In 2007, the American Heart Association (AHA), the American Stroke Association (ASA) and the Oregon Department of Human Services (DHS) Heart Disease and Stroke Prevention Program (HDSP) partnered with EMS professionals statewide to conduct a short survey (24 questions) assessing the current state of pre-hospital care for stroke and cardiac events in Oregon. Questions were about pre-hospital care in Oregon for chest pain or myocardial infarction (MI) and for stroke. The responses to these questions can help us direct and coordinate resources to improve the care of patients in Oregon.

An online survey link was sent to 115 EMS agencies and an estimated 44 to 62 EMS supervising physicians (medical directors) respectively. Twenty-three of the twenty-four total questions were identical in the two versions of surveys. Responses from EMS agencies represented 29 Oregon counties with a response rate of 49%. Responding EMS supervising physicians represented 11 counties with half the response rate of the EMS agencies. Significant findings are summarized below:

- Almost all responders (EMS agencies: 98%; supervising physicians: 100%) reported that their 9-1-1 Public Safety Answering Point (PSAP) considered chest pain an emergency call.
- Almost all responders (EMS agencies: 98%; supervising physicians: 92%) reported that their 9-1-1 PSAP considered stroke an emergency call.
- Almost all agencies (EMS agencies: 96%; supervising physicians: 100%) reported having a specific chest pain protocol.
- Most agencies (EMS agencies: 89%; supervising physicians: 83%) had a specific stroke protocol. The Cincinnati Stroke Scale was used most commonly for documentation.
- Some agencies (EMS agencies: 25%; supervising physicians: 50%) had a triage protocol for sending patients with chest pain or ST-elevated myocardial infarction (STEMI) to a specific cardiac or heart hospital, even if it was not the nearest hospital or the hospital of patient choice.
- Few agencies (EMS agencies: 5%; supervising physicians: 8%) had a triage protocol for sending patients with stroke symptoms to a specific stroke hospital, even if it was not the nearest hospital or the hospital of patient choice.
- Most of the agencies (EMS agencies: 66%; supervising physicians: 92%) performed pre-hospital 12 lead ECGs on patients with chest pain.
- Some decisions about sending patients to a specific cardiac or heart hospital relied on automatic ECG or EMT reading. A few agencies transmitted the ECG electronically to a hospital for interpretation.

For specific results, please go to http://www.oregon.gov/DHS/ph/hdsp/pubs.shtml
Response Rates

EMS Agencies
48.7% (56/115)

EMS Supervising Physicians
(Medical Directors)
19.4% (12/62) ~ 27.3% (12/44)

Characteristics of EMS Responders

EMS Agencies

Respondents' Position

<table>
<thead>
<tr>
<th>Position</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS Supervising Physician/Medical Director</td>
<td>2%</td>
</tr>
<tr>
<td>Agency Director</td>
<td>39%</td>
</tr>
<tr>
<td>Management EMT</td>
<td>43%</td>
</tr>
<tr>
<td>Other</td>
<td>16%</td>
</tr>
</tbody>
</table>

Agency Transportation Mode

<table>
<thead>
<tr>
<th>Transport by</th>
<th>Percent of Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground</td>
<td>88%</td>
</tr>
<tr>
<td>Air</td>
<td>0%</td>
</tr>
<tr>
<td>Both</td>
<td>11%</td>
</tr>
<tr>
<td>Neither</td>
<td>2%</td>
</tr>
</tbody>
</table>

EMS Supervising Physicians

Respondents' Position

<table>
<thead>
<tr>
<th>Position</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS Supervising Physician/Medical Director</td>
<td>100%</td>
</tr>
<tr>
<td>EMS Supervising Physician agent or assistant</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
</tr>
</tbody>
</table>

Agency Transportation Mode

<table>
<thead>
<tr>
<th>Transport by</th>
<th>Percent of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground</td>
<td>67%</td>
</tr>
<tr>
<td>Air</td>
<td>8%</td>
</tr>
<tr>
<td>Both</td>
<td>17%</td>
</tr>
<tr>
<td>Neither</td>
<td>8%</td>
</tr>
</tbody>
</table>
**EMS Agencies**

- **Whether Agency is an ASA (Ambulance Service Area) Provider (as Opposed to Being a Subcontractor to ASA Provider)**
  - Yes: 93%
  - No: 7%

- **Percent of Agencies**
  - 0-15 minutes: 21%
  - 15-30 minutes: 43%
  - 30-60 minutes: 27%
  - 1-2 hours: 5%
  - > 2 hours: 4%

- **Average Transport Time for Agencies to the Nearest Hospital**
  - 0-15 minutes: 21%
  - 15-30 minutes: 43%
  - 30-60 minutes: 27%
  - 1-2 hours: 5%
  - > 2 hours: 4%

- **How Many Pre-hospital (not Inter-facility) Transports Agencies Did in 2006**
  - 0-10000: 1
  - 10000-20000: 2
  - 20000-30000: 3
  - 30000-40000: 6
  - 40000-50000: 1
  - > 50000: 1

**EMS Supervising Physicians**

- **Whether Agencies under Supervision Are ASA Providers (as Opposed to Being Subcontractors to the ASA Provider)**
  - Yes: 67%
  - No: 25%
  - Both: 8%

- **Percent of Responses**
  - 0-15 minutes: 75%
  - 15-30 minutes: 25%

- **Whether the Agencies Under Supervision Use the Same Set of Standing Orders**
  - Yes, all agencies operate under the same set of standing orders: 75%
  - No, different agencies have different sets of standing orders: 25%
Pre-Hospital Care

EMS Agencies

Whether Agency's Dispatch Center (911 or PSAP) Treat a Caller with Chest Pain or MI symptoms as an Emergency Call

- Yes: 98%
- No: 0%
- Don't know: 2%

Whether Dispatch Center (911 or PSAP) Treats a Caller with Stroke Symptoms as an Emergency Call

- Yes: 98%
- No: 0%
- Don't know: 2%

Whether Agencies' Usual Destination Hospitals Include at Least One Specialty Center for Cardiac or Heart Disease (STEMI or PCI)

- Yes: 54%
- No: 41%
- Don't know: 5%

Whether Respondents' Usual Destination Hospitals Include at Least One Specialty Center for Stroke

- Yes: 66%
- No: 20%
- Don't know: 14%

EMS Supervising Physicians

Whether Dispatch Center or Centers (911 or PSAP) under Supervision Treat a Caller with Chest Pain or MI Symptoms as an Emergency Call

- Yes: 100%
- No: 0%
- Don't know: 0%

Whether Dispatch Center or Centers (911 or PSAP) under Supervision Treat a Caller with Stroke Symptoms as an Emergency Call

- Yes: 92%
- No: 0%
- Don't know: 8%

Whether Respondents' Usual Destination Hospitals Include at Least One Specialty Center for Cardiac or Heart Disease (STEMI or PCI)

- Yes: 58%
- No: 33%
- Don't know: 8%

Whether Respondents' Usual Destination Hospitals Include at Least One Specialty Center for Stroke

- Yes: 42%
- No: 50%
- Don't know: 8%
EMS Agencies

Whether Agencies Perform 12-lead ECGs in the Field on Patients with Chest Pain

- Yes: 66%
- No: 34%

Which Stroke Scale or Score the Agency Uses

- Cincinnati Stroke Scale: 70%
- Los Angeles Pre-hospital Stroke Scale: 2%
- NINDS: 2%
- Don't use one: 22%
- Other: 4%

Whether Agencies Have a Triage Protocol for Sending Patients with Chest Pain or STEMI to a Specific Cardiac or Heart Hospital (Even If It Is Not the Nearest Hospital or the Hospital of Patient Choice)

- Yes: 25%
- No: 75%

Whether the Agencies under Supervision Have a Triage Protocol for Sending Patients with Stroke Symptoms to a Specific Stroke Hospital (Even If It Is Not the Nearest Hospital or the Hospital of Patient Choice)

- Yes: 5%
- No: 93%
- Don't know: 2%

EMS Supervising Physicians

Whether Agencies under Supervision Perform 12-lead ECGs in the Field on Patients with Chest Pain

- Yes: 92%
- No: 8%
- Don't know: 0%

Which Stroke Scale or Score the Agencies under Supervision Use

- Cincinnati Stroke Scale: 50%
- Los Angeles Pre-hospital Stroke Scale: 0%
- NINDS: 0%
- Don't use one: 50%
- Other: 0%

Whether Agencies under Supervision Have a Triage Protocol for Sending Patients with Chest Pain or STEMI to a Specific Cardiac or Heart Hospital (Even If It Is Not the Nearest Hospital or the Hospital of Patient Choice)

- Yes: 50%
- No: 33%
- Don't know: 17%

Whether the Agencies under Supervision Have a Triage Protocol for Sending Patients with Stroke Symptoms to a Specific Stroke Hospital (Even If It Is Not the Nearest Hospital or the Hospital of Patient Choice)

- Yes: 83%
- No: 8%
- Don't know: 8%
EMS Agencies

How Is the Decision Made to Send Patients to Specific Cardiac or Heart Hospital (If the Agency Has a Triage Protocol for Patients with Chest Pain or STEMI)

[Bar chart showing the distribution of responses]

How Is the Decision Made to Send the Patient to the Specific Stroke Hospital (If the Agency Has a Triage Protocol for Patients with Stroke Symptoms)

[Bar chart showing the distribution of responses]

Which JCAHO Primary Stroke Center Agencies Usually Transport Patients with Stroke Symptoms to (If Any)

[Bar chart showing the distribution of responses]

EMS Supervising Physicians

How Is the Decision Made to Send the Patient to the Specific Cardiac or Heart Hospital (If the Agencies under Supervision Have a Triage Protocol for Patients with Chest Pain or STEMI)

[Bar chart showing the distribution of responses]

How Is the Decision Made to Send the Patients to the Specific Stroke Hospital (If the Agencies under Supervision Have a Triage Protocol for Patients with Stroke Symptoms)

[Bar chart showing the distribution of responses]

To Which JCAHO Primary Stroke Centers the Agencies under Supervision Usually Transport Patients with Stroke Symptoms (If Any)

[Bar chart showing the distribution of responses]