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Iowa Department of Public Health
Promoting and Protecting the Health of Iowans

20 YEARS OF KEEPING YOU SAFE
IPRC
University of Iowa
Injury Prevention Research Center

TABLE OF CONTENTS

EMS Providers	P.3
The Trauma System	P.6
EMS Services	P.8
Love Our Kids	P.10
EMS Outcomes	P.12
EMS Performance Measures	P.13
EMS Budget	P.19
Contact Information	P.20

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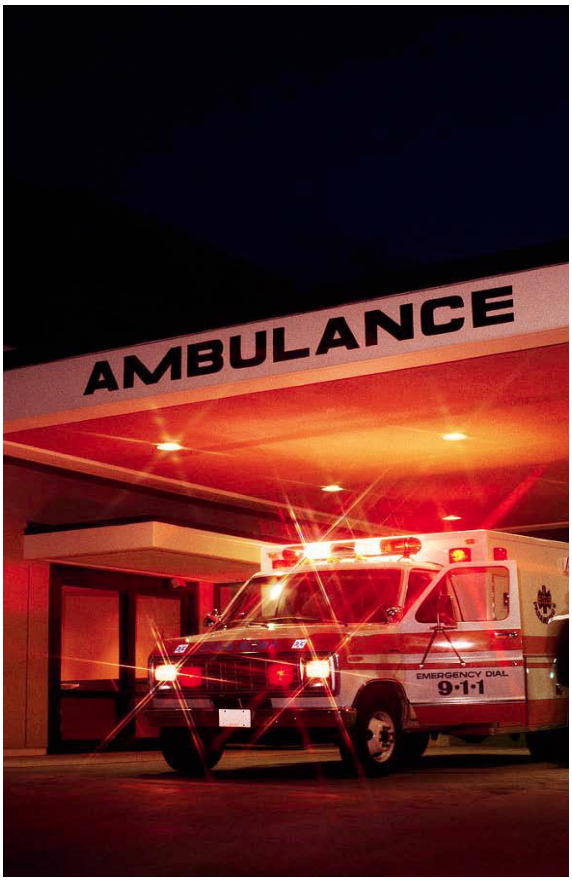
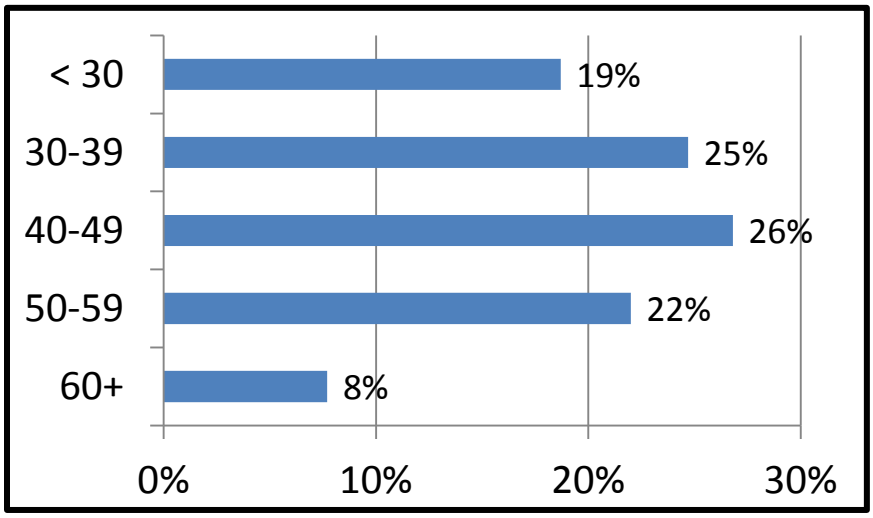


EMS Providers

Figure 1: Age range of providers



In 2015, 70% of the EMS providers were male and 30% were female. Nearly 75% of EMS providers were aged 30-59.

In 2015, there were 8,468 certified providers in Iowa. While 83% were listed on only one service roster, there were some who were listed on more, including two individuals who were listed on six service rosters.

Table 1: Number of providers by service roster

Number of Services	Number of Providers
1	6991
2	1235
3	206
4	30
5	4
6	2
Total	8468

Table 2: Number of registered nurses on service rosters

Year	Registered Nurses
2008	381
2010	495
2012	516
2013	562
2015	638

An Iowa Registered Nurse (RN) may function as a member of an EMS service if they have equivalent training as approved by the physician medical director and the service. Since 2008, there has been a 67% increase in the total number of RNs on the service roster.

Table 3: The number of providers at the various certification levels for EMS providers

Level	Total
Advanced Emergency Medical Technician	203
Emergency Medical Responders	1227
EMS - Instructor	1
Emergency Medical Technician	6804
Emergency Medical Technician - Basic	2
Emergency Medical Technician - Defibrillator	5
Emergency Medical Technician - Intermediate	485
Emergency Medical Technician - Paramedic	300
First Responder	16
First Responder - Defib	6
Paramedic	2752
Total	11801

In 2015, 58% of providers were certified at the EMT/EMT-Basic level and 23% at the Paramedic level.

Table 4: Level transitions

Current Level	Transition Level	Date for Completion
First Responder	Emergency Medical Responder	September 30, 2013/2014*
EMT - Basic	Emergency Medical Technician	March 31, 2014/2015*
EMT - Intermediate	Advanced Emergency Medical Technician	March 31, 2016
EMT - Paramedic	Paramedic	March 31, 2018
Paramedic Specialist	Paramedic	March 31, 2014/2015*

The Bureau of EMS has developed programming to transition the current provider levels to the nationally identified scope of practice level. Transition started on August 1, 2011.

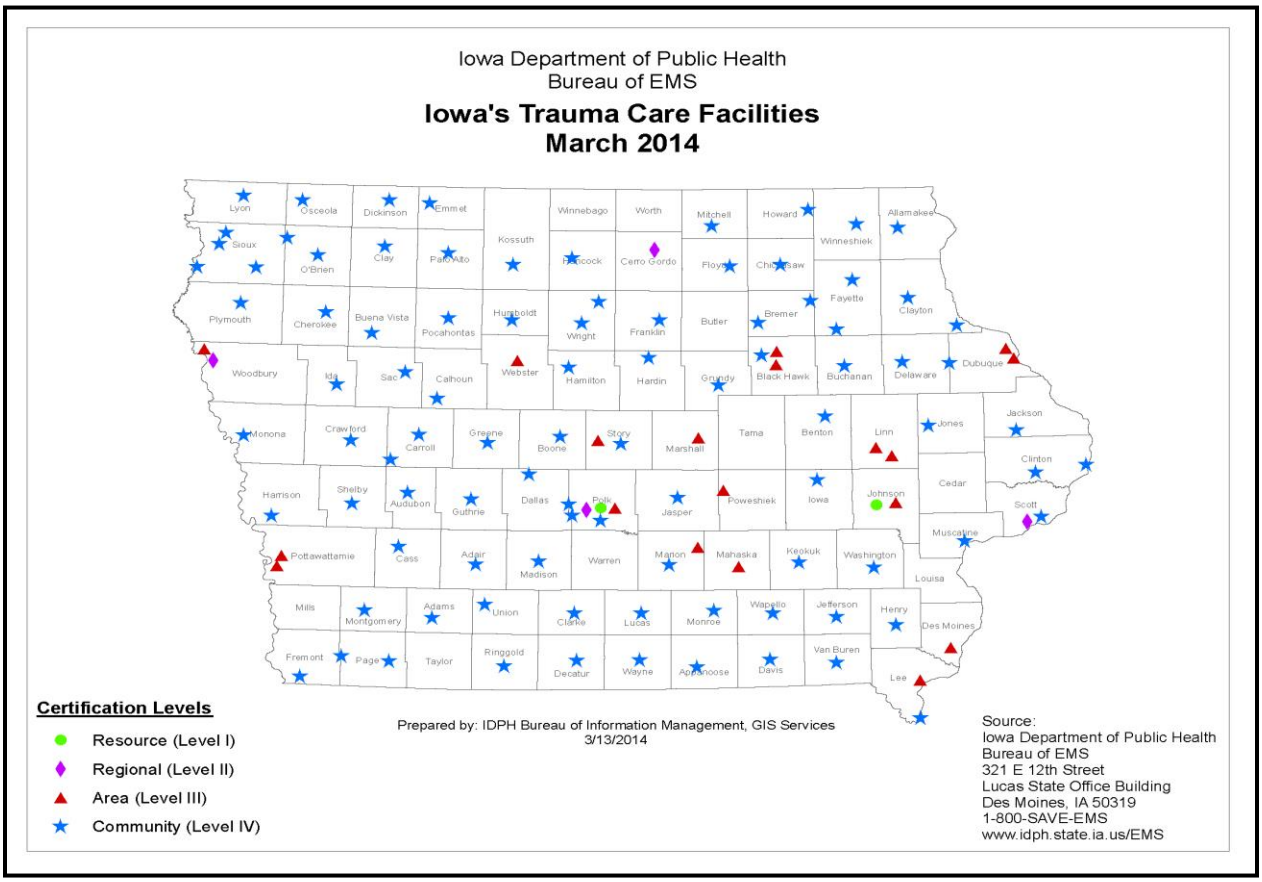
The Trauma System

Table 5: Number of Trauma Care Facilities by each level in 2014

Level	Number in State
Level I: Resource	2
Level II: Regional	4
Level III: Area	19
Level IV: Community	93

Trauma care facilities are self-categorized into one of four levels by their availability of resources to provide trauma care. Level I and II facilities have the most resources to provide trauma care.

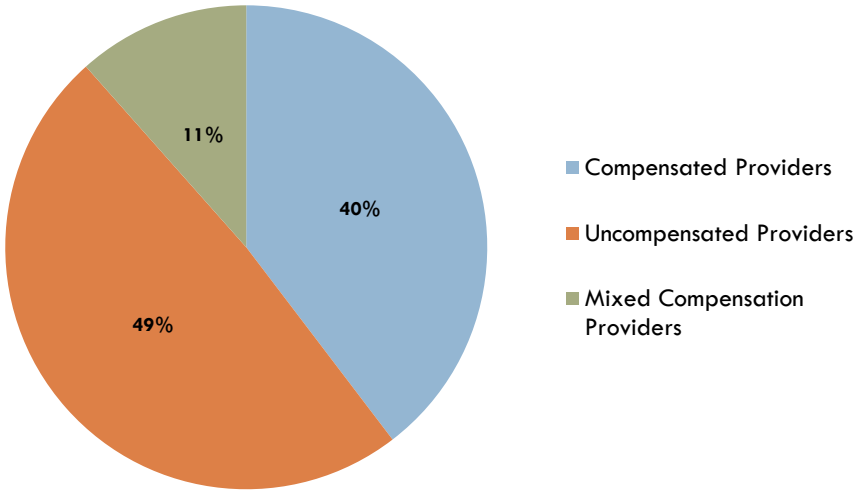
Figure 2: Locations of the trauma care facilities with level designation (2014)



In 2014, University of Iowa Hospitals and Clinics and Iowa Methodist Medical Center were the two Level I facilities in the state providing the greatest number of resources for care along with Level II facilities. Level II facilities are scattered throughout the state, but are generally near larger cities. The majority (79%) of facilities are categorized as a Level IV.

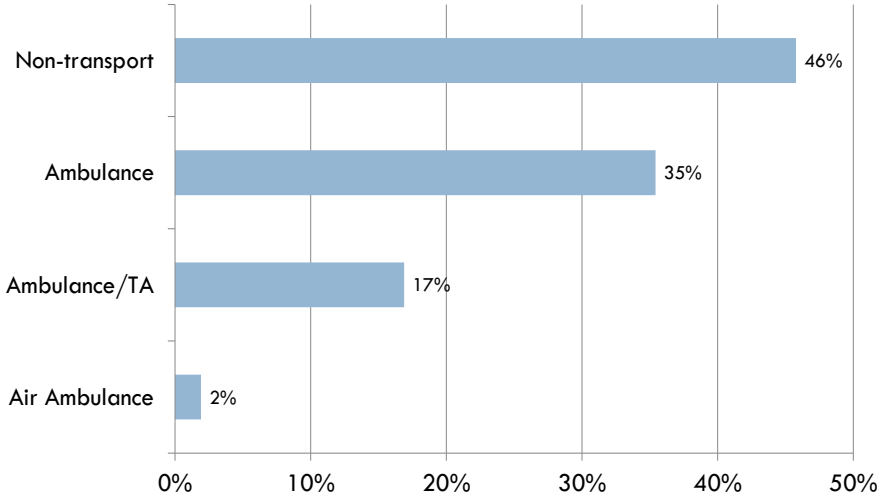
EMS Services

Figure 3: Service staff compensation



The majority (49%) of services were staffed by uncompensated providers.

Figure 4: Type of service provided by EMS



In 2015, nearly half of the authorized services in the state were non-transport. Programs that are unable to maintain 24/7/365 staffing are allowed to apply to provide non-transport coverage in addition to ambulance services. Ambulance/TA denotes those services that have a formal written transportation agreement with a neighboring ambulance service. There were 14 air ambulance services in the state.

Table 6: Results of service inspections by type of service

Service Type	Services with deficiencies	Services w/o deficiencies	Total
Air	0	1	1
Ambulance	91	14	105
Ambulance/TA	39	5	44
Non-transport	109	11	120
Total	239	31	270

Of the inspections completed in 2015, 12% of the services had zero deficiencies.

Table 7: Number of deficiencies by type of service

# Deficiencies	Ambulance	Ambulance/TA	Non-Transport	Total
1-5	56	22	46	124
6-10	21	9	36	66
11-15	12	7	20	39
16-20	2	0	7	9
21-25	0	1	0	1
26-30	0	0	0	0
Total	91	39	109	239

Of all services cited with deficiencies, 52% had 5 or fewer compared to 45% in 2013.

Love Our Kids

Table 8: The amount distributed to regions of the state through the "Love Our Kids" program

Year	NW	NC	NE	SW	SC	SE	Total
FY 2008	$1,500	$1,500	$1,500	$0	$0	$0	$4,500
FY 2009	$4,500	$4,465	$5,601	$0	$1,655	$2,711	$18,932
FY 2010	$5,991	$5,316	$5,140	$4,030	$0	$9,478	$29,955
FY 2011	$4,500	$1,500	$4,500	$4,500	$1,921	$5,220	$22,141
FY 2012	$10,500	$6,000	$1,500	$1,500	$3,000	$6,000	$28,500
FY 2013	$3,000	$3,000	$3,000	$3,000	$3,000	$0	$15,000
FY 2014	$5,700	NA	$9,000	$1,500	NA	$3,000	$19,200

NA = The EMS regions changed to four regions in 2014

The "Love Our Kids" license plates generate the proceeds to fund community based childhood injury prevention and education programs throughout the state.

Table 9: The number of projects funded by "Love Our Kids" grants in FY 2014

Type of Project FY2014	Number of Projects
ATV/Bike Wheel Safety	1
Bike Safety	1
Bullying	1
Child Abuse	1
Child Passenger Safety/Occupant Protection	2
Concussions Training for Coaches	1
Exercise Induced Injury Prevention	1
Poison Prevention	1
Prevention and the Prehospital Provider Training	1
Safe Sleep	3

The type of project most funded by the "Love Our Kids" grants in FY 2014 were those involving child passenger safety and bike helmet education.

Table 10: The number of projects funded by “Love Our Kids” grants in FY 2015

Type of Project FY2015	Number of Projects
Bicycle Safety Equipment and Education	1
Safety Prevention Health Fair	1
Child Poison Prevention Education	3
Child Passenger Safey	2
Bicycle Safety	2
Safe Driving	2
Poison Prevention	2
Self Defense	1

The type of project most funded by the “Love Our Kids” grants in FY 2015 involved child poison prevention education.

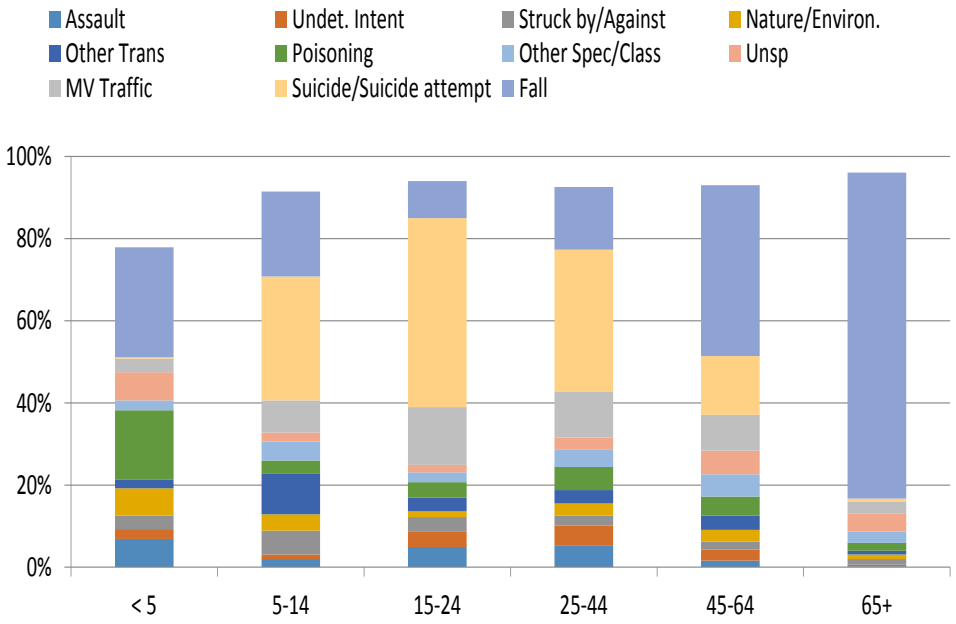
Table 11: The number of projects funded by “Love Our Kids” grants in FY 2016

Type of Project FY2016	Number of Projects
Love Our Kids 15-16 (Bicycle Safety/Rodeo)	1
Care for Yourself FY15 (Kid's Health and Safety Fair)	1
Child passenger safety seats/education	4
Child Poison Prevention Education events	8
Car seat safety event	1
GRMC Bike Helmet Project	1
Bike Helmets/Safety Program	1
Injury Prevention Education to Newborns Families	1
Sports Injury Prevention Seminar	1
Keeping Our Young Drivers Safe	1
Child Poison Prevention and Safety	1

The most funded type of project by the “Love Our Kids” grants in FY 2016 also involved child poison prevention education yet more so than in FY 2015.

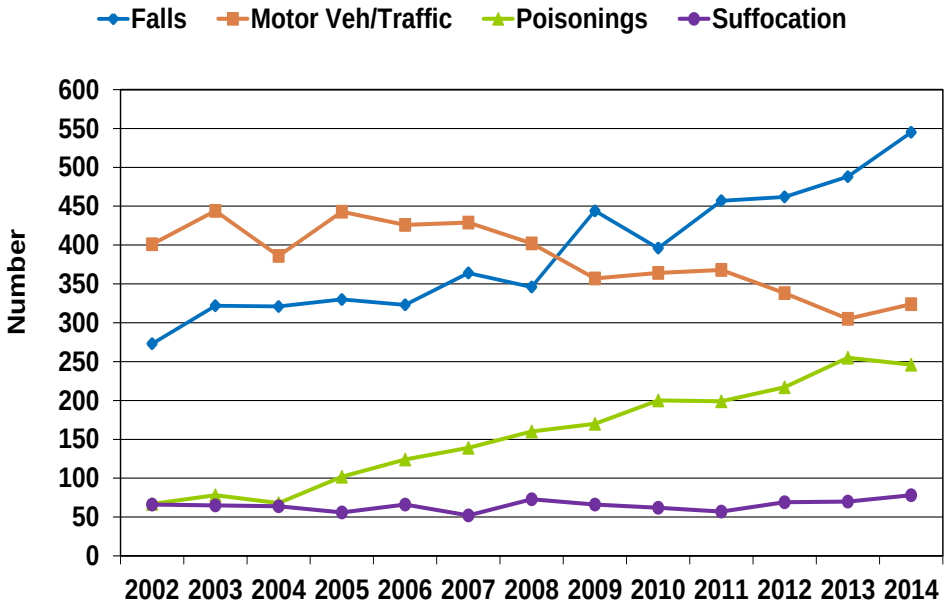
EMS Outcomes

Figure 5: The majority mechanisms of injury by age (2014 Hospital Discharge Data)



Key mechanisms of injury varied with age. Falls were the primary type of injury for 45-64 year olds, and more so for those aged 65 and older. For age groups 5-14, 15-24 and 25-44 the dominant mechanism of injury was suicide/suicide attempt (of those, the majority were due to poisoning overdoses). In addition, unintentional poisonings and falls were the most prominent injury mechanisms for those less than 5.

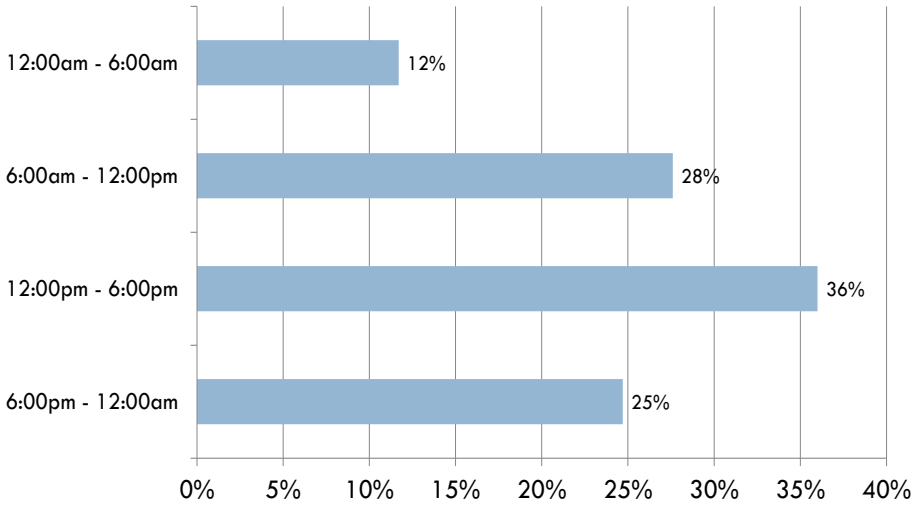
Figure 6: Causes of unintentional trauma related death (2002-2014 Death Certificate Data)



Trauma deaths due to falls and poisonings have increased, while those due to motor vehicle crashes are continually declining. Trends in data can indicate where the trauma system response is working and where changes need to be made.

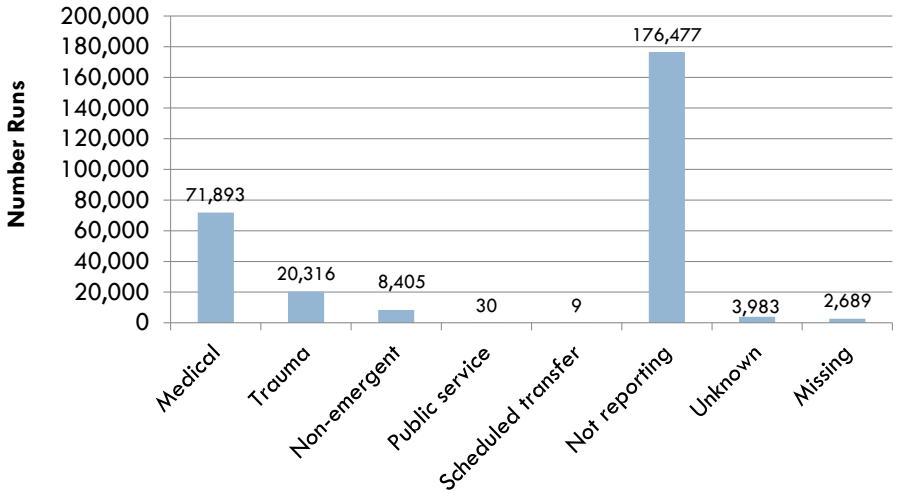
EMS Performance Measures

Figure 7. Number of calls per time range (all EMS runs)



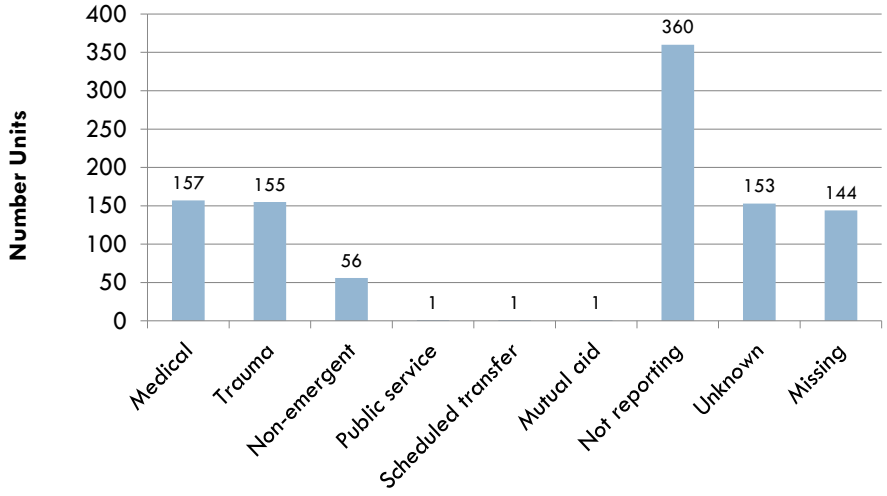
EMS calls were lower in the overnight hours yet increased as the day progressed, particularly during the noon to 6:00pm time period.

Figure 8. Number of EMS runs by type of incident (all EMS runs)



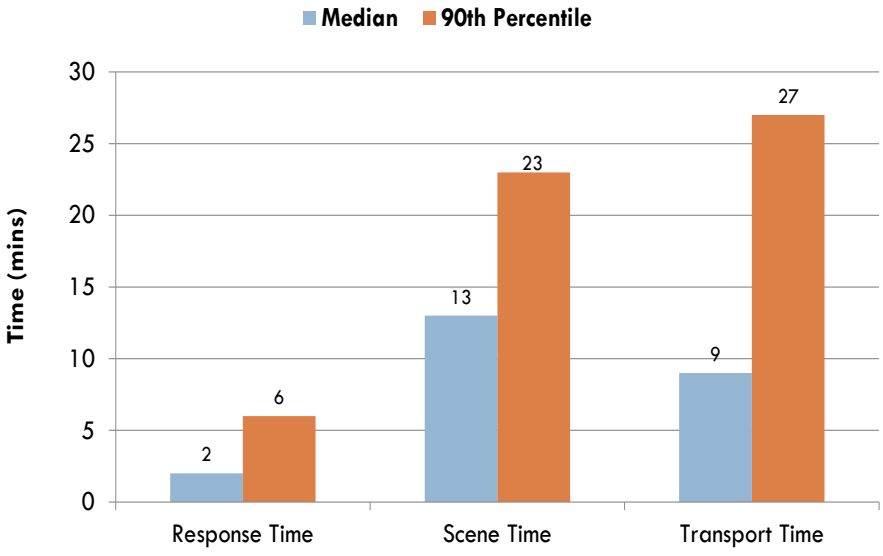
Of those agencies that reported an incident type, the majority were medical runs followed by trauma runs.

Figure 9. Number of EMS units by type of incident (all EMS runs)



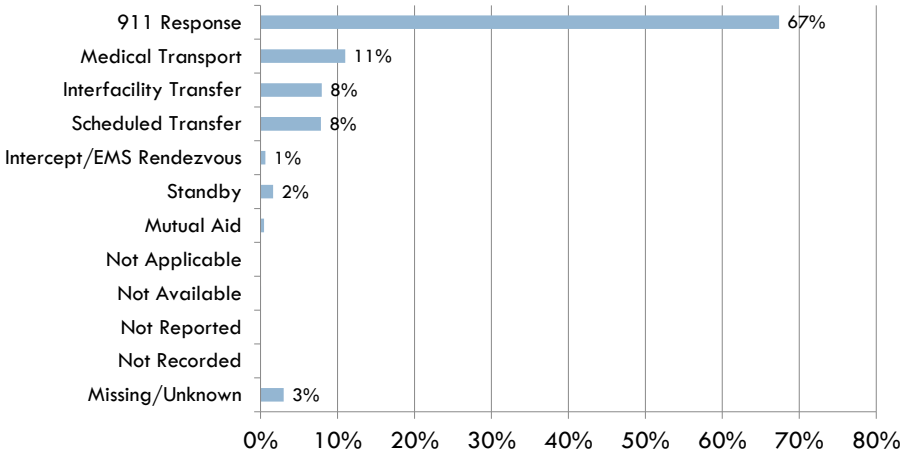
Medical and trauma incidents were nearly even in the number of units that responded to a call.

Figure 10. Median and 90th percentile patient care times in minutes for all EMS runs (911 EMS runs and by ground ambulance only)



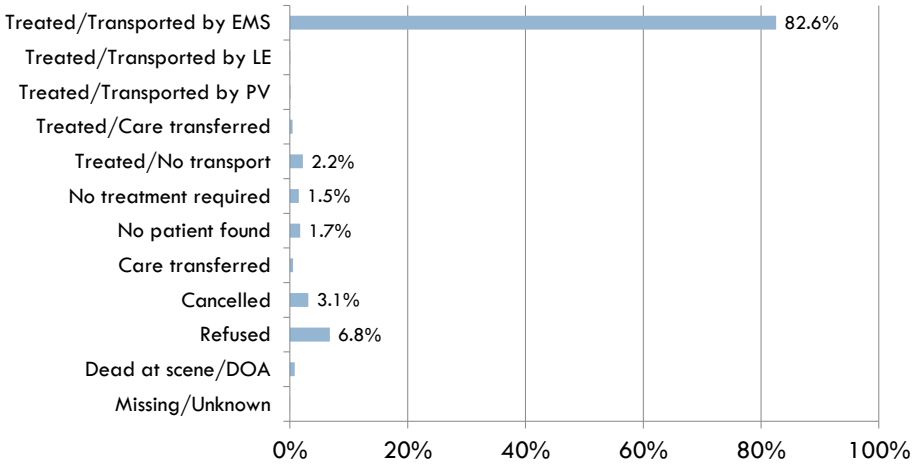
Response and transport median times were lower than scene times, which need improvement. When looking at the 90th percentile times, there was an increase in each time component with transport time at 27 minutes. Distance from incident location to receiving facility may have played a major factor, particularly due to the rural nature of Iowa.

Figure 11. Dispatch type for all EMS runs



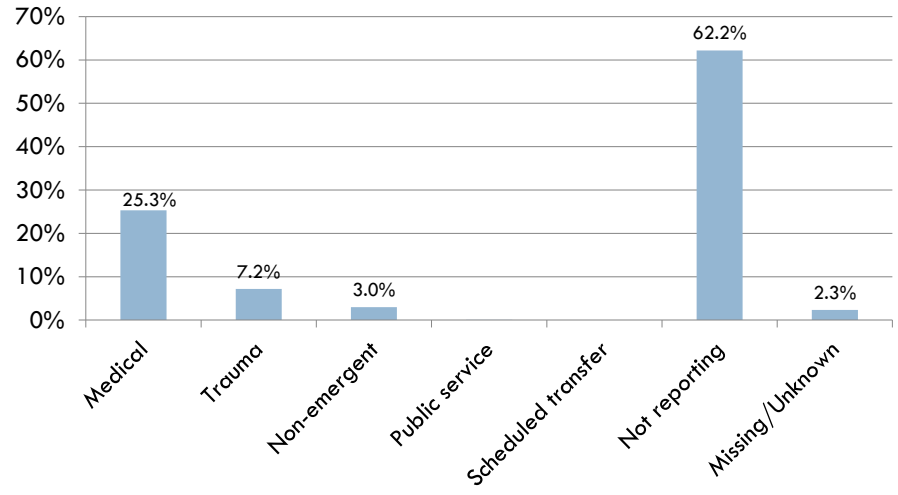
As one might expect, 911 responses were the dominant dispatch type at 67%.

Figure 12. Response outcome for all EMS runs



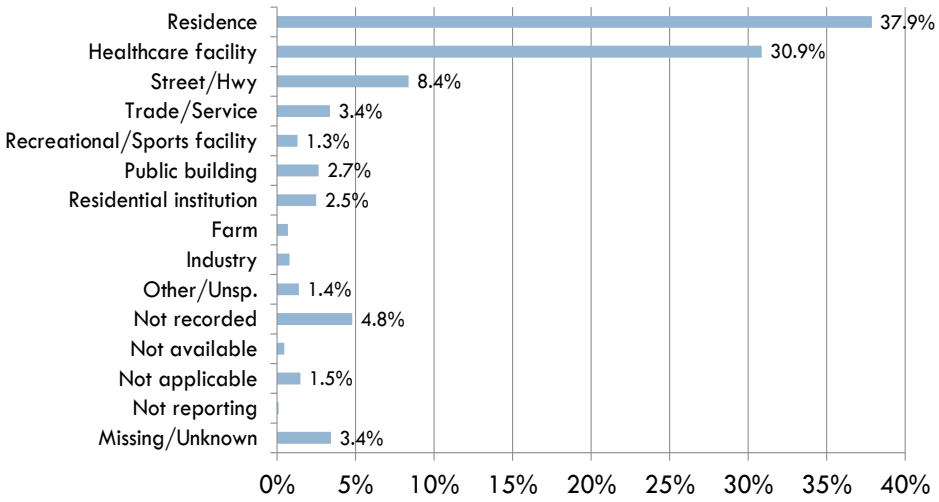
Treated and transported by EMS was the most common response outcome (83%).

Figure 13. Type of incident for all EMS runs



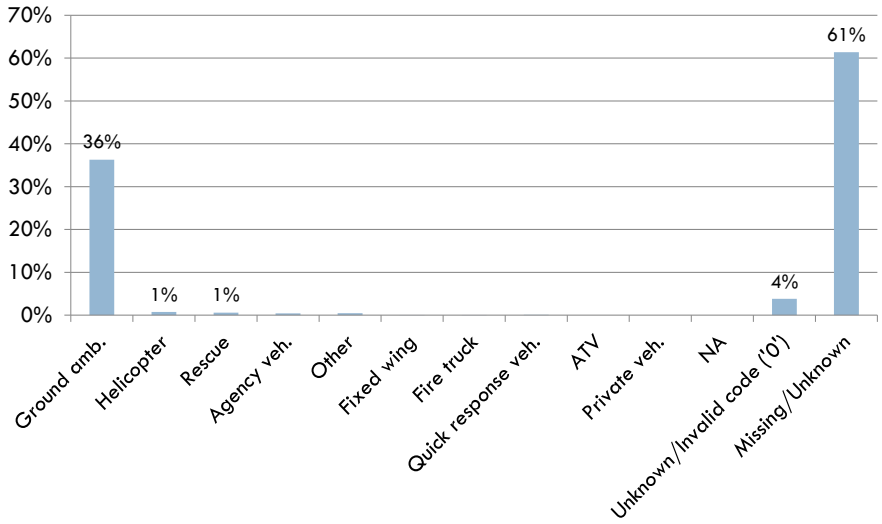
For all agencies reporting an incident type, medical incidents were the leading type (25%).

Figure 14. Type of location where incident occurred (all EMS runs)



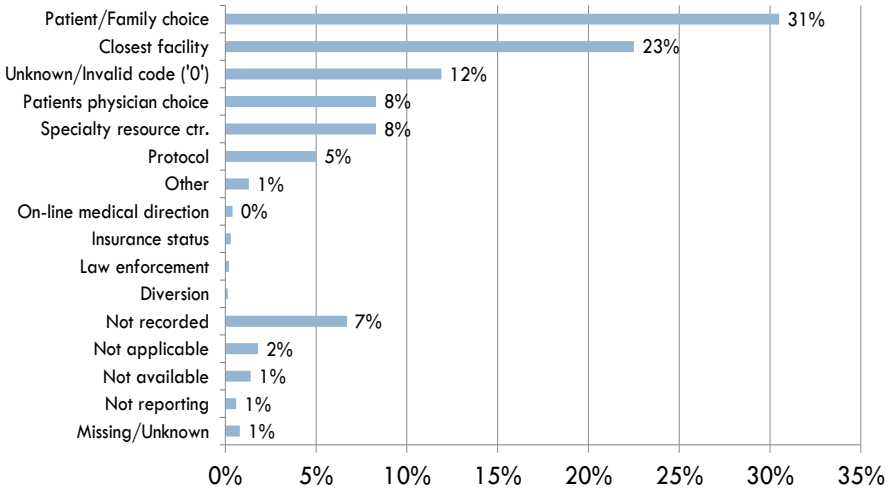
Incidents that occurred at home or at a healthcare facility (e.g., clinic, hospital, nursing home, mental health facility, etc.) were among the most dominant locations.

Figure 15. Type of vehicle used by EMS providers (all EMS runs)



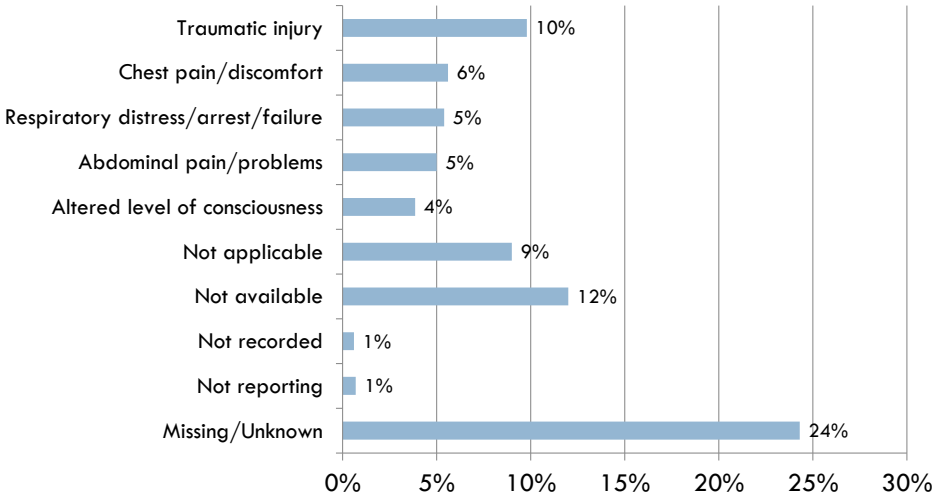
Ground ambulance was the most common vehicle used by EMS providers (36%).

Figure 16. Destination determination by EMS providers (all EMS runs)



Patient/Family choice and closest facility were the top two criteria EMS providers used in determining where patients were taken to.

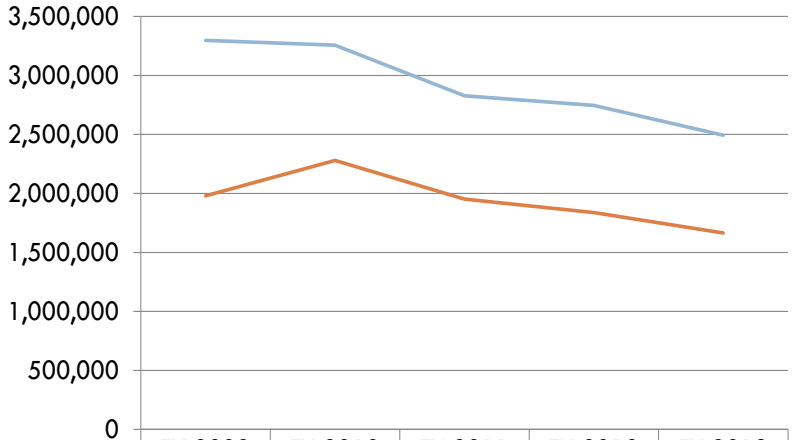
Figure 17. Top five primary provider impressions (including missing/unknown; all EMS runs).



Traumatic injury was the most common primary provider impression.

EMS Budget

Figure 18: Total budget and grant expenditures



	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Budget	3,298,179	3,256,785	2,828,359	2,746,464	2,493,395
Grants Expenditures	1,979,513	2,279,330	1,951,991	1,837,546	1,664,277

The total budget for fiscal year 2013 is $2,493,395. This is a 24 percent decrease in funding from fiscal year 2009. The percentage of the Bureau of EMS budget dedicated to g rant programs varies annually based on the source of funding, trends in specific programs, and consumer participation.

Contact Information

Please feel free to contact Bureau of EMS staff with comments and suggestions. Visit the Bureau website at:

http://idph.iowa.gov/bets/ems

To receive periodic notices and information from the Bureau, send a blank email to:

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