

State of
Ohio

2015

EMS Incident Reporting System
Annual Data Report

Published: December 2016

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Introduction

The 2015 EMS Incident Reporting System Annual Data Report continues to utilize data from Ohio's EMS Incident Reporting System (EMSIRS) to provide both descriptive statistics and benchmarks for EMS performance improvement started with the 2014 EMS Incident Reporting System Annual Data Report.

EMSIRS is operated and maintained by the Ohio Department of Public Safety, Division of Emergency Medical Services. The Ohio State Board of Emergency Medical, Fire and Transportation Services has statutory authority over EMSIRS and supervises its operations.

This report was created by the Division of Emergency Medical Services' Office of Research and Analysis and the EMFTS Board's Systems Development Committee. It is divided into three parts. The first part is the Incident Description section. It gives a picture of EMS incidents across the state. The second part is the Patient Description section, describing the EMS patient population. The third part is the Performance Measures section. It provides benchmarks for care.

While this is the second year for the third section, performance measures are still new for EMS, not just in Ohio, but nationwide. While it is new, it is *the reason* data is collected in EMSIRS. Each EMS agency is highly encouraged to start comparing their patient care statistics against these 'yardsticks' to see how well they are performing. With these measurements each EMS agency will be able to compare their performance against the rest of the state, allowing improvement of care and sharing of best practices.

We welcome suggestions for improving and expanding this report. Your suggestions can be sent to the EMS Office of Research and Analysis at EMSdata@dps.ohio.gov.

Data Source

The EMS Incident Reporting System (EMSIRS) is the source of information for this Annual Data Report. Submission of data to EMSIRS is required in law (Revised Code §4765.06) for all emergency medical service organizations. Since the system began collecting emergency run data on January 1, 2002, EMSIRS has collected over 13 million records. See Appendix A for a data flow schematic and Appendix C for a list of EMS agencies submitting 2015 EMSIRS data.

Limitations of the Data

Accuracy: The accuracy of data received by EMSIRS, and therefore in this report, is limited by the number of individual EMS agencies submitting data to EMSIRS and the accuracy of these submissions. No external validation of the data has been performed. Every effort is made to ensure the accuracy of the received data through automatic error checks on the data as it is submitted. Checks are made for validity (e.g., only specified codes allowed; no future dates) and for logic (e.g., negative age; pregnant male). Records with errors in validity or logic are not accepted into the database. The submitter receives a message with a list of rejected records and the type of error for each. While the submitter is supposed to correct and resubmit the rejected records, there is no way within the scope of our operations to verify this is being done.

EMSIRS Participation: Submission of data to EMSIRS by all emergency medical service organizations is required in law (Revised Code §4765.06). A list of EMS agencies that submitted data used in this report can be found in Appendix C.

Incident dates: Dates of incidents as used in this report are based on the date the EMS unit was notified by dispatch. The date/time of the call to dispatch is not uniformly available, whereas the date/time of EMS unit notification is.

Rounding: Because of rounding, percentages displayed in graphs and tables may not always total 100%.

Preamble

Emergency medical services (EMS) utilization of data and performance measures has continued to surge exponentially since the release of the inaugural State of Ohio EMS Incident Reporting System (EMSIRS) annual report of 2014. The diligent leadership and expertise of Tim Erskine, the Section Chief of Trauma & Research, and his staff have facilitated the ability of the State Board of Emergency Medical, Fire and Transportation Services (EMFTS) Board and the Ohio Department of Public Safety, Division of EMS to remain ahead of the national curve within this sector of EMS administration. While the National Association of State EMS Officials have presented performance measures, Ohio already has a baseline of them in place with expansion of this model planned for the future. The transition to the third version of the National EMS Information System (NEMSIS) will further enhance data collection, and this national registry will further identify opportunities to improve patient care and outcomes.

Why is data important? First and foremost, life is the most precious asset that a person can possess, and most would agree that health is wealth. The care provided by EMS is often the critical factor in turning the tide between life and death as well as an improved patient outcome versus one that is less optimal. Awareness of new devices or patient care measures being promoted to the general public by media-fueled or salesperson-driven sources is useful general knowledge; however, one should never mindlessly follow the herd. We, as medical professionals, have the responsibility and a duty to filter out hearsay and embrace scientific evidence. We must direct our focus to the acquisition and analysis of quality data, EMS research, and evidence-based medicine to drive our decision-making processes for the implementation of patient care delivery and the technology that we use to provide this care. Secondly, data analysis identifies failures, gaps, and successes within our healthcare system that may not be evident through casual inspection. National data has shown that the number of deaths from opioid overdose now exceeds deaths from motor vehicle crashes, and the suicide rate among first responders, including EMS providers, exceeds the rate of on-duty deaths. Ohio's 2015 data reveals that EMS providers have significant gaps in the acquisition of a 12-lead electrocardiogram on older patients with cardiac chest pain and blood glucose analyses in patients with diabetic symptoms. These findings are stark reminders that there remains work to be done.

The potential upcoming amendments in the Patient Protection and Affordable Care Act cannot be predicted. Certainly, demonstrated value that is supported by data will continue to be linked to reimbursement and grant funding, and NEMSIS data will be an advocate of support for the need and value of EMS. During the frustrating moments inherent while navigating the hurdles to transition to NEMSIS 3, we must remember Tim Berners-Lee's quote, "Data is a precious thing and will last longer than the systems themselves." Regardless of the changes in our nation's healthcare framework in the future, one thread remains constant. In times of need, the general public will continue to call EMS with the desire and expectation to receive a level of care that will maximize their chances for a good outcome and prevent disability and death.

The information in the 2015 State of Ohio EMSIRS annual report is the product of your submitted data. As such, Ohio EMS providers are the true authors and owners of this document. Mike Schmoker stated, "Things get done only if the data we gather can inform and inspire those in a position to make a

difference.” I encourage all of you to use the contents of this report as an assessment of current patient care delivery, a foundation for future benchmarks, and as informational armament for your administrators and legislators to acquire the training, manpower, funding, and equipment required to achieve your goals for patient care now and in the future.

Carol A. Cunningham, M.D., FAAEM, FAEMS

State Medical Director

Ohio Department of Public Safety, Division of EMS

Incident Descriptors

2015 - State of Ohio EMSIRS Daily Run Volume

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	3,463	3,175	3,267	3,224	3,422	3,332	3,452	3,366	3,275	2,943	3,051	2,973	38,943
2	3,473	3,251	3,468	3,446	3,352	3,177	3,045	3,472	3,284	3,218	3,331	2,913	39,430
3	3,520	3,115	3,483	3,208	3,443	3,405	2,994	3,562	3,383	2,977	3,473	2,757	39,320
4	3,197	3,257	3,375	2,897	3,463	3,259	2,854	3,158	3,225	3,105	3,474	3,246	38,510
5	3,561	3,193	3,305	3,090	3,421	3,643	2,934	3,134	3,206	3,242	3,237	3,021	38,987
6	3,297	3,043	3,347	3,478	3,454	3,397	3,572	2,883	2,987	3,205	3,075	2,903	38,641
7	3,102	3,168	3,214	3,344	3,462	3,065	3,395	3,041	3,111	3,110	2,816	3,097	37,925
8	3,108	3,114	2,904	3,282	3,554	3,240	3,331	2,959	3,641	3,277	2,560	2,981	37,951
9	3,324	3,035	3,488	3,437	3,046	3,280	3,401	2,853	2,974	3,097	2,708	3,051	37,694
10	3,211	3,031	3,412	3,490	3,019	3,523	3,426	3,072	3,000	2,996	2,701	3,246	38,127
11	3,254	3,318	3,285	3,187	3,364	3,128	3,227	2,959	3,062	2,883	2,617	3,172	37,456
12	3,744*	3,206	3,338	3,257	2,949	3,216	3,237	3,023	2,611+	3,249	2,762	3,204	37,796
13	3,274	3,066	3,250	3,531	2,774	3,109	3,514	2,941	2,540+	2,883	2,934	2,943	36,759
14	3,048	3,307	2,997	3,235	2,796	3,331	3,409	3,048	2,990	3,056	2,746	3,447	37,410
15	3,131	2,870	2,829	3,299	3,039	3,606	2,798	3,125	2,951	2,890	2,830	3,168	36,536
16	3,388	3,516	3,361	3,297	2,888	3,135	2,821	3,070	3,092	3,160	3,253	3,297	38,278
17	3,216	3,256	3,332	3,524	2,867	3,325	3,116	3,344	3,143	2,613	3,134	3,157	38,027
18	3,047	3,458	3,317	3,313	3,581	3,522	3,139	3,427	3,061	2,690	3,376	3,205	39,136
19	3,488	3,178	3,194	2,733	3,355	2,993	2,990	3,320	2,928	2,979	3,092	2,995	37,245
20	3,191	3,352	3,274	3,115	3,101	2,902	3,644	3,110	2,756	3,016	3,120	2,857	37,438
21	3,234	3,346	3,083	2,913	3,243	2,703	3,523	3,342	3,017	2,960	2,948	3,469	37,781
22	3,268	3,131	2,929	2,896	3,370	3,736*	3,326	3,434	2,987	2,871	2,913	3,326	38,187
23	3,289	3,375	3,275	2,830	3,272	3,512	3,087	2,875	2,912	2,810	3,044	3,368	37,649
24	3,089	3,244	3,236	3,099	3,163	3,327	3,069	3,068	2,889	2,738	3,066	2,932	36,920
25	3,111	3,338	3,375	2,786	3,153	3,215	3,019	2,929	2,863	2,428	2,968	2,824	36,009
26	3,287	3,174	3,261	2,711	3,599	3,419	3,250	2,900	2,917	2,911	2,663+	3,231	37,323
27	3,220	3,372	3,306	2,962	3,532	3,100	3,521	3,048	3,000	2,926	2,953	2,893	37,833
28	3,199	3,084	2,777	3,060	3,428	3,108	3,497	3,068	3,413	3,209	3,029	3,048	37,920
29	3,412		2,675	3,110	3,669*	3,416	3,567	3,053	3,181	2,849	2,835	3,183	34,950
30	3,082		3,319	2,934	3,378	3,072	3,160	3,301	2,917	2,931	3,361	3,223	34,678
31	2,936		3,080		2,946		3,430	3,291		2,801		3,084	21,568
Total	101,164	89,973	99,756	94,688	101,103	98,196	100,748	97,176	91,316	92,023	90,070	96,214	1,152,427

**Data represents all records uploaded as of 8/4/2016

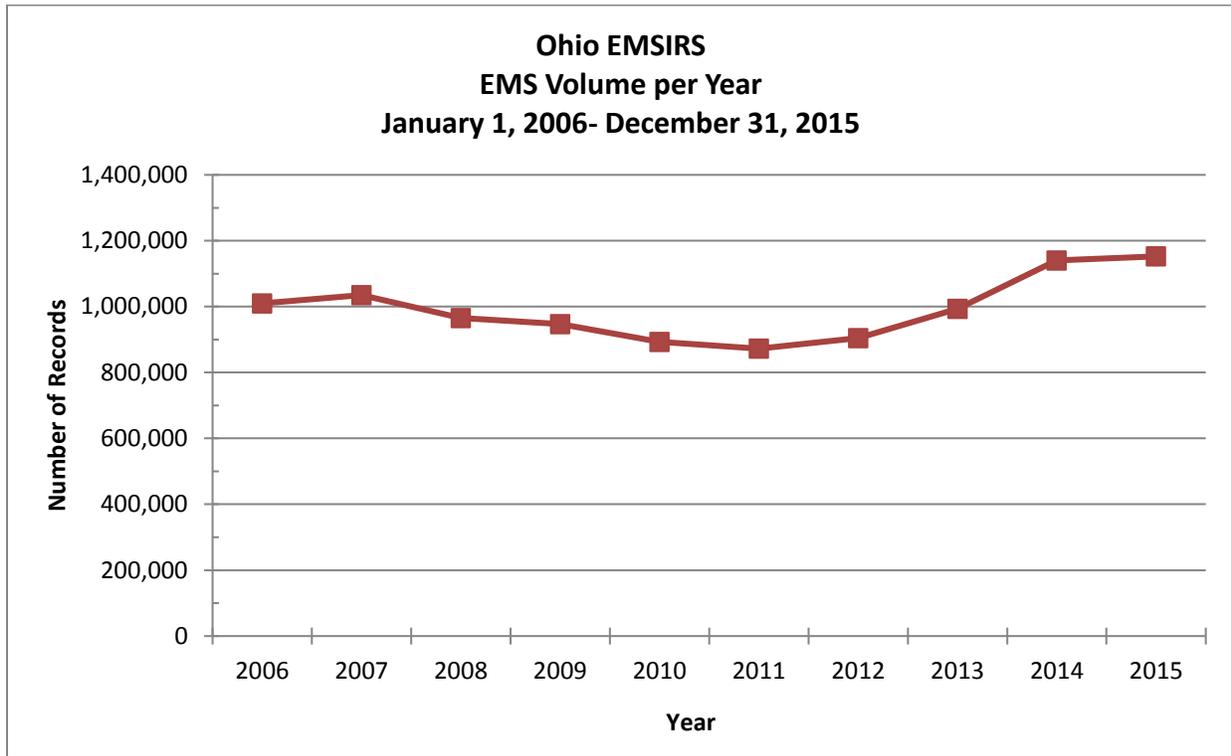
*Top 3 Busiest Days by Volume

+Top 3 Slowest Days by Volume

2015 State of Ohio EMSIRS Run Volume

In 2015, EMSIRS has been uploaded with 1,152,427 records, presented above as a crosstab of number of runs for each day of each month. For 2015, this is a daily average of 3,157 runs.

10-Year EMSIRS Annual Record Volume Trend

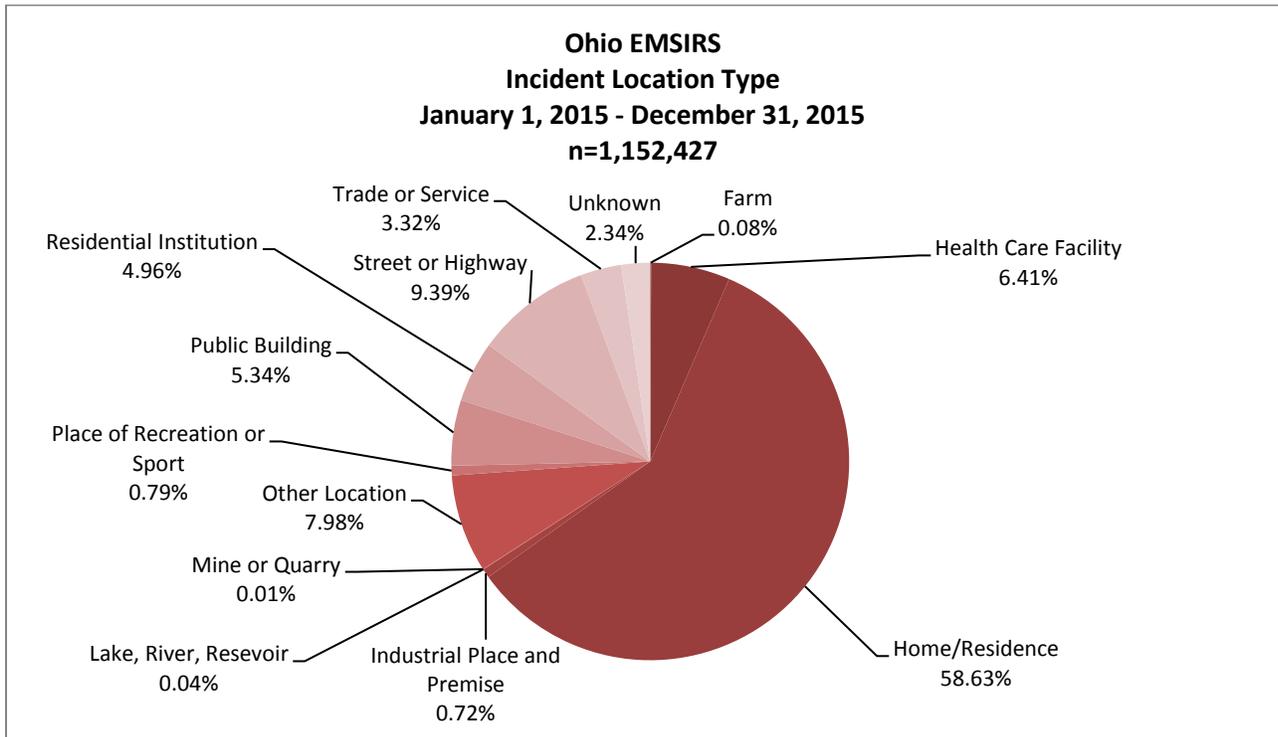


	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Jan	83,447	86,479	81,884	82,605	77,356	76,814	80020	78,032	98,160	101,164	845,961
Feb	76,450	82,904	82,351	72,723	73,543	71,960	74981	68,364	85,496	89,973	778,745
Mar	87,083	87,139	83,859	81,626	77,087	74,134	76319	77,069	92,981	99,756	837,053
Apr	83,852	82,824	78,311	79,784	70,530	72,164	70547	78,351	90,340	94,688	801,391
May	88,219	91,359	80,534	80,100	77,811	76,499	75836	84,137	97,120	101,103	852,718
Jun	83,705	88,175	81,236	80,787	75,887	73,579	73338	83,509	94,659	98,196	833,071
Jul	87,554	86,161	81,041	81,577	74,624	75,608	76969	87,152	91,855	100,748	843,289
Aug	85,963	90,411	80,801	80,372	77,559	77,427	72989	89,712	97,374	97,176	849,784
Sep	83,952	86,857	80,481	77,417	71,731	71,407	72399	85,846	97,794	91,316	819,200
Oct	84,906	87,174	77,288	79,931	73,503	71,983	80584	88,575	99,632	92,023	835,599
Nov	80,349	81,833	76,577	73,471	70,160	63,020	72787	83,181	92,820	90,070	784,268
Dec	84,486	83,814	81,539	76,678	73,691	67,824	77402	89,794	102,134	96,214	833,576
Total	1,009,966	1,035,130	965,902	947,071	893,482	872,419	904,171	993,722	1,140,365	1,152,427	9,914,655

10-Year EMSIRS Volume Trend

In 2015, there were 1,152,427 records uploaded to EMSIRS in the State of Ohio as of August 4, 2016.

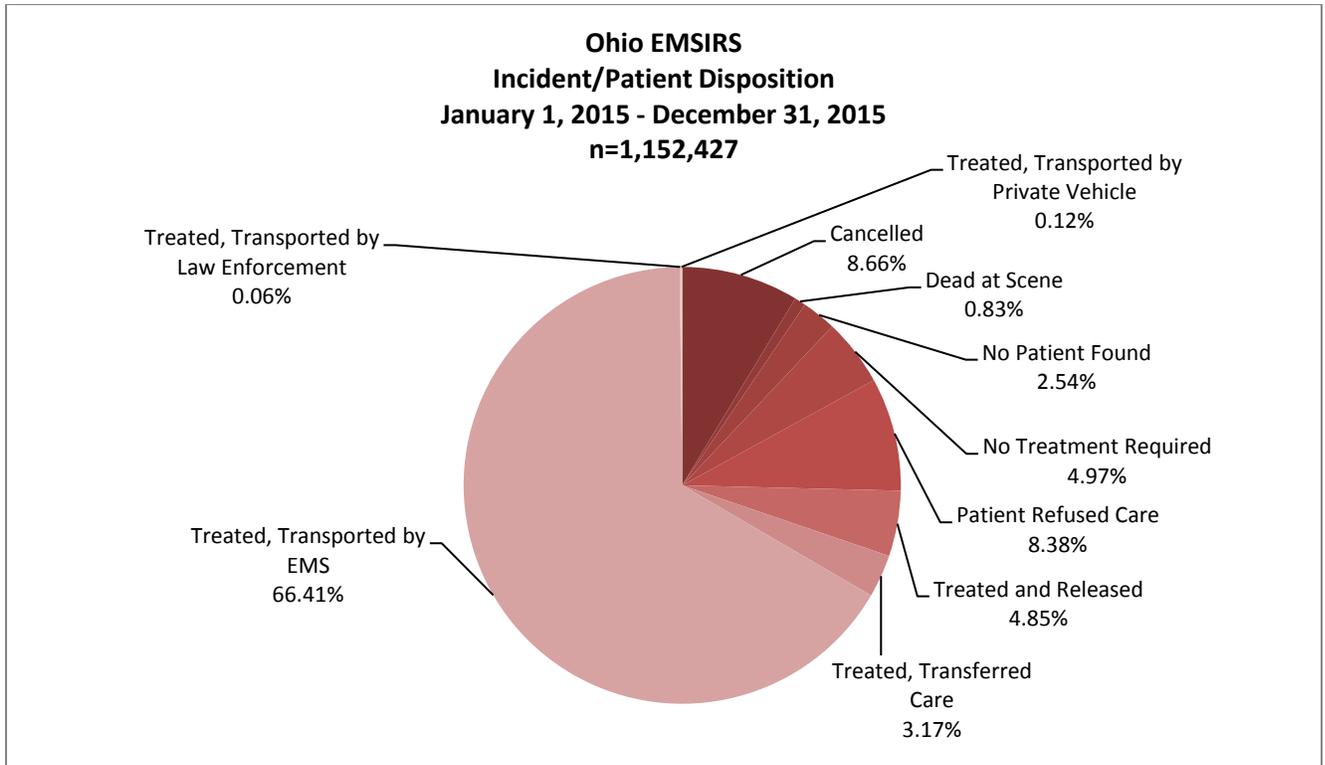
Incident Location Type



2015

<i>Location Type</i>	# of Records	% of Records
<i>Farm</i>	869	0.08%
<i>Health Care Facility</i>	73,910	6.41%
<i>Home/Residence</i>	675,696	58.63%
<i>Industrial Place</i>	8,280	0.72%
<i>Lake, River, Reservoir</i>	452	0.04%
<i>Mine or Quarry</i>	159	0.01%
<i>Other Location</i>	91,916	7.98%
<i>Place of Rec. or Sport</i>	9,114	0.79%
<i>Public Building</i>	61,502	5.34%
<i>Residential Institution</i>	57,115	4.96%
<i>Street or Highway</i>	108,256	9.39%
<i>Trade or Service</i>	38,220	3.32%
<i>Unknown</i>	26,938	2.34%
<i>Total</i>	1,152,427	100.0%

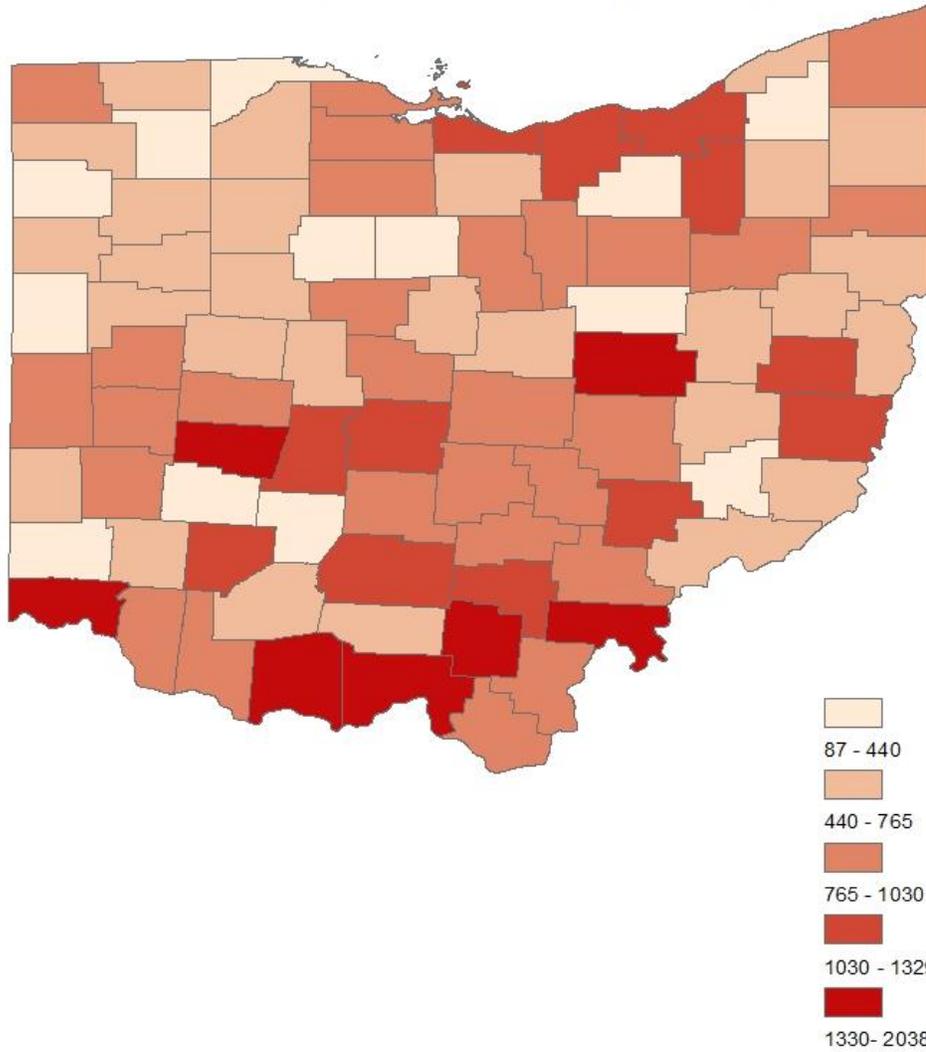
Incident/Patient Disposition



2015

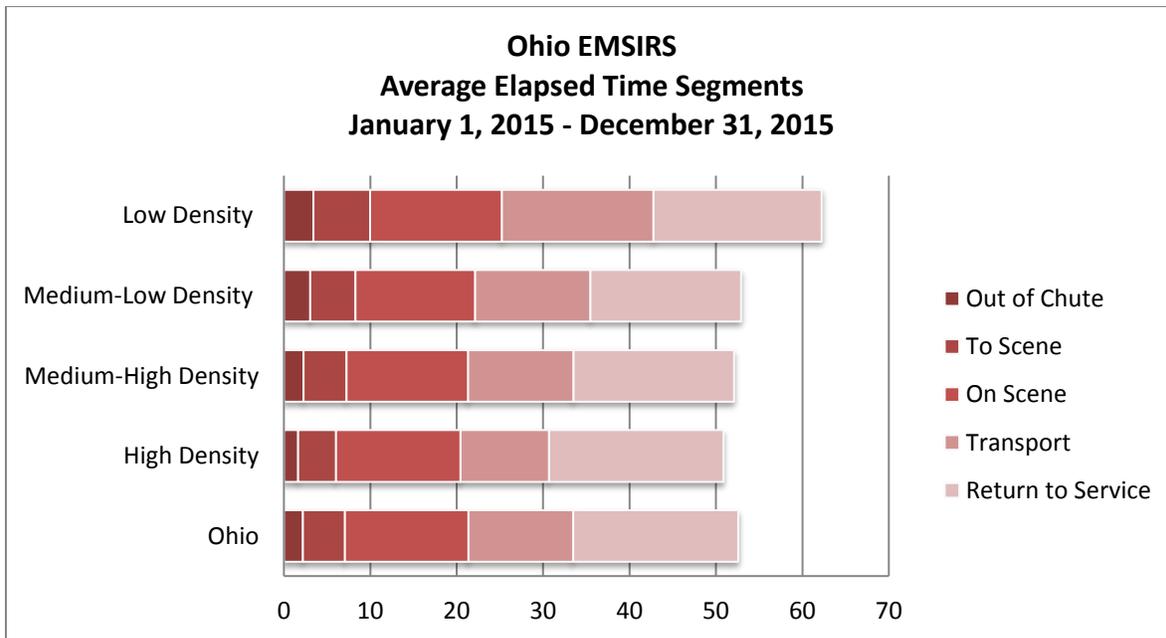
<i>Disposition</i>	# of Records	% of Records
<i>Cancelled</i>	99,757	8.66%
<i>Dead at Scene</i>	9,615	0.83%
<i>No Patient Found</i>	29,308	2.54%
<i>No Treatment Required</i>	57,310	4.97%
<i>Patient Refused Care</i>	96,628	8.38%
<i>Treated and Released</i>	55,875	4.85%
<i>Treated, Transferred Care</i>	36,502	3.17%
<i>Treated, Transported by EMS</i>	765,367	66.41%
<i>Treated, Transported by Law Enforcement</i>	743	0.06%
<i>Treated, Transported by Private Vehicle</i>	1,322	0.12%
<i>Total</i>	1,152,427	100.0%

2015 State of Ohio EMS Runs per 10,000 Population by County



**A table of population, total runs, and rate per 10,000 population per county is available in Appendix D

Average Elapsed Time Segments by Population Density



2015

	Out of Chute	To Scene	On Scene	Transport	Return to Service	Total Time
<i>High Density</i>	1.64	4.38	14.43	10.24	20.20	50.89
<i>Medium-High Density</i>	2.26	4.98	14.07	12.20	18.59	52.10
<i>Medium-Low Density</i>	3.04	5.23	13.86	13.35	17.44	52.92
<i>Low Density</i>	3.43	6.53	15.26	17.54	19.48	62.24
<i>Ohio</i>	2.21	4.87	14.29	12.10	19.09	52.56

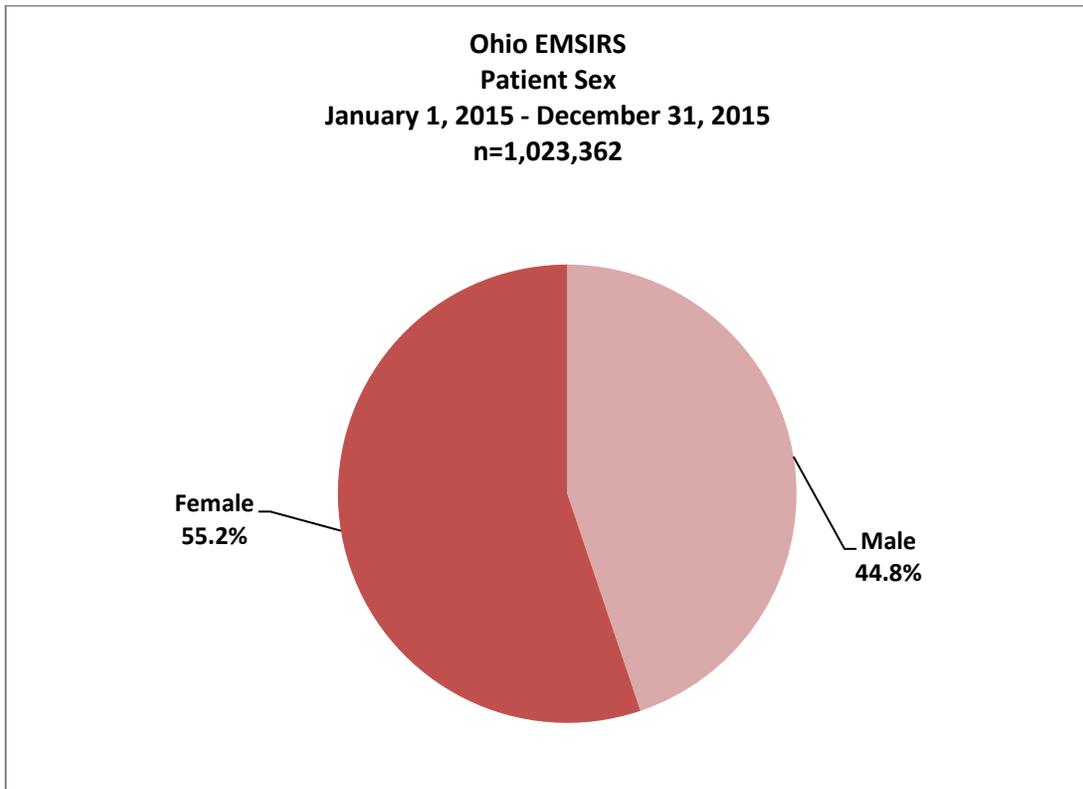
** See Appendix A for Population Density Breakdown

Average Elapsed Time Segments

In 2015, EMS calls that originated in high-density counties (see Appendix B) had the shortest total time from out of chute to return to service at 51.87 minutes. Low-density counties had the longest time to return to service, at 64.35 minutes.

Patient Descriptors

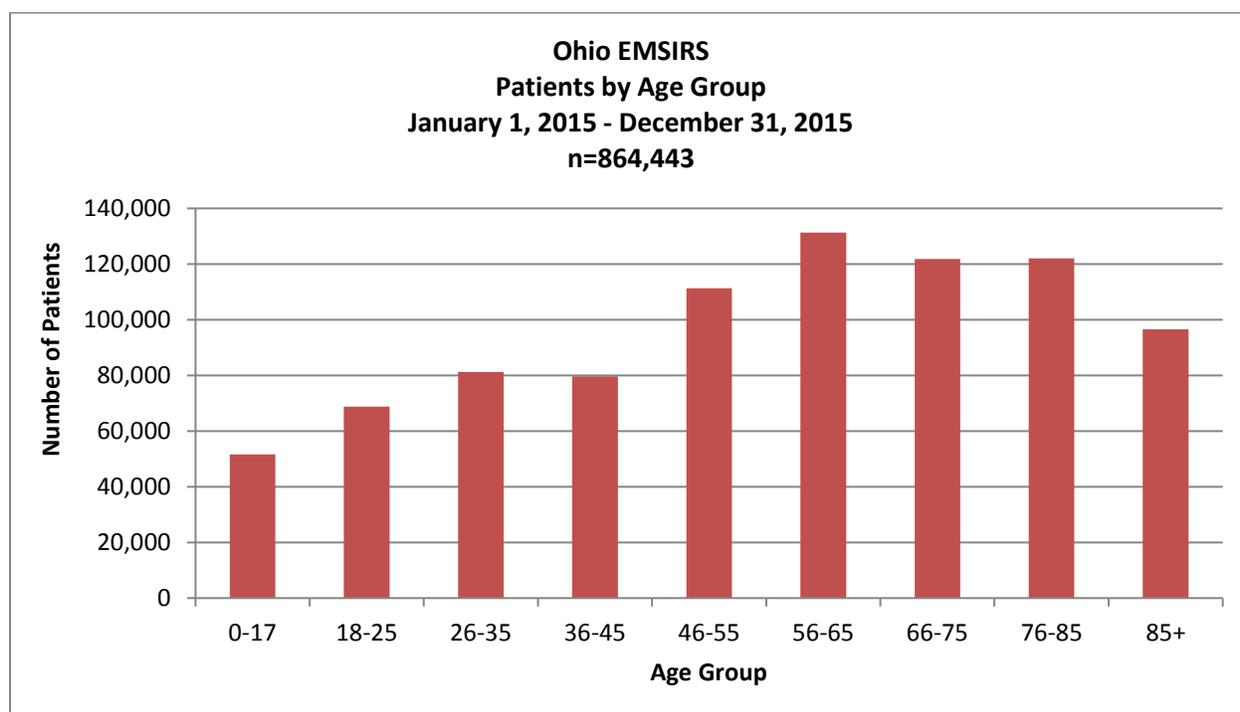
Patient Sex



* Only includes incidents where Incident/Patient Disposition is not Cancelled or No Patient Found.

2015		
	# of Records	% of Records
<i>Male</i>	458,624	44.8%
<i>Female</i>	564,624	55.2%
<i>Total</i>	1,023,362	100.0%

Patient Age



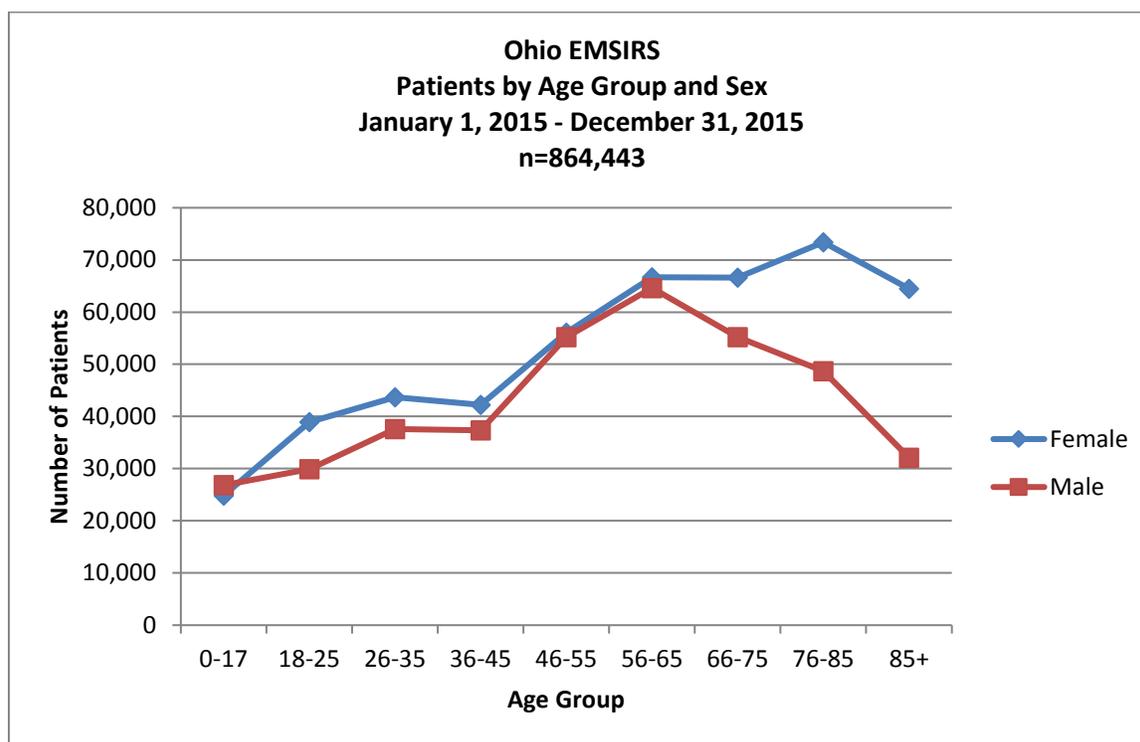
*Only includes incidents where Incident/Patient Disposition is not Cancelled, No Patient Found, No Treatment Required, or Patient Refused Care.

**227 records excluded for having non-calculable or not documented age

2015

Age	# of Patients	% of Patients
0-17	51,682	5.98%
18-25	68,837	7.96%
26-35	81,258	9.40%
36-45	79,600	9.21%
46-55	111,281	12.87%
56-65	131,279	15.19%
66-75	121,829	14.09%
76-85	122,074	14.12%
85+	96,603	11.18%
Total	864,443	100.00%

Patient Age by Sex



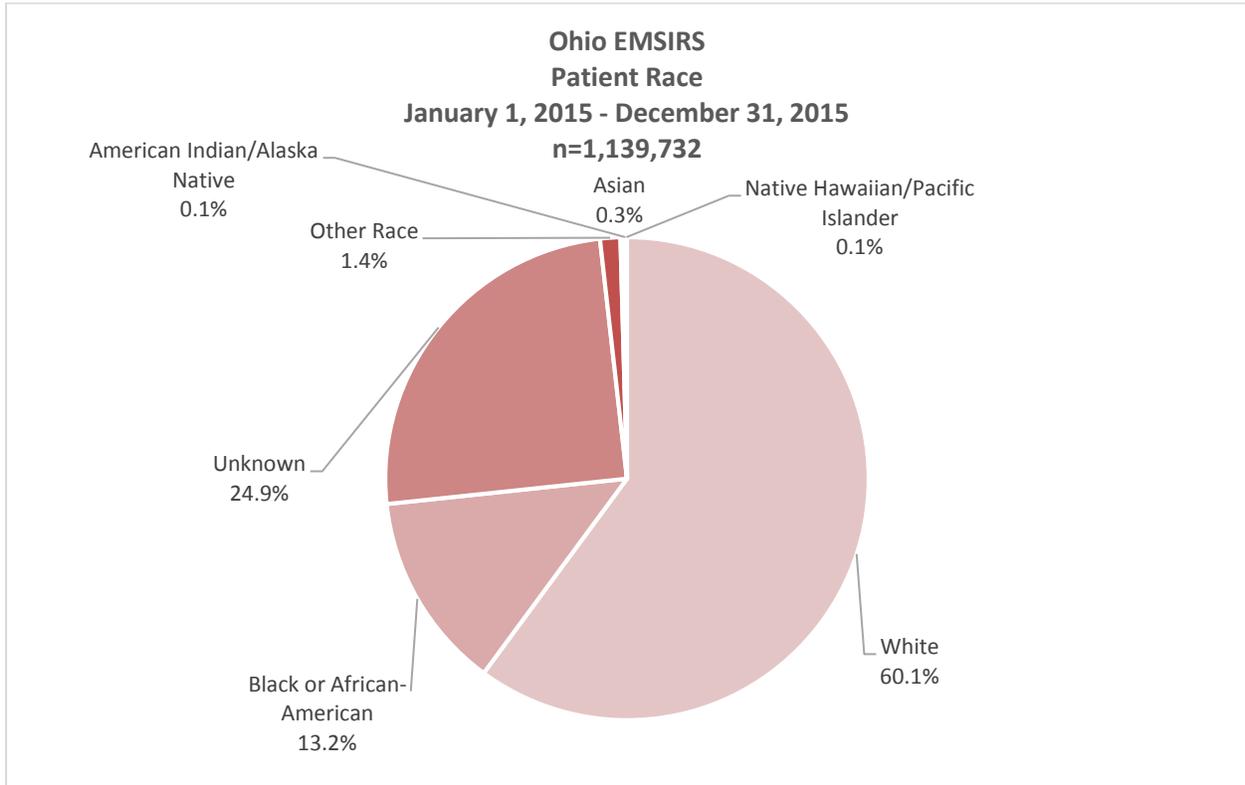
* Only includes incidents where Incident/Patient Disposition is not Cancelled, No Patient Found, No Treatment Required, or Patient Refused Care.

**227 records excluded for having non-calculable or not documented age

2015

Age	Male	Female	Male %	Female %	Total # Patients
0-17	26,829	24,853	51.9%	48.1%	51,682
18-25	29,910	38,927	43.5%	56.5%	68,837
26-35	37,599	43,659	46.3%	53.7%	81,258
36-45	37,353	42,247	46.9%	53.1%	79,600
46-55	55,236	56,045	49.6%	50.4%	111,281
56-65	64,613	66,666	49.2%	50.8%	131,279
66-75	55,212	66,617	45.3%	54.7%	121,829
76-85	48,679	73,395	39.9%	60.1%	122,074
85+	32,123	64,480	33.3%	66.7%	96,603
Total	387,554	476,889	44.8%	55.2%	864,443

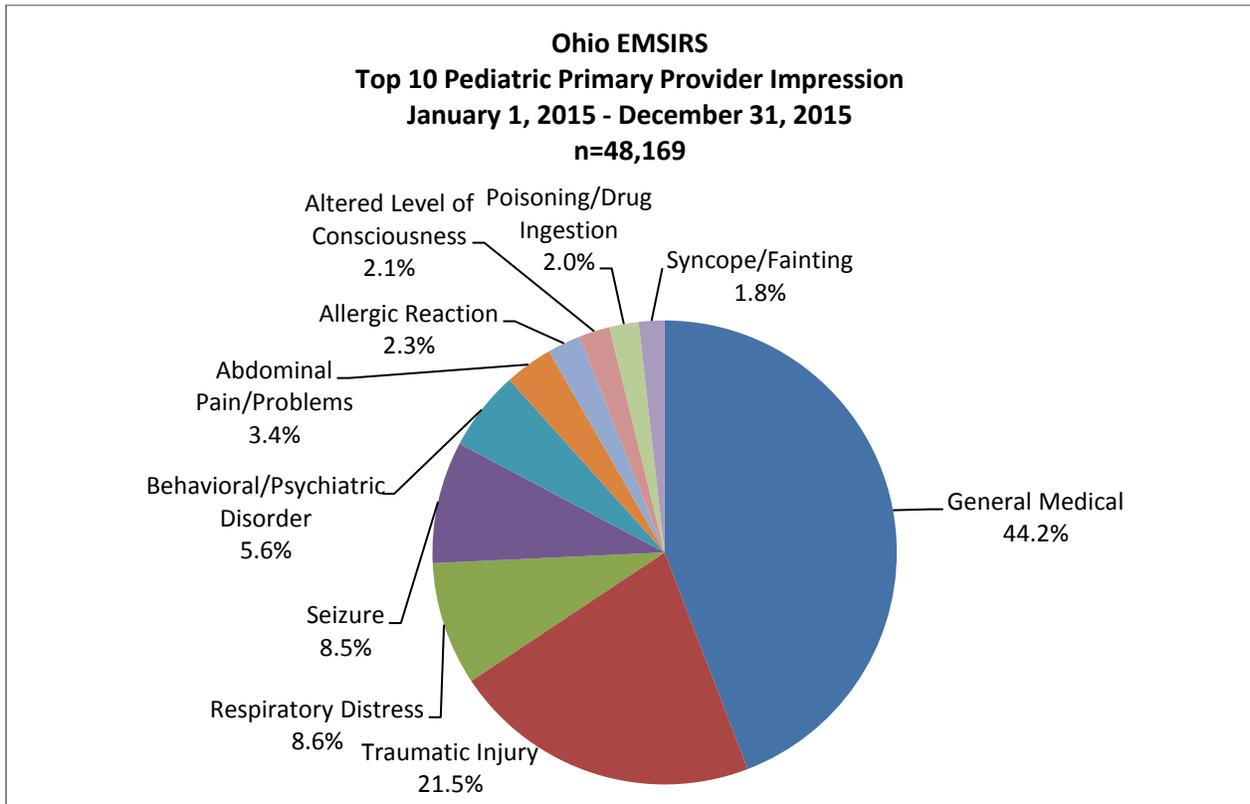
Patient Race



2015

<i>Race</i>	<i># of Patients</i>	<i>% of Patients</i>
<i>White</i>	677,231	60.1%
<i>Black or African-American</i>	148,975	13.2%
<i>Unknown</i>	280,462	24.9%
<i>Other Race</i>	15,250	1.4%
<i>Asian</i>	3,072	0.3%
<i>American Indian/Native Alaskan</i>	1,110	0.1%
<i>Native Hawaiian/Pacific Islander</i>	709	0.1%
<i>Total</i>	1,139,732	100.0%

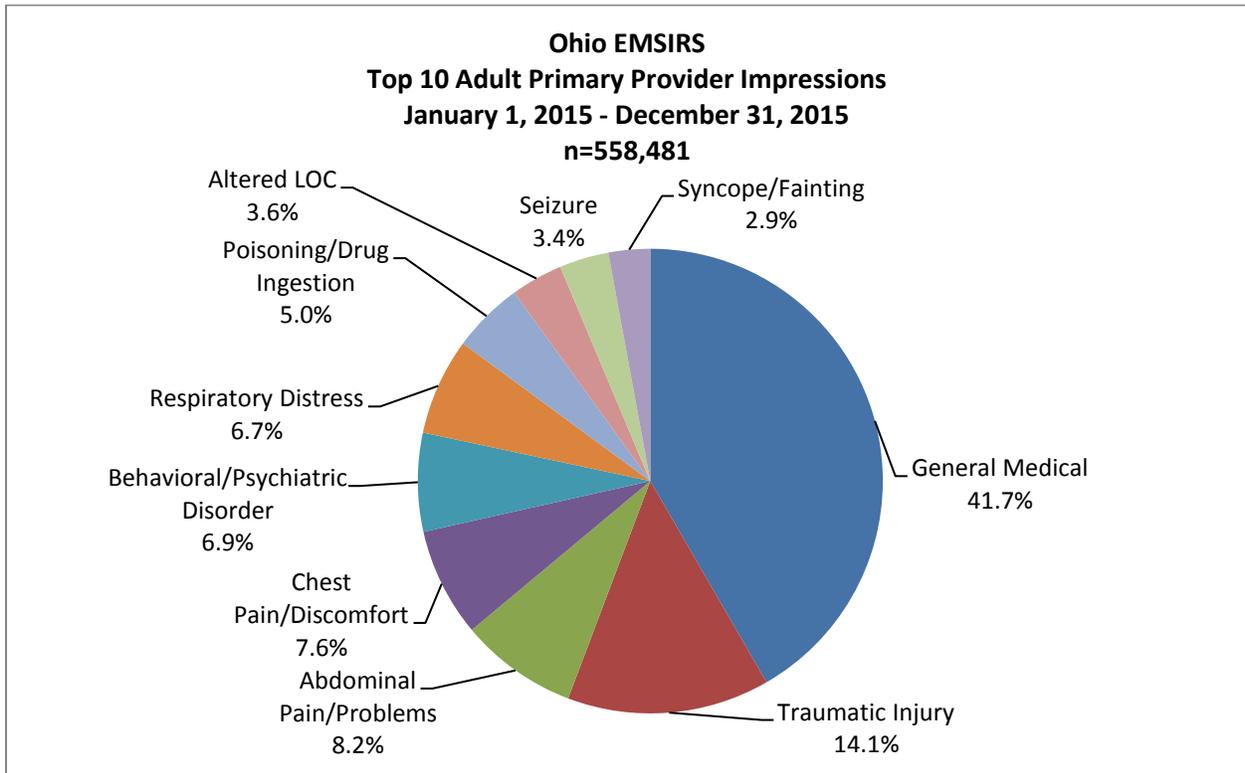
10 Most Frequent Primary Provider Impressions by Age Group – Pediatric



2015

<i>Primary Impression</i>	# of Records	% of Records
<i>General Medical</i>	21,278	44.2%
<i>Traumatic Injury</i>	10,350	21.5%
<i>Respiratory Distress</i>	4,143	8.6%
<i>Seizure</i>	4,097	8.5%
<i>Behavioral Disorder</i>	2,689	5.6%
<i>Abdominal Pain/Problems</i>	1,615	3.4%
<i>Allergic Reaction</i>	1,121	2.3%
<i>Altered LOC</i>	1,032	2.1%
<i>Poisoning/Drug Ingestion</i>	981	2.0%
<i>Syncope/Fainting</i>	863	1.8%
<i>Total</i>	48,169	100.0%

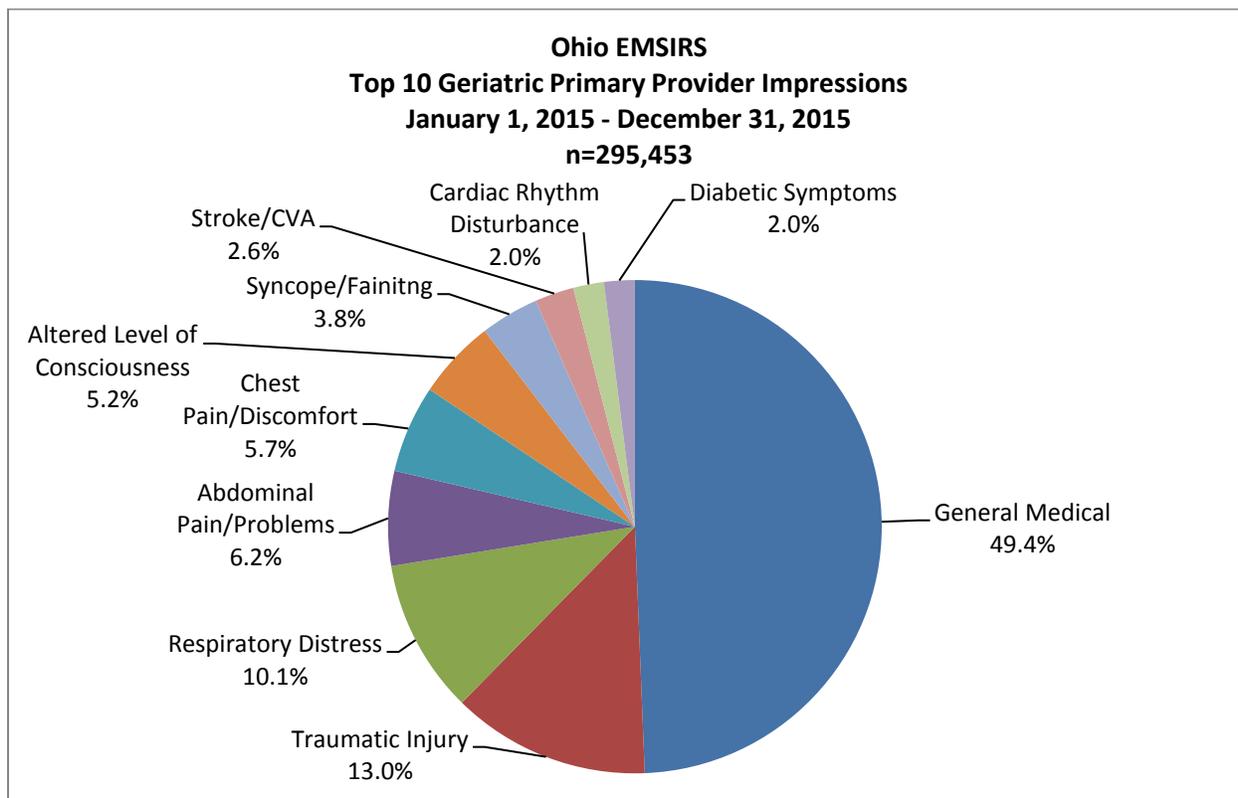
10 Most Frequent Primary Provider Impressions by Age Group – Adult



2015

<i>Primary Impression</i>	# of Records	% of Records
<i>General Medical</i>	232,680	41.7%
<i>Traumatic Injury</i>	78,665	14.1%
<i>Abdominal Pain/Problems</i>	45,711	8.2%
<i>Chest Pain/Discomfort</i>	42,215	7.6%
<i>Respiratory Distress</i>	38,299	6.9%
<i>Behavior/Psychiatric Disorder</i>	37,621	6.7%
<i>Seizure</i>	27,709	5.0%
<i>Poisoning/Drug Ingestion</i>	20,210	3.6%
<i>Altered LOC</i>	19,207	3.4%
<i>Diabetic Symptoms</i>	16,164	2.9%
<i>Total</i>	558,481	100.0%

10 Most Frequent Primary Provider Impressions by Age Group – Geriatric

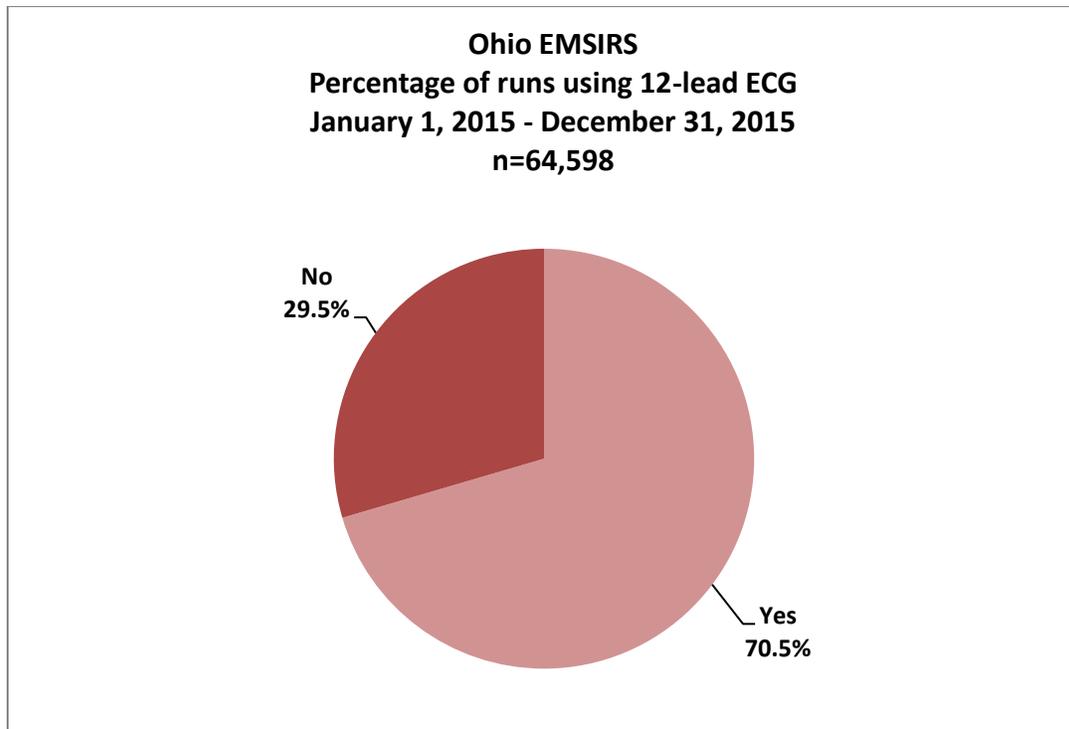


2015

<i>Primary Impression</i>	# of Records	% of Records
<i>General Medical</i>	145,843	49.4%
<i>Traumatic Injury</i>	38,396	13.0%
<i>Respiratory Distress</i>	29,809	10.1%
<i>Abdominal Pain/Problems</i>	18,305	6.2%
<i>Chest Pain/Discomfort</i>	16,954	5.7%
<i>Altered LOC</i>	15,394	5.2%
<i>Syncope/Fainting</i>	11,316	3.8%
<i>Stroke/ CVS</i>	7,579	2.6%
<i>Diabetic Symptoms</i>	5,933	2.0%
<i>Cardiac Rhythm Disturbance</i>	5,924	2.0%
<i>Total</i>	295,453	100.0%

Performance Measures

Percentage of Chest Pain Runs Using 12-lead ECG

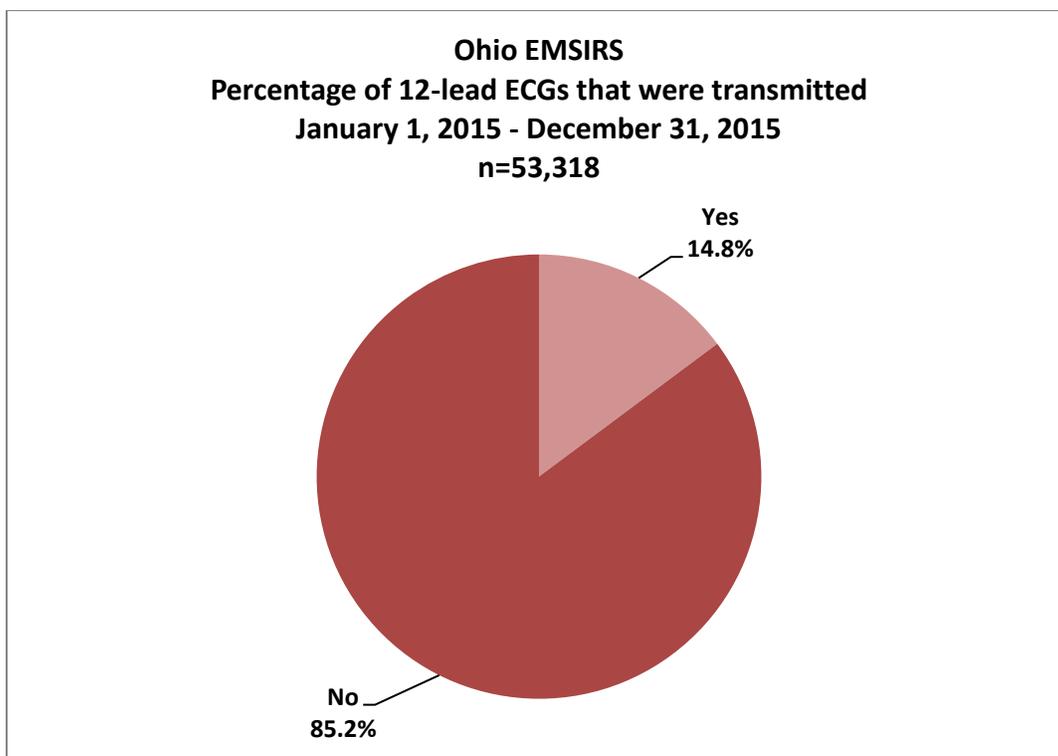


2015		
	# of Records	% of Records
<i>Yes</i>	45,516	70.5%
<i>No</i>	19,082	29.5%
<i>Total</i>	64,598	100.0%

Percentage of Chest Pain Runs Using 12-lead ECG

In 2015, 70.5% of EMS runs on chest pain calls (provider impression = Cardiac rhythm disturbance or chest pain/discomfort) on patients 35 and older used a 12-lead ECG. Unique patients were identified using a distinct count of data ID, which revealed that 53,318 12-lead procedures were conducted on 45,516 patients, for an average of 1.17 12-lead ECG procedures per patient.

Percentage of 12-lead ECGs That Were Transmitted

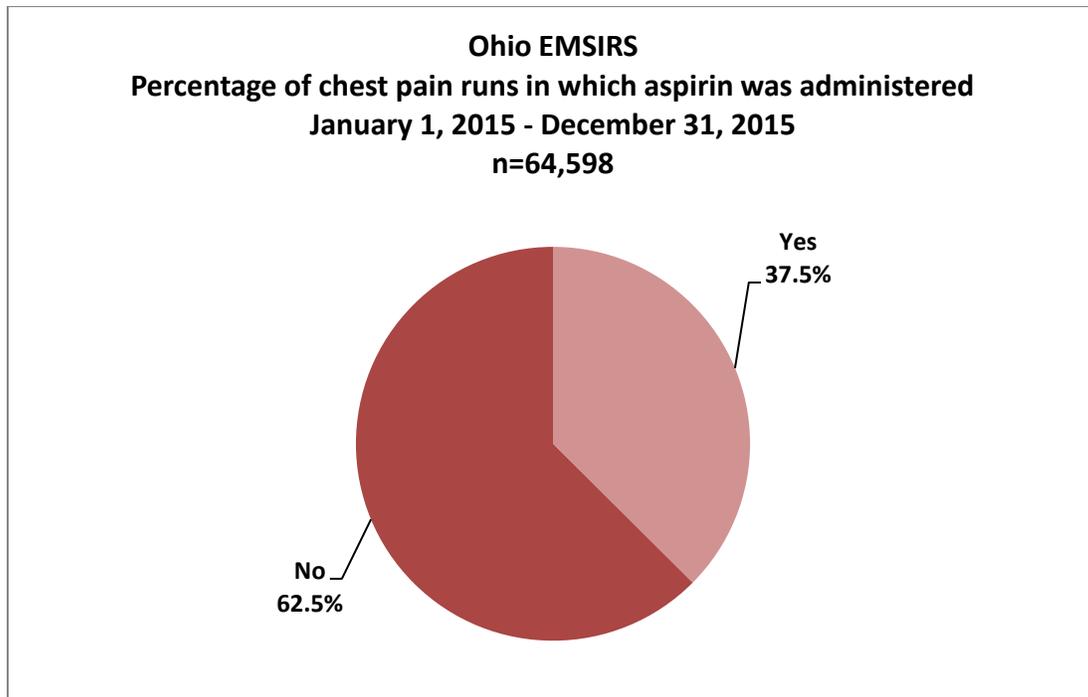


2015		
	# of Records	% of Records
<i>Yes</i>	7,892	14.8%
<i>No</i>	45,426	85.2%
<i>Total</i>	53,318	100.0%

Percentage of 12-lead ECGs That Were Transmitted

In 2015, 14.8% of all EMS runs on chest pain calls (provider impression = Cardiac rhythm disturbance or chest pain/discomfort) on patients 35 and older that used 12-lead ECG were transmitted to a hospital. In this instance, 7,892 12-lead transmissions were completed on 7,641 patients.

Percentage of Chest Pain Calls Given Aspirin

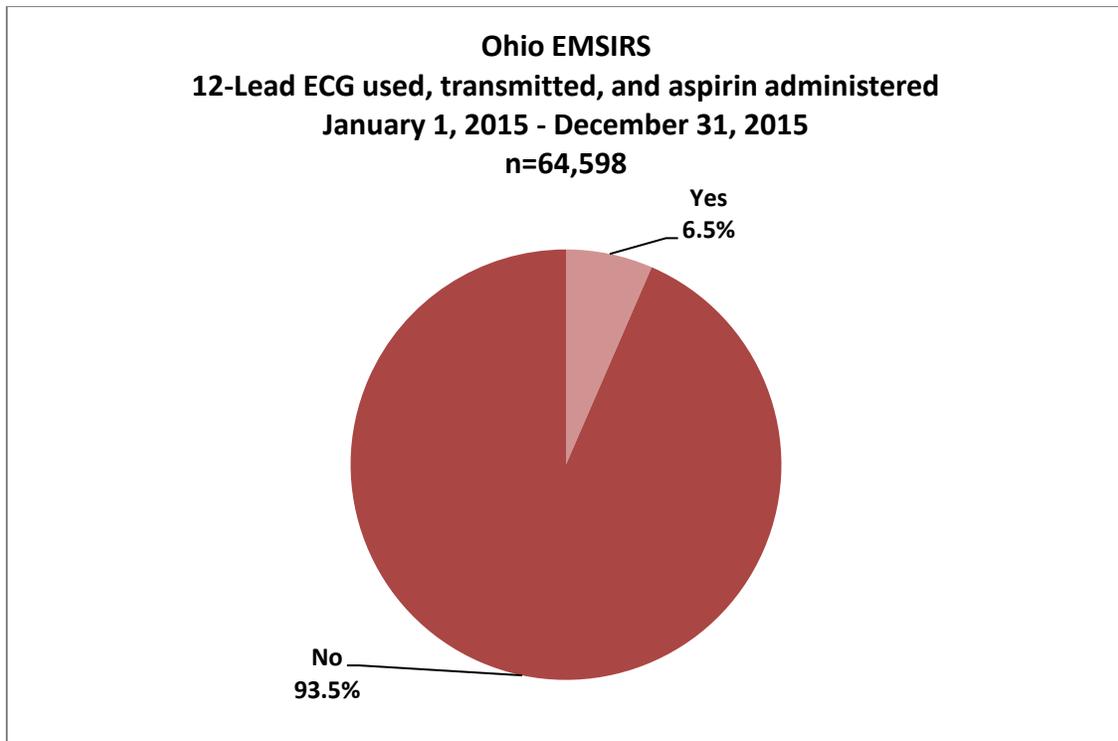


2015		
	# of Records	% of Records
<i>Yes</i>	24,201	37.5%
<i>No</i>	40,397	62.5%
<i>Total</i>	64,598	100.0%

Percentage of chest pain calls in which aspirin was administered

In 2015, 37.5% of EMS runs on chest pain calls (provider impression= cardiac rhythm disturbance or chest pain/discomfort) on patients 35 and older saw the administration of aspirin.

Percentage of chest pain runs with 12-lead ECG used, transmitted, and given aspirin

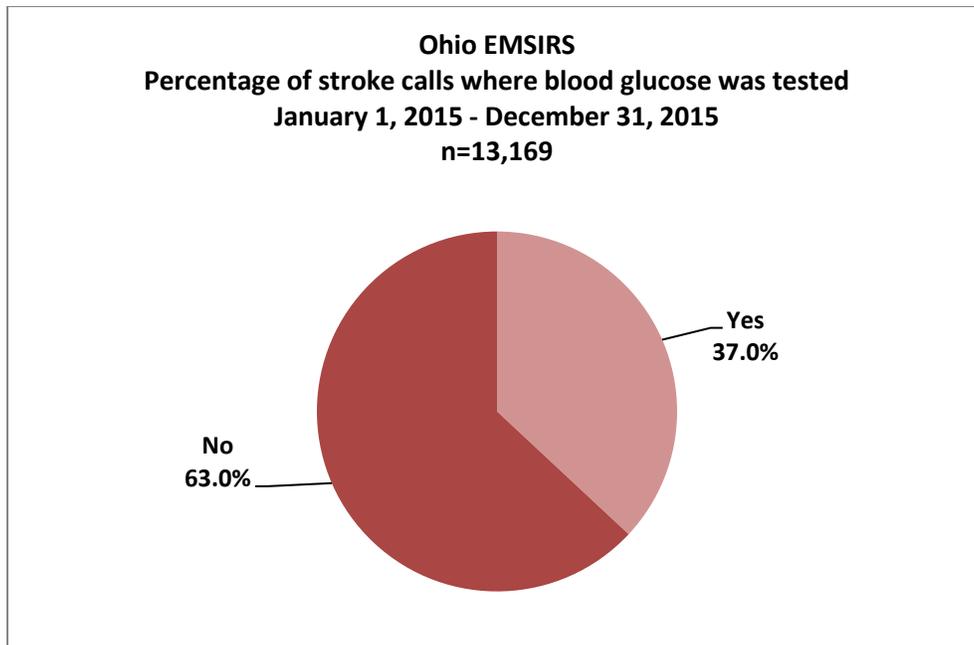


2015		
	# of Records	% of Records
<i>Yes</i>	4,209	6.5%
<i>No</i>	60,389	93.5%
<i>Total</i>	64,598	100.0%

Percentage of runs in which a 12-lead ECG was used, transmitted, and aspirin was administered

In 2015, 93.5% of all EMS runs did not use a 12-lead ECG, transmit it, and administer aspirin to the patient.

Stroke Calls in Which Blood Glucose Was Tested

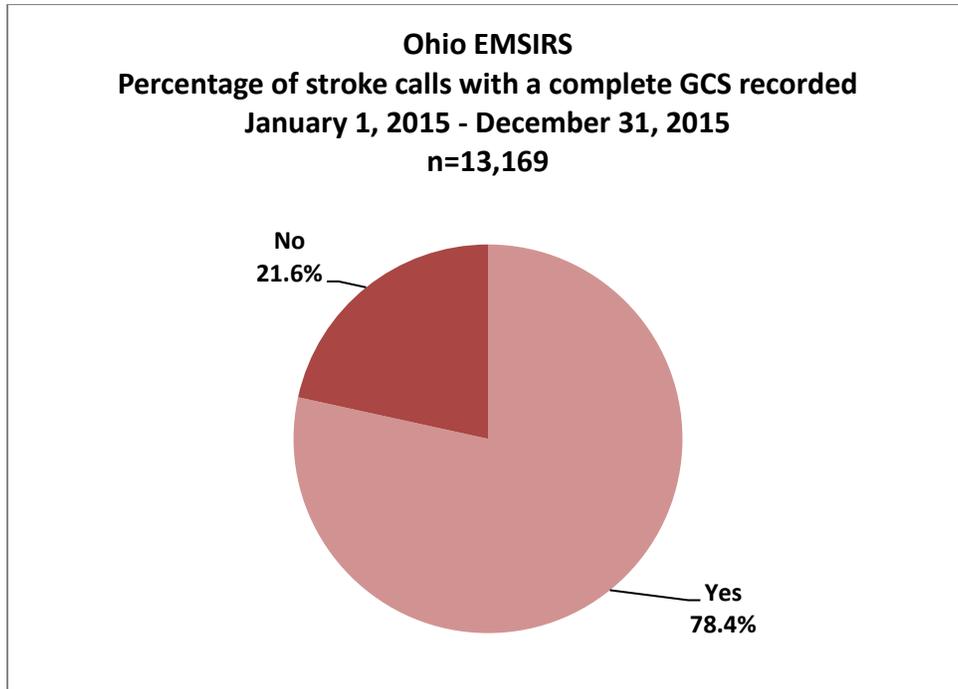


2015		
	# of Records	% of Records
<i>Yes</i>	4,956	37.8%
<i>No</i>	8,213	62.2%
<i>Total</i>	13,169	100.0%

Percentage of stroke calls in which blood glucose was tested

In 2015, 37.8% of stroke patients (provider impression =Stroke/CVA) were tested for blood glucose.

Stroke Calls in Which a Complete GCS Was Recorded

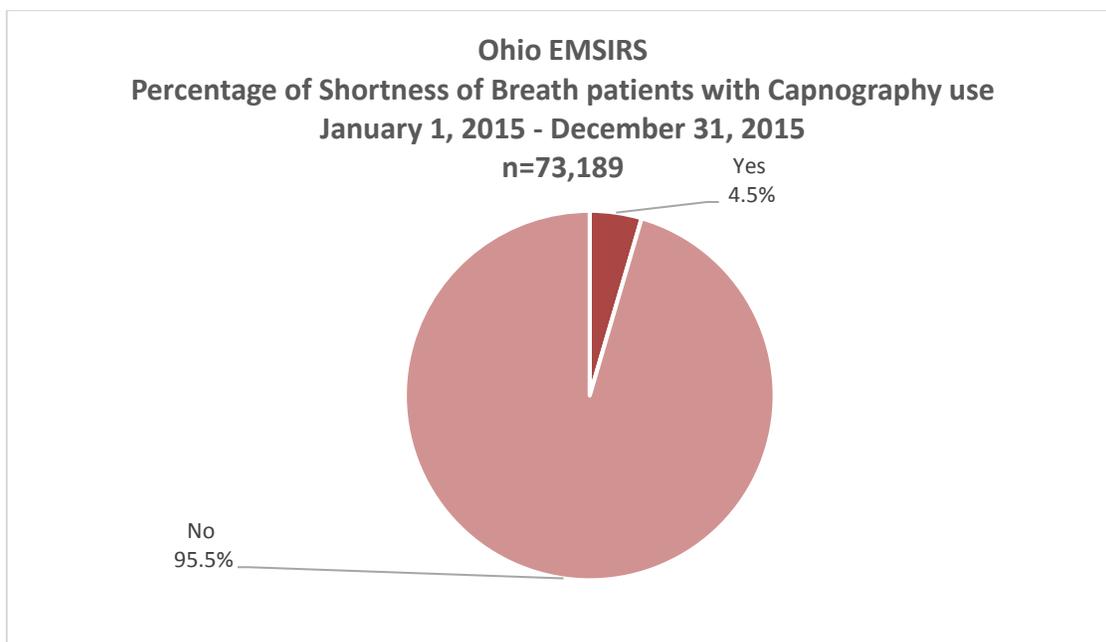


2015		
	# of Records	% of Records
<i>Yes</i>	10,329	78.4%
<i>No</i>	2,840	21.6%
<i>Total</i>	13,169	100.0%

Percentage of stroke calls in which a complete GCS was recorded

In 2015, 78.4% of EMS runs for strokes (provider impression = Stroke/CVA) recorded a complete GCS.

Capnography use in Shortness of Breath Calls

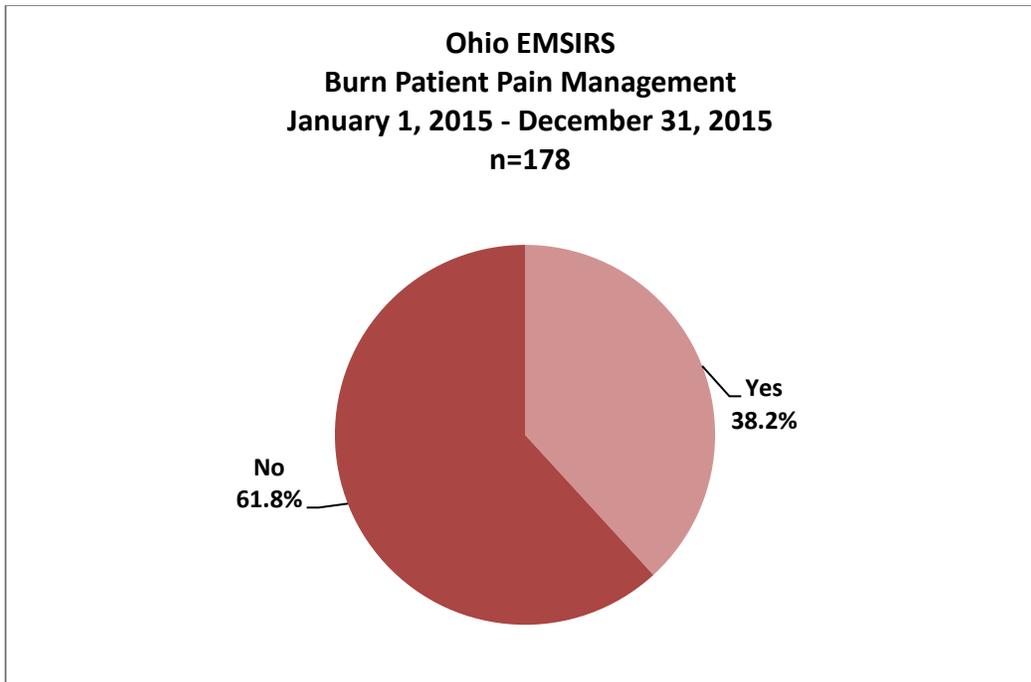


2015		
	# of Records	% of Records
Yes	3,316	4.5%
No	69,873	95.5%
Total	73,189	100.0%

Percentage of Shortness of Breath Patients with Capnography use

In 2015, 4.5% of shortness of breath patients (primary impression = respiratory distress or respiratory arrest) received a form of capnography.

Burn Patient Pain Management

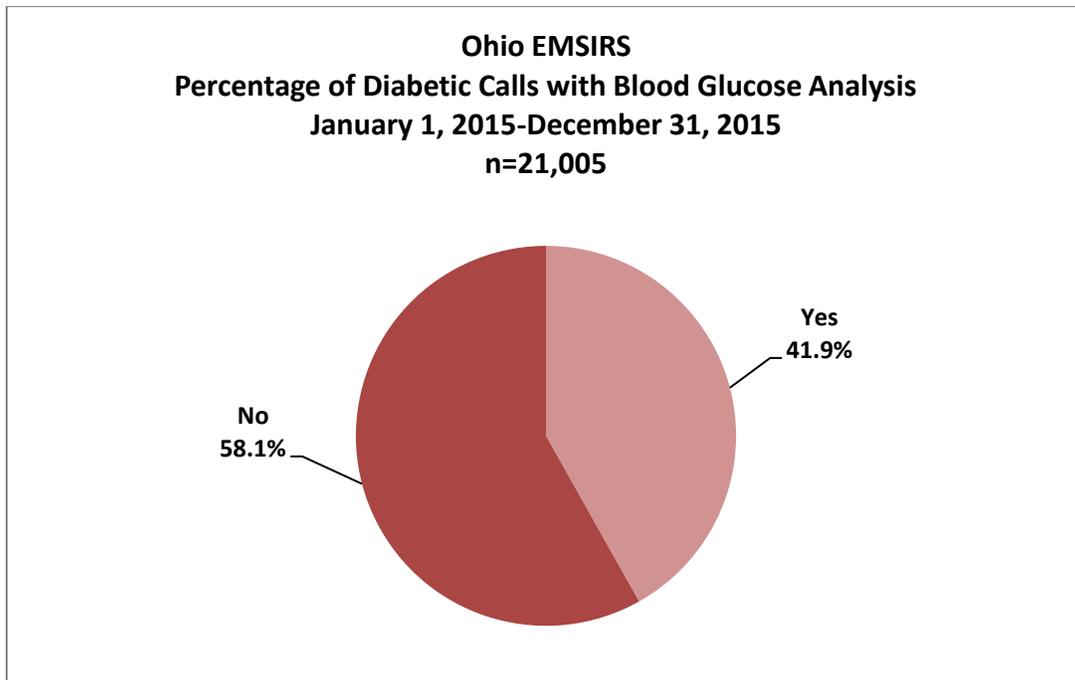


2015		
	# of Records	% of Records
<i>Yes</i>	68	38.2%
<i>No</i>	110	61.8%
<i>Total</i>	178	100.0%

Burn Patient Pain Management

In 2015, 38.2% of patients who met the criteria (Cause of injury = “Fire and Flames” or Injury Type = “Burns”), transport time >10 minutes, a vascular access procedure, and GCS 13 or above were given any pain medication.

Blood Glucose Analysis Administered in Diabetic Calls

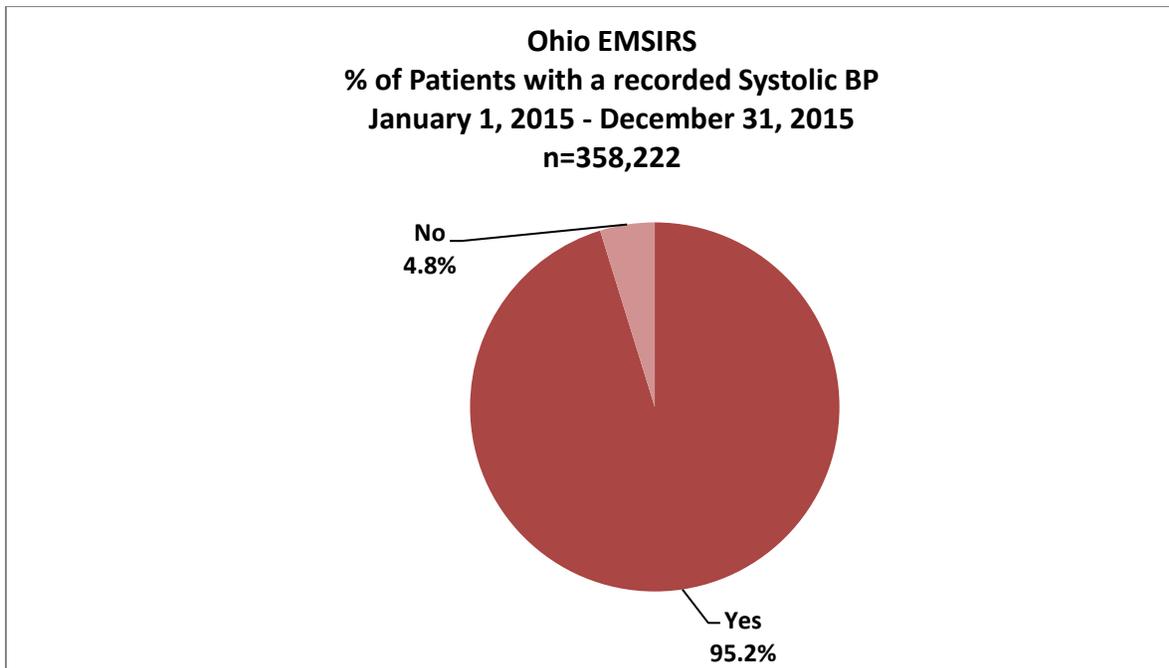


2015		
	# of Records	% of Records
<i>Yes</i>	8,797	41.9%
<i>No</i>	12,208	58.1%
<i>Total</i>	21,005	100.0%

Blood Glucose Analysis Administered

In 2015, 41.9% of patients with a primary impression of “diabetic symptoms” were administered at least one “blood glucose analysis”. Overall, 13,956 blood glucose analyses were administered to 8,797 patients, for an average of 1.59 tests per patient.

Systolic Blood Pressure Recorded

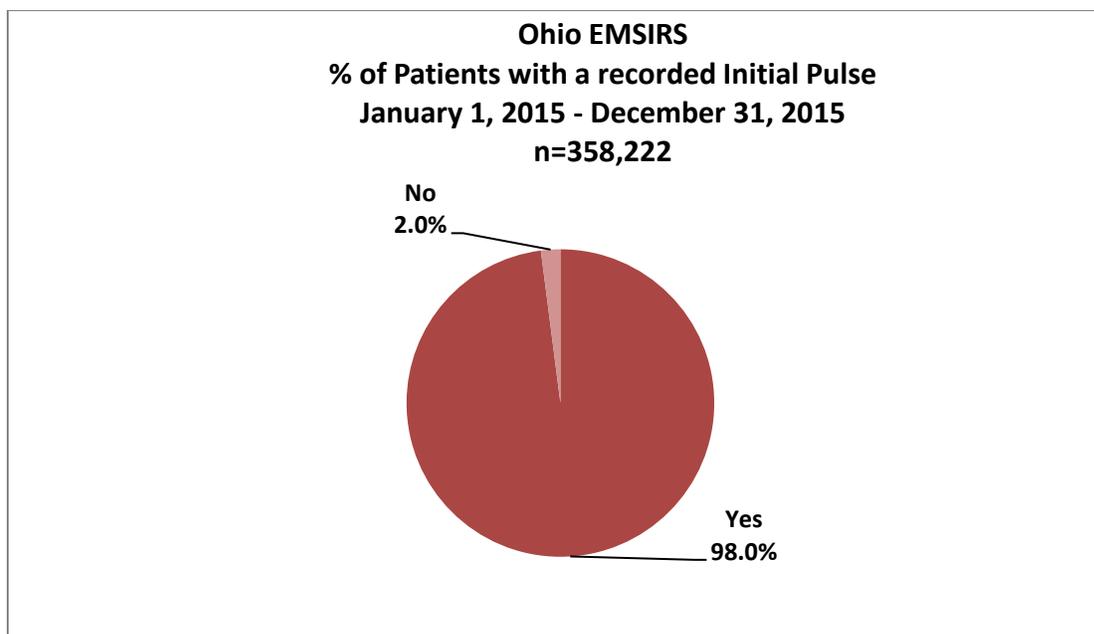


2015		
	# of Records	% of Records
<i>Yes</i>	341,081	95.2%
<i>No</i>	17,141	4.8%
<i>Total</i>	358,222	100.0%

Systolic Blood Pressure Recorded

In 2015, 95.2% of patients who were treated and transported by EMS and were not in cardiac arrest in the State of Ohio had a recorded systolic BP not equal to 0 or 299.

Initial Pulse Recorded

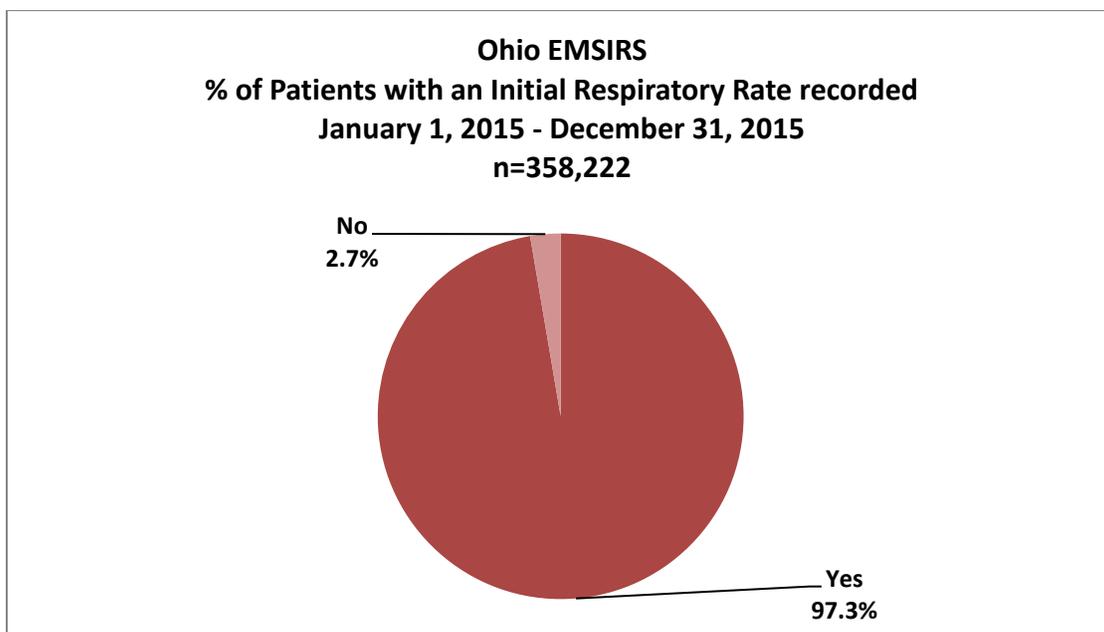


2015		
	# of Records	% of Records
<i>Yes</i>	350,941	98.0%
<i>No</i>	7,281	2.0%
<i>Total</i>	358,222	100.0%

Initial Pulse Recorded

In 2015, 98.0% of patients who were treated and transported by EMS and were not in cardiac arrest in the State of Ohio had a recorded initial pulse not equal to 0 or 299.

Respiratory Rate Recorded

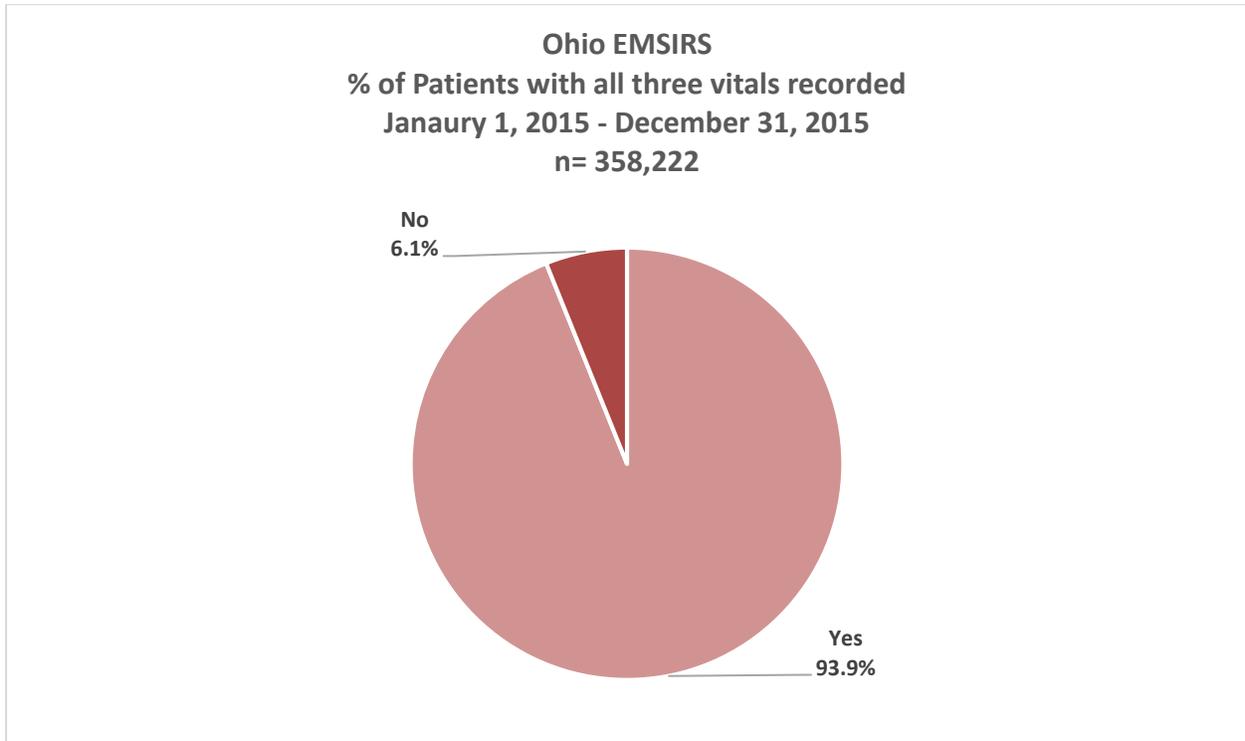


2015		
	# of Records	% of Records
<i>Yes</i>	348,644	97.3%
<i>No</i>	9,578	2.7%
<i>Total</i>	358,222	100.0%

Respiratory Rate Recorded

In 2015, 97.3% of patients who were treated and transported by EMS and were not in cardiac arrest in the State of Ohio had a recorded initial respiratory rate not equal to or 99.

All Three Vitals Recorded (BP, Pulse, Respiratory Rate)

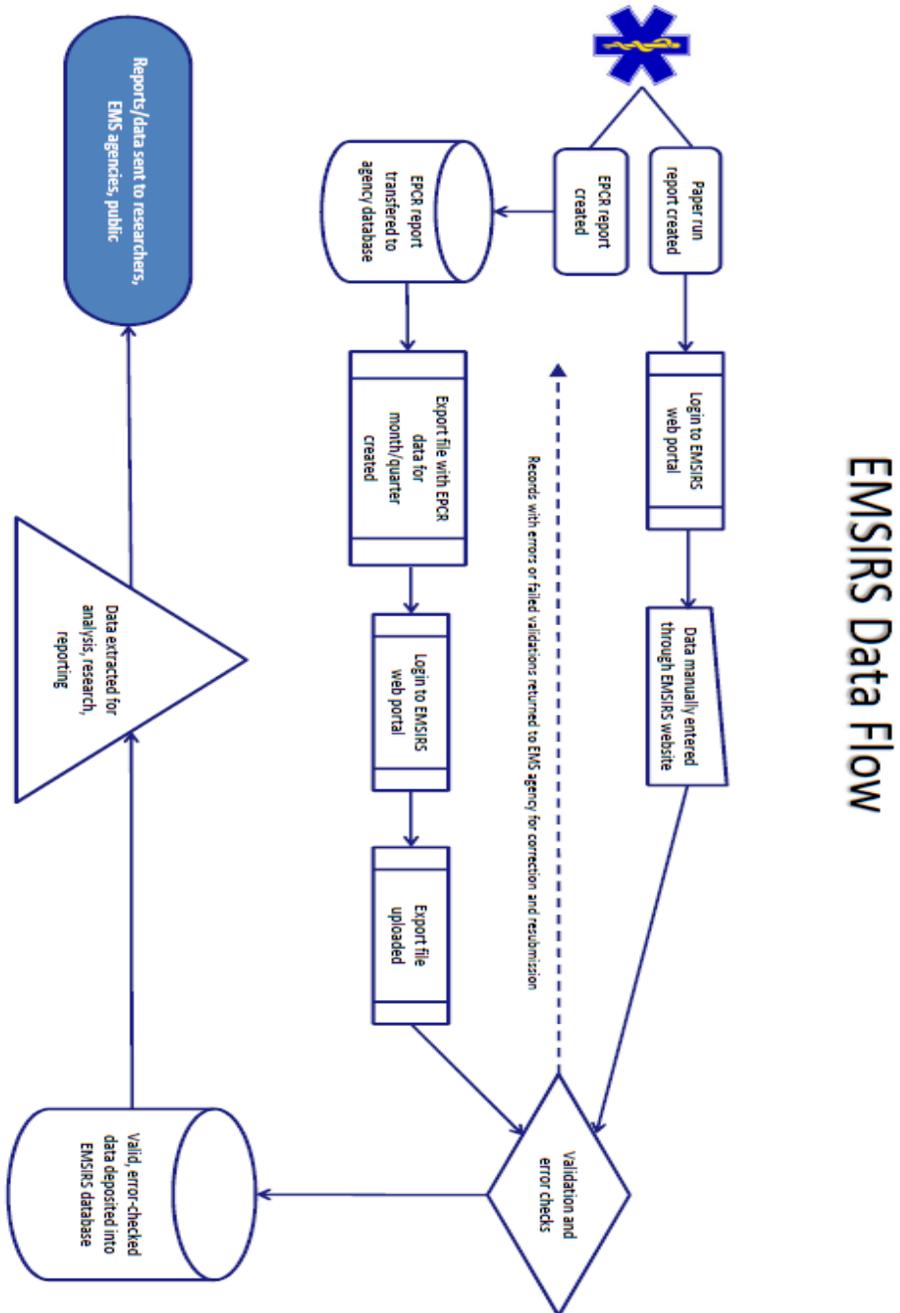


2015		
	# of Records	% of Records
<i>Yes</i>	336,384	93.9%
<i>No</i>	21,839	6.1%
<i>Total</i>	358,222	100.0%

All three (BP, Pulse, Respiratory Rate) Vitals Recorded

In 2015, 93.9% of patients who were not in cardiac arrest, and were treated and transported by EMS, had a recorded systolic blood pressure, initial pulse rate, and initial respiratory rate that was not equal to 0 or 299 (Respiratory rate not equal to 0 or 99).

Appendix A: EMSIRS Data Flow Schematic



Appendix B: Counties by Population Density Designation

High Density (>1000 people per square mile)	Medium-High Density (300-999 people per square mile)	Medium-Low Density (100-299 people per square mile)	Low Density (<100 people per square mile)
Cuyahoga	Butler	Allen	Adams
Franklin	Clark	Ashland	Brown
Hamilton	Clermont	Ashtabula	Carroll
Lake	Delaware	Athens	Champaign
Lucas	Erie	Auglaize	Coshocton
Montgomery	Greene	Belmont	Darke
Summit	Lorain	Clinton	Defiance
	Mahoning	Columbiana	Fayette
	Medina	Crawford	Gallia
	Portage	Fairfield	Guernsey
	Stark	Fulton	Hardin
	Trumbull	Geauga	Harrison
	Warren	Hancock	Henry
		Holmes	Highland
		Huron	Hocking
		Jefferson	Jackson
		Knox	Madison
		Lawrence	Meigs
		Licking	Mercer
		Logan	Monroe
		Marion	Morgan
		Miami	Morrow
		Muskingum	Noble
		Ottawa	Paulding
		Pickaway	Perry
		Richland	Pike
		Ross	Preble
		Sandusky	Putnam
		Scioto	Van Wert
		Seneca	Vinton
		Shelby	Washington
		Tuscarawas	Williams
		Union	Wyandot
		Wayne	
		Wood	

Population density data from the US Census Bureau, 2010 census
Density designations by the EMS Office of Research and Analysis

Appendix C: Participating Agencies for 2015

Adams
Adams County EMS
Manchester Fire Dept & Rescue Squad
West Union Vol Life Squad
Allen
American Twp. Fire Dept.
Bath Twp Fire Dept
Beaverdam Richland Fire Dept
Bluffton Emergency Medical Services
Cairo Monroe Fire Dept
Delphos Fire Rescue
Harrod Vol Fire Dept
Lafayette Jackson Twp Fire Dept
Lima Fire Dept
Perry Twp Vol Fire Dept
Shawnee Twp Fire Dept
Ashland
Ashland Division of Fire
Hayesville Vermillion Fire Dept
Jeromesville Fire Dept
Loudonville Fire Dept
Mifflin Community Vol Fire Dept
Orange Twp Vol Fire Dept
Perrysville Fire Dept
Polk Jackson Perry Fire Dept
Ruggles-Troy Twp Vol Fire Dept
Savannah Vol Fire Co
Sullivan Volunteer Fire Dept.
Ashtabula
Ashtabula Fire Dept
Ashtabula Twp Fire Dept
Conneaut Fire Dept
Geneva on the Lake Fire Dept
Jefferson Emergency Rescue District
Kingsville Vol Fire Dept
Northwest Ambulance District
Pierpont Fire Dept
Plymouth Vol Fire & Rescue Co
Saybrook Twp Fire Dept
Sheffield Twp Fire Dept
South Central Ambulance District
Windsor Fire Rescue
Athens
Athens County Emergency Medical Services

Auglaize
Cridersville Fire Dept
Minster Area Life Squad
New Bremen Emergency Squad, Inc.
St Johns Vol Fire & Rescue Dept
St Marys City Fire Dept
Uniopolis Vol Fire Dept
Wapakoneta Fire Dept
Wayne Twp Fire Dept
Belmont
Barnesville Emergency Squad
Barton Fire Dept
Belmont Vol Fire Dept
Bethesda Fire Dept
Bridgeport Fire Dept
Brookside Fire Dept
Colerain Vol Fire Co.
Cumberland Trail Fire Dist
Flushing Vol Fire Dept
Holloway Fire Dept
Lafferty Vol Fire Dept Inc
Martins Ferry Fire Dept
Neffs Vol Fire Dept
O.R. and W. Fire District
Powhatan Vol Fire Dept & E Squad
Smith Twp Vol Fire Dept
Somerton VFD
Spirit of 76 Vol Fire Dept
Sunset Heights Vol Fire Dept
Wolfhurst Vol Fire Dept
Brown
Aberdeen Huntington Twp FD
Fayetteville Fire Dept
Georgetown Vol Fire Dept
Hamersville Fire Dept
Higginsport Vol. Fire & EMS
Mt Orab Fire Dept
Ripley Life Squad
Russellville Life Squad
Sardinia Life Squad and Rescue Unit
Butler
Fairfield Fire Dept
Fairfield Twp Fire Dept
Hamilton Fire Dept
Hanover Twp Fire Dept

Madison Twp Fire Dept
Monroe Fire Division
Morgan Twp Vol Fire Dept
Oxford Fire Dept
Reily Twp Fire Dept
Ross Twp Fire Dept
Seven Mile Fire Dept
St Clair Twp & New Miami Life Sqd
Trenton Fire Dept.
Wayne Twp Fire Dept
West Chester Twp Fire Dept
Carroll
Emergency Medical Transport, Inc.
Sherrodsville Emergency Med Service
Champaign
Christiansburg Fire Co.,Inc
JSP Jt Fire District
Mechanicsburg Fire Department
N E Champaign Cnty Fire Dist
Urbana Fire Division
Clark
Bethel Twp Fire Dept
German Twp Fire Dept
Harmony Twp Fire Dept
Madison Twp Fire & EMS
Med Trans Emergency Medical Service
Moorefield Twp Fire Dept
New Carlisle Fire Division (City of)
Pike Twp N Hampton Fire Dept
Pitchin Green Twp Fire Dept
Pleasant Twp Fire Dept
Quality Care Transport
Springfield Fire Division
Clermont
Central Joint Fire-EMS District
Felicity-Franklin EMS
Goshen Twp Fire & EMS
Miami Twp Fire & Emergency Service
Milford Community Fire Dept
Monroe Twp. Fire & EMS
New Richmond Fire & EMS
Pierce Twp Fire Department & Life Squad
Stonelick Twp Fire & Rescue
Union Township Fire Dept
Washington Twp Emergency Services
Wayne Twp Fire & Rescue
Williamsburg Twp Emergency Services

Clinton
Chester Twp New Burlington FD
Clark Township Life Squad
Clinton Highland Joint Fire Dist
Clinton-Warren Joint Fire Rescue Dist.
Port William Fire Dept
S R W Joint Fire Dist 2
Wilmington Fire Dept
Columbiana
Columbiana Emergency Medical Serv.
East Palestine Fire Dept
KLG Mobile Intensive
Lifeteam E.M.S., Inc.
Maple-Cotton FH Ambulance Service
Negley Fire /EMS
New Waterford Fire Dept
Tri-County Ambulance Service
Village of Leetonia
Coshocton
Coshocton County EMS
Crawford
Bucyrus City Fire Dept
Crestline Fire Dept
Galion Fire Dept
Cuyahoga
Bay Village Fire Dept
Beachwood Fire Dept
Bedford Division of Fire
Bedford Heights Fire Dept
Berea Fire Dept
Brecksville Fire Dept
Broadview Heights Fire Dept
Brook Park Fire Dept
Brooklyn Fire Dept
Brooklyn Heights Fire Dept
Chagrin Falls Suburban Volunteer Fireman
Cleveland Airport System
Cleveland E.M.S.
Cleveland Heights Fire Dept
Cuyahoga Heights Fire Dept
East Cleveland Fire Dept
Euclid Fire Dept
Fairview Park Fire Dept
Garfield Heights Fire Dept
Highland Heights Fire Dept
Highland Hills Fire Dept
Independence Fire Dept

Lakewood Fire Dept
Lyndhurst Fire Dept
Maple Heights Fire Department
Mayfield Heights Fire Dept
Mayfield Village Fire Dept
Metro Life Flight
Middleburg Heights Fire Dept
Newburgh Heights Fire Dept
North Olmsted Fire Dept
North Randall Fire Dept
North Royalton Fire Dept
Oakwood Fire Dept
Olmsted Falls Fire Dept
Olmsted Twp Fire Dept
Orange Village Fire Dept
Parma Fire Dept
Parma Heights Fire Dept
Pepper Pike Fire Dept (City of)
Richmond Heights Fire Dept
Rocky River Fire Dept
Seven Hills Fire Dept
Shaker Heights Fire Dept
Solon Fire Dept
South Euclid Fire Dept
Strongsville Fire & Emergency Serv
University Heights Fire Dept
Valley View Fire Dept
Warrensville Heights Fire Dept
Westlake Fire Dept
Darke
Ansonia Area Emergency Service, Inc
Gettysburg Rural Fire Dept
Greenville Twp. Rescue
Osgood Life Squad
Tri-Village Rescue Services, Inc.
Union City Fire Dept
Versailles EMS
Defiance
Defiance Fire Dept
Delaware Township Rescue
Hicksville Rescue Squad
Highland Twp Fire Dept
Jewell Fire Dept
Sherwood Village Fire Dept
South Richland Twp Fire Dept
Tiffin Twp Fire Dept
Delaware

Concord Twp Fire Dept
Delaware City Fire Dept
Delaware County E.M.S.
Genoa Twp Fire Dept
Harlem Twp Fire Dept
Liberty Twp Fire Dept
Orange Twp Fire Dept
Erie
Bay View Vol Fire Dept
Huron Division of Fire
Margaretta Twp Fire Dept
North Central E.M.S.
Perkins Twp Fire Dept
Sandusky Fire Dept
Fairfield
Amanda Fire Dept
Basil Joint Fire Dist
Berne Twp Fire Dept
Bloom Township Fire Department
Bremen Rushcreek Twp Fire Dept
Clearcreek Twp Vol Fire Dept
Greenfield Twp Fire Dept
Hocking Township Fire Dept
Lancaster Fire Dept
Millersport Fire Department
Pleasant Twp Fire Dept
Richland Twp Fire Dept
Thurston Walnut Twp Fire Dept
Violet Twp Fire Dept - HQ
Fayette
Fayette Cty Emergency Med Serv Inc
Franklin
Columbus Division of Fire
Franklin Twp Fire Dept
Grandview Heights Div of Fire
Hamilton Twp Fire Dept
Jackson Twp Fire Dept
Jefferson Twp Fire Dept
Madison Twp Fire Dept
Mifflin Twp Division of Fire-Station 131
Norwich Twp Fire Dept
Plain Twp Fire Dept
Pleasant Twp Fire Dept
Prairie Twp Fire Dept
Upper Arlington Fire Div
Washington Twp Fire Dept; Administratio
Westerville Fire Dept

Whitehall Div of Fire
Worthington Fire Dept
Fulton
Arcanum Rescue Service
Fulton County E.M.S.
Wauseon Fire Dept
Gallia
Gallia County Emergency Med Service
Geauga
Auburn Vol Fire Dept Inc
Burton Vol Fire Dept
Chesterland Vol Fire Dept Inc
Hambden Vol Fire Dept
Montville Vol Fire Dept
Munson Fire Dept
Newbury Vol Fire Dept Inc
Parkman Twp Vol Fire Dept
Russell Fire Dept
Thompson Fire Dept
Troy Twp Fire Dept
Greene
Bellbrook Fire Dept
Cedarville Twp Vol Fire Dept
Cedarville University EMS
Jefferson Twp Fire Dept
New Jasper Fire Dept
Silvercreek Twp FD
Spring Valley Twp. Fire Dept
Sugarcreek Twp Fire Dept
Xenia Fire Div
Xenia Township Fire Department
Guernsey
Antrim Comm Vol Fire Dept
Cumberland Vol Fire Dept
Old Washington Fire Dept
Quaker City Fire Dept
United Ambulance Service, Inc.
Hamilton
Anderson Twp Fire and Rescue Dept
Blue Ash Fire Dept
Cheviot Fire Dept
Cincinnati Fire Dept
Colerain Twp Fire Dept
Crosby Twp Fire Dept
Deer Park-Silverton Joint Fire Dist
Delhi Twp Fire Dept
Evendale Fire Dept

Forest Park Fire Department
Golf Manor Fire Dept
Green Township Fire & EMS
Greenhills Fire Dept
Lincoln Heights Fire Dept.
Little Miami Joint Fire & Rescue Dist
Lockland Fire Dept
Loveland Symmes Fire Dept
Madeira Indian Hill J F D
Mariemont Fire Dept
Miami Twp FD
Montgomery Fire Div
Mt Healthy Fire Dept
North College Hill Fire Dept
Norwood Fire Dept
Reading Fire Dept
Springdale Fire Dept
Springfield Twp Fire Dept
St Bernard Fire Dept
Sycamore Twp Fire Dept
Terrace Park EMS
Whitewater Twp Fire Dept
Wyoming Fire Department
Hancock
Appleseed Joint Ambulance District
Hanco Ambulance, Inc.
PMP Joint Ambulance District
Hardin
Ada-Liberty Joint Amb District
B-K-P Ambulance District
Blanchard Dunkirk Joint Amb
Jackson Forest Joint Amb Dist
Kenton Fire Department
Southeastern Hardin Ambulance Dist
Upper Scioto Valley Ambulance Dist
Harrison
Bowerston Fire Department
Cadiz EMS
Deersville Fire Dept
Freeport Volunteer Fire Dept
Harrison Community Hosp Emergency Svcs
Harrisville Emergency Squad
Hopedale Fire Dept
Jewett Vol Fire Dept
Moorefield Twp Fire Dept
New Athens Fire Dept

Scio E.M.S. Unit 103
Tappan Lake Vol Fire Dept
Washington Twp Vol Fire Dept Inc
Henry
Damascus Twp Fire Dept
Henry County South Joint Ambulance Dist
Liberty & Washington Fire & Rescue
Napoleon Fire Dept
Ridgeville Twp Vol Fire Dept
Highland
Brushcreek Life Squad, Inc.
Highland Co N Jt FIRE & AMBU. DIST
Lynchburg Jt Fire & Ambulance Dist
Paint Creek Joint EMS/Fire Dist.
Southern Highland Joint Fire Dist
Hocking
Hocking County Emerg Med Service
Holmes
Holmes Fire District #1
Killbuck Vol Fire Dept
Paint Twp Vol Fire Dept
Prairie Twp Vol Fire Dept
Richland Township E.M.S.
Western Holmes County Fire Dist
Huron
Citizens Ambulance Service, Inc.
Firelands Ambulance Service
Willard Fire Dept
Jackson
Jackson County EMS
Jefferson
Adena Vol Fire Company
Amsterdam VFD Inc
Belvedere Vol Fire Dept
Brilliant Vol Fire Dept
Dillonvale Emergency Medical Serv.
East Springfield Vol Fire Dept
Hillindale Fire Dept
Mingo Junction Fire Dept
Pleasant Hill Vol Fire Dept
Richmond Vol Fire Dept
Saline Township E.M.S.
TEMS Joint Ambulance District
Tiltonsville Vol Fire Dept
Unionport Fire-Rescue
Yorkville Vol Fire Dept
Knox

Bladensburg Joint Fire District
Central Ohio Joint Fire Dist
College Twp Vol. F.D. - EMS Unit 41
Eastern Knox Co. Joint Fire Dist.
Fredericktown Joint Comm Amb Dist
Mount Vernon FD
Lake
Concord Twp Fire Dept
Eastlake Fire Dept
Fairport Harbor Fire Dept
Grand River Fire Dept
Kirtland Fire Department
Leroy Fire Dept
Madison Fire Dist.
Mentor On The Lake Fire Dept
Painesville City Fire Dept
Painesville Twp Fire Dept
Perry Joint Fire District
Wickliffe Fire Dept
Willoughby Fire Dept
Willoughby Hills Fire Dept
Willowick Fire Dept
Lawrence
Lawrence County EMS
Licking
Alexandria St Albans Twp Fire Dept
Buckeye Lake Village Fire Dept
Courtesy Ambulance Inc.
Granville Twp. Fire Dept.
Hartford Vol Fire Dept
Heath Fire Dept
Hebron Fire Dept
Homer Vol Fire Dept Inc
Licking Twp Fire Company
Mary Ann Twp Vol Fire Dept
Monroe Township Fire Dept
National Trail Fire Dept
Newark Fire Dept Admin
Newark Twp Fire Dept
Newton Twp Fire Dept
West Licking Jt Fire Dist
Logan
B M R T Ambulance District
Bellefontaine Fire Dept
Bokescreek Twp Fire Dept
Huntsville Vol Fire Dept
Indian Lake Emergency Medical Serv

Macochee Joint Ambulance District
Perry Twp Vol Fire Dept
Quincy Miami Twp Fire Dept
Riverside Emergency Medical Service
Robinaugh EMS
Rushcreek Twp Fire Dept
Tri-Valley Fire District EMS
Lorain
Avon Fire Dept
Avon Lake Fire Dept
Central Lorain County Ambulance District
Columbia Twp Fire Dept
Elyria Twp Fire Dept
Grafton Twp Fire Dept
Grafton Village Fire Dept
Lifecare Ambulance, INC.
Lorain Lifecare Ambulance Service, INC.
North Ridgeville Fire Dept
Oberlin Fire Dept
Sheffield Lake Fire Dept
Sheffield Twp Fire Dept
Sheffield Village Fire Dept
South Lorain Cty Ambulance District
Lucas
Jerusalem Twp Fire Dept
Kish/Brookeside Ambulance Serv Inc
Maumee Fire Dept
Mobile Care EMS & Transport
Monclova Twp Fire/Rescue Dept
Oregon Fire Dept
Providence Twp. Fire & Rescue Dept.
Richfield Twp Fire Dept
Spencer Township Fire Department
Springfield Twp. Fire Dept.
Sylvania Township Fire Department
Washington Twp Fire Dept
Waterville Fire Department
Whitehouse Vol. Fire Department
Madison
Jefferson Twp Fire Dept
Madison County Emer Med District
Sterling Joint Ambulance District
Mahoning
Beaver Twp Fire Dept
Beloit Fire Dept
Berlin Twp Fire Dept
Cardinal Jt Fire Dist

Craig Beach Vol Fire Dept
Damascus Vol. Fire Dept.
Green Twp Vol Fire Dept
Lane Life Corp.
Milton Township Fire Dept
Rural Metro-Youngstown
Sebring Fire Department
Springfield Twp Rescue Squad/ E.M.S.
Marion
Battle Run Fire Dist
First Consolidated Fire Dist
Fort Morrow Consolidated Fire Dept.
Marion City Fire Dept
Marion Twp Fire Dept
Scioto Valley Fire Dist
Medina
Brunswick Fire Dept
Brunswick Hills Twp Fire Dept
Chatham Fire & Rescue Dept
Erhart/York Twp. Fire Dept
Granger Twp Fire Dept
Hinckley Fire Department
Lafayette Township Fire Department
Litchfield Fire & Rescue Dept
Lodi Fire Department
Medina Life Support Team
Seville-Guilford Fire & EMS
Sharon Twp Fire Dept
Spencer Community Fire Dist
Valley City/Liverpool Twp FD
Wadsworth Fire Dept
Westfield Fire Dept
Meigs
Meigs County EMS
Mercer
Mercer County E.M.S.
Miami
Bethel Twp Fire Dept
Bradford Fire & Rescue
Covington Fire Department
Covington Rescue Squad, Inc.
Elizabeth Twp. Fire Dept.
Piqua Fire Dept
Pleasant Hill Newton Twp J.F.D.
Tipp City EMS Division
Troy Fire Dept
Union Twp Life Squad, Inc.

Monroe
Antioch Emergency Squad
Beallsville E.M.S.
Bethel - Graysville EMS
Monroe County Emergency Squad - Sardis U
Woodsfield EMS
Montgomery
Brookville Fire Dept
Butler Twp Fire Dept - Station 88
Clayton Fire Dept
Englewood Fire Dept
Farmersville Fire Dept
Germantown Fire Dept
Harrison Twp Fire Dept
Huber Heights Fire Division
Jefferson Twp Fire Dept
Kettering Fire Dept
Miami Valley Fire District
Moraine Fire Dept City of
New Lebanon Fire Dept
Oakwood Public Safety Dept
Phillipsburg Fire Dept
Riverside Fire Department
Trotwood Fire & Rescue
Vandalia Fire Division
Washington Twp Fire
West Carrollton Fire Department
Morgan
Malta McConnelville Vol Fire Dept
Morrow
Morrow County E.M.S.
Muskingum
Adamsville Fire Dept Inc
Community Ambulance Service
Dresden Vol Fire Dept
Falls Twp Vol Fire Dept
Frazeysburg Vol Fire Dept Inc
Licking Twp EMS & Fire Dept Inc
New Concord Fire Dept
Newton Twp Fire Dept
Perry Twp Fire Dept
Roseville Vol Fire Dept
Ottawa
Allen-Clay Joint Fire Dist
Carroll Twp Ems & Fire Svc Inc
Danbury Township Fire Dept.

Erie Twp Vol Fire Dept
Harris-Elmore Fire Department
Mid County Med. Svc. Assoc.
Put-in-Bay EMS
Paulding
Antwerp EMS
Oakwood EMS
Payne Vol Fire Dept
Perry
Corning Vol. Fire Dept
Hopewell Twp Fire Dept
Junction City Vol Fire Dept
New Lexington Fire Dept
Somerset Emergency Medical Service
Thornville - Thorn Twp Fire Dept.
Pickaway
Circleville EMS
Harrison Twp Fire Dept
Pickaway Twp Fire Dept
Saltcreek Tarlton Vol Fire Dept
Scioto Twp Fire Dept
Williamsport & Deercreek Emer Squad
Pike
Fluor-B&W Portsmouth, LLC
Pike Co. Emergency Medical Service
Portage
Atwater Fire Dept
Aurora Fire Dept
Brimfield Fire Dept
Community EMS District
Deerfield Fire Dept
Edinburg Vol Fire Dept
Hiram Fire Dept
Kent Fire Dept
Mantua-Shalersville Fire Dist
Palmyra Twp. Vol. Fire Dept.
Paris Twp. Fire Department
Randolph Twp Vol Fire Dept
Ravenna City Fire Dept
Ravenna Twp Fire Dept
Rootstown Fire Dept
Streetsboro Fire Dept
Suffield Twp Fire Dept
WVFD Joint Fire District
Preble
Camden and Somers Twp Fire-Rescue
Gasper Township Fire Department

Gratis EMS
Lewisburg Fire Dept Emergency Unit
North Central Ambulance District
Northwest Fire & EMS
West Alexandria E.M.S.
Putnam
Putnam County E.M.S.
Richland
C B & S Joint Fire District
Franklin Twp Fire Dept
Jefferson Twp Bellville Fire Dept
Madison Twp Fire Dept
Mansfield Fire Department
Mifflin Twp Fire Dept
Plymouth Fire Dept
Shelby Fire Dept
Springfield Twp Fire Dept
Troy Twp Fire Dept
Washington Twp Fire Dept
Worthington Twp Fire Dept
Ross
Chillicothe Fire Dept
Colerain Twp Fire Dept
Concord Twp Emergency Squad
Deerfield Township E.M.S.
Franklin Twp Fire & Rescue
Green Twp Fire Dept
Harrison Twp Fire Dept
Huntington Twp Fire Dept
Jefferson Twp Fire & Rescue
Liberty Twp Fire Dept
Paxton Township Area Life Squad
Scioto Twp Fire Dept
Springfield Twp Fire Dept
Twin Twp Fire Dept
Union Twp Fire Dept
Sandusky
Sandusky County E.M.S.
Sandusky Twp Fire Dept
Scioto
Clay Squad Eleven
HealthNet Aeromedical Service
Minford Emergency Amb. Service Inc.
Nile Township Squad 1
Porter Twp Emerg Rescue Association
Portsmouth Emergency Amb Ser, Inc.
Rarden Vol Fire Dept

Rosemount Vol Fire Dept
South Webster Bloom Twp Jt F D
Vernon Twp Emerg. & Rescue
Washington Township E.M.S.
Seneca
Fostoria Fire Dept
Seneca County E.M.S.
Tiffin Fire/Rescue Division
Shelby
Anna Rescue Squad Inc.
Fort Loramie Rescue Squad
Perry-Port-Salem Rescue Squad
Sidney Fire & Emergency Services-Station
Stark
Beach City Fire Dept
Bethlehem Twp Fire & Rescue Inc
Brewster Vol Fire Dept
Canal Fulton Fire Dept
Canton Fire Dept
Canton Twp Fire Dept
Greentown Fire Dept
Hartville Fire Dept Inc
Jackson Twp Fire Dept
Lawrence Twp Fire Dept
Louisville Fire Dept
Marlboro Vol Fire Co Inc
Massillon (City of) Fire Dept
Navarre Village Fire Dept
North Canton Fire Dept
North Lawrence Fire Dept
Osnaburg Twp Fire Dept
Perry Twp Fire Dept
Plain Township Fire Dept.
Quad Ambulance District
Sandy Creek Joint Fire Dist
Tri-Division Ambulance District
Uniontown Fire Dept
Wilmot Fire Department
Summit
Akron Fire Dept
American Medical Response
Barberton Fire Dept
BathTwp Fire Dept
Clinton Fire Dept
Copley Fire Dept
Coventry Twp Fire Dept
Cuyahoga Falls Fire Dept

Fairlawn Fire Dept
Green Fire Dept (City of)
Hudson EMS
Lakemore Fire Dept
Macedonia Fire Dept
Mogadore Fire Dept
Munroe Falls Fire Dept
New Franklin Fire Department
North East Ambulance Service
Northfield Ctr/Sagamore Hills Fire Dist
Northfield Village Fire Dept
Norton Fire Division
Reminderville Fire Dept
Richfield Fire Dept
Springfield Twp Fire Dept
Stow Fire Dept
Tallmadge Fire Dept
Twinsburg Fire Dept
Valley Fire District
Trumbull
Bazetta Fire Dept
Braceville Twp Fire Dept
Bristolville Fire Dept
Brookfield Twp Fire Dept
Burghill-Vernon Vol. Fire Dept.
Champion Twp Fire Dept
Cortland Fire Dept
Farmington Twp Fire Dept
Fowler Volunteer Fire Department
Howland Fire Dept
Johnston Township Fire Department
Kinsman Vol. Fire Department
Liberty Twp Fire Dept
Lordstown Village Fire Dept
McDonald Fire Dept
Mecca Vol. Fire Department
NF Joint Fire District
Southington Vol Fire Dept
Vienna Fire Dept
Warren Twp Fire Dept
Tuscarawas
Arrowhead Joint Fire District
Bolivar Vol Fire Dept Inc
Dover Fire Dept & E M S
Fairfield Twp. Fire Dept.
Midvale-Barnhill Brightwood F.D.
Mineral / Sandy Ambulance District

New Philadelphia Fire Dept
Smith Ambulance Service, Inc.
Strasburg Vol Fire Dept
Swiss Valley Joint Ambulance Distr
Tri-County Joint Ambulance District
Wayne Twp Vol Fire Dept
Union
Allen Twp Fire Dept
Jerome Twp Division of Fire
Leesburg Twp Fire Dept
Liberty Twp Fire Dept
Marysville Fire Dept
Northern Union Co. Fire & EMS Dist.
Pleasant Valley Joint Fire Dist
Van Wert
Brickner Funeral/Ambulance Service
Convoy Fire & EMS
Middle Point Fire Dept
Ohio City Vol Fire Dept
Scott Vol Fire Dept
Van Wert Fire Dept
Wren Fire Department
Vinton
Harrison Twp Fire Dept
Vinton County E.M.S.
Warren
Clearcreek Fire Dist
Deerfield Twp Fire Dept
Franklin Divison Of Fire
Hamilton Twp Fire Rescue
Harlan Twp Fire and Rescue
Lebanon Fire Division
Mason Fire Department
Massie Twp Fire Dept
Salem - Morrow Fire Dept
Turtlecreek Twp Fire Dept
Union Twp/South Lebanon Fire Dept
Wayne Twp. Fire Department
Washington
Barlow Fire Depart
Beverly-Waterford Twp Rescue Squad
Devola Vol Fire Company
L A Vol Fire Dept
Little Hocking Fire Dept
Marietta Fire Dept
Matamoras Emergency Squad, Inc.
Newport Vol Fire Dept Inc

Oak Grove Fire Dept
Reno Vol Fire Dept
Salem Twp Vol Fire Dept
Wesley Twp Vol Fire Dept Inc
Wayne
Apple Creek/East Union Twp. Fire Dept.
Auble EMS & Ambulance
Canaan Twp Fire Dept
Central Fire Dist. (Smithville FD)
Chippewa Twp Fire Dept
Clinton Twp Fire Department
East Wayne Fire District
Kidron Vol Fire Dept
New Pittsburg Fire Dept
Orrville (City of) Fire Dept
Paint Township Fire Department
Rittman E.M.S.
Samaritan Care, Inc.
South Central Fire Dist.
Sterling Fire Dist
Town & Country Fire District

Wooster Fire Division Station #1
Wooster Twp Fire Dept
Williams
Williams County EMS
Wood
Bloomdale Fire Dept
Bowling Green Fire Div. (City of)
Bradner Fire Dept
Lake Twp Fire Dept
Middleton Twp. EMS
North Baltimore E.M.S.
Northwood Fire Dept
Pemberville-Freedom Fire Dept
Perrysburg Fire Division
Perrysburg Twp Fire Department
Troy Township E.M.S.
Weston EMS
Wyandot
Sycamore Fire Dept
Wyandot Co. E.M.S. Headquarters

Appendix D: 2015 County EMS Run Rates per 10,000 Population**

County	Population**	Runs	Rate/10,000 Pop.
Adams	28,024	4,641	1656.1
Allen	104,425	7,962	762.5
Ashland	53,213	2,574	483.7
Ashtabula	98,632	7,923	803.3
Athens	65,886	5,702	865.4
Auglaize	45,876	3,540	771.6
Belmont	69,154	5,610	811.2
Brown	43,839	3,957	902.6
Butler	376,353	14,272	379.2
Carroll	27,811	2,216	796.8
Champaign	38,987	4,150	1064.5
Clark	135,959	20,235	1488.3
Clermont	201,973	18,937	937.6
Clinton	41,917	4,236	1010.6
Columbiana	104,806	7,710	735.6
Coshocton	36,569	6,348	1735.9
Crawford	42,306	1,753	414.4
Cuyahoga	1,255,921	169,128	1346.6
Darke	52,076	5,156	990.1
Defiance	38,352	2,220	578.8
Delaware	193,013	12,899	668.3
Erie	75,550	9,353	1238.0
Fairfield	151,408	16,364	1080.8
Fayette	28,679	841	293.2
Franklin	1,251,722	151,078	1207.0
Fulton	42,537	2,833	666.0
Gallia	30,142	3,329	1104.4
Geauga	94,102	3,014	320.3
Greene	164,427	6,225	378.6
Guernsey	39,258	242	61.6
Hamilton	807,598	107,485	1330.9
Hancock	75,573	3,238	428.5
Hardin	31,682	2,180	688.1
Harrison	15,450	1,208	781.9
Henry	27,816	1,759	632.4
Highland	43,026	5,329	1238.6
Hocking	28,491	3,359	1179.0
Holmes	43,909	1,080	246.0

County	Population**	Runs	Rate/10,000 Pop.
Huron	58,469	3,823	653.9
Jackson	32,596	6,227	1910.4
Jefferson	67,347	3,990	592.5
Knox	61,061	6,304	1032.4
Lake	229,245	15,621	681.4
Lawrence	61,109	6,604	1080.7
Licking	170,570	18,479	1083.4
Logan	45,386	4,072	897.2
Lorain	305,147	29,838	977.8
Lucas	433,689	15,252	351.7
Madison	44,094	5,766	1307.7
Mahoning	231,900	17,131	738.7
Marion	65,355	6,328	968.3
Medina	176,395	11,476	650.6
Meigs	23,257	4,095	1760.8
Mercer	40,968	1,560	380.8
Miami	104,224	12,070	1158.1
Monroe	14,409	1,040	721.8
Montgomery	532,258	51,341	964.6
Morgan	14,777	1,934	1308.8
Morrow	35,074	1,143	325.9
Muskingum	86,290	8,096	938.2
Noble	14,326	637	444.6
Ottawa	40,877	2,915	713.1
Paulding	18,976	994	523.8
Perry	35,985	2,747	763.4
Pickaway	56,998	4,755	834.2
Pike	28,217	3,149	1116.0
Portage	162,275	15,491	954.6
Preble	41,329	2,741	663.2
Putnam	34,042	1,792	526.4
Richland	121,707	11,227	922.5
Ross	77,170	10,624	1376.7
Sandusky	59,679	5,303	888.6
Scioto	76,825	13,474	1753.9
Seneca	55,610	4,774	858.5
Shelby	48,901	3,806	778.3
Stark	375,165	40,344	1075.4
Summit	541,968	81,380	1501.6
Trumbull	203,751	18,353	900.8

Tuscarawas	92,916	6,372	685.8
Union	54,277	4,288	790.0
Van Wert	28,562	2,112	739.4
Vinton	13,048	1,669	1279.1
Warren	224,469	11,610	517.2
Washington	61,112	5,409	885.1
Wayne	116,063	9,409	810.7
Williams	37,120	3,671	989.0
Wood	129,730	7,568	583.4
Wyandot	22,243	1,601	719.8

****2015 intercensal county population rates are yearly population estimates that occur in between census years. They are provided by the United States Census Bureau at <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>**

