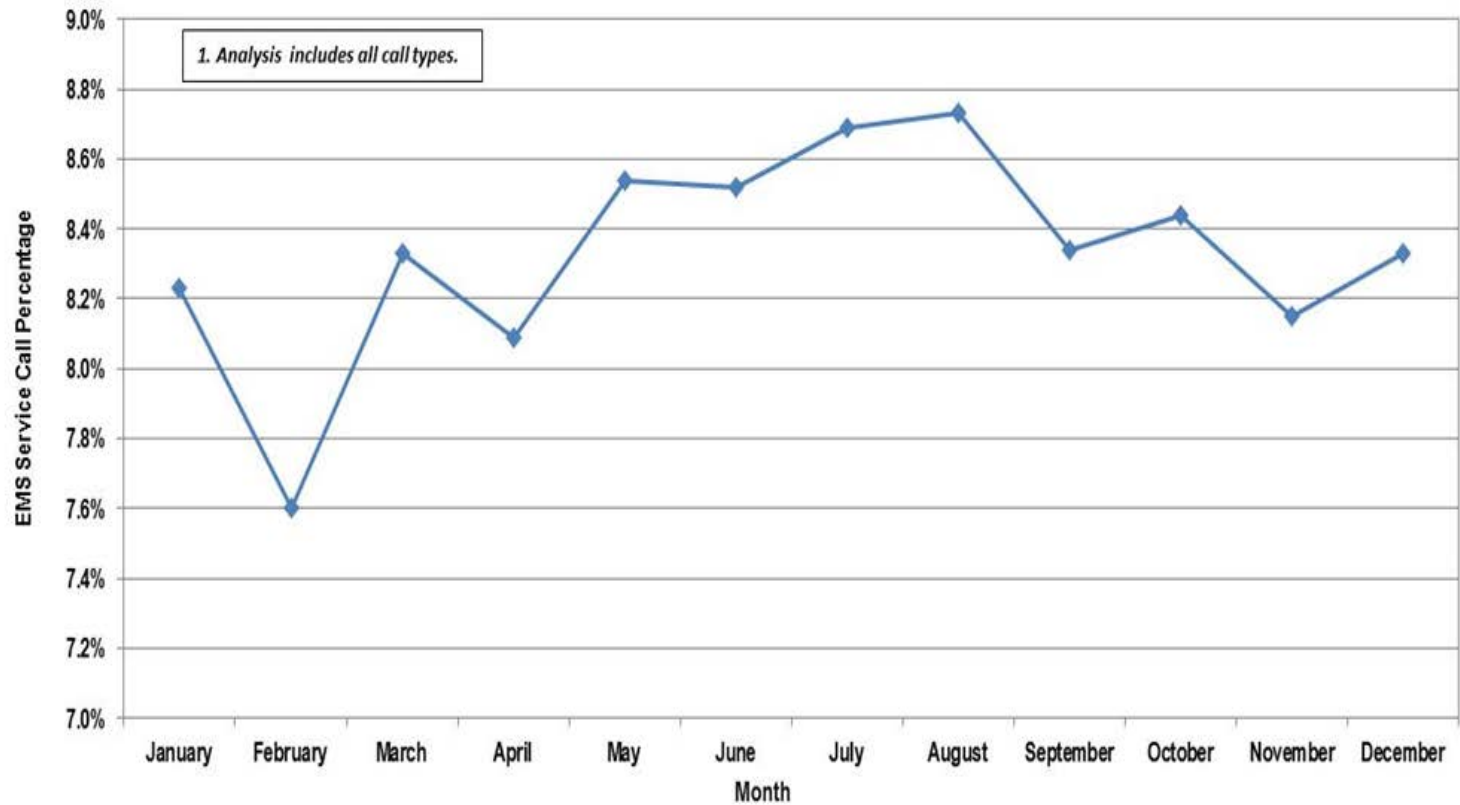


Day, Time, and Month

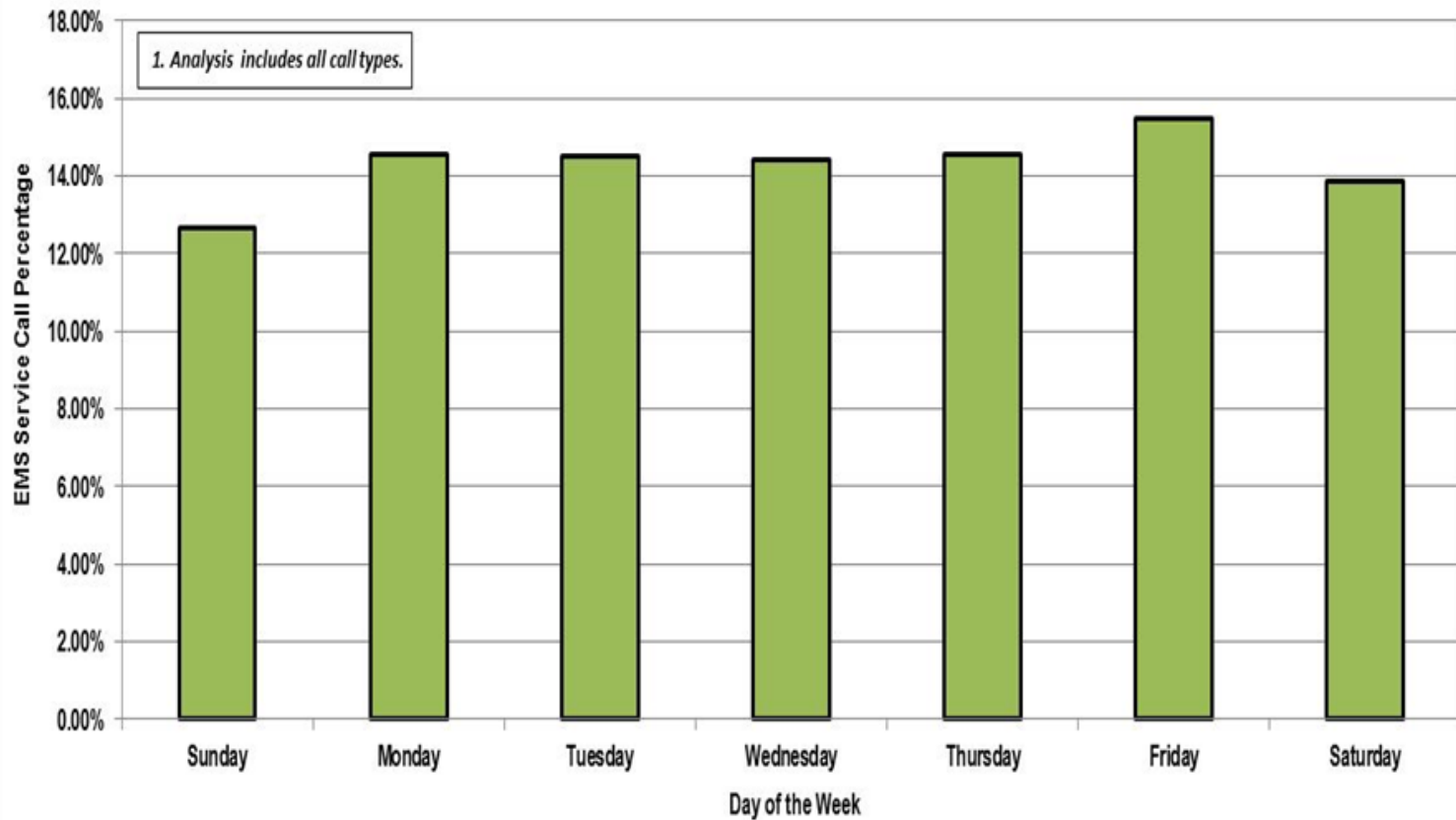
- The months of May through August had the highest percentage of calls (34.5%) with February having the lowest percentage (7.60%).
- 15.5% of all EMS Service calls occurred on Friday followed by Monday (14.6%).
- Approximately Forty-Four (44%) percent of the all EMS service calls occurred on Thursday, Friday, and Saturday.
- Just over sixty-one (61%) percent of all calls between 2009 and 2013 occurred between 9:00am and 9:00pm (35% occurring between noon and 6:00pm).



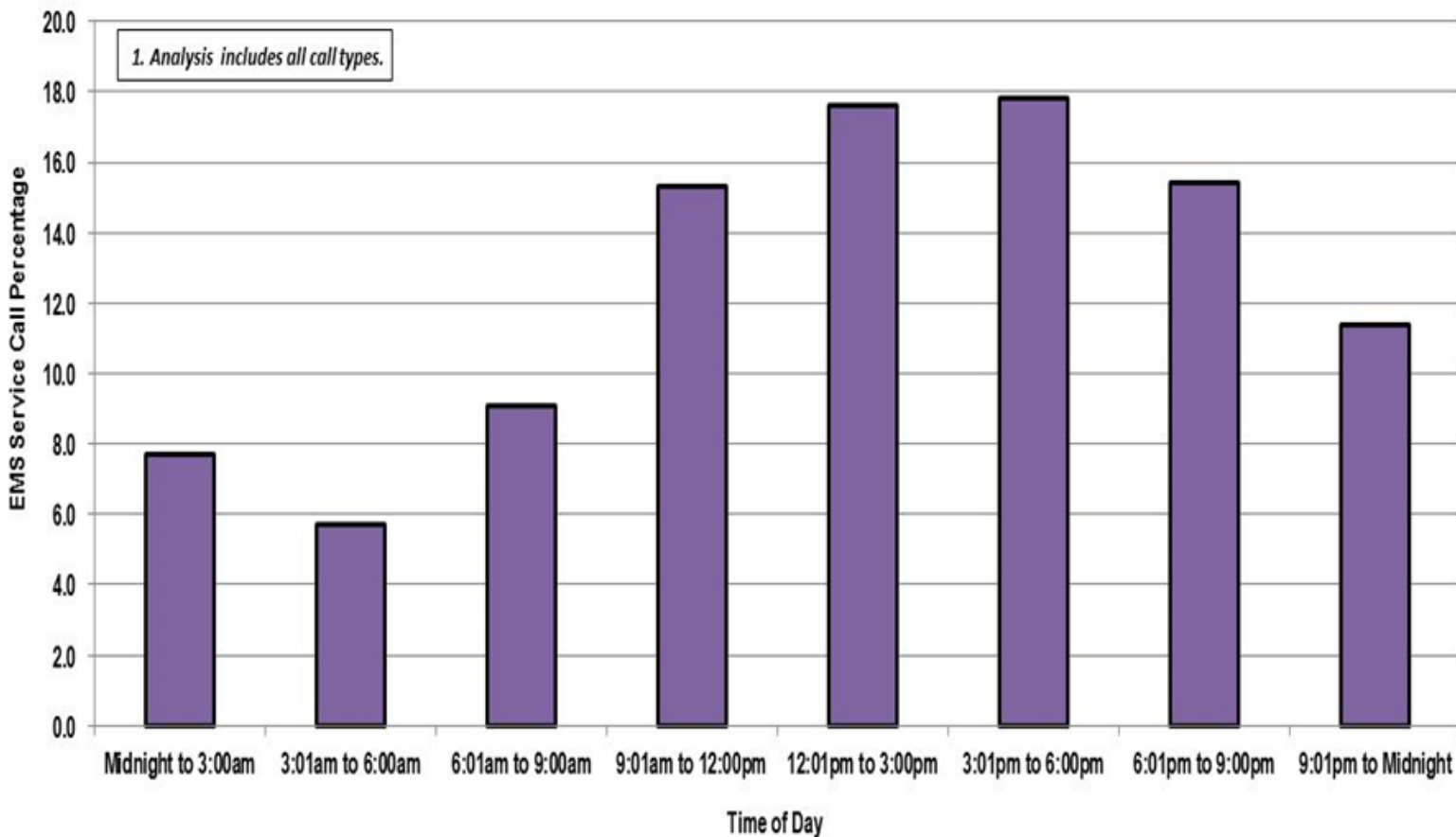
EMS Service Calls by Month, Oklahoma 2009-2013



EMS Service Calls by Day of the Week, Oklahoma 2009-2013



EMS Service Calls by Time of Day, Oklahoma 2009-2013

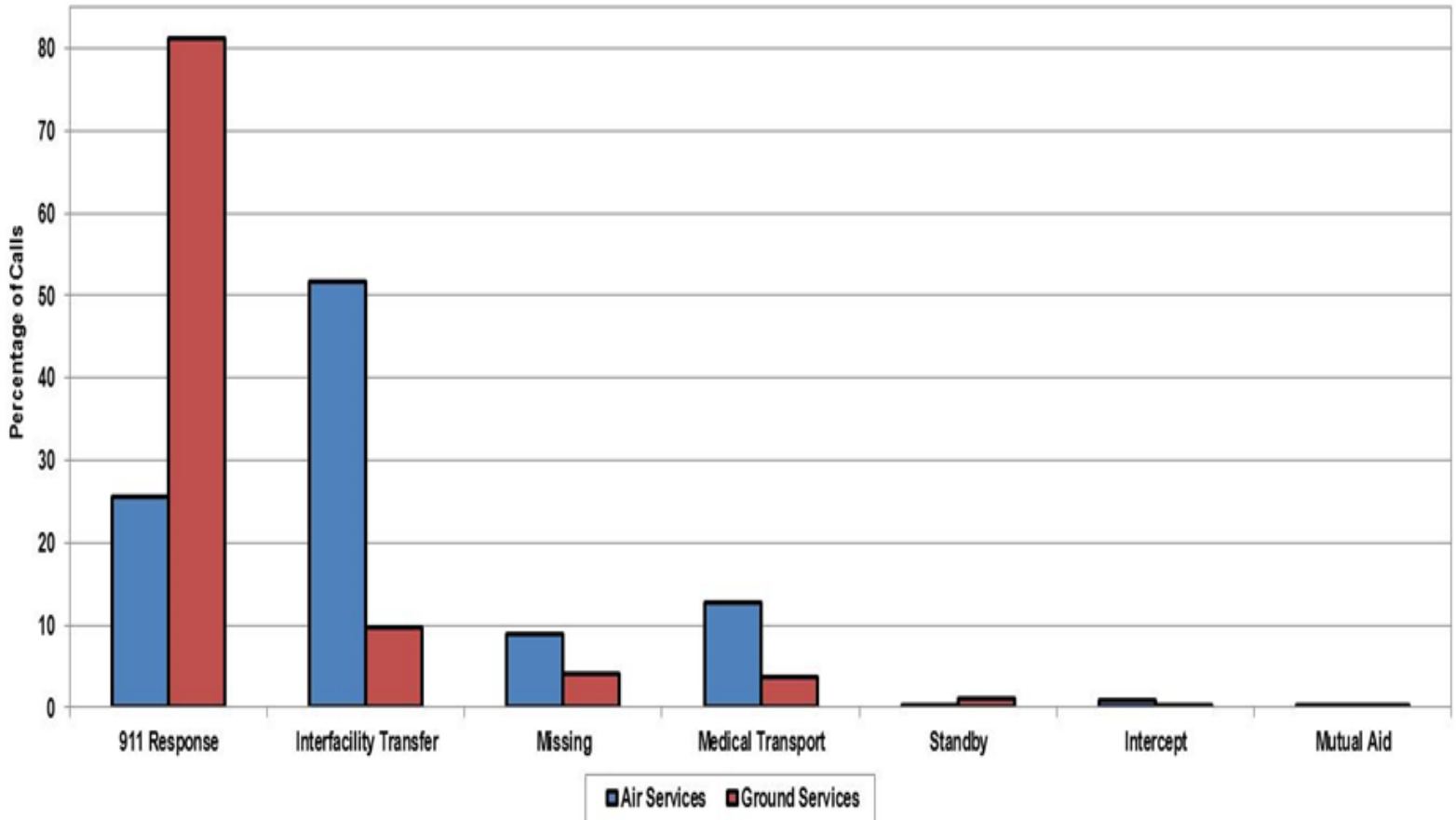


Service Calls by Provider Type

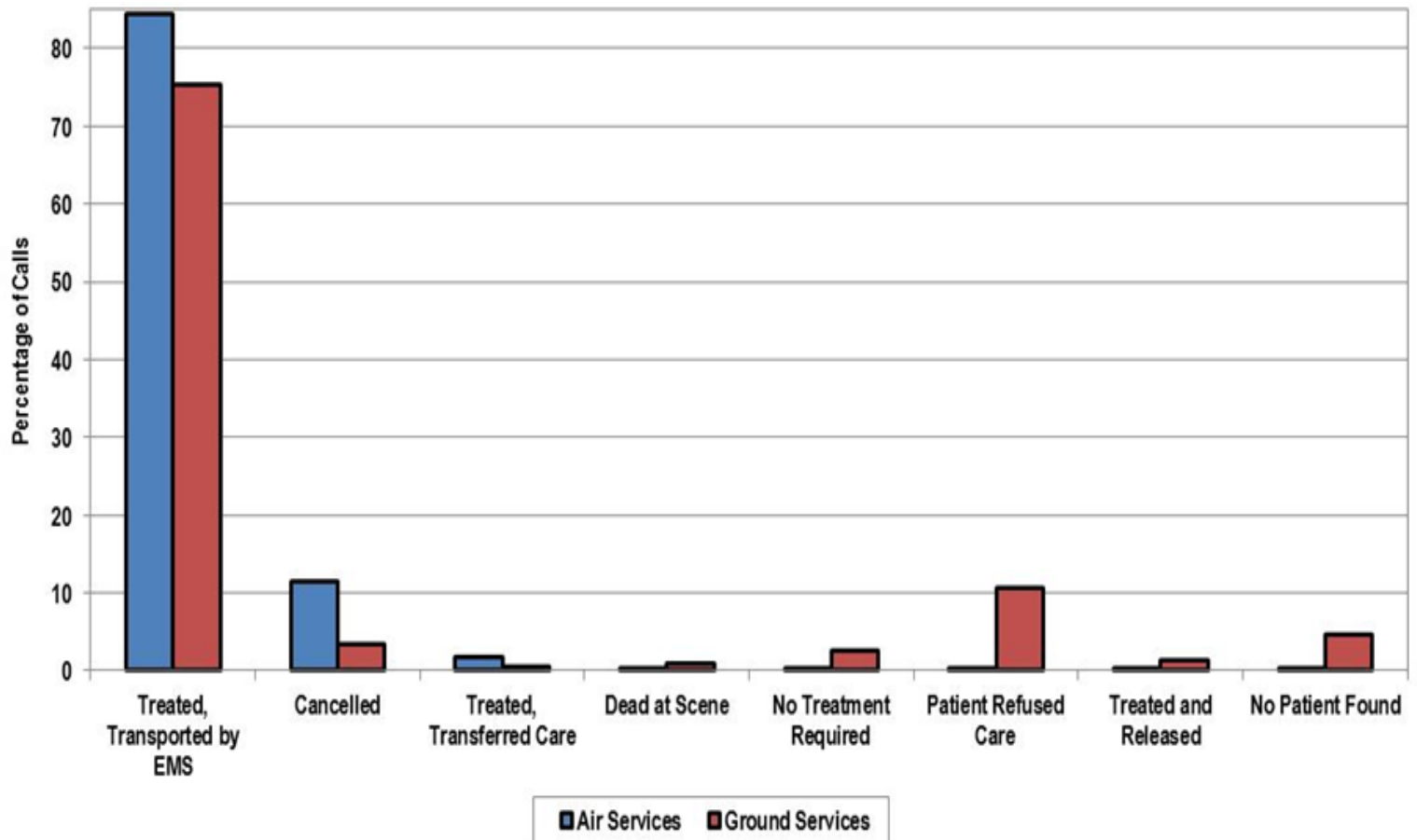
- Ground EMS services (98.06%) responded to a majority of the service calls between 2009 and 2013.
- 51.7% of EMS service calls for air services were inter-facility transfers followed by 911 responses (25.7%).
- 81.19% of EMS service calls for ground services were 911 responses followed by inter-facility transfers (9.7%).
- Most patients for air services were treated and transported (84.3%) followed by cancelled calls (11.5%).
- Most patients for ground services were treated and transported (75.3%) followed by patient refusals (10.6%).



Type of Service Requested by EMS Service Type, Oklahoma 2009-2013



Selected Patient Dispositions by EMS Service Type, Oklahoma 2009-2013

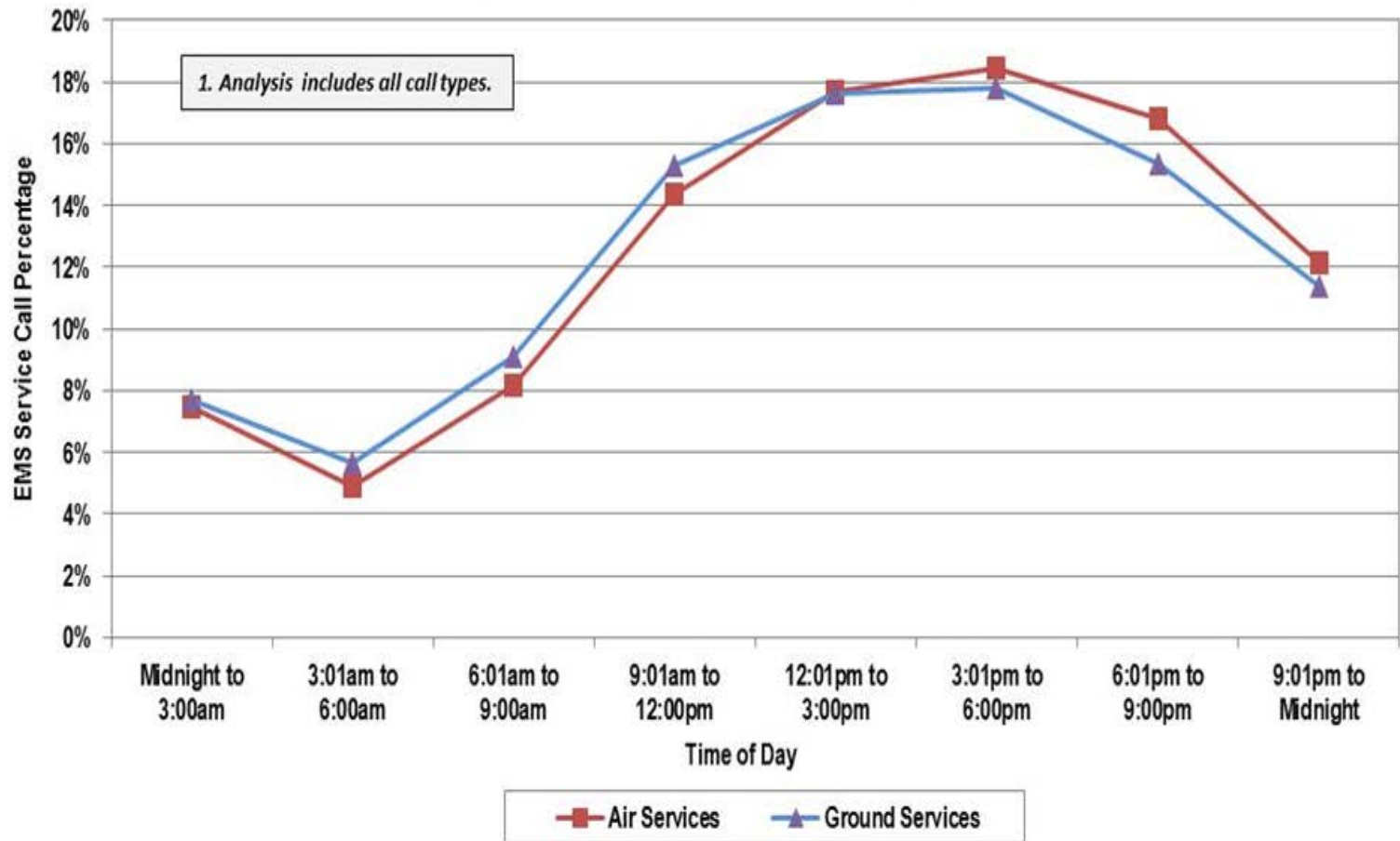


Service Calls by Provider Type

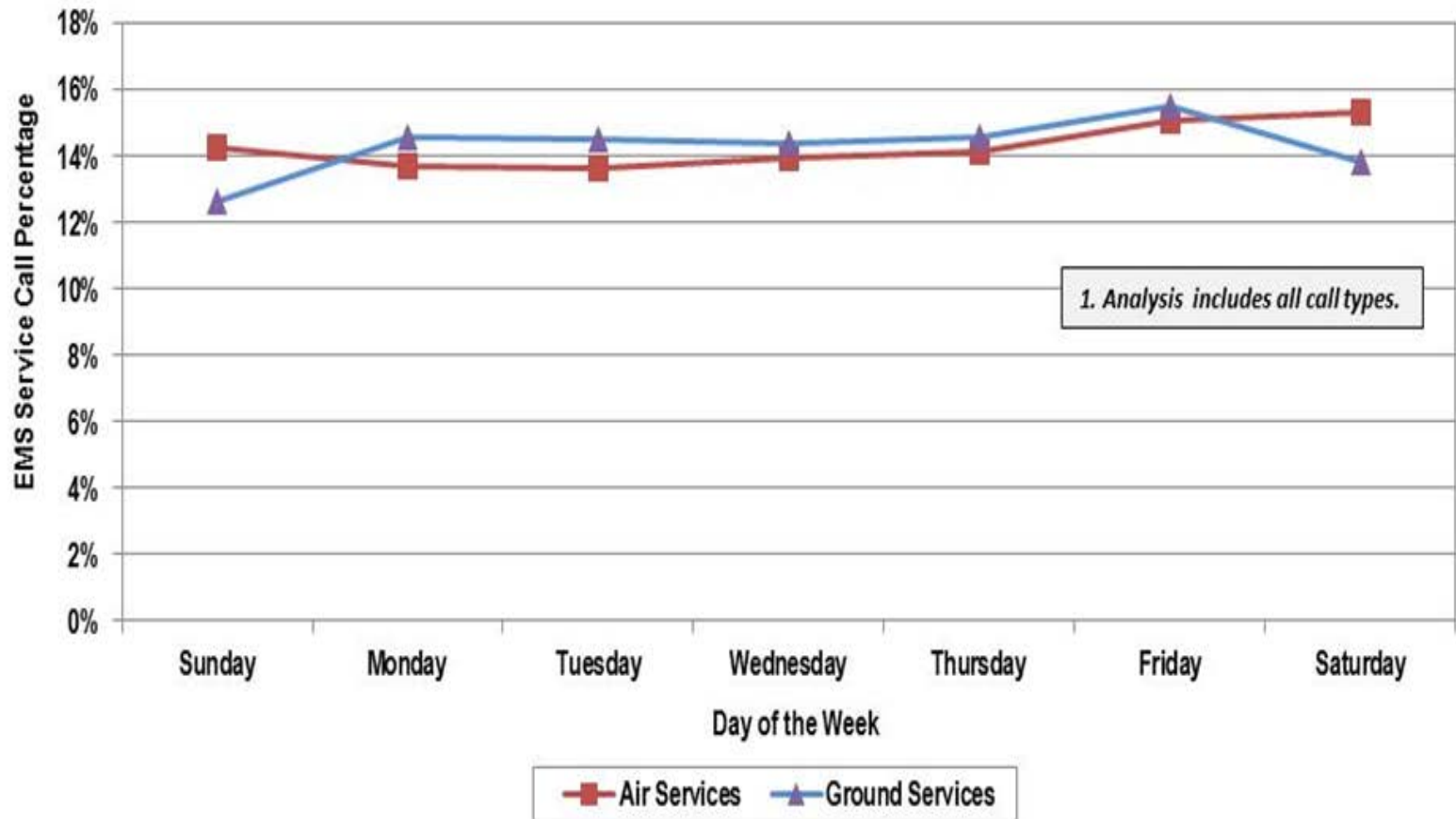
- Air service providers were called to a health care facility 73.3% of the time followed by a street or highway (5%) and private residence (2%).
- Ground service providers were called to a home or residence 43.5% of the time followed by a healthcare facility (28%) and street or highway (10.8%).
- Air and Ground providers followed a very similar pattern with both performing a higher percentage of runs between May and August with February having the lowest percentage.
- Air and ground providers followed a similar pattern by time of day with air services performing a slightly higher percentage of runs between 3:00pm and midnight



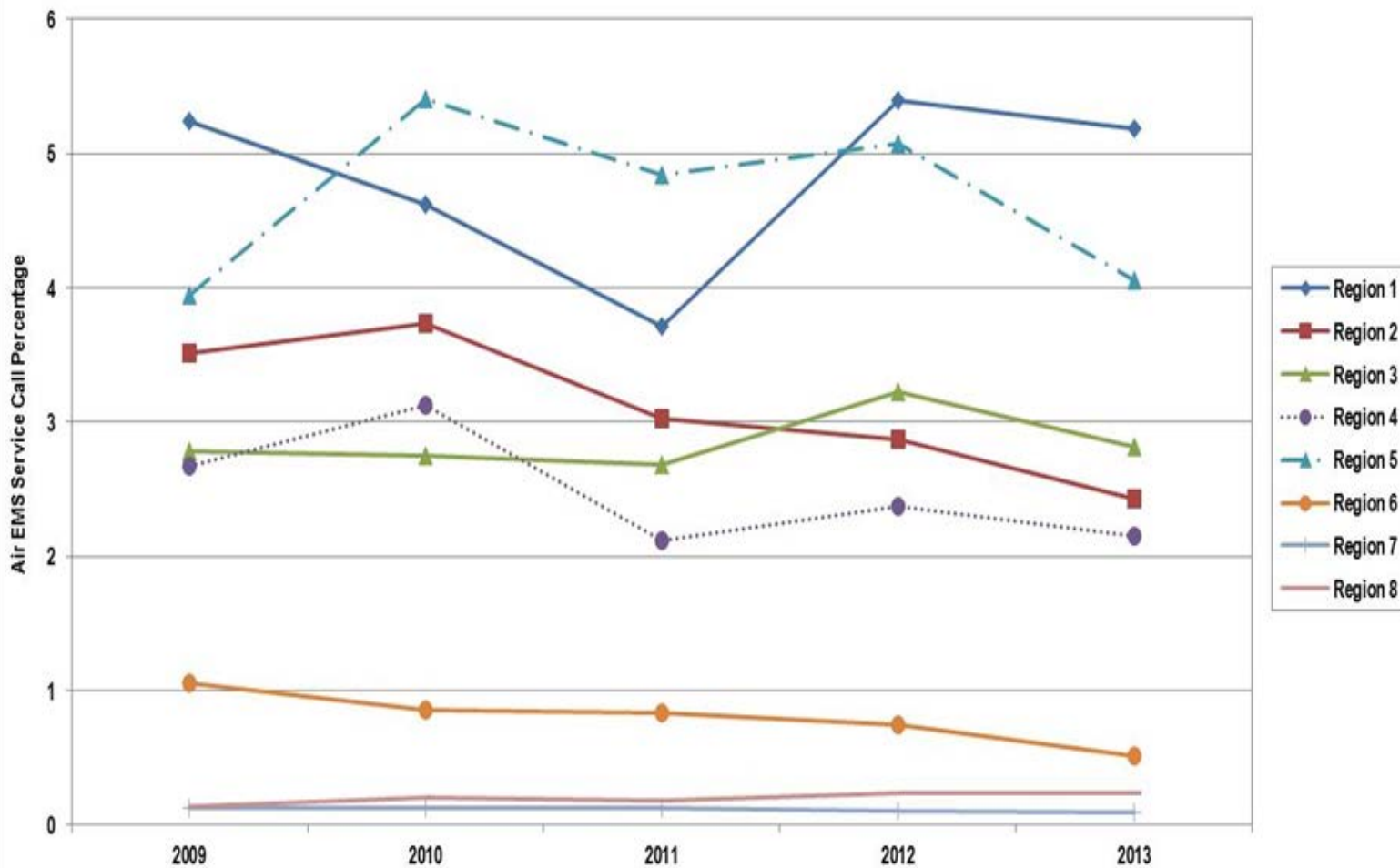
EMS Service Calls by Time of Day, Air vs. Ground, Oklahoma 2009-2013



EMS Service Calls by Day of the Week, Air vs. Ground, Oklahoma 2009-2013



EMS Service Calls by Region, Air Providers, Oklahoma 2009-2013





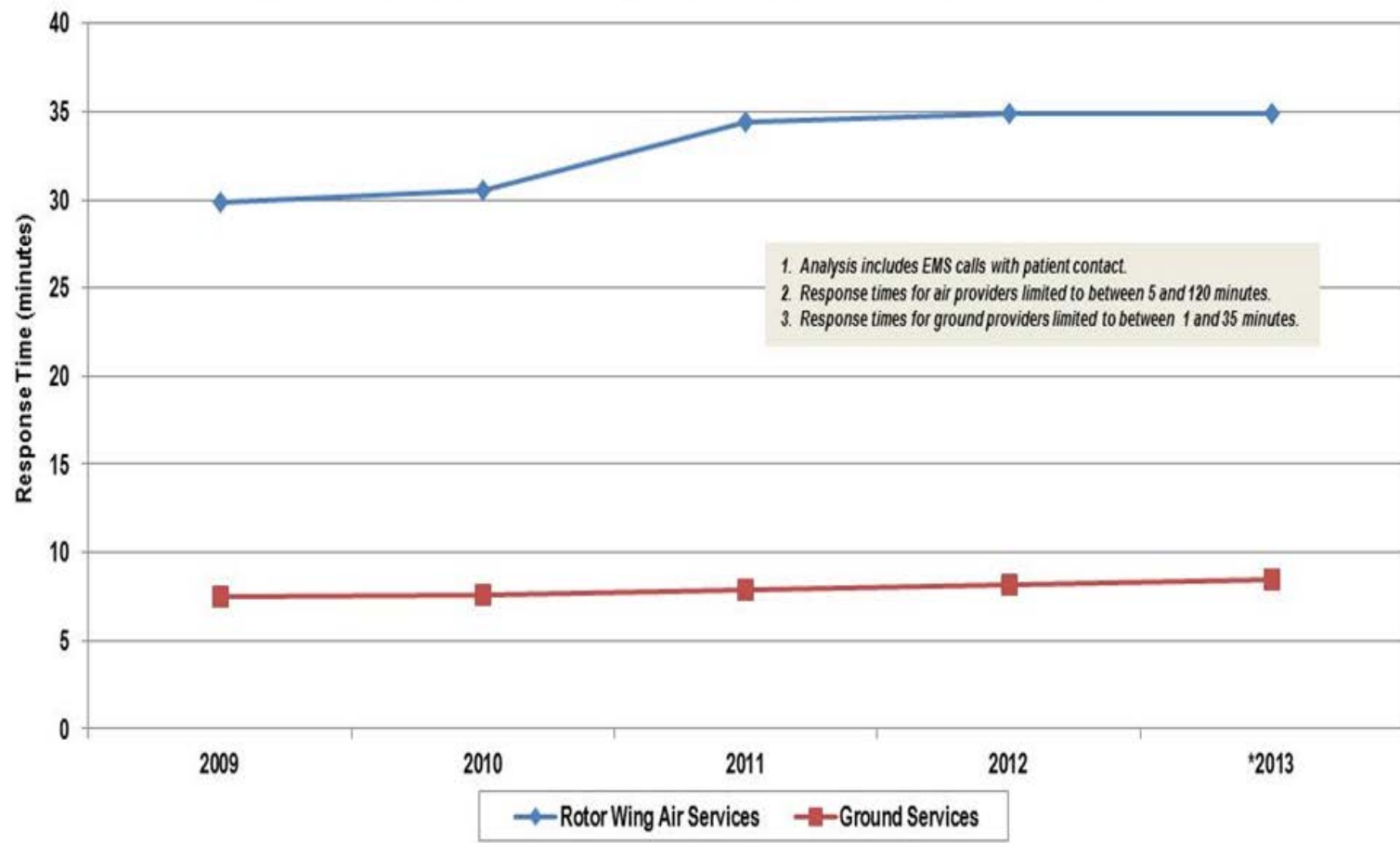
Run Times: Ground

- The overall average response time for Oklahoma ground EMS providers in 2013 was 8.5 minutes, an 11.8% increase compared to 2009 (7.5 minutes).
- 911 responses (7.9 minutes) had the shortest response times followed by medical transports (11.3 minutes).
- The overall average scene time for ground EMS providers in 2013 was 19.7 minutes, a 6.1% increase compared to 2009 (18.5 minutes).
- The overall average total time for ground EMS providers in 2013 was 46.6 minutes, a 10.1% increase compared to 2009 (41.9 minutes).

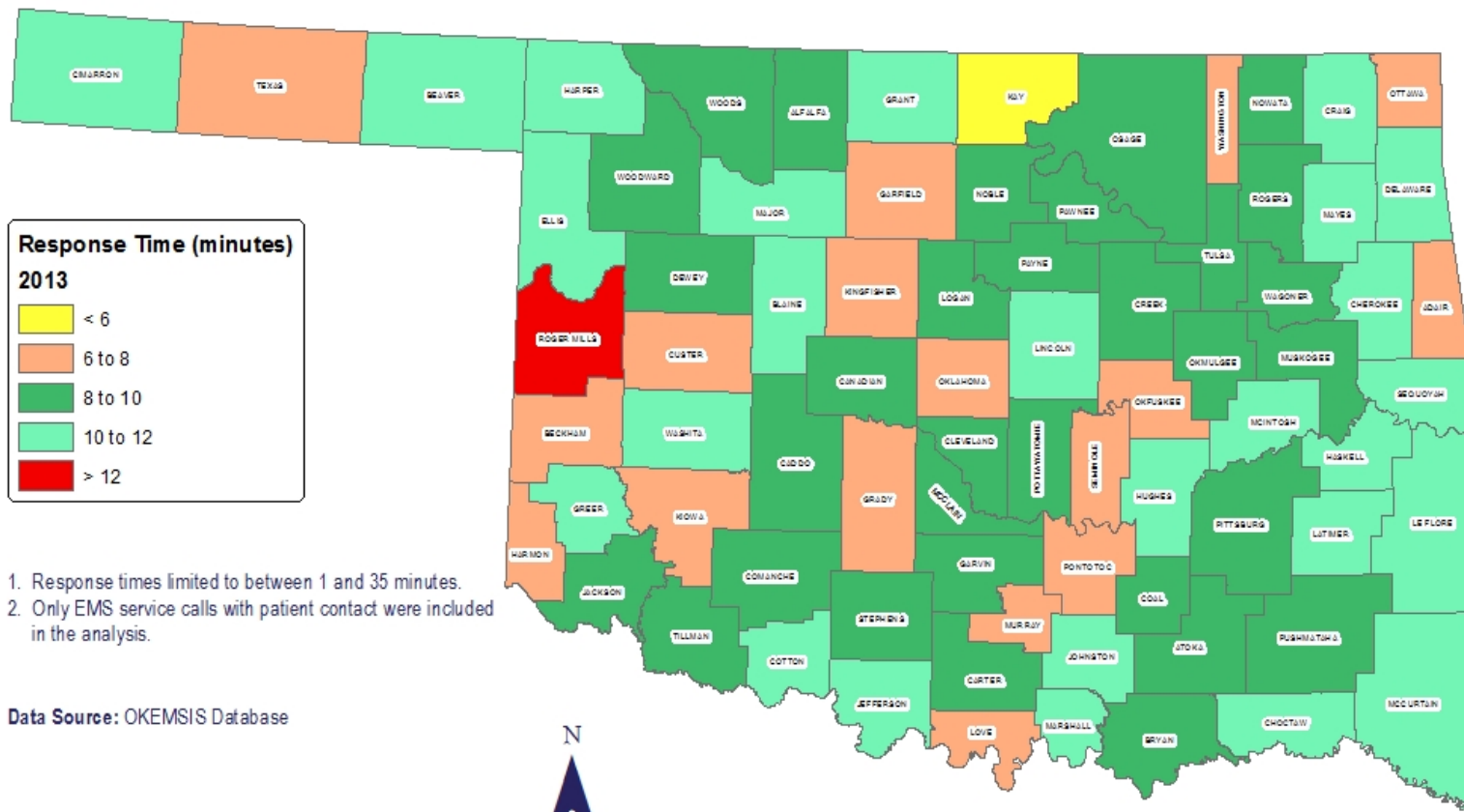




EMS Service Calls by Service Type, Response Times, Oklahoma 2009-2013



EMS Service Call Response Times by Incident County, Ground Service Providers, Oklahoma 2013



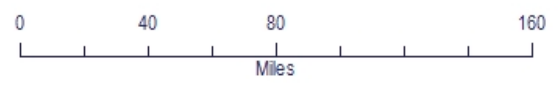
1. Response times limited to between 1 and 35 minutes.
2. Only EMS service calls with patient contact were included in the analysis.

Data Source: OKEMSIS Database



Created: 12.16.2014

Projection/Coordinate System: USGS Albers Equal Area Conic



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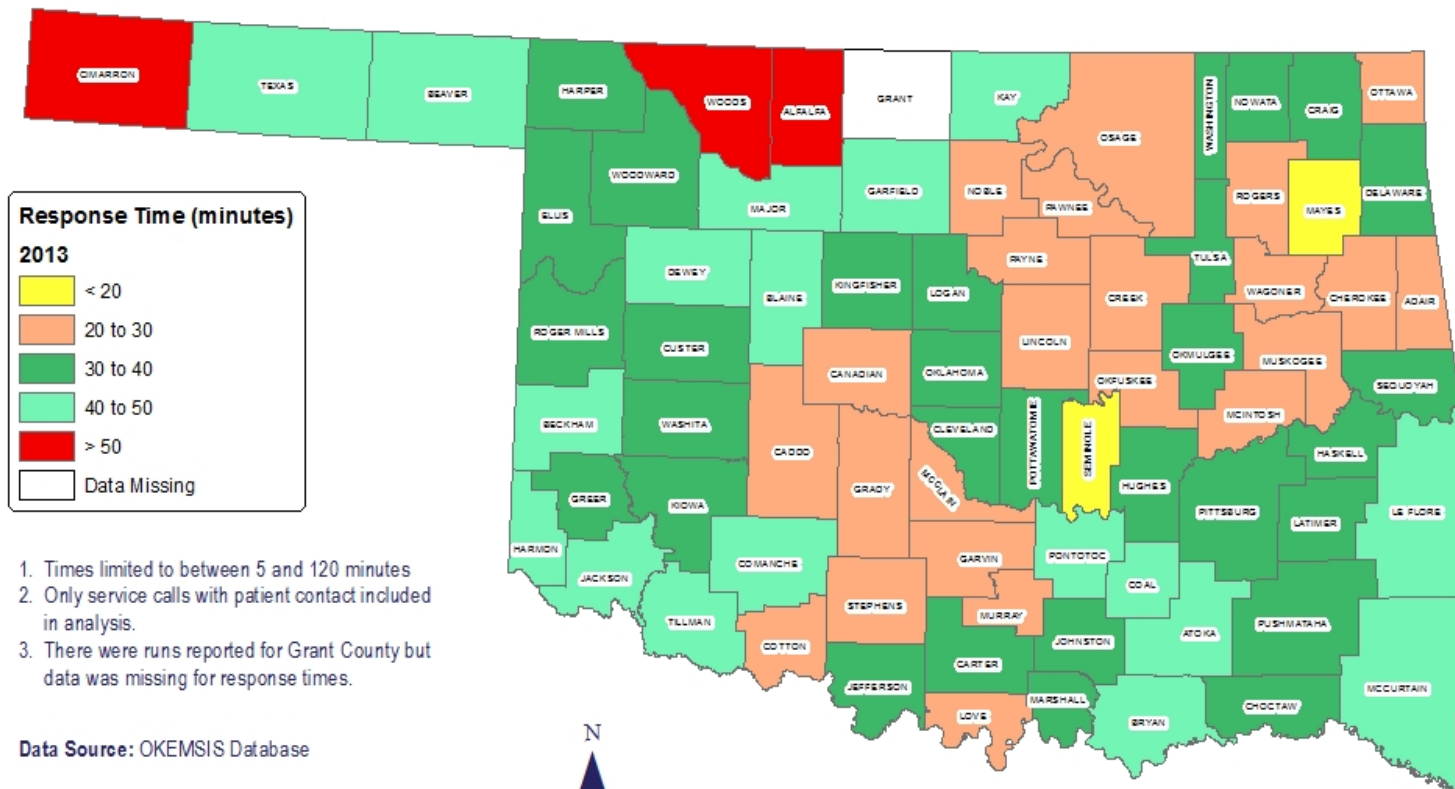


Run Times: Air (Rotor Wing)

- The overall average response time for Oklahoma for rotor wing air EMS providers in 2013 was 34.9 minutes, a 14.3% increase compared to 2009 (29.9 minutes).
- 911 responses (28.6 minutes) had the shortest response time. Other call types were not analyzed due to low numbers.
- The overall average scene time for rotor wing air EMS providers in 2013 was 31 minutes which was consistent when compared to 2009 (30.4 minutes).
- The overall average total time for rotor wing air EMS providers in 2013 was 102.6 minutes, a 9% increase compared to 2009 (93.4 minutes).



EMS Service Call Response Times by Incident County, Rotor Wing Providers, Oklahoma 2013



Response Time (minutes)
2013

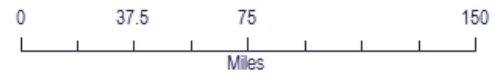
- < 20
- 20 to 30
- 30 to 40
- 40 to 50
- > 50
- Data Missing

1. Times limited to between 5 and 120 minutes
2. Only service calls with patient contact included in analysis.
3. There were runs reported for Grant County but data was missing for response times.

Data Source: OKEMIS Database

Created: 12.15.2014

Projection/Coordinate System: USGS Albers Equal Area Conic



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Run Times: Air (Fixed Wing)

- Run times were not calculated due to the variant nature of fixed wing service calls.
- There were a total of 703 EMS service calls performed with fixed wing aircraft during the 5 year time period with 80.4% occurring in 2012 and 2013.
- Inter-facility transfers made up 86.2% of the fixed wing service calls followed by medical transports (12.7%).
- Approximately 61% had an incident county of Texas followed by Tulsa County (15.5%) and Oklahoma County (10.7%).



Traumatic Injury



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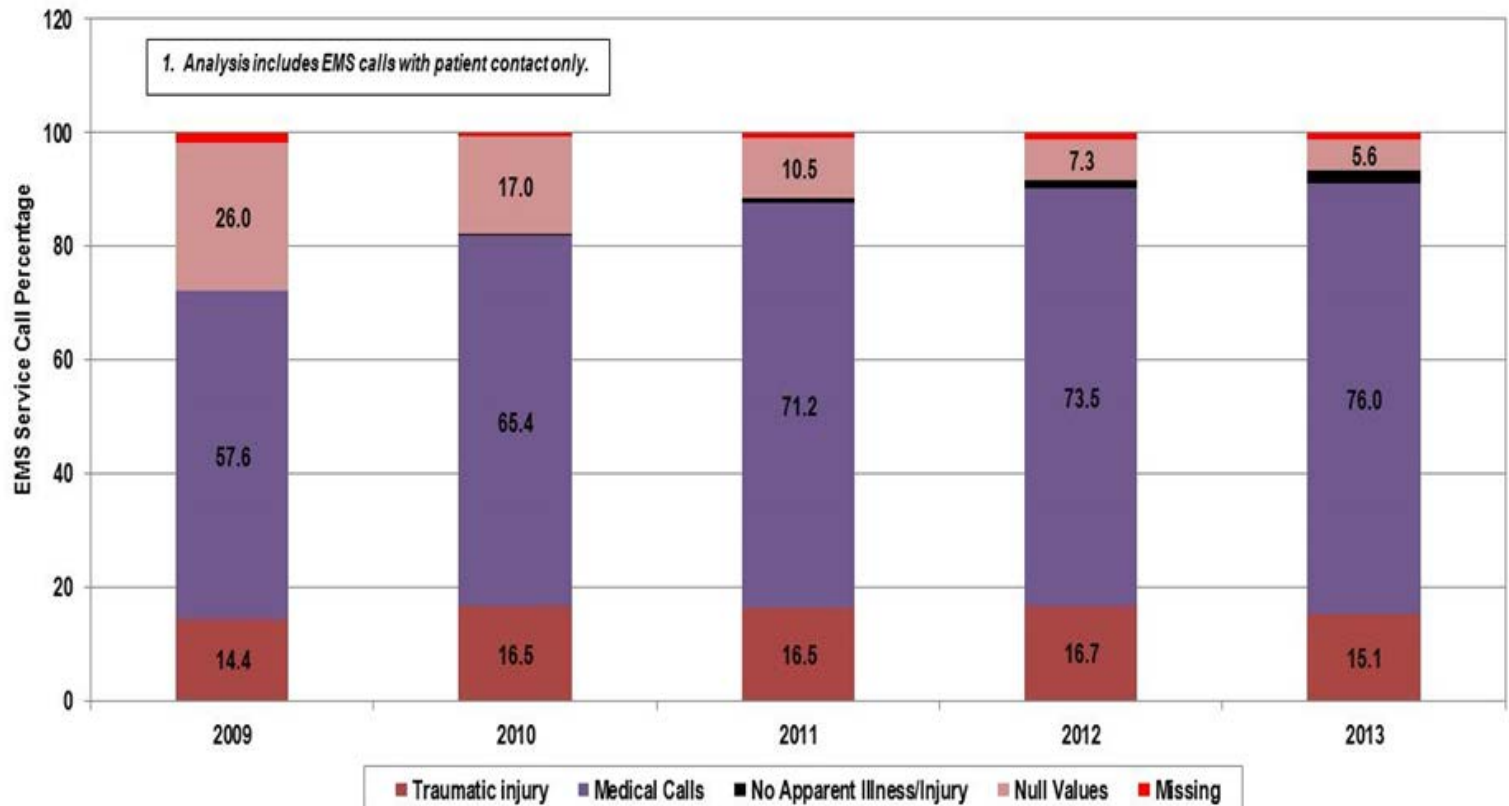


Traumatic Injury

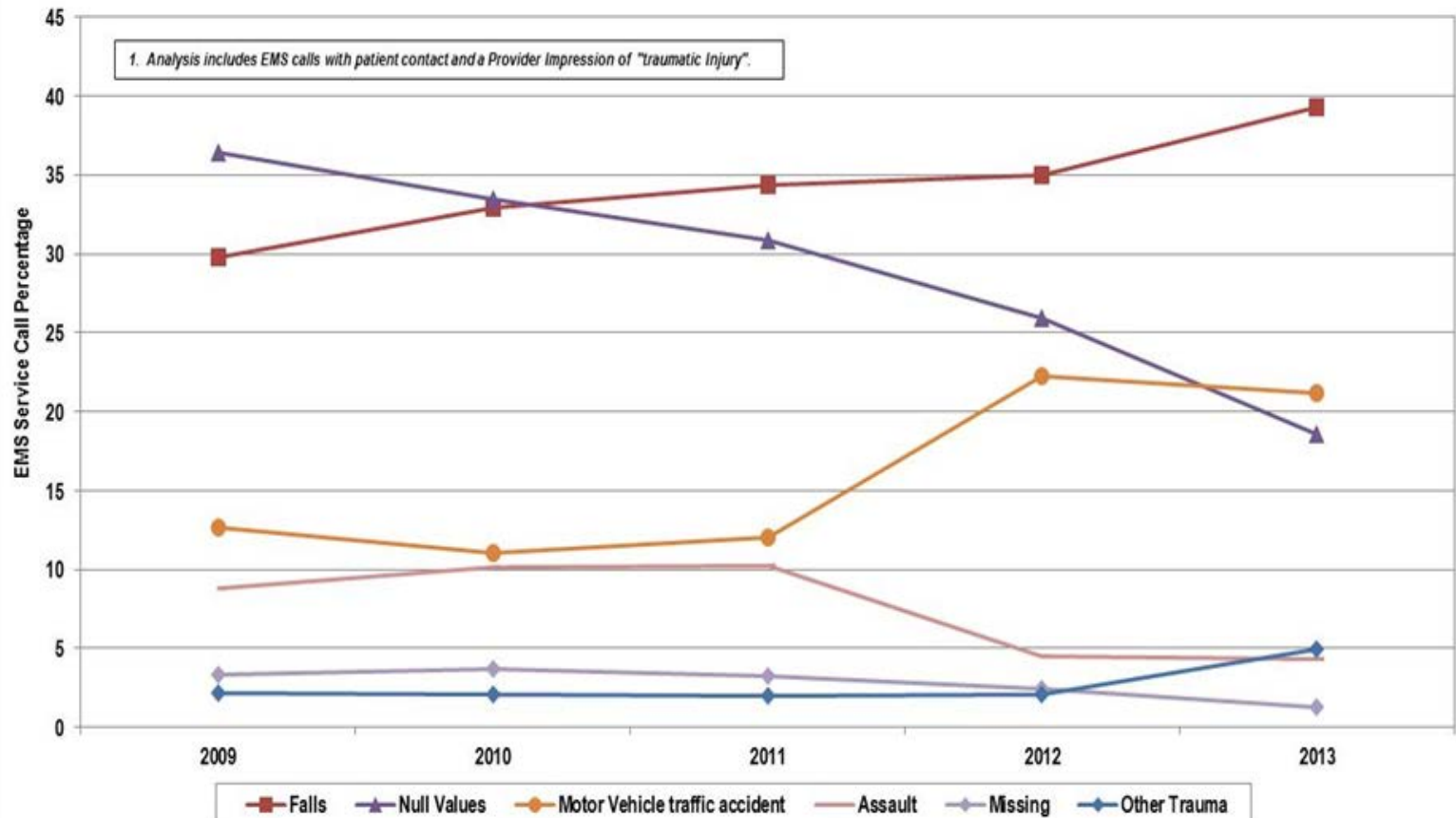
- Traumatic injuries made up 15.9% of the total EMS service call volume between 2009 and 2013.
- Falls (34.4%) followed by Motor Vehicle Traffic Accidents (16.1%) and Assault (5.3%) were the major causes of traumatic injury during the specified time period .
- The mechanism of injury field was missing or a null value almost 61% of the time with blunt (32.1%) having the highest non-null value percentage over the 5 year period.
- Just over 31% of all traumatic injury service calls occurred on Friday and Saturday with 45.4% occurring on Thursday, Friday, and Saturday.



EMS Service Calls by Provider First Impression, Oklahoma 2009-2013



EMS Service Calls by Cause of Injury, Traumatic Injuries, Oklahoma 2009-2013

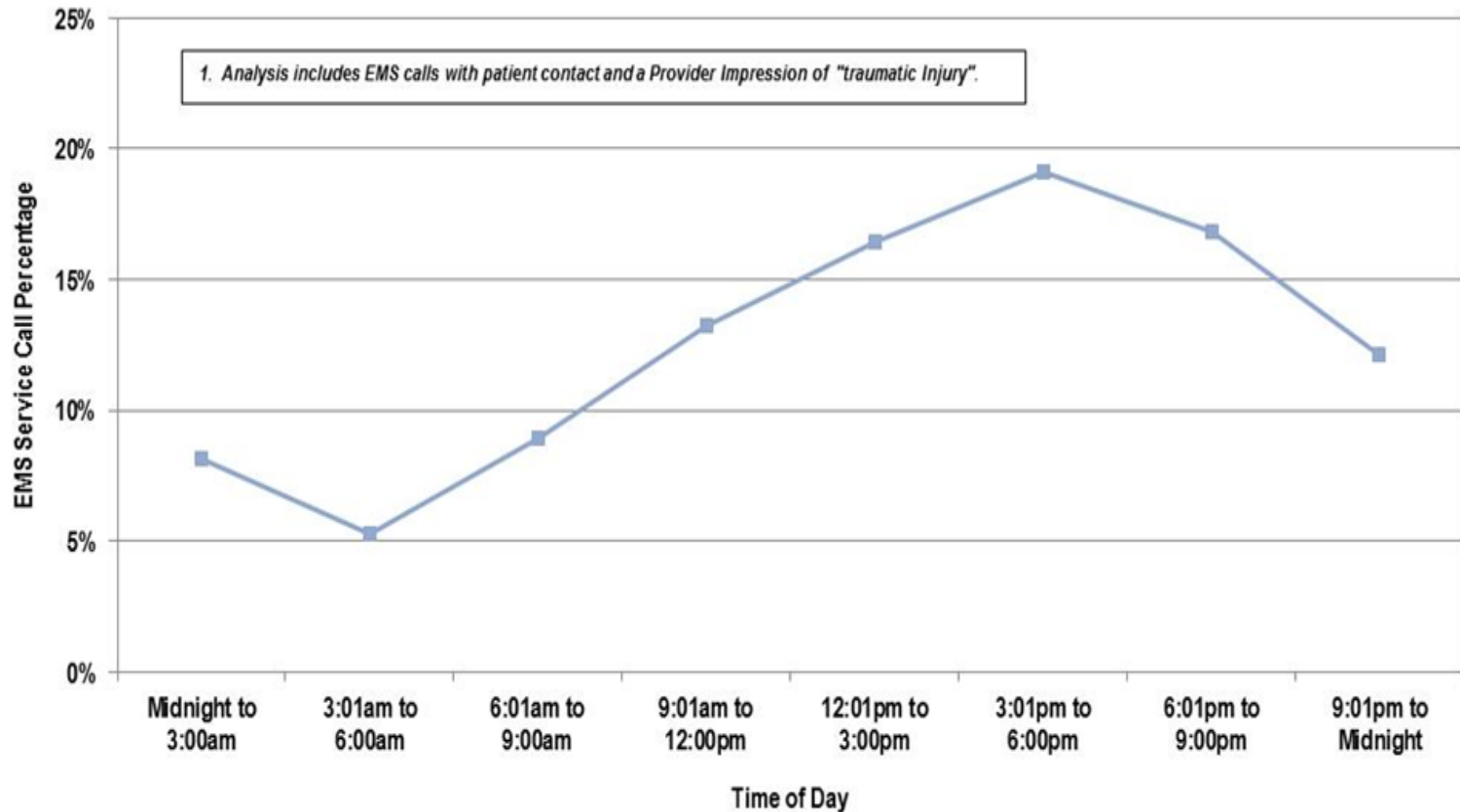


Traumatic Injury

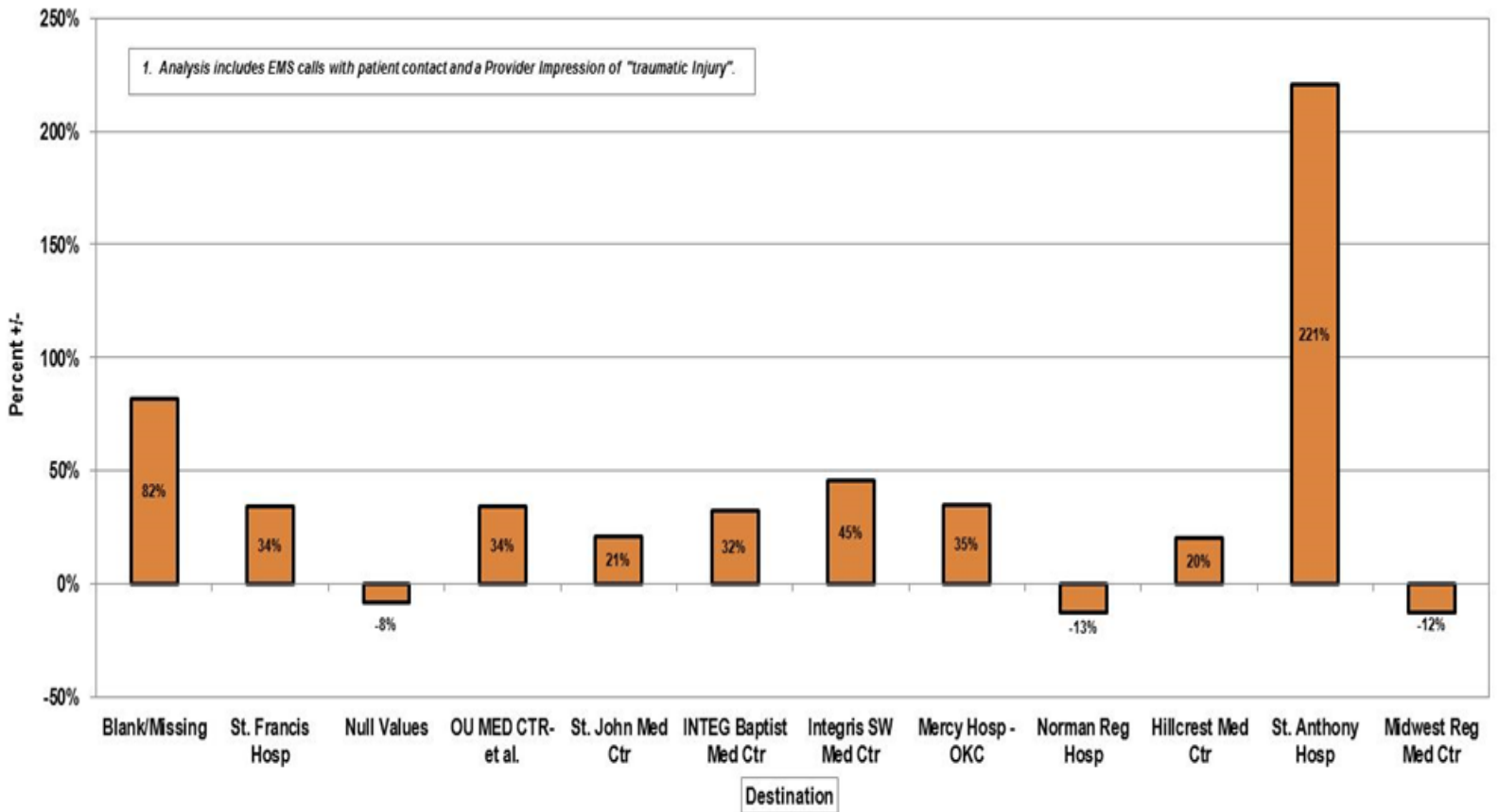
- Nineteen percent of Traumatic injury calls occurred between 3:00pm and 6:00pm with 52.4% occurring between noon and 9:00pm .
- St. Francis Hospital (7.2%) received the highest percentage of traumatic injuries from EMS service providers during the 5 year period followed by OU Medical Center (6.8%) and St. John Medical Center (5.8%).
- St. Anthony Hospital (69%) showed the biggest increase in traumatic injury call volume between 2009 and 2013 followed by Integris Southwest Medical Center (31%) and Mercy Hospital-OKC (26%).



EMS Service Calls by Time of Day, Traumatic Injury, Oklahoma 2009-2013



EMS Service Calls by Destination and Call Volume Increase/Decrease, Traumatic Injury, Oklahoma 2009-2013

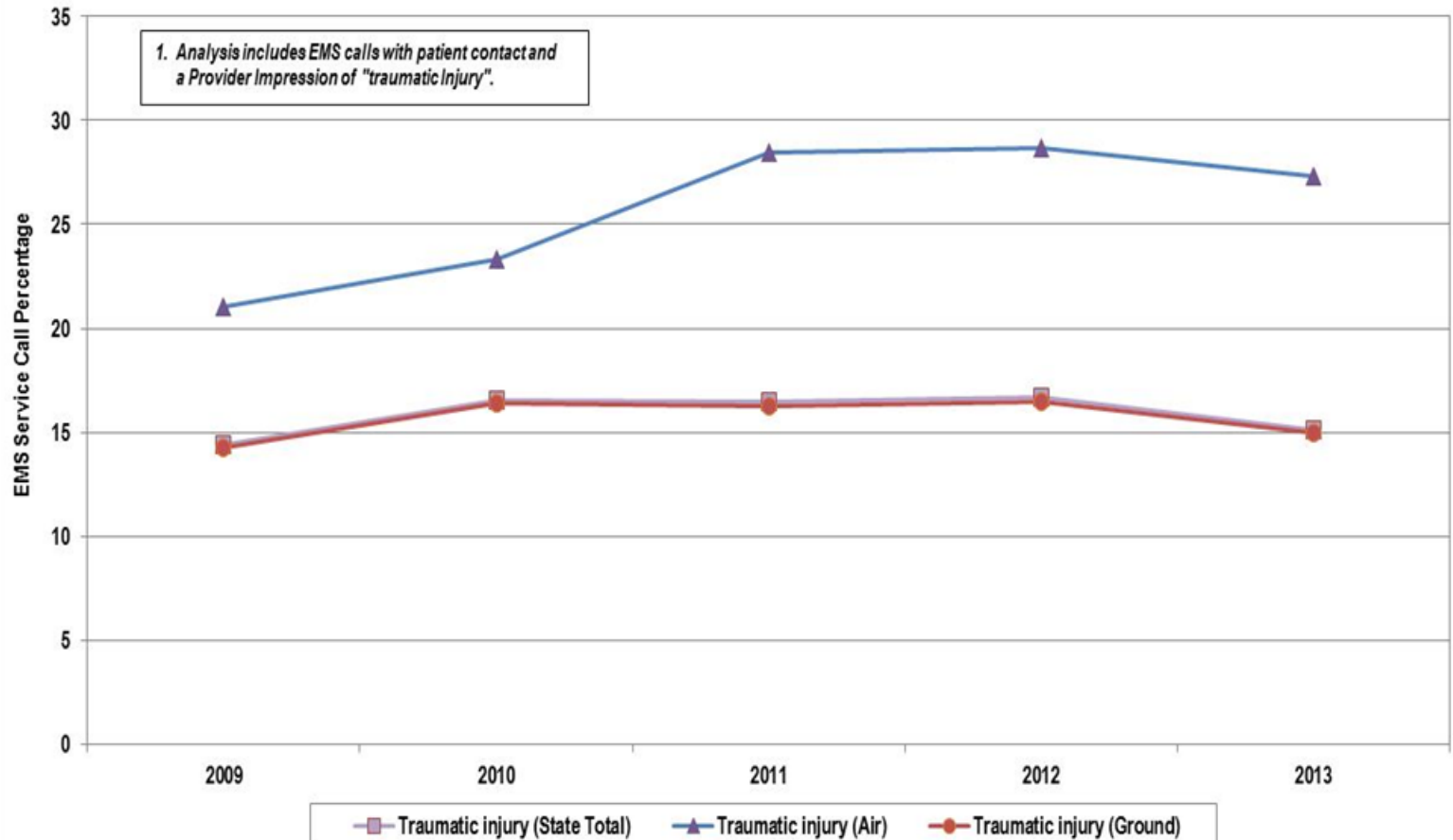


Traumatic Injury-Provider Type

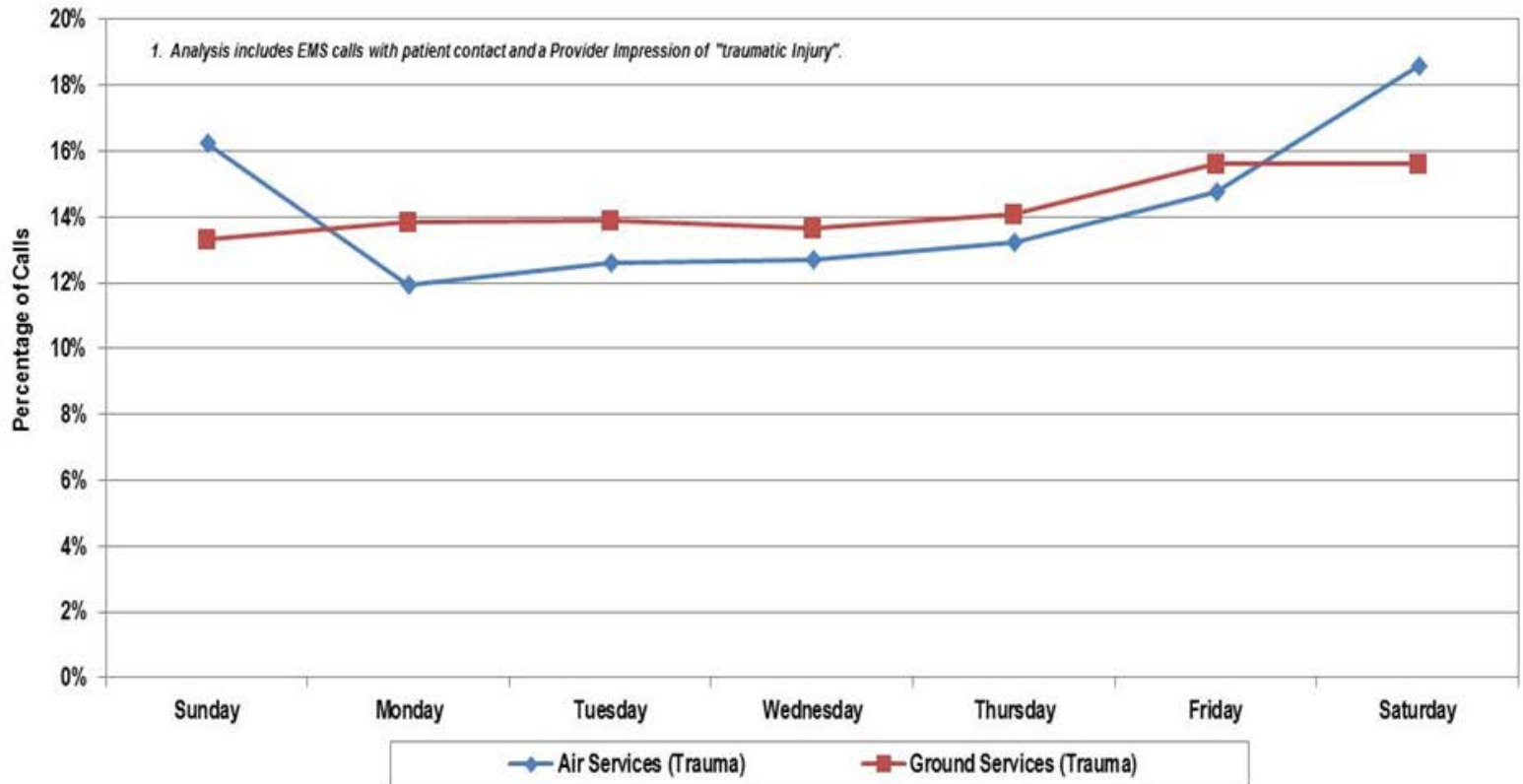
- Traumatic Injury made up 15.7% of the total EMS service call volume for ground services for all 5 years.
- Almost 26% of the total call volume for air services were reported as traumatic injuries for the same time period.
- Both air and ground services had similar patterns for time of call with the majority of traumatic injury service calls occurring between 12pm and 9pm with the highest percentage occurring between 3:00pm and 6pm.
- The majority of traumatic injuries for air services occurred on Friday, Saturday, and Sunday while ground services saw more traumatic injuries on Thursday, Friday, and Saturday (both with Saturday as highest %).



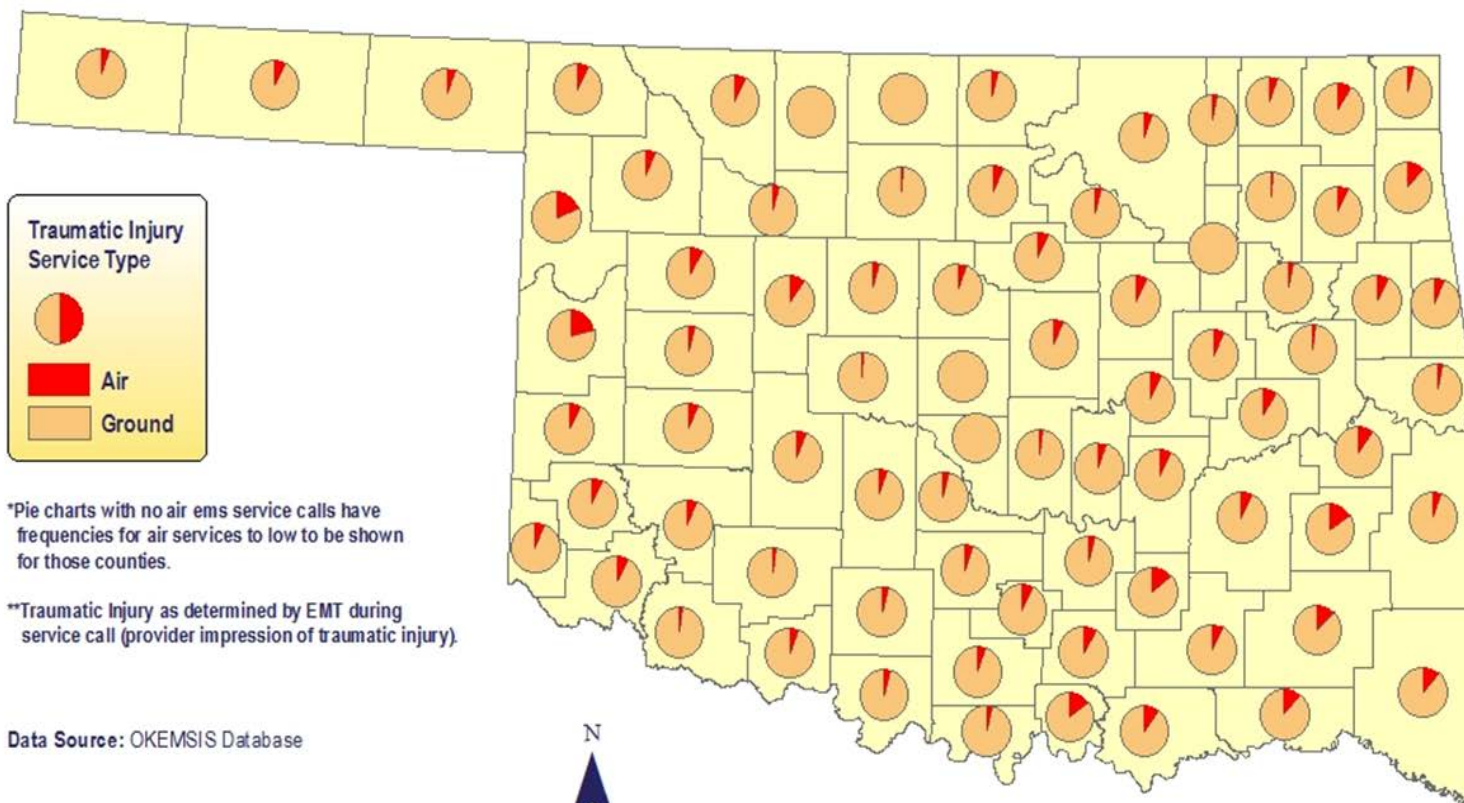
Traumatic Injury by Service Type, Air vs Ground, Oklahoma 2009-2013



Traumatic Injury by Day of the Week, Air vs Ground, Oklahoma 2009-2013



EMS Service Calls by Service Type, Traumatic Injury, Oklahoma 2009-2013



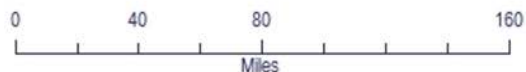
*Pie charts with no air ems service calls have frequencies for air services to low to be shown for those counties.

**Traumatic Injury as determined by EMT during service call (provider impression of traumatic injury).

Data Source: OKEMSIS Database

Created: 12.10.2014

Projection/Coordinate System: USGS Albers Equal Area Conic



Disclaimer: This map is a compilation of records, information and data from various city, county and state offices and other sources, affecting the area shown, and is the best representation of the data available at the time. The map and data are to be used for reference purposes only. The user acknowledges and accepts all inherent limitations of the map, including the fact that the data are dynamic and in a constant state of maintenance.



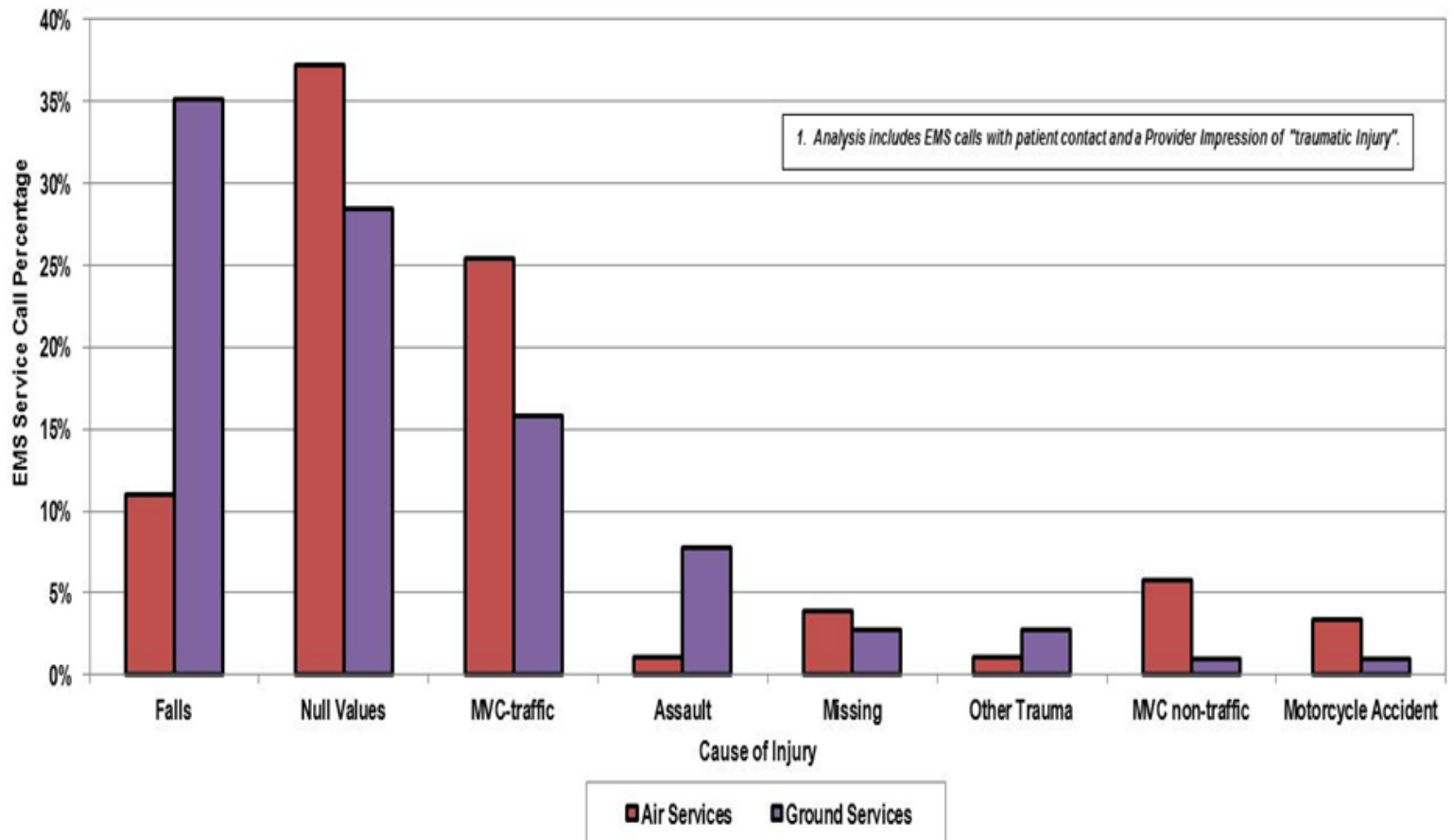
Emergency Systems
Protective Health Services
Oklahoma State Department of Health

Traumatic Injury-Provider Type

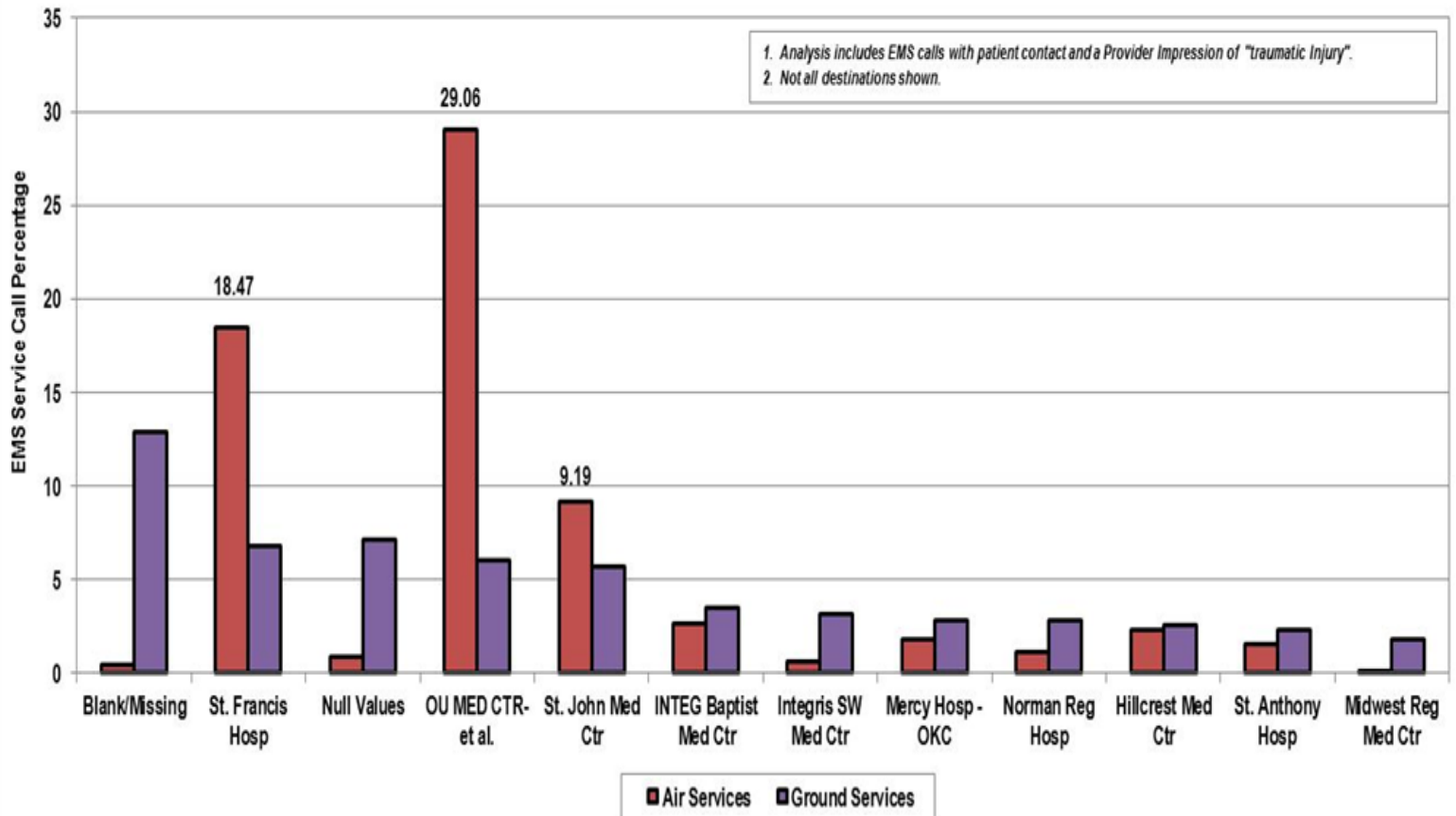
- Falls (35.2%) and Motor Vehicle Traffic Accidents (MVC, 15.8%) were the 2 major causes of traumatic injury for ground services.
- Motor Vehicle Traffic Accidents (25.4%) followed by falls (11%) and Motor Vehicle Non-Traffic Accidents (5.81%) were the major causes of traumatic injury for air EMS providers.
- Approximately 57% of all traumatic injuries for air services were delivered to OU Medical Center (29.1%), St. Francis Hospital (18.5%), and St. John Medical Center (9.2%).
- St. Francis (6.8%), OU Medical Center (6.1%), and St. John Medical Center (5.7%) had the highest percentage for ground services.



EMS Service Calls by Cause of Injury, Traumatic Injury, Oklahoma 2009-2013



EMS Service Calls by Destination and Service Type, Traumatic Injury, Oklahoma 2009-2013



OKEMISIS Data Quality



Oklahoma
State
Department
of Health

Data Quality

- Data quality is an important issue concerning any database as it is vital to analysis and research.
- Data quality can be affected by primarily two issues; data validity and null values.
- The following slides will look at the OKEMISIS database (between 2009 and 2014) for data quality using a sub-set of required data elements as described in the OKEMISIS data dictionary.

OKEMISIS Sub-Set Elements: Type of Service Requested, Patient Disposition, Incident Location Type, Incident City, Incident County, Incident State, Incident Zip Code, Crew Member Level, Crew Member Role, Provider Primary Impression, Cause of Injury for traumatic injury patients, Mechanism of Injury for traumatic injury patients, Patient Priority Status for traumatic injury patients, Trauma Triage Criteria for traumatic injury patients, Incident Facility Code for inter-facility transfers, and Destination Transferred to Code for treated and transported patients.

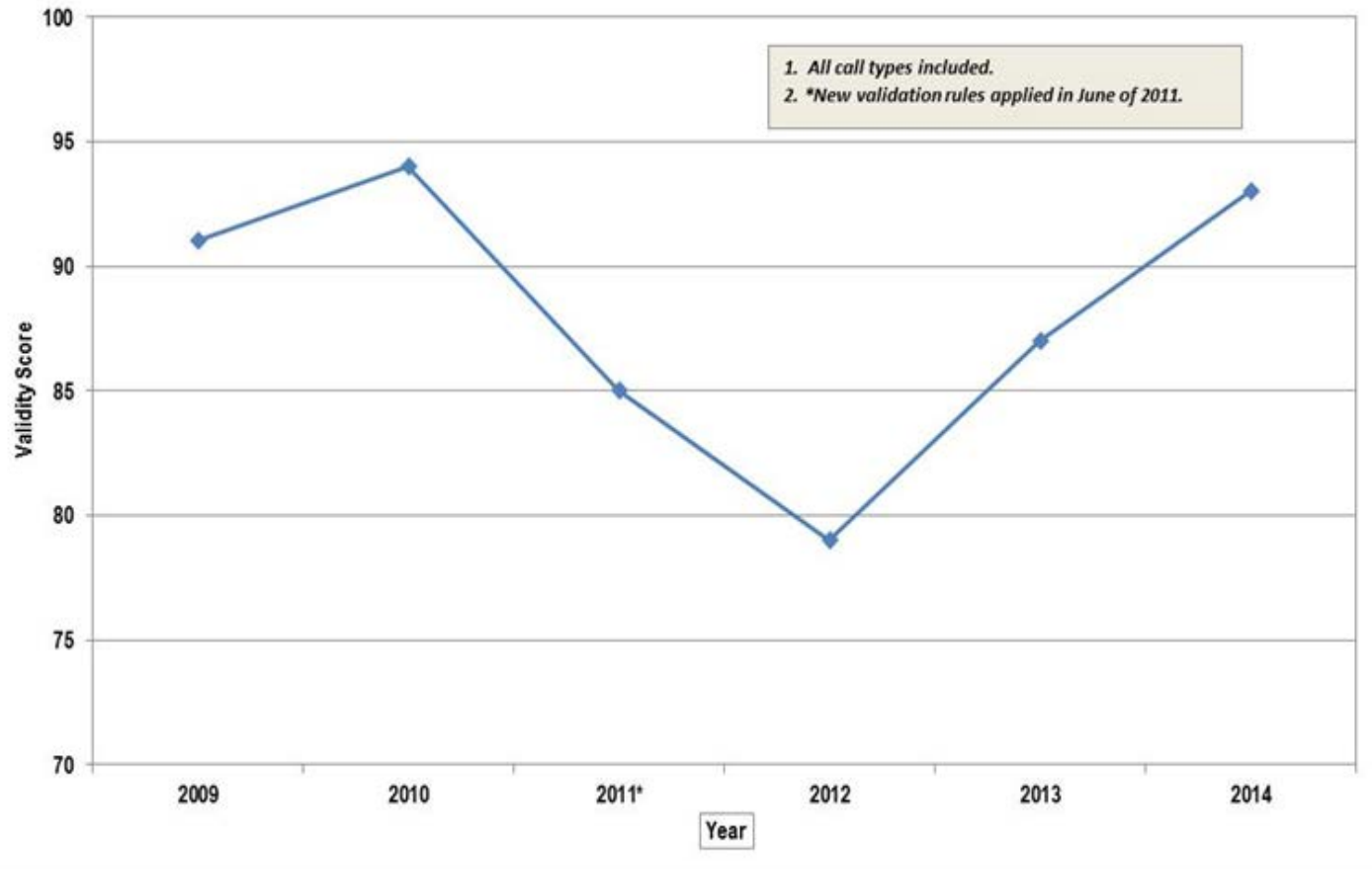


Data Quality- Validity

- **Data Validity**- the process of checking data coming into a system or database to make sure it conforms to a set of specifications (validation rules).
- **Validation Score**- a number based on validation rules between 0 and 100, 100 being the highest score, used to assess data validity.
- If data is poor in a database, research and analysis of the data can be limited or cause inaccurate results.
- Although there has been an overall increase in validity score for the OKEMSYS database between 2011 and 2014 (85 to 93, validation rules before 2011 were limited), there are still issues with data completeness/accuracy.



Average Validity Score, OKEMSIS 2009-2014

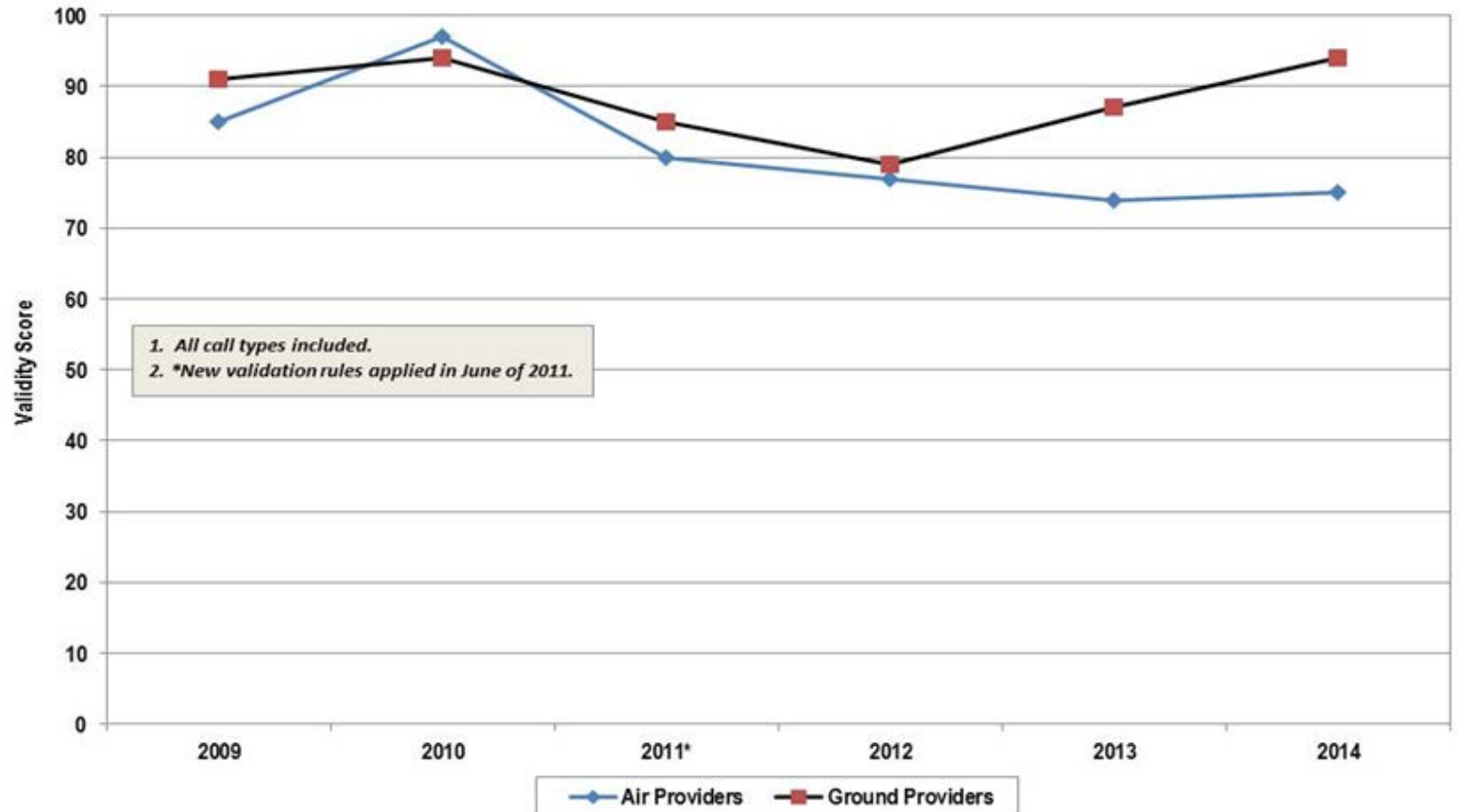


Data Quality- Validity

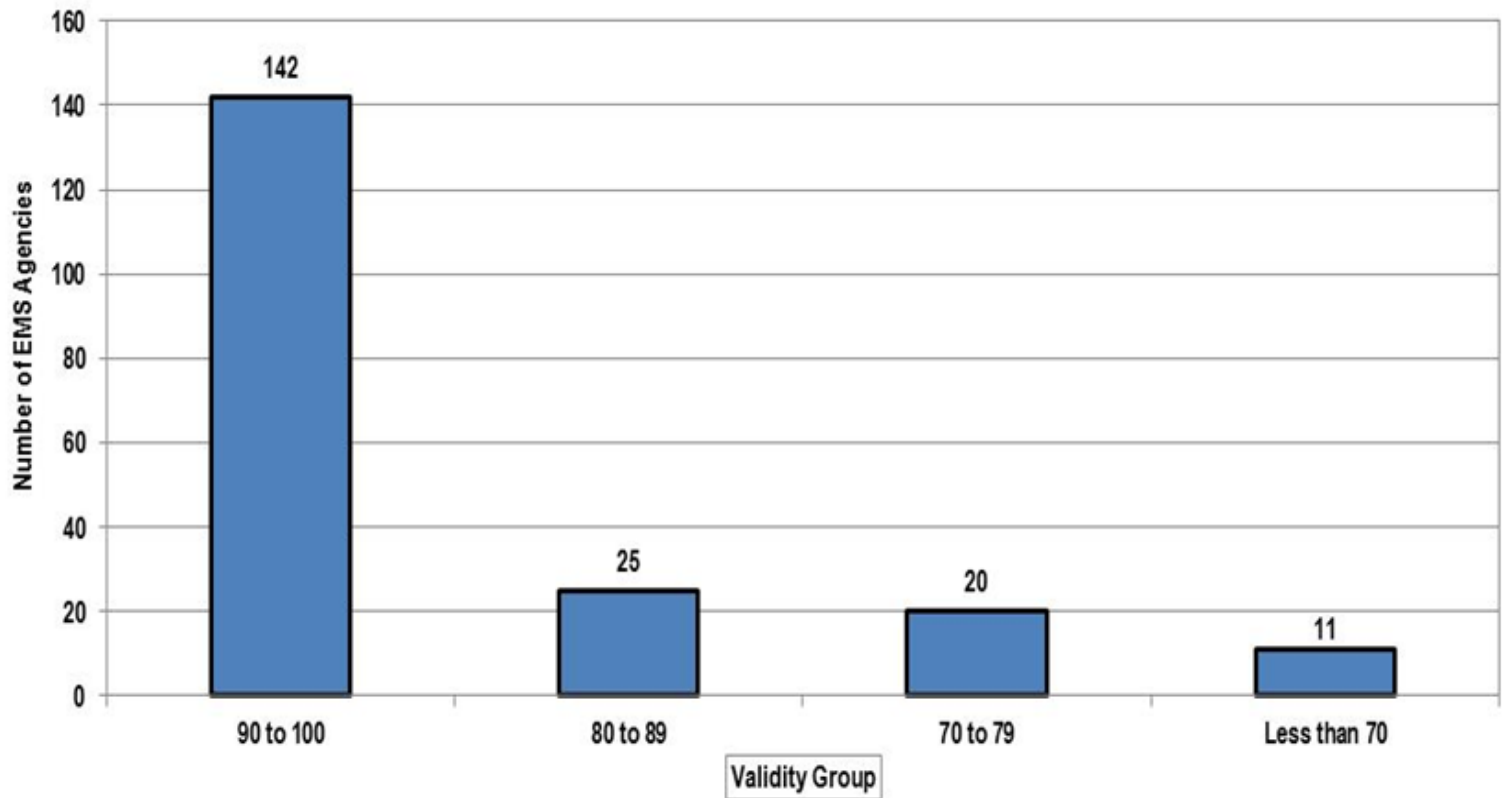
- Since the introduction of new validation rules in June of 2011, OKEMSIS validation scores have increased 17.7% from 85 in 2011 to 93 in 2014.
- Validity scores for ground providers increased 11.8% (85 to 95) from 2011 to 2014 while scores have decreased 6.7% for air providers (80 to 75).
- Region 3 and region 4 (both 97) had the highest validity scores in 2014 with Region 6 having the lowest score (88). Region 8 (27.8%) had the highest validity score increase followed by region 7 (26%).
- 142 EMS providers had validation scores between 90 and 100, 25 providers between 80 and 89, and 31 less than 80 including 11 providers having scores less than 70 (all air providers).



Average Validity Score by Service Type, OKEMSIS 2009-2014



2014 OKEMSIS Validity Scores by Validity Group, All EMS Providers

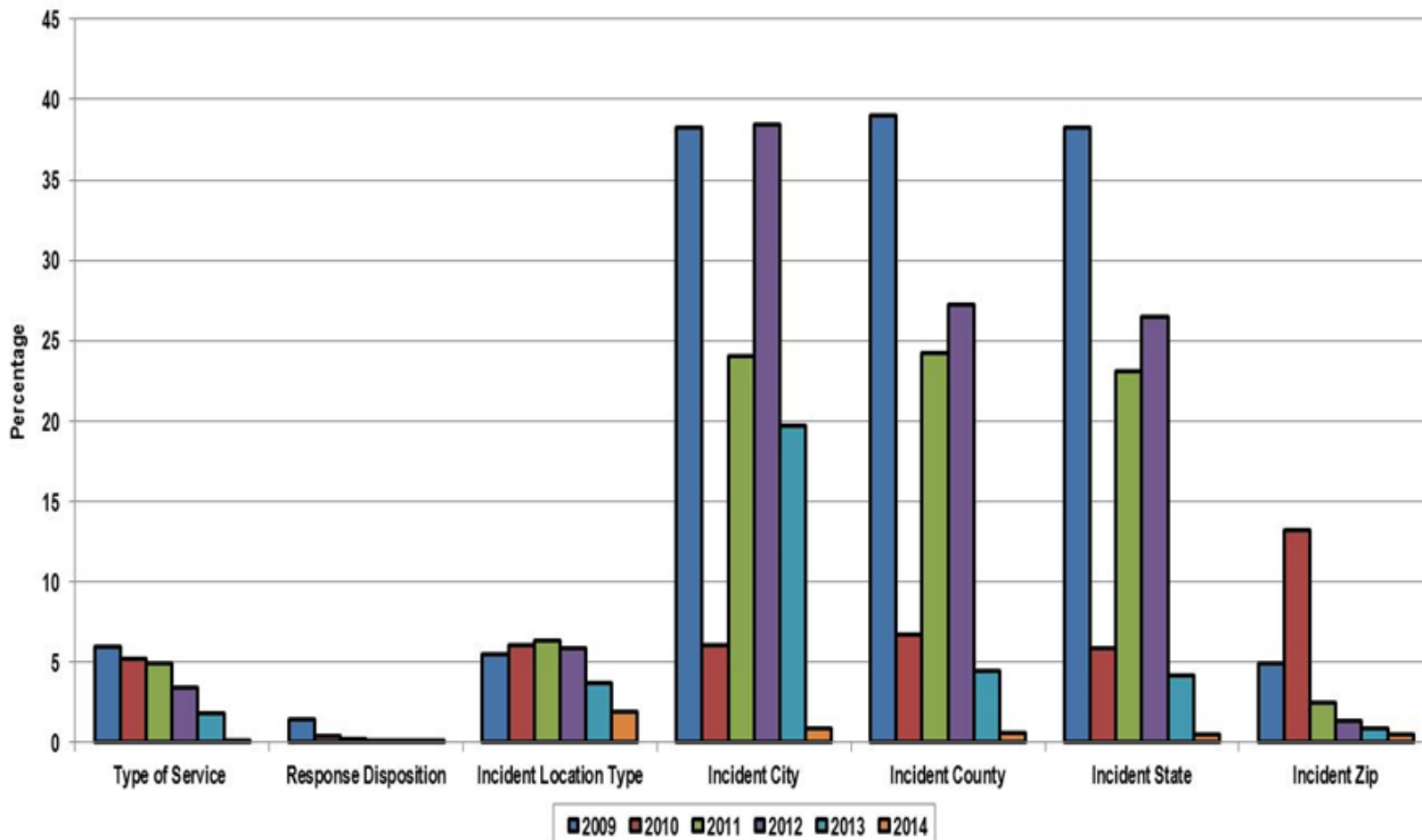


Data Quality- Null Values

- Null Values are defined as a data value or set of data values that represent an unknown or missing quantity in a database.
- OKEMSYS allows 4 null values: blank (missing), Not Applicable, Not Known, and Not Available.
- Excessive use of null values for a data element (as well as “other”) can render it unusable for analysis because of its non-specific nature.
- The use of null values/missing decreased to less than 2% for 7 of the sub-set elements between 2009 and 2014.



Null Value Percentage for Selected OKEMSIS Data Elements, 2009-2014

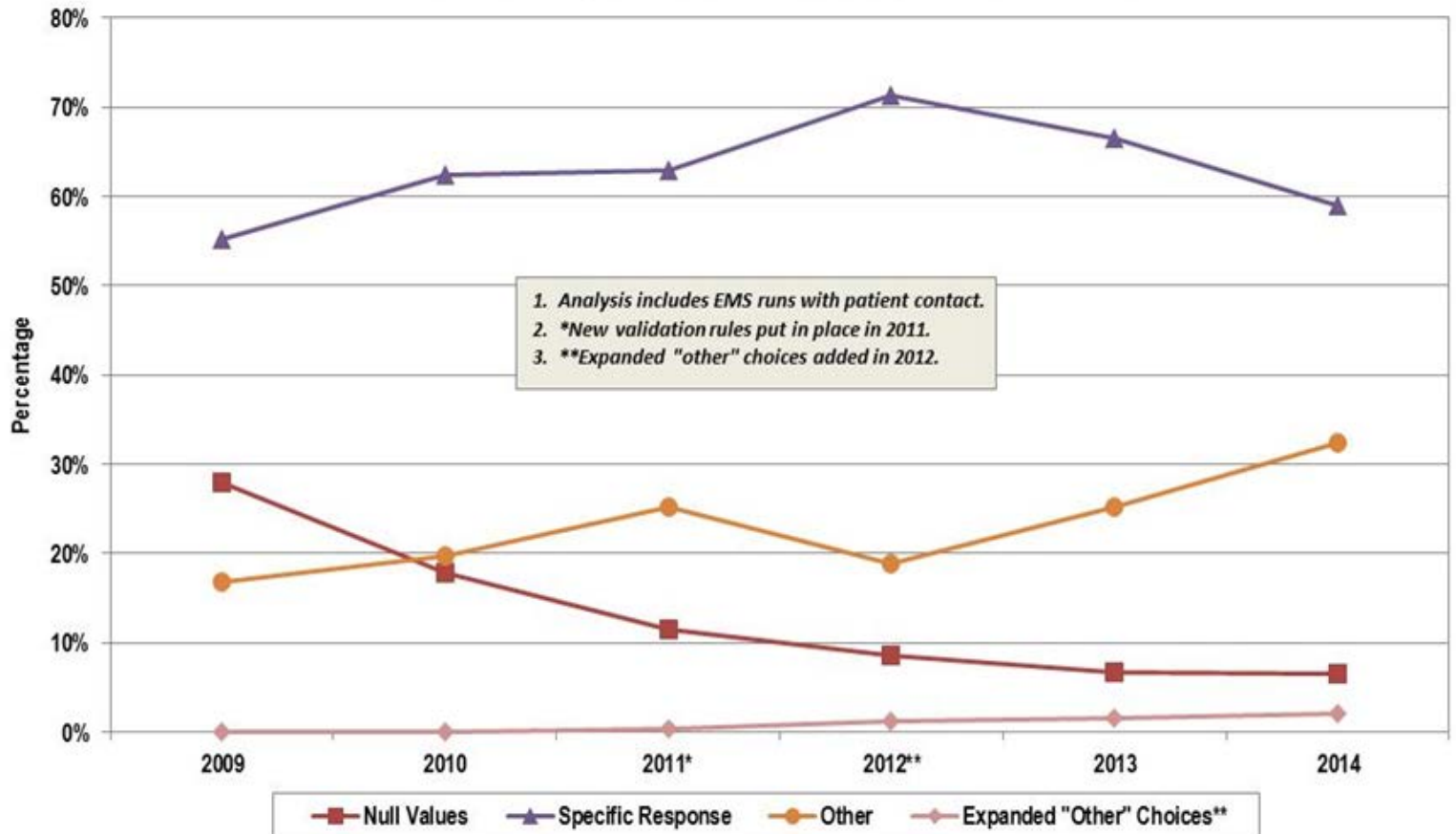


Data Quality- Null Values

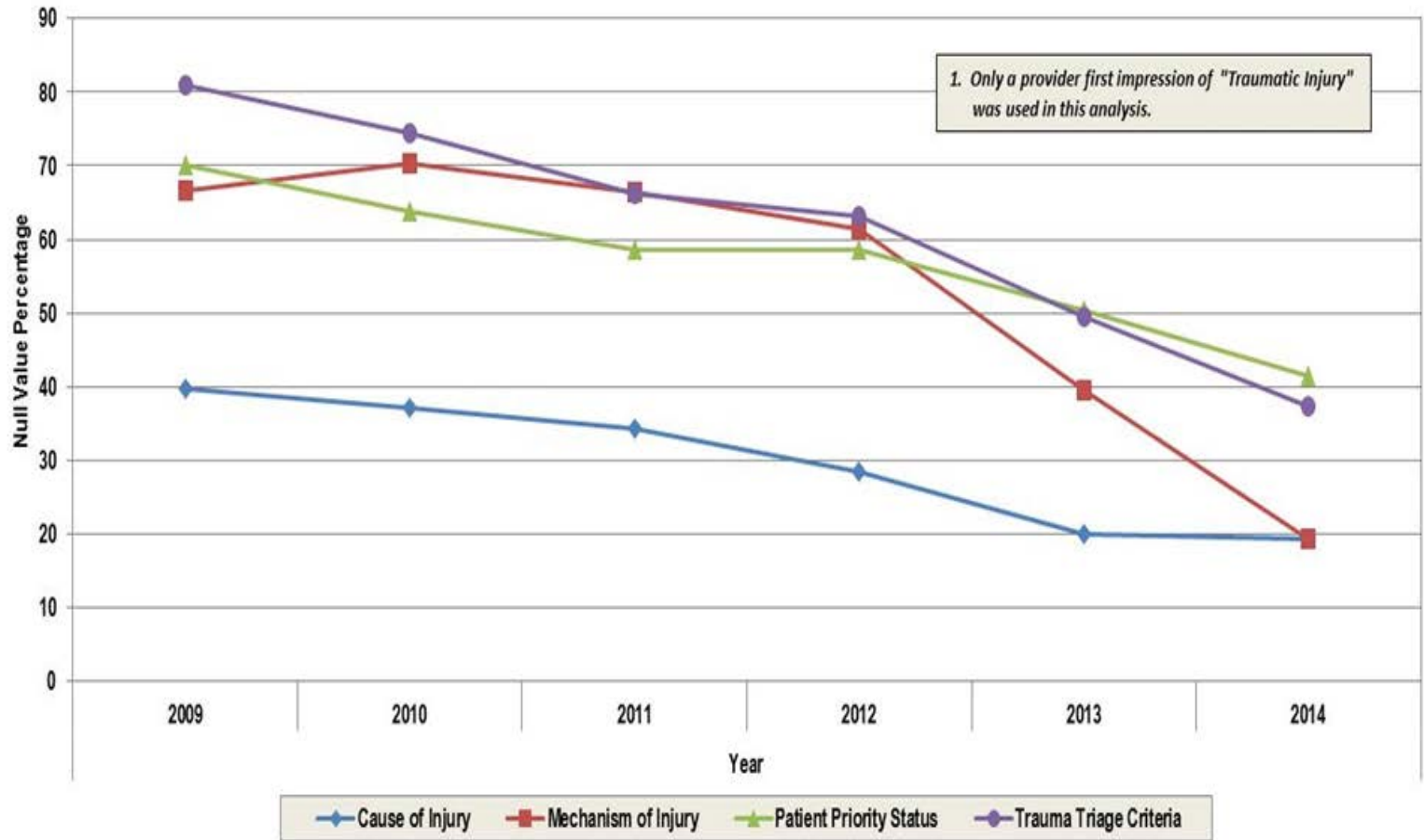
- Provider primary impression, crew member level, and crew member role all saw decreases in the use of null values *but saw increases in missing values and the use of “other”*.
- Cause of injury, mechanism of injury, patient priority status, and trauma triage criteria for EMS service calls with a provider first impression of “traumatic Injury” all saw big decreases in the use of null values (*should be no null values in this situation*).
- Both Incident facility code (inter-facility transfers) and Destination code (treated and transported patients) saw improvements in the number of valid codes although the goal for both elements should be 100% valid codes.



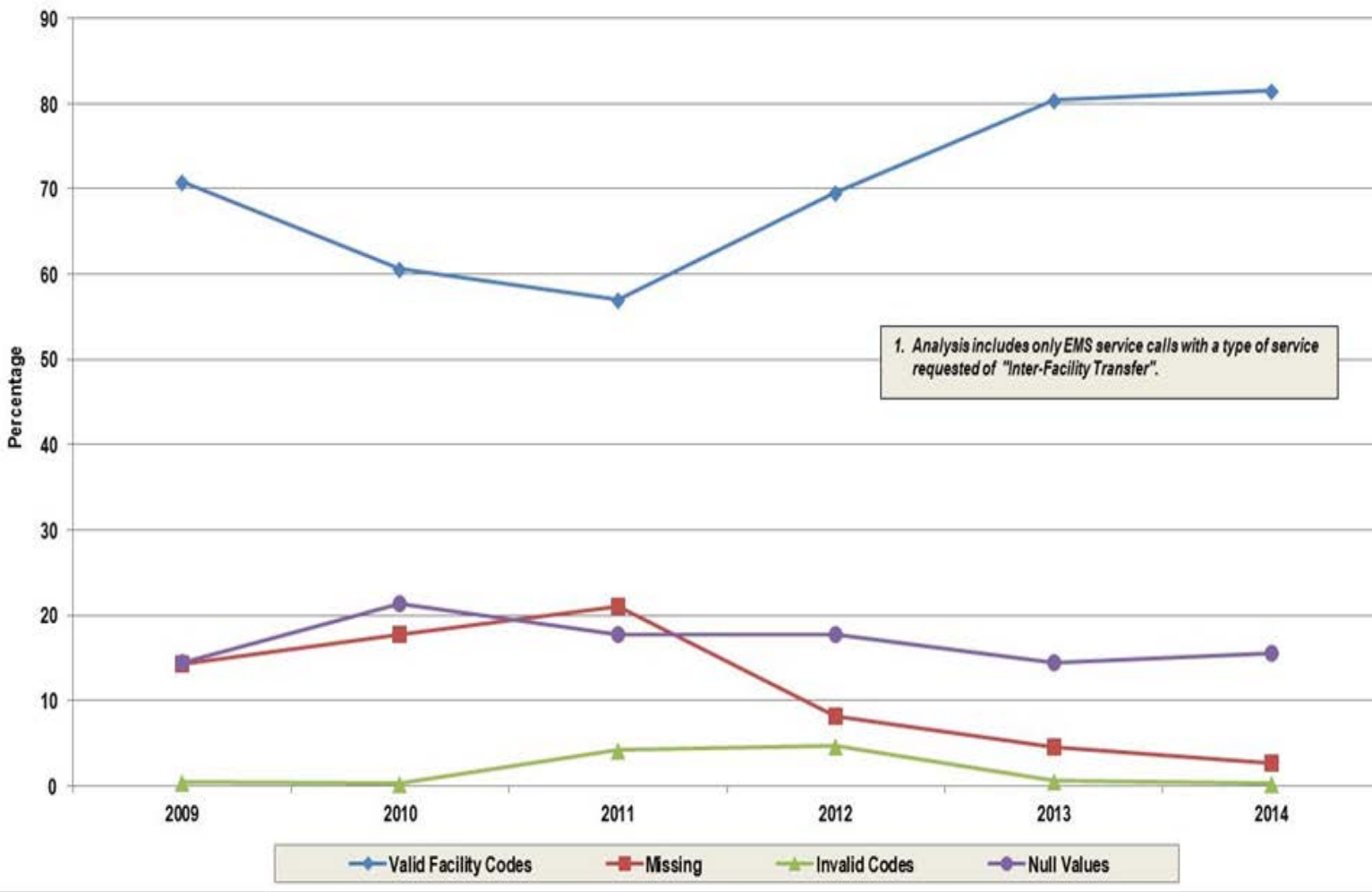
OKEMSIS Data Quality, Provider First Impression, 2009-2014



Null Value Percentage for Selected OKEMSIS Elements, Traumatic Injury, 2009-2014



OKEMSIS Data Quality, Incident Facility Code, 2009-2014





Data Quality

- Overall there was improvement in data quality and validity for the OKEMSIS database between 2009 and 2014 but the overuse of “other” and null/missing values still occurs at a percentage that is too high for many of the data elements in OKEMSIS.
- In an effort to increase data quality, several steps have been taken by OSDH staff which include the following:
 - A.) The OKEMSIS website will be upgraded to work more efficiently with new software upgrades and a new web form for data entry (for web entry agencies, no silverlight).
 - B.) A new OKEMSIS data dictionary (v3.3.4) based off NEMSIS v3.3.4 has been created with a goal of complete conversion of all agencies by January, 2016 (information posted on EMS OSDH website).
 - C.) Free regional trainings are provided for EMS agencies on how to set-up and use the OKEMSIS database, including looking for errors during import, how to make web entry easier, and how to make or use the available reports with the OKEMSIS report writer (CEU’s given).





Data Quality/Conclusion

D.) Links are available on the OKEMSIS website for validation rules, destination codes, and any updates to data elements.

E.) A validation report is currently available for agencies that import their data on the OKEMSIS website that tells that agency what elements are required by patient disposition.

- In conclusion, all agencies have access to their data in the OKEMSIS database.
- To ensure accuracy, agencies can use the various reports on the OKEMSIS website to check what data is being entered by their respective 3rd party vendors or EMT's (<https://okemsis.health.ok.gov>).
- Communication between the agencies, 3rd party vendors, and OSDH Emergency Systems is paramount for improving statewide EMS data.



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Links

- OKEMESIS website: <https://okemesis.health.ok.gov>
- OSDH Website: www.health.ok.gov
- OSDH EMS website: [OSDH EMS Link](#)
- EMS Regulations: [2009 Statutes and Rules Book](#)
- NEMESIS website: <http://www.nemesis.org>
- OKEMESIS Elite v3.3.4 website:
<https://okemesiselite.health.ok.gov/elite>

