The EMS System Response Toolkit is a comprehensive analysis of an EMS System's Response to an EMS Event. This report provides a description of an EMS response from several different perspectives and uses statistical analysis to measure an EMS Systems performance. Included in this Toolkit are comparative Benchmarks with other groups based upon the Urban Codes and with the entire state.

With each subsection of this Toolkit, interventions are recommended based on the analysis of each EMS System. Interventions are included in the Appendix of the Toolkit. Each EMS System is encouraged to review this report fully along with the recommended interventions which could lead to EMS System Response improvement. After an intervention has been implemented within an EMS System and 2 to 3 months of EMS data has been collected within PreMIS, the EMS System should generate the EMS System Response Toolkit again. The repeated use of this toolkit will allow each EMS System to measure and monitor its performance and improvement.

To better understand and apply this toolkit, a glossary of terms has been provided in the front of this Toolkit document. It is most beneficial to read the glossary prior to reviewing the EMS Toolkit results.

Many of the data analyses in this Toolkit contain comparisons to groups based upon Urban Influence Codes and the state overall. These comparative statistics are calculated using data from the 6 months prior to the generation of this Toolkit, and not the date range of the Toolkit. For this reason, the number of records listed for each of these groups may seem smaller than expected.

Any questions regarding this EMS System Response Toolkit or any other Toolkit product should be directed to the EMS Performance Improvement Center ( www.emspic.org ).
Contents

Glossary of Terms ........................................................................................................ 4

Section A: Analysis of Data Completion .................................................................. 5
  Analysis of Existing PreMIS Data: ........................................................................... 5
  Analysis of Additional Toolkit Data: ....................................................................... 7
  Recommended Interventions: .................................................................................. 8

Section B: Analysis of EMS Response Time ............................................................. 12
  Analysis of EMS Chute Time (EMS En Route Time minus EMS Unit Notification Time): .......... 13
  EMS Response Time (EMS Unit Scene Arrival Time minus EMS Unit En Route Time) .............. 15
  EMS At Patient Time (EMS at Patient Time minus EMS Unit Scene Arrival Time) .................. 17
  Recommended Interventions: .................................................................................. 19

Section C: Analysis of EMS Unit Availability ............................................................ 22
  Analysis of EMS Calls (Events) by Day of Week ..................................................... 23
  Analysis of EMS Calls (Events) by Time of Day .................................................... 25
  Analysis of EMS Unit Hour Utilization .................................................................. 30
  Recommended Interventions: .................................................................................. 31

Section D: Analysis of EMS Transport Time .............................................................. 33
  Analysis of EMS Transport Time (EMS Unit Arrival at Destination Time minus EMS Unit Left Scene Time): . . . 34
  Analysis of EMS Transport Distance: .................................................................... 36
  Analysis of EMS Transport Time by Hospital (EMS Unit Arrival at Destination Time minus EMS Unit Left Scene Time): ................................................................. 38
  Recommended Interventions: .................................................................................. 40

Section E: Analysis of EMS Total Call Time ............................................................. 43
  Analysis of EMS Scene Time (EMS Depart Scene Time minus EMS Arrival at Scene Time): .......... 44
  Analysis of EMS Back in Service Time (EMS Back in Service Time minus EMS Unit Arrival at Destination Time): 46
  Analysis of EMS Back at Home Time (EMS Back at Home minus EMS Back in Service Time): .......... 48
  Analysis of EMS Notification to Back in Service Time (EMS Unit Back in Service Time minus Unit Notification Time): ................................................................. 50
  Analysis of EMS Total Call Time (EMS Unit Back in Service Time minus 911 Call time): .............. 52
  Summary Table of 90% Fractile Call Time Intervals: ................................................ 54
  Recommended Interventions: .................................................................................. 56

Section F: Analysis of EMS 911 Call Center Time ...................................................... 59
Analysis of EMS Call Center Time (EMS Notification Time minus 911 Call Time): 60
Recommended Interventions: 63

Section G: Analysis of Miscellaneous EMS Service Response Factors

Analysis of EMS Response Delays: 65
Analysis of EMS Mileage: 67
Analysis of Population Demographics: 68
Analysis of Seasonal Population Changes: 71
Analysis of First Responder Coverage: 71
Analysis of Community Involvement: 71
Analysis of Ambulance/Vehicle Reliability: 71
Analysis of Quality Management Program: 71
Recommended Interventions: 72
Glossary of Terms

To better understand and apply this toolkit, a glossary of terms has been provided. It is most beneficial to read this glossary prior to reviewing the EMS Toolkit results.

EMS Similar System or Agency Grouping: The benchmarking/comparison grouping an EMS Agency has been assigned based upon the 2003 Urban Influence Codes maintained by the United States Department of Agriculture. Urban Influence codes allow each county to be grouped with similar counties within a state and nationally. EMS Agencies can identify their peer group by looking at one of the 4 groupings: Urban, Suburban, Rural, and Wilderness. Details on Urban Influence Codes can be found at http://www.ers.usda.gov/Briefing/Rurality/UrbanInf.

State: This refers to data calculations for the entire state which includes any and all EMS systems or agencies providing data. Typically calculations of state EMS data are based on averages or 90% Fractile measurements.

Minimum Value: The lowest number or smallest value for a specific measurement.

Maximum Value: The highest number or highest value for a specific measurement.

Average Value: The average is the sum (total amount) of all of the numbers divided by the number of items for a specific measurement.

Median Value: The middle point of a group of numbers.

90% Fractile Value: The value or measurement at which 90% of all events occur. This is typically used in time measurements to better standardize performance across systems or agencies.

Standard Deviation: A measurement of the how much variation or distance there is between values. The higher the standard deviation, the greater variability there is within a measurement.

n: The number of records or events considered in the calculation or measurement.

Hot Response: A lights and sirens, emergent response to or from an EMS event.

Cold Response: A normal traffic speed response (no lights and sirens) to or from an EMS event.

Unit Hour: A fully equipped and staffed ambulance on a response or waiting for a response for one hour. This is used to calculate the Unit Hour Utilization Ratio.

Unit Hour Utilization Ratio: The measurement that results by dividing the utilization (number of EMS events x the average total call time) by the total Unit Hours for an EMS System or Agency. The ratio describes the percentage of time an EMS System or Agency is utilized (actively involved with an EMS event).
Section A: Analysis of Data Completion

Purpose:
This section will evaluate, analyze, and measure the completeness of the existing data submitted into PreMIS and the additional data elements collected at the time the EMS Response Toolkit for the time frame selected.

Analysis of Existing PreMIS Data:

✲ A total of 5007 records were identified for this toolkit’s date range

✲ Items shaded in Gray indicate that the EMS System is completing the Data Element at least 10% less frequently than the State average.

✲ Items shaded in Red indicate that the EMS System is not collecting or providing the data to PreMIS.

Existing PreMIS Data Element Completion Rates - Table

<table>
<thead>
<tr>
<th>Data Element</th>
<th>EMS System Completion Rate</th>
<th>State Completion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSAP Call Date</td>
<td>33%</td>
<td>62%</td>
</tr>
<tr>
<td>PSAP Call Time</td>
<td>33%</td>
<td>62%</td>
</tr>
<tr>
<td>Unit Notified by Dispatch Date</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Unit Notified by Dispatch Time</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Unit En Route Date/Time</td>
<td>100%</td>
<td>94%</td>
</tr>
<tr>
<td>Unit Arrived on Scene Date/Time</td>
<td>97%</td>
<td>96%</td>
</tr>
<tr>
<td>Arrived at Patient Date/Time</td>
<td>96%</td>
<td>69%</td>
</tr>
<tr>
<td>Unit Left Scene Date/Time</td>
<td>96%</td>
<td>79%</td>
</tr>
<tr>
<td>Patient Arrived at Destination Date/Time</td>
<td>84%</td>
<td>73%</td>
</tr>
<tr>
<td>Unit Back in Service Date/Time</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Unit Cancelled Date/Time</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Unit Back at Home Location Date/Time</td>
<td>72%</td>
<td>31%</td>
</tr>
<tr>
<td>Type of Response Delay</td>
<td>67%</td>
<td>46%</td>
</tr>
<tr>
<td>Type of Scene Delay</td>
<td>74%</td>
<td>49%</td>
</tr>
<tr>
<td>Type of Transport Delay</td>
<td>51%</td>
<td>37%</td>
</tr>
<tr>
<td>Beginning Odometer Reading of Respondi</td>
<td>100%</td>
<td>54%</td>
</tr>
<tr>
<td>Data Element</td>
<td>EMS System Completion Rate</td>
<td>State Completion Rate</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>----------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>On-Scene Odometer Reading of Responding Patient</td>
<td>97%</td>
<td>71%</td>
</tr>
<tr>
<td>Patient Destination Odometer Reading</td>
<td>96%</td>
<td>67%</td>
</tr>
<tr>
<td>Response Mode to Scene</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Type of Service Requested</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Incident Address</td>
<td>99%</td>
<td>95%</td>
</tr>
<tr>
<td>Incident City</td>
<td>100%</td>
<td>87%</td>
</tr>
<tr>
<td>Incident County</td>
<td>100%</td>
<td>82%</td>
</tr>
<tr>
<td>Incident State</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Incident ZIP Code</td>
<td>100%</td>
<td>91%</td>
</tr>
<tr>
<td>Possible Injury</td>
<td>52%</td>
<td>61%</td>
</tr>
<tr>
<td>Chief Complaint Organ System</td>
<td>52%</td>
<td>37%</td>
</tr>
<tr>
<td>Other Associated Symptoms</td>
<td>59%</td>
<td>52%</td>
</tr>
<tr>
<td>Chief Complaint Anatomic Location</td>
<td>53%</td>
<td>37%</td>
</tr>
<tr>
<td>Primary Role of the Unit</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Incident Location Type</td>
<td>67%</td>
<td>89%</td>
</tr>
<tr>
<td>Complaint Reported by Dispatch</td>
<td>85%</td>
<td>76%</td>
</tr>
<tr>
<td><strong>EMD Card Number</strong></td>
<td><strong>0%</strong></td>
<td><strong>28%</strong></td>
</tr>
<tr>
<td>Estimated Date/Time Initial Responder A</td>
<td>49%</td>
<td>21%</td>
</tr>
<tr>
<td>Number of Patients at Scene</td>
<td>100%</td>
<td>93%</td>
</tr>
<tr>
<td>Mass Casualty Incident</td>
<td>67%</td>
<td>67%</td>
</tr>
<tr>
<td>Chief Complaint</td>
<td>96%</td>
<td>87%</td>
</tr>
<tr>
<td>Alcohol/Drug Use Indicators</td>
<td>56%</td>
<td>32%</td>
</tr>
<tr>
<td>Cause of Injury</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Cardiac Arrest Etiology</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Destination/Transferred To, Name</td>
<td>96%</td>
<td>71%</td>
</tr>
<tr>
<td>Incident/Patient Disposition</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Transport Mode from Scene</td>
<td>84%</td>
<td>71%</td>
</tr>
<tr>
<td>Reason for Choosing Destination</td>
<td>88%</td>
<td>68%</td>
</tr>
<tr>
<td>Type of Destination</td>
<td>84%</td>
<td>72%</td>
</tr>
</tbody>
</table>
Analysis of Additional Toolkit Data:

* This Report is based on the information provided through the web-based form at the time the EMS Response Toolkit was generated.

* The following Additional Toolkit Data Elements were not completed:

**Missing Additional Toolkit Data Elements**

**SAMPLE**

6/1/2010 - 11/30/2010

| No additional Toolkit Elements are missing |
Recommended Interventions:

✻ The following interventions have been included in this EMS Response Toolkit Report based on your results. The purpose of each intervention is to provide specific feedback, guidance, and suggestions on how you may improve your EMS service based on your performance.

✻ Your EMS service can work to improve regardless of its current performance. Please consider implementing one or more of these interventions within your EMS Service. After the intervention has been implemented, please repeat this EMS Response Toolkit in 60 to 90 days to evaluate if this intervention has resulted in change.

✻ Please be careful to not introduce too much change to the EMS service at one time. This will often cloud the effect the intervention has made on the EMS service and may make measured improvements difficult.

✻ If you have any questions or would like assistance in interpreting or using this EMS Response Toolkit, please contact the EMS Performance Improvement Center at www.emspic.org.
Intervention 1

Required EMS Data Elements are Missing

The purpose of this intervention is to provide instruction on how to improve data collection with respect to the PreMIS required data elements.

By receiving this intervention, the EMS Response Toolkit determined that at least one of the required EMS patient care report data elements used within this toolkit was not present. Not present means the data element was not completed for any of the records used by the toolkit. The following reasons could explain why a data element is missing:

✻ EMS personnel are not documenting information for the data element(s) within your patient care report software system.

✻ The EMS Service's patient care report software system does not include the data element(s) in its system; therefore, the information cannot be collected by EMS personnel.

✻ The EMS Service's patient care report software system includes the data element(s) and data is being entered into the software by EMS personnel but the XML file being generated by the software to import data into your state's EMS data system does not include the data element.

**Recommended Plan of Action**

✻ If the problem is one of EMS personnel documentation, educate your EMS personnel and monitor their documentation practices to make sure every data element is completed within the patient care report documentation system.

✻ If the problem resides in your EMS software, work with your vendor to add the data element or correct the XML import error.
Intervention 4

Missing EMS Toolkit Data Elements

The purpose of this intervention is to provide instruction on how to improve data collection with respect to the data elements used by the EMS Response Time Toolkit.

By receiving this intervention, it was determined that at least one data element used within this toolkit was not present. Not present means the data element was not completed for any of the records used by the toolkit. The following reasons could explain why a data element is missing:

> EMS personnel are not documenting information for the data element(s) within your EMS patient care report software system.

> The EMS Service's patient care report software system does not include the data element(s) in its system; therefore, the information cannot be collected by EMS personnel.

> The EMS Service's patient care report software system includes the data element(s) and data is being entered into the software by EMS personnel but the XML file being generated by the software to import data into your state’s EMS data system does not include the data element.

**Recommended Plan of Action**

> If the problem is one of EMS personnel documentation, educate your EMS personnel and monitor their documentation practices to make sure every data element is completed within your EMS Service’s patient care report documentation system.

> If the problem resides in your EMS software, work with your vendor to add the data element or correct the XML import error.
Intervention 5

Under-Reported EMS Data Elements Identified

The purpose of this intervention is to provide instruction on how to improve data collection and quality with respect to the EMS Response Time Toolkit data elements.

By receiving this intervention, the EMS Response Time Toolkit determined that at least one of the required data elements used within this toolkit were incompletely or inconsistently documented. This means the data element was collected by the EMS Service but was not completed as frequently as it should have been based on the number of EMS events. The following reason could explain why a data element is not completed as often as it should:

- The EMS Service's patient care report software is not configured correctly to require important data elements to be completed by EMS personnel.
- EMS personnel are not documenting information for the data element(s) within the patient care report software system.

**Recommended Plan of Action**

- Configure the EMS service’s patient care report software to require the data elements identified to be completed for each EMS event.
- Educate your EMS personnel and monitor their documentation practices to make sure every data element is completed within your EMS Service’s patient care report documentation system.
- Consider making patient care report documentation one of the measures used as a component of the EMS Service’s personnel performance evaluations.
**Section B: Analysis of EMS Response Time**

**Purpose:**  
This section will evaluate, analyze, and measure the EMS Response Time using several different time intervals including:

- EMS Chute Time (EMS En Route Time minus EMS Unit Notification Time)
- EMS Response Time (EMS Unit Scene Arrival Time minus EMS Unit En Route Time)
- EMS At Patient Time (EMS at Patient Time minus EMS Unit Scene Arrival Time)

**Record Selection:**  
For this analysis records were selected based on the following criteria:

- Type of Service = Primary 911 Response
- Response Level = Hot (Lights and Sirens response used all of the way to the scene)
Analysis of EMS Chute Time (EMS En Route Time minus EMS Unit Notification Time):

- A total of 2534 records were identified for this toolkit's date range
- A total of 2509 (99%) records were used in this analysis using the record selection criteria

Analysis of EMS Chute Time - Table

SAMPLE

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>2509</td>
<td>0:00:00</td>
<td>0:17:00</td>
<td>0:01:42</td>
<td>0:03:00</td>
<td>0:01:09</td>
</tr>
<tr>
<td>State</td>
<td>320160</td>
<td>0:00:00</td>
<td>1:54:00</td>
<td>0:01:20</td>
<td>0:03:00</td>
<td>0:01:57</td>
</tr>
<tr>
<td>Urban Group</td>
<td>187169</td>
<td>0:00:00</td>
<td>1:54:00</td>
<td>0:01:14</td>
<td>0:02:28</td>
<td>0:01:33</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>86858</td>
<td>0:00:00</td>
<td>1:49:00</td>
<td>0:01:19</td>
<td>0:03:00</td>
<td>0:01:47</td>
</tr>
<tr>
<td>Rural Group</td>
<td>35612</td>
<td>0:00:00</td>
<td>1:28:00</td>
<td>0:01:47</td>
<td>0:04:00</td>
<td>0:03:16</td>
</tr>
<tr>
<td>Wilderness Group</td>
<td>10521</td>
<td>0:00:00</td>
<td>1:35:35</td>
<td>0:01:40</td>
<td>0:03:00</td>
<td>0:03:00</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Chute Time - Graph

6/1/2010 - 11/30/2010

Times are formatted hh:mm:ss (hours: minutes: seconds)
* State and Group data represents All Emergent records over the last 6 months.
EMS Response Time (EMS Unit Scene Arrival Time minus EMS Unit En Route Time)

A total of 2534 records were identified for this toolkit's date range
A total of 2379 (94%) records were used in this analysis using the record selection criteria

Analysis of EMS Response Time - Table

SAMPLE

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>2379</td>
<td>0:00:00</td>
<td>1:05:00</td>
<td>0:07:21</td>
<td>0:13:00</td>
<td>0:04:35</td>
</tr>
<tr>
<td>State</td>
<td>308490</td>
<td>0:00:00</td>
<td>1:59:00</td>
<td>0:08:39</td>
<td>0:15:00</td>
<td>0:05:22</td>
</tr>
<tr>
<td>Urban Group</td>
<td>179679</td>
<td>0:00:00</td>
<td>1:59:00</td>
<td>0:08:23</td>
<td>0:14:00</td>
<td>0:04:52</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>83931</td>
<td>0:00:00</td>
<td>1:53:00</td>
<td>0:08:44</td>
<td>0:15:42</td>
<td>0:05:34</td>
</tr>
<tr>
<td>Rural Group</td>
<td>34665</td>
<td>0:00:00</td>
<td>1:45:00</td>
<td>0:09:26</td>
<td>0:18:00</td>
<td>0:06:33</td>
</tr>
<tr>
<td>Wilderness Group</td>
<td>10215</td>
<td>0:00:00</td>
<td>1:47:35</td>
<td>0:10:00</td>
<td>0:19:00</td>
<td>0:06:47</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)
* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Response Time - Graph
6/1/2010 - 11/30/2010

Times are formatted hh:mm:ss (hours: minutes: seconds)
* State and Group data represents All Emergent records over the last 6 months.
EMS At Patient Time (EMS at Patient Time minus EMS Unit Scene Arrival Time)

※ A total of 2534 records were identified for this toolkit's date range
※ A total of 2362 (93%) records were used in this analysis using the record selection criteria

Analysis of EMS At Patient Time - Table

SAMPLE

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>2362</td>
<td>0:00:00</td>
<td>1:07:00</td>
<td>0:01:09</td>
<td>0:02:00</td>
<td>0:03:09</td>
</tr>
<tr>
<td>State</td>
<td>234563</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:01:19</td>
<td>0:02:00</td>
<td>0:02:36</td>
</tr>
<tr>
<td>Urban Group</td>
<td>135397</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:01:23</td>
<td>0:02:04</td>
<td>0:02:43</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>66090</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:01:12</td>
<td>0:02:00</td>
<td>0:02:13</td>
</tr>
<tr>
<td>Rural Group</td>
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<td>0:00:00</td>
<td>2:00:00</td>
<td>0:01:20</td>
<td>0:02:00</td>
<td>0:03:01</td>
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<tr>
<td>Wilderness Group</td>
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<td>0:00:00</td>
<td>1:02:00</td>
<td>0:01:07</td>
<td>0:02:00</td>
<td>0:02:06</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS At Patient Time - Graph

6/1/2010 - 11/30/2010

Times are formatted hh:mm:ss (hours: minutes: seconds)
* State and Group data represents All Emergent records over the last 6 months.
Recommended Interventions:

- The following interventions have been included in this EMS Response Toolkit Report based on your results. The purpose of each intervention is to provide specific feedback, guidance, and suggestions on how you may improve your EMS service based on your performance.

- Your EMS service can work to improve regardless of its current performance. Please consider implementing one or more of these interventions within your EMS Service. After the intervention has been implemented, please repeat this EMS Response Toolkit in 60 to 90 days to evaluate if this intervention has resulted in change.

- Please be careful to not introduce too much change to the EMS service at one time. This will often cloud the effect the intervention has made on the EMS service and may make measured improvements difficult.

- If you have any questions or would like assistance in interpreting or using this EMS Response Toolkit, please contact the EMS Performance Improvement Center at www.emspic.org.
Intervention 6

EMS Chute (Wheels-Rolling) Times Extended

The purpose of this intervention is to provide instruction on how improve EMS Chute (Wheels-Rolling) Times as a component of the EMS Response Time.

By receiving this intervention, the EMS Response Time Toolkit determined that the EMS Chute 90% Fractile Time was greater than 90 seconds. The 90% Fractile Time indicates the Chute Time that 90% of the EMS events occurred within. A 90% Fractile Chute Time of greater than 90 seconds could be the result of several factors including:

- Dispatch Center to EMS Unit communication system delays or failures
- EMS Personnel are physically located offsite or remote to the EMS Station or vehicle
- Documentation delays or errors
- Lack of standardization or policy dictating EMS Service expectations regarding EMS Chute Times

**Recommended Plan of Action**

- Develop and implement a policy establishing 90 seconds or less as the time standard for the EMS Unit to be en route after notification by the Dispatch Center.
- Check and maintain communication equipment and coverage areas to decrease the possibility of failures.
- Require personnel to stay onsite or near the EMS Station or vehicle.
- Establish a mechanism to synchronize clocks and for times to be documented accurately.
Intervention 9

EMS At Patient Times Extended

The purpose of this intervention is to provide instruction on how to improve EMS Response Times by improving EMS at Patient Times.

By receiving this intervention, the EMS Response Toolkit determined that the 90% Fractile EMS at Patient Time was greater than 90 seconds. The 90% Fractile Time indicates the EMS at Patient Time that 90% of the EMS events occurred within.

It is important to include the time between the EMS unit’s arrival to the Scene and the EMS personnel’s arrival to the patient in the measurement of the EMS Response Time. If the EMS Service does not collect this time, a policy and procedure which would provide for EMS at Patient Times to be captured should be implemented and monitored.

A 90% Fractile EMS at Patient Time of greater than 90 seconds could be the result of several factors including but not limited to:

- Problems with communications, language, or directions related to the location of the patient within the EMS Scene.
- Geographic constraints in reaching the patient (highrise buildings, patient location is remote to vehicle access, etc.)
- Inability to access the patient due to scene safety (Hazmat, personnel safety, etc.)

**Recommended Plan of Action**

- If EMS at Patient Times are not collected, implement a policy and procedure which will require EMS at Patient Times to be collected.
- Develop and implement a policy establishing 90 seconds or less as the time standard for the EMS Unit to reach the patient after arrival at the EMS Scene unless there is a documented delay in Scene Time.
Section C: Analysis of EMS Unit Availability

Purpose:
This section will evaluate, analyze, and measure the EMS Unit Availability using several different methods:

- Analysis of Calls by Day of Week
- Analysis of Calls by Time of Day (with Comparison of EMS Units in Service)
- Measurement of the EMS Unit Hour Utilization

Record Selection:
For this analysis records were selected based on the following criteria:

- Type of Service = Primary 911 Response
- Response Level = All (Hot and Cold Responses)
- EMS Unit Availability calculations may not be consistent across EMS Services. To have the most accurate measurement of Unit Availability, all EMS Unit activity should be recorded in PreMIS. This allows calculations to be more realistic and accurate based on the EMS Activity. Activities often not recorded in PreMIS include EMS standbys at events or fires, EMS Responses Cancelled en route, EMS responses where no patient was found, etc.
Analysis of EMS Calls (Events) by Day of Week

※ A total of 3374 records were identified for this toolkit's date range
※ A total of 3374 (100%) records were used in this analysis using the record selection criteria

Analysis of Calls by Day of the Week

SAMPLE

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>Date Range of Week</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/30/2010 - 06/05/2010</td>
<td>.</td>
<td>.</td>
<td>26</td>
<td>35</td>
<td>25</td>
<td>28</td>
<td>36</td>
<td>150</td>
</tr>
<tr>
<td>06/06/2010 - 06/12/2010</td>
<td>19</td>
<td>28</td>
<td>24</td>
<td>40</td>
<td>31</td>
<td>33</td>
<td>35</td>
<td>210</td>
</tr>
<tr>
<td>06/13/2010 - 06/19/2010</td>
<td>41</td>
<td>22</td>
<td>32</td>
<td>32</td>
<td>33</td>
<td>22</td>
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<tr>
<td>06/20/2010 - 06/26/2010</td>
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<td>29</td>
<td>25</td>
<td>33</td>
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</tr>
<tr>
<td>06/27/2010 - 07/03/2010</td>
<td>32</td>
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<td>4</td>
<td>.</td>
<td>4</td>
<td>30</td>
<td>22</td>
<td>113</td>
</tr>
<tr>
<td>07/04/2010 - 07/10/2010</td>
<td>15</td>
<td>31</td>
<td>36</td>
<td>26</td>
<td>40</td>
<td>28</td>
<td>22</td>
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<tr>
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<td>30</td>
<td>27</td>
<td>24</td>
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<tr>
<td>07/25/2010 - 07/31/2010</td>
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<td>26</td>
<td>27</td>
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<td>29</td>
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<td>24</td>
<td>35</td>
<td>25</td>
<td>34</td>
<td>28</td>
<td>40</td>
<td>203</td>
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<tr>
<td>08/08/2010 - 08/14/2010</td>
<td>32</td>
<td>24</td>
<td>40</td>
<td>28</td>
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<td>24</td>
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<td>34</td>
<td>24</td>
<td>31</td>
<td>32</td>
<td>27</td>
<td>204</td>
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<tr>
<td>08/22/2010 - 08/28/2010</td>
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<td>29</td>
<td>28</td>
<td>19</td>
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<td>33</td>
<td>25</td>
<td>31</td>
<td>30</td>
<td>22</td>
<td>23</td>
<td>190</td>
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<td>09/05/2010 - 09/11/2010</td>
<td>17</td>
<td>42</td>
<td>29</td>
<td>32</td>
<td>29</td>
<td>25</td>
<td>34</td>
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<td>09/12/2010 - 09/18/2010</td>
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<td>25</td>
<td>36</td>
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<td>195</td>
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<tr>
<td>09/19/2010 - 09/25/2010</td>
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<td>31</td>
<td>24</td>
<td>26</td>
<td>21</td>
<td>15</td>
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<td>09/26/2010 - 10/02/2010</td>
<td>21</td>
<td>28</td>
<td>36</td>
<td>16</td>
<td>23</td>
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<tr>
<td>10/03/2010 - 10/09/2010</td>
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<td>.</td>
<td>1</td>
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<td>2</td>
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<tr>
<td>10/10/2010 - 10/16/2010</td>
<td>.</td>
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<td>.</td>
<td>3</td>
<td>.</td>
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<td>8</td>
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<tr>
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<td>.</td>
<td>.</td>
<td>1</td>
<td>.</td>
<td>.</td>
<td>2</td>
</tr>
<tr>
<td>10/24/2010 - 10/30/2010</td>
<td>.</td>
<td>1</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>1</td>
</tr>
<tr>
<td>11/07/2010 - 11/13/2010</td>
<td>.</td>
<td>.</td>
<td>1</td>
<td>.</td>
<td>.</td>
<td>.</td>
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<td>1</td>
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<tr>
<td>11/14/2010 - 11/20/2010</td>
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<td>.</td>
<td>1</td>
<td>.</td>
<td>.</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>414</td>
<td>510</td>
<td>514</td>
<td>488</td>
<td>494</td>
<td>472</td>
<td>482</td>
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</table>
EMS Calls by Day of the Week

6/1/2010 - 11/30/2010

Vertical Bars Reflect Min and Max Call Volume
**Analysis of EMS Calls (Events) by Time of Day**

- A total of 3374 records were identified for this toolkit's date range
- A total of 3374 (100%) records were used in this analysis using the record selection criteria

**Average Calls by Time of Day (for Each Day of the Week)**

**SAMPLE**

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>Time of Day</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00-00:59</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>01:00-01:59</td>
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<td>1</td>
<td>1</td>
<td>2</td>
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<td>1</td>
<td>1</td>
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<td>1</td>
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<tr>
<td>06:00-06:59</td>
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<td>07:00-07:59</td>
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<td>15:00-15:59</td>
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<tr>
<td>17:00-17:59</td>
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<td>18:00-18:59</td>
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</tr>
<tr>
<td>19:00-19:59</td>
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</tr>
<tr>
<td>21:00-21:59</td>
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<td>2</td>
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<tr>
<td>22:00-22:59</td>
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<td>23:00-23:59</td>
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<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Average Calls by Time of Day - Sunday

* Vertical Bars Reflect Min and Max Call Volume

Average Calls by Time of Day - Monday

* Vertical Bars Reflect Min and Max Call Volume
Average Calls by Time of Day - Tuesday

* Vertical Bars Reflect Min and Max Call Volume

Average Calls by Time of Day - Wednesday

* Vertical Bars Reflect Min and Max Call Volume
Average Calls by Time of Day - Thursday

* Vertical Bars Reflect Min and Max Call Volume

Average Calls by Time of Day - Friday

* Vertical Bars Reflect Min and Max Call Volume
Average Calls by Time of Day - Saturday

* Vertical Bars Reflect Min and Max Call Volume
Analysis of EMS Unit Hour Utilization

- A total of 3374 records were identified for this toolkit's date range
- A total of 3343 (99%) records were used in this analysis using the record selection criteria

**EMS Unit Hour Utilization Ratio**

**SAMPLE**

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>System</th>
<th>Unit Hour Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>12%</td>
</tr>
</tbody>
</table>

- EMS Unit Availability calculations may not be consistent across EMS Service. To have the most accurate measurement of Unit Availability, all EMS Unit activity should be recorded in PreMIS. This allows calculations to be more realistic and accurate based on the EMS Activity. Activities often not recorded in PreMIS include EMS standbys at events or fires, EMS Responses Cancelled en route, EMS responses where no patient was found, etc.

- The EMS Unit Hour Utilization Ratio requires information on EMS Unit Staffing and EMS Total Call Time. If this information is incomplete or missing, the EMS Unit Utilization Ratio will be blank.
Recommended Interventions:

✻ The following interventions have been included in this EMS Response Toolkit Report based on your results. The purpose of each intervention is to provide specific feedback, guidance, and suggestions on how you may improve your EMS service based on your performance.

✻ Your EMS service can work to improve regardless of its current performance. Please consider implementing one or more of these interventions within your EMS Service. After the intervention has been implemented, please repeat this EMS Response Toolkit in 60 to 90 days to evaluate if this intervention has resulted in change.

✻ Please be careful to not introduce too much change to the EMS service at one time. This will often cloud the effect the intervention has made on the EMS service and may make measured improvements difficult.

✻ If you have any questions or would like assistance in interpreting or using this EMS Response Toolkit, please contact the EMS Performance Improvement Center at www.emspic.org.
Intervention 11

Rare EMS Events Identified Above the Number of EMS Units Available for Service

The purpose of this intervention is to provide instruction on how to evaluate EMS event numbers by analyzing the number of calls by the day of the week and the time of the day. Information obtained from this analysis can be used to create improved EMS Response plans which can improve EMS Response Time.

Each EMS Event typically requires an EMS unit to provide service delivery and care. If the number of EMS events outnumber the number of EMS vehicles which are staffed and in service at any point in time, the EMS Response Time will increase.

By receiving this intervention, the EMS Response Toolkit determined that AT LEAST ONE time during the date range selected, the number of EMS events equaled or exceeded the number of staffed EMS units in service during that same time.

Recommended Plan of Action

Monitor this specific piece of the EMS Response Toolkit over time to determine if there is a need for one of the following actions:

✻ Bring in additional peak time EMS units during hours where EMS events exceed normal staffing patterns.

✻ Change the EMS unit staffing pattern to place more EMS units in service during high volume times. For example, move an EMS unit which is normally in service during nighttime hours into service during daytime hours.

✻ If using 24 hour staffing patterns, consider moving to 12 hour shifts to allow more shifts (and EMS units) to be in service during peak hours.
Section D: Analysis of EMS Transport Time

Purpose:
This section will evaluate, analyze, and measure the EMS Transport Time using several different time intervals including:

- EMS Transport Time (EMS Unit Arrival at Destination Time minus EMS Unit Left Scene Time)
- EMS Transport Distance
- EMS Transport Time by Hospital

Record Selection:
For this analysis records were selected based on the following criteria

- Type of Service = Primary 911 Response
- Response Level = All (Hot and Cold Responses)
Analysis of EMS Transport Time (EMS Unit Arrival at Destination Time minus EMS Unit Left Scene Time):

- A total of 3374 records were identified for this toolkit's date range
- A total of 2563 (76%) records were used in this analysis using the record selection criteria

**Analysis of EMS Transport Time - Table**

**SAMPLE**

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>2563</td>
<td>0:01:00</td>
<td>1:26:00</td>
<td>0:12:21</td>
<td>0:22:00</td>
<td>0:07:41</td>
</tr>
<tr>
<td>State</td>
<td>359172</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:15:28</td>
<td>0:28:49</td>
<td>0:11:12</td>
</tr>
<tr>
<td>Urban Group</td>
<td>224044</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:15:34</td>
<td>0:28:00</td>
<td>0:10:17</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>86017</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:14:05</td>
<td>0:28:00</td>
<td>0:11:11</td>
</tr>
<tr>
<td>Rural Group</td>
<td>35523</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:15:52</td>
<td>0:32:00</td>
<td>0:12:50</td>
</tr>
<tr>
<td>Wilderness Group</td>
<td>13588</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:21:17</td>
<td>0:44:00</td>
<td>0:17:27</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Transport Time - Graph

6/1/2010 - 11/30/2010

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Transport Distance:

- A total of 3374 records were identified for this toolkit's date range
- A total of 2594 (77%) records were used in this analysis using the record selection criteria

### Analysis of Average EMS Transport Distance - Table

**SAMPLE**

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>System</th>
<th>Avg Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>6.3</td>
</tr>
<tr>
<td>State</td>
<td>8.8</td>
</tr>
<tr>
<td>Urban Group</td>
<td>8.4</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>7.9</td>
</tr>
<tr>
<td>Rural Group</td>
<td>10.4</td>
</tr>
<tr>
<td>Wilderness Group</td>
<td>14.5</td>
</tr>
</tbody>
</table>
Analysis of Average EMS Transport Distance - Graph

6/1/2010 - 11/30/2010
Analysis of EMS Transport Time by Hospital (EMS Unit Arrival at Destination Time minus EMS Unit Left Scene Time):

A total of 3374 records were identified for this toolkit’s date range
A total of 2562 (76%) records were used in this analysis using the record selection criteria

Analysis of EMS Average Transport Time by Hospital - Table

SAMPLE
6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number of Transport</th>
<th>Avg. Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Hospital 1</td>
<td>1</td>
<td>0:27:00</td>
</tr>
<tr>
<td>Sample Hospital 2</td>
<td>183</td>
<td>0:26:51</td>
</tr>
<tr>
<td>Sample Hospital 3</td>
<td>7</td>
<td>0:18:17</td>
</tr>
<tr>
<td>Sample Hospital 4</td>
<td>617</td>
<td>0:12:26</td>
</tr>
<tr>
<td>Sample Hospital 5</td>
<td>1743</td>
<td>0:10:48</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)
Analysis of EMS Average Transport Time by Hospital - Graph
6/1/2010 - 11/30/2010

Times are formatted hh:mm:ss (hours: minutes: seconds)
Recommended Interventions:

※ The following interventions have been included in this EMS Response Toolkit Report based on your results. The purpose of each intervention is to provide specific feedback, guidance, and suggestions on how you may improve your EMS service based on your performance.

※ Your EMS service can work to improve regardless of its current performance. Please consider implementing one or more of these interventions within your EMS Service. After the intervention has been implemented, please repeat this EMS Response Toolkit in 60 to 90 days to evaluate if this intervention has resulted in change.

※ Please be careful to not introduce too much change to the EMS service at one time. This will often cloud the effect the intervention has made on the EMS service and may make measured improvements difficult.

※ If you have any questions or would like assistance in interpreting or using this EMS Response Toolkit, please contact the EMS Performance Improvement Center at www.emspic.org.
Intervention 14

Prolonged EMS Transport Times

The purpose of this intervention is to provide instruction on how improve EMS Transport Times which can in turn improve Total EMS Call Times and allow EMS Units to be back in service and available for the next EMS event in a more timely manner. Having an EMS unit ready and available for the next EMS event is one of the first steps to a timely EMS Response.

By receiving this intervention, the EMS Response Toolkit determined that the 90% Fractile EMS Transport Time was greater than 1.5 times the 90% Fractile EMS Response Time. In simpler terms, the EMS transport time was 1.5 times longer than the EMS Response Time.

Factors associated with prolonged EMS Transport Times include:

✻ The primary hospital or destination is outside the EMS service area
✻ Interfacility transports or transports to trauma or tertiary care centers is a common occurrence within the EMS service
✻ Patients are permitted to choose a destination outside of the EMS service area
✻ The EMS service area is large requiring long transport distances within the service area
✻ Traffic or other delays may increase EMS Transport Times

Recommended Plan of Action

✻ Work with the local hospital(s) and the EMS community when possible to make hospitals within the EMS service area the primary transport destination of the EMS service.
✻ Establish and implement a triage and destination plan for acute time dependent illness and injury such as trauma, stroke, STEMI, pediatric, and burns. The outcome of these specific patient types can be impacted by the chosen destination’s capabilities. For that reason these patients should be transported to the most appropriate destination (not necessarily the closest) based on time and distance.
✻ Establish a plan and policy for interfacility transports which would not always pull EMS units from 911 service.
✻ Establish a policy on when EMS units can travel outside of the EMS service area.
✻ Analyze transport delays and attempt to create an implementation plan which will minimize their effect on EMS Transport Times.
Intervention 15

Prolonged EMS Hospital Transport Time

The purpose of this intervention is to provide instruction on how to evaluate EMS Transport Times for each destination hospital. This analysis can provide insight into prolonged EMS Transport Times which can in turn improve Total EMS Call Times and allow EMS Units to be back in service and available for the next EMS event in a more timely manner. Having an EMS unit ready and available for the next EMS event is one of the first steps to a timely EMS Response. By receiving this intervention, the EMS Response Toolkit determined that the 90% Fractile EMS Transport Time for any hospital is greater than 200% of the overall 90% Fractile EMS Response Time. In simpler terms, the EMS transport time was 2 times longer than the EMS Response Time for a specific hospital.

Factors associated with prolonged EMS Transport Times include:

- The primary hospital or destination is outside the EMS service area
- Interfacility transports or transports to trauma or tertiary care centers is a common occurrence within the EMS service
- Patients are permitted to choose a destination outside of the EMS service area
- The EMS service area is large requiring long transport distances within the service area
- Traffic or other delays may increase EMS Transport Times

Recommended Plan of Action

- Work with the local hospital(s) and the EMS community when possible to make hospitals within the EMS service area the primary transport destination of the EMS service.
- Establish and implement a triage and destination plan for acute time dependent illness and injury such as trauma, stroke, STEMI, pediatric, and burns. The outcome of these specific patient types can be impacted by the chosen destination's capabilities. For that reason these patients should be transported to the most appropriate destination (not necessarily the closest) based on time and distance.
- Establish a plan and policy for interfacility transports which would not always pull EMS units from 911 service.
- Establish a policy on when EMS units can travel outside of the EMS service area.
- Analyze transport delays and attempt to create an implementation plan which will minimize their effect on EMS Transport Times.
Section E: Analysis of EMS Total Call Time

Purpose:
This section will evaluate, analyze, and measure the EMS Transport Time using several different time intervals including:

- Analysis of the EMS Scene Time (EMS Depart Scene Time minus EMS Arrival at Scene Time)
- Analysis of the EMS Back in Service Time (EMS Back in Service Time minus EMS Unit Arrival at Destination Time)
- Analysis of the EMS Back at Home Time (EMS Back at Home minus EMS Back in Service Time)
- Analysis of the EMS Notification to Back in Service Time (EMS Unit Back in Service Time minus Unit Notification Time)
- Analysis of the EMS Total Call Time (911 Call time minus EMS Unit Back in Service Time)

Record Selection:
For this analysis records were selected based on the following criteria

- Type of Service = Primary 911 Response
- Response Level = All (Hot and Cold Responses) individually
- Transport Level = All (Hot and Cold Transports) individually
Analysis of EMS Scene Time (EMS Depart Scene Time minus EMS Arrival at Scene Time):

✿ A total of 3374 records were identified for this toolkit's date range.
✿ A total of 2390 (71%) records were used in this analysis using the record selection criteria.

### Analysis of EMS Scene Time - Table

**SAMPLE**

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>2390</td>
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<td>1:44:00</td>
<td>0:17:02</td>
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<td>0:08:15</td>
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<tr>
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<td>0:00:00</td>
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<td>0:26:00</td>
<td>0:09:20</td>
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<tr>
<td>Urban Group</td>
<td>147461</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:15:49</td>
<td>0:26:00</td>
<td>0:09:06</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>69274</td>
<td>0:00:00</td>
<td>1:59:00</td>
<td>0:15:57</td>
<td>0:26:00</td>
<td>0:09:10</td>
</tr>
<tr>
<td>Rural Group</td>
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<td>0:00:00</td>
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<td>0:16:25</td>
<td>0:28:00</td>
<td>0:10:18</td>
</tr>
<tr>
<td>Wilderness Group</td>
<td>9333</td>
<td>0:00:00</td>
<td>1:58:00</td>
<td>0:17:49</td>
<td>0:29:00</td>
<td>0:10:31</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)
* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Scene Time - Graph

6/1/2010 - 11/30/2010

Times are formatted hh:mm:ss (hours: minutes: seconds)
* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Back in Service Time (EMS Back in Service Time minus EMS Unit Arrival at Destination Time):

* A total of 3374 records were identified for this toolkit's date range
* A total of 2571 (76%) records were used in this analysis using the record selection criteria

### Analysis of EMS Back in Service Time (All Transports) - Table

**SAMPLE**

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>2571</td>
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<td>1:52:00</td>
<td>0:19:22</td>
<td>0:31:00</td>
<td>0:10:31</td>
</tr>
<tr>
<td>State</td>
<td>359660</td>
<td>0:00</td>
<td>2:00:00</td>
<td>0:23:52</td>
<td>0:45:32</td>
<td>0:16:48</td>
</tr>
<tr>
<td>Urban Group</td>
<td>224516</td>
<td>0:00</td>
<td>2:00:00</td>
<td>0:25:15</td>
<td>0:46:00</td>
<td>0:16:14</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>85925</td>
<td>0:00</td>
<td>2:00:00</td>
<td>0:20:21</td>
<td>0:39:57</td>
<td>0:15:38</td>
</tr>
<tr>
<td>Rural Group</td>
<td>35800</td>
<td>0:00</td>
<td>2:00:00</td>
<td>0:22:21</td>
<td>0:48:00</td>
<td>0:18:55</td>
</tr>
<tr>
<td>Wilderness Group</td>
<td>13419</td>
<td>0:00</td>
<td>2:00:00</td>
<td>0:27:17</td>
<td>1:00:00</td>
<td>0:22:34</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Back in Service Time (All Transports) - Graph

6/1/2010 - 11/30/2010

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Back at Home Time (EMS Back at Home minus EMS Back in Service Time):

* A total of 3374 records were identified for this toolkit's date range
* A total of 3359 (100%) records were used in this analysis using the record selection criteria

**Analysis of EMS Back at Home Time (All Transports) - Table**

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
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<td>1:50:00</td>
<td>0:05:25</td>
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<td>0:12:01</td>
</tr>
<tr>
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<td>152681</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:07:40</td>
<td>0:23:00</td>
<td>0:13:48</td>
</tr>
<tr>
<td>Urban Group</td>
<td>58640</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:07:15</td>
<td>0:20:23</td>
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</tr>
<tr>
<td>Suburban Group</td>
<td>60562</td>
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<td>2:00:00</td>
<td>0:06:46</td>
<td>0:20:54</td>
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<td>21364</td>
<td>0:00:00</td>
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<td>0:08:45</td>
<td>0:28:00</td>
<td>0:14:31</td>
</tr>
<tr>
<td>Wilderness Group</td>
<td>12115</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:12:11</td>
<td>0:34:00</td>
<td>0:16:31</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Back at Home Time (All Transports) - Graph

6/1/2010 - 11/30/2010

Times are formatted hh:mm:ss (hours: minutes: seconds)
* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Notification to Back in Service Time (EMS Unit Back in Service Time minus Unit Notification Time):

* A total of 3374 records were identified for this toolkit’s date range
* A total of 2510 (71%) records were used in this analysis using the record selection criteria

Analysis of EMS Notification to Back in Service Time (Hot Dispatch or Transport)

SAMPLE

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>2510</td>
<td>0:00:00</td>
<td>1:59:00</td>
<td>0:49:13</td>
<td>1:17:00</td>
<td>0:22:03</td>
</tr>
<tr>
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<td>2:00:00</td>
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</tr>
<tr>
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<td>0:00:00</td>
<td>2:00:00</td>
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<td>1:25:59</td>
<td>0:26:06</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>86589</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:47:15</td>
<td>1:20:55</td>
<td>0:24:33</td>
</tr>
<tr>
<td>Rural Group</td>
<td>34619</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:51:11</td>
<td>1:30:00</td>
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<tr>
<td>Wilderness Group</td>
<td>9815</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:54:40</td>
<td>1:32:00</td>
<td>0:26:56</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Notification to Back in Service Time (Hot Dispatch or Transport)

6/1/2010 - 11/30/2010

Times are formatted hh:mm:ss (hours: minutes: seconds)
* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Total Call Time (EMS Unit Back in Service Time minus 911 Call time):

* A total of 3374 records were identified for this toolkit's date range
* A total of 0 (0%) records were used in this analysis using the record selection criteria

Analysis of EMS Total Call Time (All Transports) – Table

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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<td>0:51:07</td>
<td>1:27:00</td>
<td>0:26:06</td>
</tr>
<tr>
<td>Urban Group</td>
<td>21143</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:52:14</td>
<td>1:27:50</td>
<td>0:26:19</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>83116</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:47:26</td>
<td>1:22:00</td>
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<td>0:52:55</td>
<td>1:32:00</td>
<td>0:27:05</td>
</tr>
<tr>
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<td>2:00:00</td>
<td>0:53:35</td>
<td>1:34:00</td>
<td>0:28:27</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)
* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Total Call Time (All Transports) - Graph

6/1/2010 - 11/30/2010

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Summary Table of 90% Fractile Call Time Intervals:

Analysis of EMS Total Call Time (All Transports) - Table

SAMPLE

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>Response Level</th>
<th>n</th>
<th>Dispatch</th>
<th>Response</th>
<th>Scene</th>
<th>Transport</th>
<th>Back In Svc</th>
<th>Total Call</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lights and Sirens</td>
<td>2534</td>
<td>0</td>
<td>0:15:00</td>
<td>0:26:00</td>
<td>0:23:00</td>
<td>0:32:00</td>
<td>0</td>
</tr>
<tr>
<td>No Lights or Sirens</td>
<td>802</td>
<td>(0)</td>
<td>(2390)</td>
<td>(2387)</td>
<td>(1902)</td>
<td>(1898)</td>
<td>(0)</td>
</tr>
<tr>
<td>Total</td>
<td>3374</td>
<td>(0)</td>
<td>(785)</td>
<td>(2)</td>
<td>(664)</td>
<td>(664)</td>
<td>(0)</td>
</tr>
<tr>
<td></td>
<td>(0)</td>
<td></td>
<td>(3197)</td>
<td></td>
<td>(2575)</td>
<td>(2571)</td>
<td>(0)</td>
</tr>
</tbody>
</table>

This table should reflect all of the following 90% Fractile intervals from the reports in this section and others as above.

* Dispatch = EMS Unit Notified minus 911 Call Time
* Response = EMS Unit Arrival to Scene Time minus EMS Unit Notified Time
* Scene = EMS Unit Depart Scene Time minus EMS Unit Arrival to Scene Time
* Transport = EMS Arrival at Destination Time minus EMS Unit Depart Scene Time
* Back In Svc = EMS Unit Back In Service Time minus EMS Unit Arrival At Destination Time
* Total Call = EMS Unit Back In Service Time minus 911 Call Time
Summary of EMS Call Intervals - Graph

6/1/2010 - 11/30/2010
Recommended Interventions:

※ The following interventions have been included in this EMS Response Toolkit Report based on your results. The purpose of each intervention is to provide specific feedback, guidance, and suggestions on how you may improve your EMS service based on your performance.

※ Your EMS service can work to improve regardless of its current performance. Please consider implementing one or more of these interventions within your EMS Service. After the intervention has been implemented, please repeat this EMS Response Toolkit in 60 to 90 days to evaluate if this intervention has resulted in change.

※ Please be careful to not introduce too much change to the EMS service at one time. This will often cloud the effect the intervention has made on the EMS service and may make measured improvements difficult.

※ If you have any questions or would like assistance in interpreting or using this EMS Response Toolkit, please contact the EMS Performance Improvement Center at www.emspic.org.
Intervention 16

Prolonged EMS Back In Service Time

EMS Back In Service Time is defined as the EMS Unit Back In Service Time minus the EMS Arrival at Destination Time. This time represents the period of time the EMS Unit is at the hospital (or other destination) unloading the patient, cleaning and restocking the EMS unit, and performing documentation and other administrative tasks before returning to service.

The purpose of this intervention is to provide instruction on how evaluate EMS Back In Service Times as a component of the EMS Total Call Time. This analysis can provide insight on how to improve prolonged EMS Back In Service Times that can in turn improve Total EMS Call Times. Improved Total EMS Call Times allow EMS Units to be back in service and available for the next EMS event in a more timely manner. Having an EMS unit ready and available for the next EMS event is one of the first steps to a timely EMS Response.

By receiving this intervention, the EMS Response Time Toolkit determined that the 90% Fractile EMS Back In Service Time is at least 110% of the State 90% Fractile EMS Back In Service Time. In simpler terms, the EMS Back In Service Time was 1.1 times longer than the State Back In Service Time.

Factors associated with prolonged EMS Back In Service Times include:

- The primary hospital or destination cannot accept the patient in a timely manner requiring the EMS crew to monitor and continue providing patient care until the hospital or destination is ready or has space for the patient.
- The EMS Crew is unable to access and/or obtain equipment and supplies to restock the EMS Unit.
- Cleaning or preparing the EMS unit requires a longer period of time than normal.
- No formal policy has been created or implemented highlighting the expectations of the EMS service with respect to EMS Back In Service Times

Recommended Plan of Action

- Work with the local hospital(s) within the EMS service area to promote a timely handoff of the patient to allow the EMS crew to improve their Back In Service Time.
- Establish a plan and policy for EMS Back In Service Time expectations.
- Work to streamline and improve the restocking of equipment and supplies after an EMS event.
Intervention 17

Prolonged EMS Back At Home Time

EMS Back At Home Time is defined as the EMS Back at Home Time minus the EMS Back In Service Time. This time represents the period of time associated with the EMS Unit traveling back from their destination to the EMS Unit’s service area or home.

The purpose of this intervention is to provide instruction on how to evaluate EMS Back At Home Times. This analysis can provide insight into prolonged EMS Back At Home Times that can in turn improve an EMS Units ability to be available for the next EMS event in a more timely manner. Having an EMS unit ready and available for the next EMS event is one of the first steps to a timely EMS Response.

By receiving this intervention, the EMS Response Time Toolkit determined that the 90% Fractile EMS Back At Home Time was greater than 110% of the State 90% Fractile EMS Back At Home Time. In simpler terms, the EMS Back At Home time was 1.1 times longer than the State EMS Back At Home Time. Since most EMS services do not have to travel outside of the EMS Service Area, not all EMS services provide data for this analysis.

Factors associated with prolonged EMS Back At Home Times include:

- The distance from the destination to the home service area is considerable.
- Delays such as traffic or other issues prevent the EMS Unit from reaching the EMS Units service area in a timely manner.

**Recommended Plan of Action**

- Monitor EMS Back At Home Times over a period of time and determine if this is a significant issue for the EMS service.
- Create a plan and policy which could provide for other EMS Units within the EMS service to rotate into the vacated service area so that the area is covered more quickly while the EMS Unit is away.
Section F: Analysis of EMS 911 Call Center Time

Purpose:
This section will evaluate, analyze, and measure the EMS Transport Time using several different time intervals including:

- Analysis of the EMS Total Call Center Time (EMS Notification Time minus 911 Call Time)
- Analysis of the EMS Dispatch Volume vs. 911 Call Volume

Record Selection:
For this analysis records were selected based on the following criteria

- Type of Service = Primary 911 Response
- Response Level = All (Hot and Cold Responses) individually
Analysis of EMS Call Center Time (EMS Notification Time minus 911 Call Time):

- A total of 3374 records were identified for this toolkit's date range
- A total of 0 (0%) records were used in this analysis using the record selection criteria

**Analysis of EMS Call Center Time (Lights and Sirens Responses)**

**SAMPLE**

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>State</td>
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<td>0:00:00</td>
<td>2:00:00</td>
<td>0:01:53</td>
<td>0:03:42</td>
<td>0:03:21</td>
</tr>
<tr>
<td>Urban Group</td>
<td>149224</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:01:58</td>
<td>0:04:00</td>
<td>0:03:23</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>61881</td>
<td>0:00:00</td>
<td>1:59:00</td>
<td>0:01:50</td>
<td>0:03:25</td>
<td>0:02:56</td>
</tr>
<tr>
<td>Rural Group</td>
<td>19762</td>
<td>0:00:00</td>
<td>1:53:00</td>
<td>0:01:51</td>
<td>0:04:00</td>
<td>0:04:17</td>
</tr>
<tr>
<td>Wilderness Group</td>
<td>7812</td>
<td>0:00:00</td>
<td>1:11:00</td>
<td>0:01:07</td>
<td>0:03:00</td>
<td>0:02:59</td>
</tr>
</tbody>
</table>

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
### Analysis of EMS Call Center Time (No Light or Siren Responses)

**SAMPLE**

**6/1/2010 - 11/30/2010**

<table>
<thead>
<tr>
<th>System</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Avg</th>
<th>90% Fractile</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE</td>
<td>0</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:03:10</td>
<td>0:05:00</td>
<td>0:08:32</td>
</tr>
<tr>
<td>State</td>
<td>96466</td>
<td>0:00:00</td>
<td>2:00:00</td>
<td>0:03:27</td>
<td>0:05:02</td>
<td>0:08:57</td>
</tr>
<tr>
<td>Urban Group</td>
<td>62407</td>
<td>0:00:00</td>
<td>1:56:00</td>
<td>0:03:13</td>
<td>0:05:00</td>
<td>0:08:38</td>
</tr>
<tr>
<td>Suburban Group</td>
<td>23197</td>
<td>0:00:00</td>
<td>1:55:00</td>
<td>0:01:30</td>
<td>0:03:00</td>
<td>0:04:32</td>
</tr>
<tr>
<td>Rural Group</td>
<td>6820</td>
<td>0:00:00</td>
<td>1:49:00</td>
<td>0:01:23</td>
<td>0:03:00</td>
<td>0:05:10</td>
</tr>
<tr>
<td>Wilderness Group</td>
<td>4042</td>
<td>0:00:00</td>
<td>1:49:00</td>
<td>0:01:23</td>
<td>0:03:00</td>
<td>0:05:10</td>
</tr>
</tbody>
</table>

Times are formatted **hh:mm:ss** (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Analysis of EMS Call Center Time - Graph

6/1/2010 - 11/30/2010

1 = Lights and Sirens

2 = No lights or Sirens

Times are formatted hh:mm:ss (hours: minutes: seconds)

* State and Group data represents All Emergent records over the last 6 months.
Recommended Interventions:

No interventions were recommended for this section.
Section G: Analysis of Miscellaneous EMS Service Response Factors

Purpose:
This section will evaluate, analyze, and measure the EMS Transport Time using several different time intervals including:

✻ Delays
✻ Mileage
✻ Demographics
✻ Seasonal Population Changes
✻ First Responder Coverage
✻ Community Involvement
✻ Ambulance/Vehicle Reliability
✻ Quality Management Programs

Record Selection:
For this analysis records were selected based on the following criteria

✻ Type of Service = Primary 911 Response
✻ Response Level = Hot (Lights and Sirens response used all of the way to the scene)
**Analysis of EMS Response Delays:**

- A total of 2537 records were identified for this toolkit's date range
- A total of 96 (4%) records were used in this analysis using the record selection criteria

**EMS Service Response Delays (Hot Responses) - Table**

**SAMPLE**

6/1/2010 - 11/30/2010

<table>
<thead>
<tr>
<th>Events</th>
<th>Number Of Delays</th>
<th>Percentage Of Total EMS Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISTANCE</td>
<td>51</td>
<td>2.0%</td>
</tr>
<tr>
<td>OTHER</td>
<td>17</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>DIRECTIONS</td>
<td>10</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>SAFETY</td>
<td>10</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>STAFF DELAY</td>
<td>4</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>TRAFFIC</td>
<td>2</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>DIVERSION</td>
<td>1</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>WEATHER</td>
<td>1</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>
EMS Service Response Delays (Hot Responses) - Graph

6/1/2010 - 11/30/2010
Analysis of EMS Mileage:

- A total of 2537 records were identified for this toolkit's date range
- A total of 1921 (76%) records were used in this analysis using the record selection criteria

**EMS Mileage Analysis - Table**

<table>
<thead>
<tr>
<th></th>
<th>Average Miles/Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS Response Average Mileage</td>
<td>4.6</td>
</tr>
<tr>
<td>EMS Transport Average Mileage</td>
<td>6.7</td>
</tr>
<tr>
<td>Total EMS Call Average Mileage</td>
<td>11.3</td>
</tr>
</tbody>
</table>

**EMS Mileage Analysis - Graph**

6/1/2010 - 11/30/2010
Analysis of Population Demographics:

✿ A total of 2537 records were identified for this toolkit's date range
✿ A total of 2392 (94%) records were used in this analysis using the record selection criteria Population Demographics

✿ Median Age: The median age of the population
✿ Education Level: Percentage of the Population 25 years or older with a high school degree or higher level of education.
✿ Socio-Economic Level: Percentage of the Population at or below the Poverty Level
✿ Race: Percentages of White, Black, and Hispanic
✿ Fatal Injury Rate: Deaths per 100,000 Population per year
✿ Cardiovascular Disease Death Rate: Deaths per 100,000 Population per year
✿ State Average Similar EMS Response Time (by each similar demographic)
## Analysis of Population Demographics - Table

**SAMPLE**

**6/1/2010 - 11/30/2010**

<table>
<thead>
<tr>
<th></th>
<th>Your EMS Value</th>
<th>Your Group</th>
<th>Your Resp. Time Avg</th>
<th>Group 1(High) Avg</th>
<th>Group 2(Low) Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Age</td>
<td>42.7</td>
<td>H</td>
<td>0:09:56</td>
<td>0:08:13</td>
<td>0:07:36</td>
</tr>
<tr>
<td>Education Level</td>
<td>83.2</td>
<td>H</td>
<td>0:09:44</td>
<td>0:07:28</td>
<td>0:08:10</td>
</tr>
<tr>
<td>Socio–Economic Level</td>
<td>12.1</td>
<td>L</td>
<td>0:09:17</td>
<td>0:08:00</td>
<td>0:07:41</td>
</tr>
<tr>
<td>Race: White%</td>
<td>90</td>
<td>H</td>
<td>0:09:20</td>
<td>0:07:37</td>
<td>0:07:53</td>
</tr>
<tr>
<td>Race: Black%</td>
<td>3</td>
<td>L</td>
<td>0:09:19</td>
<td>0:07:23</td>
<td>0:07:49</td>
</tr>
<tr>
<td>Race: Hispanic%</td>
<td>5</td>
<td>L</td>
<td>0:09:51</td>
<td>0:07:47</td>
<td>0:07:42</td>
</tr>
<tr>
<td>Fatal Injury Rate</td>
<td>62</td>
<td>L</td>
<td>0:09:28</td>
<td>0:08:36</td>
<td>0:07:30</td>
</tr>
<tr>
<td>Cardio Death Rate</td>
<td>194</td>
<td>L</td>
<td>0:09:25</td>
<td>0:07:57</td>
<td>0:07:32</td>
</tr>
</tbody>
</table>

*Times are formatted hh:mm:ss (hours: minutes: seconds)*
Analysis of Population Demographics - Graph

6/1/2010 - 11/30/2010

Horizontal Line Represents Response Time

Times are formatted hh:mm:ss (hours: minutes: seconds)
Analysis of Seasonal Population Changes:

◆ This EMS service indicated that a Seasonal Population Change did occur
◆ Months of the Year Seasonal Population Changes Occur:

<table>
<thead>
<tr>
<th>Month of Increase</th>
<th>Population Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>20,000</td>
</tr>
<tr>
<td>June</td>
<td>20,000</td>
</tr>
<tr>
<td>July</td>
<td>20,000</td>
</tr>
<tr>
<td>August</td>
<td>20,000</td>
</tr>
</tbody>
</table>

Analysis of First Responder Coverage:

◆ This EMS service indicated that 100% of the EMS Service area has First Responder Coverage

Analysis of Community Involvement:

◆ This EMS service indicated that a survey or assessment of the communities expectations with respect to EMS Response Times has been done.
◆ The Community Assessment was completed in 2005
◆ The Community Assessment revealed the following expected Response Time(hh:mm:ss): 0:10:00

Analysis of Ambulance/Vehicle Reliability:

◆ This EMS service indicated that a routine EMS Vehicle Maintenance Plan is in place.

Analysis of Quality Management Program:

◆ This EMS service indicated that the Quality Management (Performance Improvement) Program currently performs a regular evaluation of EMS Response across the entire system.
Recommended Interventions:

∗ The following interventions have been included in this EMS Response Toolkit Report based on your results. The purpose of each intervention is to provide specific feedback, guidance, and suggestions on how you may improve your EMS service based on your performance.

∗ Your EMS service can work to improve regardless of its current performance. Please consider implementing one or more of these interventions within your EMS Service. After the intervention has been implemented, please repeat this EMS Response Toolkit in 60 to 90 days to evaluate if this intervention has resulted in change.

∗ Please be careful to not introduce too much change to the EMS service at one time. This will often cloud the effect the intervention has made on the EMS service and may make measured improvements difficult.

∗ If you have any questions or would like assistance in interpreting or using this EMS Response Toolkit, please contact the EMS Performance Improvement Center at www.emspic.org.
Intervention 22

Frequent EMS Response Delays

EMS Response Delays are documented within the data system through a multiple choice picklist of predefined items. Types of EMS Response Delays include: Weather problems, Traffic or Crowd issues, concerns for Safety, Vehicle Failure, Vehicle Crash, Language Barriers, Large Distance, Problems with Directions to the EMS Event, and Hazmat issues. These delays directly impact the time it takes for an EMS unit to respond to an EMS event. Some delays cannot be prevented while others are predictable and preventable.

The purpose of this intervention is to provide insight into the types and frequencies of EMS Response Delays. By receiving this intervention, the EMS Response Time Toolkit determined that at least one EMS Response Delay type occurred in greater than 2% of the EMS events analyzed for this Toolkit.

**Recommended Plan of Action**

- Review the list of EMS Response Delays and determine if the EMS service deployment plan can be improved to anticipate or decrease any of the delays identified for the service.

- Monitor the EMS Response Delays over time.
Intervention 23

Extended EMS Transport Mileage

EMS Mileage is a factor which can significantly impact the Total EMS Call Time and indirectly impact EMS Response Times. EMS Transport Times and EMS Response Times are important but it is also helpful to compare the mileage associated with each time interval.

The purpose of this intervention is to provide insight into the EMS Response Times by evaluating EMS Response and Transport Mileages.

By receiving this intervention, the EMS Response Time Toolkit determined that the Average EMS Transport Miles per event were 150% greater than the Average EMS Response Miles per event for your EMS service. In simple terms, the Average EMS Transport Miles were 1.5 times greater than the Average EMS Response Miles.

Some factors which are associated with an increase in EMS Transport Mileage per event over the EMS Response Mileage per event include:

✻ The hospital or destination is outside the EMS service area.
✻ The EMS Crew or Patient chooses a destination outside the EMS service area
✻ The EMS event location is remote to the hospital or destination location.

**Recommended Plan of Action**

✻ Evaluate the mileage analysis and compare the results with the EMS Transport Time by Hospital to determine if there is a way to adjust the EMS response plan to improve the mileage discrepancy.

✻ Work with the local hospital(s) and the EMS community when possible to make hospitals within the EMS service area the primary transport destination of the EMS service.

✻ Establish and implement a triage and destination plan for acute time dependent illness and injury such as trauma, stroke, STEMI, pediatric, and burns. The outcome of these specific patient types can be impacted by the chosen destination's capabilities. For that reason these patients should be transported to the most appropriate destination (not necessarily the closest) based on time and distance.

✻ Establish a plan and policy for interfacility transports which would not always pull EMS units from 911 service.

✻ Establish a policy on when EMS units can travel outside of the EMS service area.

✻ Monitor the EMS Mileage for Responses and Transports over time.
Intervention 25

Prolonged EMS Response Times and Population Demographics

The purpose of this intervention is to provide insight into the structure and makeup of the EMS Service’s community based on population and disease specific statistics and information. Most communities exist in various degrees of isolation where best practices and information on how other communities provide EMS services is unavailable. This intervention encourages the EMS service to compare their EMS Response Time to other similar EMS services based on census and other population based demographics.

By receiving this intervention, the EMS Response Toolkit determined that your EMS Service’s Average Response Time was greater than the state average EMS Service Response Time when analyzed with at least one of the following population based demographics:

- Education Level
- Socio-economic Level
- Median Age
- Race: Percentage White
- Race: Percentage Black
- Race: Percentage Hispanic
- Fatal Injury Rate
- Cardiovascular Disease Death Rate

**Recommended Plan of Action**

- Review the results of this analysis with community leaders of your EMS Service. This should spark discussion on areas within the EMS Service’s community which might require additional resources or operational attention.
Intervention 26

Positive Seasonal Population Change

The purpose of this intervention is to provide insight into seasonal population changes within an EMS service area. Seasonal population changes often significantly impact the EMS Service from a resource and response time perspective. This intervention encourages the EMS Service to compare their EMS Service’s Response Time with and without the seasonal population change. Based on this comparison, clarity might be obtained to justify or identify additional resources required during the times of peak population.

By receiving this intervention, the EMS Response Toolkit determined that the EMS Service did indicate a seasonal population change.

Recommended Plan of Action

✻ Generate an EMS Response Toolkit during a time period with and without the seasonal population increase. Use the toolkit to analyze service delivery and response during each time period.

✻ Make adjustments to the EMS Service plan based on the EMS Response Toolkits recommendations.