QUICK-START GUIDE

1. Complete the EMS-SAQ EMS Agency Demographics Survey
   - Call or e-mail for help answering the questions
   - Pay special attention to question 25 – the personnel in the shaded part of the table are eligible and should complete the survey.
   - Pay special attention to questions 27 and 28. If you plan to use the internet survey system, provide a list of eligible personnel and their emails for question 28. (You may substitute any pre-existing list of personnel and their emails)
   - Email or US mail the completed survey to the Pittsburgh study coordinating center.

2. If you choose to use paper surveys:
   - We will send a package to you with printed surveys, envelopes and pencils.
   - Identify a session when a large portion of EMS personnel will gather. Set aside a 10-15 minute period free of other distractions to complete the survey.
   - Distribute the survey, introductory letter, and #2 pencil to eligible personnel. Only eligible personnel should complete the survey.
   - Try to track down personnel who have not completed the survey.
   - Return surveys to Pittsburgh study coordinating center via US mail.

3. If you choose to use internet survey:
   - Provide a list of e-mails for eligible personnel.
   - Help the study team to troubleshoot failed or invalid e-mails.
   - Remind personnel to look out for this important email and to take a minute to complete the survey.

4. If you choose to use a combination of internet and paper surveys:
   - Contact us for specific instructions.

QUICK-LIST OF KEY CONTACTS

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Scott Simeone, BS, NREMT-P – simeones@upmc.edu – 412-647-3078
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Purpose and Overview of the Study

The purpose of this Study is to characterize Emergency Medical Services (EMS) workplace and safety culture using the Emergency Medical Services Safety Attitudes Questionnaire (EMS-SAQ).

The study will involve the dissemination of the EMS-SAQ to EMS personnel at sixty ground and air-medical based EMS agencies across the United States. Demographic and systems characteristic information will be collected separately from each EMS agency. The analytic objectives are to characterize variation in workplace culture, as well as to draw associations will individual system characteristics.

Funding

This study is supported by grants from the Foundation for Air-Medical Research and Education (FARE) and the Pittsburgh Emergency Medicine Foundation (PEMF). Dr. Wang is supported by Clinical Scientist Development Award K08-HS013628 from the Agency for Health Care Research and Quality.

Institutional Review Board Approval

This study is approved by the Institutional Review Boards of the University of Pittsburgh as an “exempt” (no human subjects research) protocol (protocol # 0611048).

Background

The goal of this effort is to characterize EMS organizational safety culture. A growing body of literature highlights the growing problem with medical errors in Emergency Medical Services (EMS). Organizational culture refers to the beliefs, attitudes and values of its personnel. Extensive efforts in the aviation industry have demonstrated that workplace organizational culture may directly relate to the safety of operations. There is growing awareness that organizational culture may also have strong ties to patient safety and outcomes in healthcare settings.

Overview of the EMS-SAQ Survey and its Components

The EMS-SAQ survey is a series of questions related to workplace culture and safety. The questions are centered around 6 domains (Appendix 1) regarding organizational culture; safety climate, teamwork climate, stress recognition, perceptions of management, working conditions and job satisfaction. Thirty of the questions are “core” questions directly adapted from other versions of the SAQ. The core questions are used to derive scores for each domain. The remaining items relate to other areas of EMS operations. Two formats of the EMS-SAQ will be available in this study. 1) Paper survey forms to be completed using a #2 pencil, 2) Internet web-based survey (Appendix 2).

A pilot version of the EMS-SAQ was tested at three Pittsburgh area EMS agencies in early 2007. This preliminary effort verified the feasibility of administering the survey, the face validity of the survey, and the internal consistency of the core survey questions as administered to a population of EMS providers.

Overview of Demographic Survey

The purpose of the demographic survey is to provide basic information regarding each participating EMS agency (Appendix 3).
Directions for Administering the EMS-SAQ Survey

This section summarizes the steps for administering the EMS-SAQ survey at each EMS agency.

- **Who should coordinate administration of the survey?**

  Each participating EMS agency should designate a site coordinator to carry out the study procedures.

- **Task 1. Complete the Demographic Survey**

  Each site coordinator should complete the demographic survey. This may require identifying aggregate statistics using computer patient care records or other preexisting data. Fill in the Microsoft Word file or hand-write responses on a printed survey. Return the survey by mail or email to the Pittsburgh study coordinating center.

- **Task 2. Determine the number of eligible personnel at each EMS agency.**

  An essential goal of the EMS-SAQ study is to maximize the survey return rate. In other words, we want to make sure that as many eligible personnel complete the survey as possible. To determine the survey return rate, you must determine the number of eligible personnel at your EMS agency using a current roster. The process of identifying eligible personnel is outlined on question 27 of the EMS agency demographics survey.

  In summary, the survey should be distributed **only** to the following personnel at your EMS agency:

  - Age ≥18 years old.
  - Provide EMS patient care (paramedic, nurse, EMT, first responder)
  - Full-time paid personnel (use your agency’s definition of “full-time”).
  - Regular part-time paid personnel (personnel who work, on average, ≥1 ambulance or aircraft shift per week).
  - Regular volunteer personnel (volunteers who provide regular on-call or scramble duty).

  Exclude the following personnel (Do not distribute the survey to the following persons, and do not count these individuals as eligible personnel):

  - Age <18 years of age.
  - Agency directors or managers who perform primarily supervisory duties.
  - Casual part-time personnel who work, on average, <1 ambulance or aircraft shift per week.
  - Personnel who do not provide patient care duties (e.g., secretaries and billing staff)

  Middle level managers and supervisors who provide regular ambulance or aircraft duty **should** complete the survey.

- **Task 3. Distribute the Survey**

  There are three major methods for distributing the survey. You may choose the method that best fits the needs of your EMS agency. To maximize survey completion rates, you may need to keep track personnel who have or have not completed the survey. This way you can identify personnel who need additional reminders to complete the survey. This is so that you can identify personnel
who need additional reminders to complete the survey. Each person should complete the form once, but someone who works at two different EMS agencies can complete one for each agency.

**Paper Survey**

This system uses preprinted paper surveys for completing the survey. You will receive a batch of paper surveys specific for your EMS agency created by Key Survey (sample in Appendix 2). Do not use paper surveys from other EMS agencies.

- Identify a session when a large portion of EMS agency personnel will gather; for example, meetings, training sessions, or other events.
- Set aside a 10-15 minute period free of other distractions for the group to complete the survey.
- Distribute the survey only to eligible personnel as determined in Task 2. Also distribute copies of the introductory letter with each survey (Appendix 4). We will provide a batch of #2 pencils for completing the survey.
- Instruct respondents to complete the survey using a #2 pencil, completely filling in the circles corresponding to their responses. Respondents should not make any other markings on the survey; stray markings may inadvertently invalidate the responses of the survey. Do not place any identifying names or other marks on the completed “bubble-sheet” forms.
- Use one of the large envelopes to collect completed surveys. Remember to respect the privacy of the responses.
- Try to track down the personnel who have not completed the survey. You may distribute the survey to these persons on an individual basis, or by using inter-office mail or internal mail. If you use inter-office or internal mail, remember to include a blank envelope to protect the anonymous nature of the responses. We will provide full-size envelopes for your site. Do not fold the survey.
- Collect all of the completed surveys. Do not fold the surveys. Place them in the provided return envelope and mail to the Pittsburgh coordinating center. If you lose the return envelope, mail the surveys to:

  **EMS-SAQ Study**  
  Attn. Daniel Patterson, PhD  
  Department of Emergency Medicine  
  230 McKee Pl. Suite 400  
  Pittsburgh, PA 15213  
  Phone: (412) 647-3183

**Internet Web-Based Survey**

In this method the survey responses are obtained through an internet web-based interface (www.Keysurvey.com). The system uses fully encrypted data transmission. KeySurvey removes the email identities from completed surveys. Screenshots are provided in Appendix 2. To use this method:

- First identify all eligible personnel as described in Task 2.
- List and verify the emails of all eligible personnel in each job category. (Question 30 of the demographics survey) You do not have to use the table in demographics survey – you may provide any cleanly typed or written list.
- Send the list to pattersond@upmc.edu. We will enter these emails into the Key Survey database and directly survey the personnel at your agency.
- Remind personnel at your agency to look out for this important email and to take a minute to complete the survey. The email will take the respondent to an internet link where they may provide survey responses.
• The Key Survey system will send periodic reminders to individuals who have not responded to the survey. We will contact you to help resolve incorrect or invalid email addresses.

**Hybrid Method**

It is possible to use a combination of both paper survey as well as the internet-based survey system. For example, you may administer an initial round of surveys using the paper survey, using the internet survey as a backup for individuals who were not present during the initial survey administration. You may also make both forms of the survey available to your personnel; however, we strongly recommend choosing one single method and enforcing the execution of the study using that method only.

- Advantages of each method:
  - Paper Survey: This is easier if many or most personnel will be gathered in one place (meeting, etc.). This method does not depend on email services, eliminating any email account/address troubleshooting that may be needed.
  - Internet Survey: This may be preferred if personnel at your agency do not often gather in one place. It is easy to distribute, and this method allows the survey to be completed when it is convenient for the respondent. Once your e-mail list is verified, you will have no further tasks.

**Rewards for Completing the Survey**

We will provide to each site $50 as a reward for completing the study. You may use the reward at your discretion. We recommend using funds to reward your staff, with food, individual prizes, or other items to be used for the EMS agency. In the past we have found that EMS personnel tend to appreciate food and refreshments. We will provide additional rewards as they become available.

**Scoring the Survey**

The completed paper and internet surveys will be scored by KeySurvey.com.

Each of the safety domains is scored on a range from 0-100. The formulas for calculating each domain score are detailed in Appendix 5.

**Summary Reports**

At the completion of the study, we will provide a summary report to all EMS agencies. The report will detail the responses for each EMS agency. The agencies will be identified by an anonymous identifier. We will provide your dummy code so that you may compare your agency’s responses to those of other services.

**Confidentiality and Security**

Preservation of confidentiality of responses is essential in the study. Measures to preserve respondent confidentiality include the following:

- All survey responses are anonymous. No respondent private identifiers will be recorded on any datasheets or web-entry forms.
- Data forms will be stored in a confidential manner using locked file cabinets. Web-based entries will be appropriately stored on confidential computer file servers protected by passwords and accessible only to the study team.
KeySurvey uses encrypted data transmission. The system does not store email identities with the completed surveys. They do not distribute or sell emails, and they do not use email for “spam.” Their confidentiality statement is at: http://www.keysurvey.com/legal/privacy.jsp#p11

Data will be reported on an aggregate basis only. Data will not be reported on an individual respondent basis.

Data safety and integrity will be reviewed on a periodic basis at regular data safety and monitoring meetings held by the University of Pittsburgh, Department of Emergency Medicine.

Who to Call for Help

If there is an issue regarding breach of confidentiality or other problem, contact Dr. Henry Wang immediately at wanghe@upmc.edu or (412) 647-4925 or (412) 647-3078 or (412) 303-7793, or Dr. Daniel Patterson at pattersond@upmc.edu or (412) 647-3183.
Appendix 1

Factors or “Domains” of the EMS Safety Attitudes Questionnaire

<table>
<thead>
<tr>
<th>Factor: Definition</th>
<th>Example Items</th>
</tr>
</thead>
</table>
| Teamwork climate: perceived quality of collaboration between personnel. | – EMS personnel input is well-received in this EMS agency.  
– I have the support I need from other personnel to care for patients. |
| Job satisfaction: positivity about the work experience. | – This EMS agency is a good place to work.  
– Morale at this EMS agency is high. |
| Perceptions of management: approval of managerial action. | – The management of this EMS agency supports my daily efforts.  
– I am provided with adequate, timely information about events that might affect my work. |
| Safety climate: perceptions of a strong and proactive organizational commitment to safety. | – I receive appropriate feedback about my performance.  
– I know the proper channels to direct questions regarding patient safety. |
| Working conditions: perceived quality of work environment and logistical support (staffing, equipment etc.) | – This EMS agency does a good job of training new personnel.  
– This EMS agency deals constructively with problem personnel. |
| Stress recognition: acknowledgement of how performance is influenced by stressors. | – I am less effective at work when fatigued.  
– I am more likely to make errors in tense or hostile situations. |
### Emergency Medical Services Safety Attitudes Questionnaire

<table>
<thead>
<tr>
<th></th>
<th>Disagree Strongly</th>
<th>Disagree Slightly</th>
<th>Neutral</th>
<th>Agree Slightly</th>
<th>Agree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I like my job.</td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
<td>EMS Personnel input is well-received in this EMS agency.</td>
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<td>3.</td>
<td>I would feel safe being treated by this EMS agency as a patient.</td>
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<td>4.</td>
<td>Medical errors are handled appropriately at this EMS agency.</td>
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<tr>
<td>5.</td>
<td>This EMS agency does a good job of training new personnel.</td>
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<tr>
<td>6.</td>
<td>Working at this EMS agency is like being part of a large family.</td>
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<tr>
<td>7.</td>
<td>The management of this EMS agency supports my daily efforts.</td>
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<tr>
<td>8.</td>
<td>I receive appropriate feedback about my performance.</td>
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<tr>
<td>9.</td>
<td>In this EMS agency, it is difficult to discuss errors.</td>
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<tr>
<td>10.</td>
<td>Staff turnover at this agency is high.</td>
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<tr>
<td>11.</td>
<td>This EMS agency is a good place to work.</td>
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<td></td>
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<tr>
<td>12.</td>
<td>Management does not knowingly compromise the safety of patients.</td>
<td></td>
<td></td>
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<tr>
<td>13.</td>
<td>The levels of staffing at this EMS agency are sufficient to handle the number of calls.</td>
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<td>14.</td>
<td>I am encouraged by my colleagues to report any patient safety concerns I may have.</td>
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<td>15.</td>
<td>The culture at this EMS agency makes it easy to learn from the errors of others.</td>
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<tr>
<td>16.</td>
<td>This EMS agency deals constructively with problem personnel.</td>
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<tr>
<td>17.</td>
<td>At this EMS agency, it is difficult to speak up if I perceive a problem with patient care.</td>
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<tr>
<td>18.</td>
<td>When my workload becomes excessive, my performance is impaired.</td>
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<tr>
<td>19.</td>
<td>I am provided with adequate, timely information about events that might affect my work.</td>
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<tr>
<td>20.</td>
<td>Many EMS personnel at this agency have other full-time or part-time jobs.</td>
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<tr>
<td>21.</td>
<td>I have seen others make errors that had the potential to harm patients.</td>
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<tr>
<td>22.</td>
<td>I know the proper channels to direct questions regarding patient safety.</td>
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<tr>
<td>23.</td>
<td>I am proud to work at this EMS agency.</td>
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<tr>
<td>24.</td>
<td>Disagreements at this EMS agency are resolved appropriately (i.e., not who is right, but what is best for the patient).</td>
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<td></td>
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<tr>
<td>25.</td>
<td>I am less effective at work when fatigued.</td>
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<tr>
<td>26.</td>
<td>I am more likely to make errors in tense or hostile situations.</td>
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<tr>
<td>27.</td>
<td>I have the support I need from other personnel to care for patients.</td>
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<tr>
<td>28.</td>
<td>It is easy for personnel at this EMS agency to ask questions when there is something that they do not understand.</td>
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<td></td>
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</tr>
<tr>
<td>29.</td>
<td>Personnel here work together as a well-coordinated team.</td>
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<tr>
<td>30.</td>
<td>I have co-workers who are actively looking for additional full-time or part-time work.</td>
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<tr>
<td>31.</td>
<td>Morale at this EMS agency is high.</td>
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<tr>
<td>32.</td>
<td>Trainees in my discipline are adequately supervised.</td>
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<tr>
<td>33.</td>
<td>I have made errors that had the potential to harm patients.</td>
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</tr>
</tbody>
</table>
### EMS Safety Attitudes Questionnaire

**Manual of Operations**  
**October 26, 2007**

<table>
<thead>
<tr>
<th>Question</th>
<th>Response Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>34. Fatigue impairs my performance during emergency situations.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>35. During emergency situations (e.g., cardiac arrests, traumas, etc), my</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>performance is not affected by working with inexperienced or less</td>
<td></td>
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<tr>
<td>capable personnel.</td>
<td></td>
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<tr>
<td>36. Personnel frequently disregard rules or guidelines (e.g., treatment</td>
<td>☐ ☐ ☐ ☐ ☐</td>
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<tr>
<td>protocols, standard operating procedures, etc.) that are established</td>
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<tr>
<td>for this EMS agency.</td>
<td></td>
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<tr>
<td>37. A confidential reporting system is helpful for improving patient</td>
<td>☐ ☐ ☐ ☐ ☐</td>
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<tr>
<td>safety.</td>
<td></td>
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<tr>
<td>38. I may hesitate to use a reporting system because I am concerned</td>
<td>☐ ☐ ☐ ☐ ☐</td>
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<tr>
<td>about being identified.</td>
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</tr>
<tr>
<td>39. This agency provides me with the training to prevent ambulance</td>
<td>☐ ☐ ☐ ☐ ☐</td>
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<tr>
<td>driving accidents.</td>
<td></td>
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<tr>
<td>40. I have co-workers who are actively looking to leave this agency for</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>other employment.</td>
<td></td>
</tr>
<tr>
<td>41. This agency could do more to improve emergency vehicle driver</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>safety.</td>
<td></td>
</tr>
<tr>
<td>42. When moving a patient, I have the training to prevent injury to the</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>patient.</td>
<td></td>
</tr>
<tr>
<td>43. When moving a patient, I have the right equipment to prevent injury</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>to the patient.</td>
<td></td>
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<tr>
<td>44. All the necessary information for treating patients is routinely</td>
<td>☐ ☐ ☐ ☐ ☐</td>
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<tr>
<td>available to me.</td>
<td></td>
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<tr>
<td>45. Patient safety is constantly reinforced as the priority in this</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>EMS agency.</td>
<td></td>
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<tr>
<td>46. Emergency vehicle or aircraft accidents occur at this EMS agency.</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>47. Emergency vehicle or aircraft accident close-calls (near-misses)</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>occur at this EMS agency.</td>
<td></td>
</tr>
<tr>
<td>48. Patient handling mishaps (e.g., stretcher collapse, patient drop or</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>fall, etc.) occur at this EMS agency.</td>
<td></td>
</tr>
<tr>
<td>49. Medical adverse events (incidents where a patient was harmed from</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>medical care or medical equipment malfunction) occur at this EMS</td>
<td></td>
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<tr>
<td>agency.</td>
<td></td>
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<tr>
<td>50. Medical adverse event close-calls (near-misses) occur at this EMS</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>agency.</td>
<td></td>
</tr>
</tbody>
</table>

51. **Age (years):**

52. **Sex:**

   - ☐ Male
   - ☐ Female

53. **Primary EMS Position Type:**

   - ☐ First responder
   - ☐ ENT-Basic
   - ☐ ENT-Intermediate
   - ☐ ENT-Paramedic
   - ☐ Prehospital RN (Nurse)
   - ☐ Physician
   - ☐ Other: _______________________

54. **Prior Experience in EMS (total years):**

55. **Full/Part Time (as defined by your EMS agency):**

   - ☐ Full-Time
   - ☐ Part-Time

56. **Ethnicity (Hispanic/non-Hispanic):**
EMS Safety Attitudes Questionnaire
Manual of Operations
October 26, 2007

<table>
<thead>
<tr>
<th>Hispanic or Latino</th>
<th>Not Hispanic or Latino</th>
<th>Refused</th>
<th>Don't Know</th>
</tr>
</thead>
</table>

57. What race do you consider yourself to be? Select one or more of the following:
- American Indian or Alaskan Native
- Native Hawaiian or Other Pacific Islander
- Asian
- White
- Black or African American
- I do not wish to provide some or all information

58. Your highest level of education completed?
- Some High School
- College (Bachelor's Degree)
- High school Graduate or GED
- Graduate (Master's Degree)
- Some College
- Graduate (Doctorate Degree)
- College (Associate's Degree)

59. Have you completed this survey before?
- Yes
- No
- Don't know
Appendix 3

EMS Agency Demographics Survey

The EMS Safety Attitudes Questionnaire Study
EMS Agency Demographic Survey

General Agency and Contact Information:

1. Agency Name: __________________________________________

2. Agency physical address (headquarters or main station):
   (Street) __________________________
   (Street) __________________________
   (City) ____________________________(State) ______ (Zip) _________

   Agency mailing address – if different from above:
   (Street) __________________________
   (Street) __________________________
   (City) ____________________________(State) _____ (Zip) _________
   (Main Telephone) __________________________
   (Main Fax) __________________________

3. Agency Contact Person: ________________________________
   Title: ________________________________________________
   Direct telephone line: _________________________________
   E-mail: ______________________________________________

- 14 -
General Agency Information:

4. Is your agency a basic or advanced life support system?
   ___ BLS → **If you are a BLS-only agency, STOP - call or e-mail us**
   ___ ALS

5. Is your EMS agency a ground or air medical service? (check one)
   ___ Ground
   ___ Air Medical

6. What is your EMS agency affiliation? (check one)
   ___ Hospital-based
   ___ Fire-based
   ___ Third Service Government (e.g., County, Township, Village, etc.)
   ___ Privately funded freestanding (for-profit or not-for-profit)
   ___ Volunteer

7. Does your EMS agency primarily serve rural or urban areas? (check one)
   ___ Rural
   ___ Urban
   ___ Not applicable - Air Medical service

8. **GROUND SERVICES ONLY:** What is your approximate service area in square miles?
   __________ sq miles
9. Number of EMS vehicles in 2006
   a. Total number of Ambulances: ____________________
   b. Total number of Quick Response Vehicles (QRVs): ______________
   c. Total number of Helicopters: ____________________
   d. Total number of Fixed Wing Aircraft: ______________
   e. Other: ____________________

System Utilization & Patient Care Information:

10. Total number of dispatches/responses in 2006: ___________

11. Total number of patient contacts in 2006: ___________

12. Total number of interfacility transports in 2006 (both emergent & non-emergent): ___________

13. Total number of patients receiving attempted intubation in 2006 (both successful and failed efforts): ___________
   a. Number of successful intubations (if known): ___________
   b. Number of unsuccessful intubations (if known): ___________

14. Total number of cardiac arrests cases in 2006: ___________

15. Total number of major trauma cases in 2006: ___________

16. Do you collect response unit hour utilization? (check one)
   _____ Yes
   _____ No
   UHU (if known): ___________
   Don’t Know:* ______

*We will contact you directly to verify and/or assist you in calculating this number.
Additional Questions

17. Do you believe that turnover of personnel (the number of personnel who resign or are terminated from their position annually) is an important issue for your agency? (check one)
   ___ YES
   ___ NO

18. If YES, indicate number of positions vacated or terminated in 2006:
   - Paramedic: ________
   - Nurse: ________
   - EMT: ________
   - Other: ________

19. Number of known patient handling mishaps in 2006?
   (-e.g., stretcher collapse, patient drop or fall, etc.)
   __________
   Don’t know: ______
   Know, but agency is unwilling to report: ______

20. Number of known medical management adverse events in 2006?
   (-i.e., incidents where a patient was harmed from medical care or medical equipment malfunction.)
   __________
   Don’t know: ______
   Know, but agency is unwilling to report: ______

21. Number of emergency vehicle or aircraft crashes/accidents in 2006?
   - Emergency vehicles: __________
   - Aircraft: __________
   Don’t know: ______
   Know, but agency is unwilling to report: ______
22. Number of liability insurance claims your agency filed in 2006?  
(-e.g., claims related to ambulance accidents, patient injuries, negligence, etc.)

___________

Don’t know:       _____

Know, but agency is unwilling to report:  _____

23. Number of worker/staff injuries in 2006? (i.e., back injuries, needle sticks, etc.)

___________

Don’t know:       _____

Know, but agency is unwilling to report:  _____

24. Is your designated medical director (check one)?

___ Full-time (paid)

___ Part-time (paid)

___ Volunteer (uncompensated)

___ Don’t know

___ We do not have a designated medical director
25. Summarize the breakdown of personnel **AGE ≥18 YEARS** at your agency. *(EXCLUDE INDIVIDUALS <18 YEARS OF AGE.)*

*Personnel tabulated in the shaded area should complete the EMS-SAQ survey.*

<table>
<thead>
<tr>
<th>Position Type</th>
<th>Total Number on Roster Age ≥18 Years</th>
<th>Number of paid “full-time” personnel (a)</th>
<th>Number of paid “regular part-time” personnel (b)</th>
<th>Number of regular volunteer personnel (c)</th>
<th>Number of paid “casual part-time” personnel (d)</th>
<th>Number of directors or managers (e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paramedic</td>
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<tr>
<td>Prehospital Nurse</td>
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<tr>
<td>EMT-I</td>
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<td>EMT-B</td>
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<td>First Responder</td>
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<tr>
<td>Physician</td>
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<tr>
<td>Administration</td>
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<tr>
<td>Others (Specify)</td>
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</tbody>
</table>

(a) “Full-time” – Use your agency’s definition of “full time.”
(b) “Regular part-time” includes personnel who work – on average – ≥1 ambulance/aircraft shift per week.
(c) “Regular volunteer” includes volunteers who provide regular on-call or scramble duty.
(d) “Casual part-time” includes personnel who work – on average – <1 ambulance/aircraft shift per week.
(e) “Directors and managers” includes individuals who perform primarily administrative duties. Supervisors or middle-level managers who also provide regular ambulance/aircraft duty should be listed under “full-time personnel.”
26. Summarize the breakdown of personnel **AGE <18 YEARS** at your agency. **DO NOT INCLUDE PERSONNEL TABULATED IN QUESTION 25.**

<table>
<thead>
<tr>
<th>Position Type</th>
<th>Total Number on Roster Age ≥18 Years</th>
<th>Number of paid “full-time” personnel (a)</th>
<th>Number of paid “regular part-time” personnel (b)</th>
<th>Number of regular volunteer personnel (c)</th>
<th>Number of paid “casual part-time” personnel (d)</th>
<th>Number of directors or managers (e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paramedic</td>
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<tr>
<td>Prehospital Nurse</td>
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<td>EMT-I</td>
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<td>EMT-B</td>
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<tr>
<td>First Responder</td>
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<tr>
<td>Administration</td>
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<tr>
<td>Others (Specify)</td>
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</table>

(a) “Full-time” – Use your agency’s definition of “full time.”
(b) “Regular part-time” includes personnel who work – on average – ≥1 ambulance/aircraft shift per week.
(c) “Regular volunteer” includes volunteers who provide regular on-call or scramble duty.
(d) “Casual part-time” includes personnel who work – on average – <1 ambulance/aircraft shift per week.
(e) “Directors and managers” includes individuals who perform primarily administrative duties. Supervisors or middle-level managers who also provide regular ambulance/aircraft duty should be listed under “full-time personnel.”
27. Which survey method will work best for your EMS agency?:

   ___ Internet-based survey (you provide list of valid e-mails – we administer survey via email and internet web browser)

   ___ Paper survey (we provide paper surveys – your personnel complete responses using pencil)

   ___ A combination (for example, initial paper survey, e-mail to those not present)

28. If you plan to use the internet-based survey, provide emails and names for all personnel in the grey area of question 25. (You may substitute any electronic or printed list.)

<table>
<thead>
<tr>
<th>Email</th>
<th>First Name</th>
<th>Last Name</th>
<th>Position Type (Paramedic, Nurse, EMT, etc.)</th>
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</table>
Appendix 4

Introductory Letter. A copy of this letter should be distributed with each paper survey. A similar copy will be sent with each internet survey.

Dear Colleagues:

We are conducting a research study characterizing EMS workplace safety culture; the collective beliefs, attitudes, and values of personnel towards the safety of EMS operations. You may be interested in participating in this study. A Power Point program providing additional information about the research study will be provided by your agency or may be accessed at [www.XXXX.org](http://www.xxxx.org).

We would appreciate it if you take a few minutes to complete the attached EMS Safety Attitudes Questionnaire, a structured survey containing questions reflecting the nature and safety of EMS care. Your responses will be combined with those of your coworkers to calculate total scores for your EMS agency.

**Your participation is voluntary. Your responses are strictly confidential and anonymous. We are not collecting any personal identifiers or information. Your individual responses will not be shared with your colleagues or supervisors. Some questions may make you feel uncomfortable – you may refuse to answer any question, or you may withdraw at any time.**

[For paper survey] Please use a #2 pencil only to record your responses. Please do not fold or mutilate the survey. Please return the completed survey as instructed. Your responses are confidential – your name and private identifiers do not appear on the survey.

[For internet survey] Please follow this internet link to complete the survey: [www.XXXX.com](http://www.xxxx.com). Your responses are confidential and will be transmitted on an encrypted server. Your e-mail and IP address will not be recorded with your responses. Your e-mail will not be shared outside the study and will not be used for “spam.”

If you are under 18 years of age, we must exclude your responses. Please do not complete the survey – discard the survey or return it to us.

Thank you for your participation. Your responses will help us to improve EMS care nationally. Please feel free to contact us any time at the email or phone below.

Sincerely,

P. Daniel Patterson, PhD  Henry E. Wang, MD, MS  pattersond@upmc.edu  wanghe@upmc.edu

412-647-3183  412-647-4925
Appendix 5

Formula for calculating the score of each domain.

- To calculate the 100pt scale score (e.g., teamwork climate) for an individual respondent:
  - Reverse score all negatively worded items – see table below for list of reverse scored items.
  - Calculate the mean of the set of items from the scale
  - Subtract 1 from the mean
  - Multiply the result by 25.

The equation looks like this:
Teamwork Climate Scale Score for a Respondent = (((Mean of the teamwork items)-1) * 25)

In order to calculate the percent of respondents who are positive (i.e., percent agreement), you would look at the percent of respondents who got a scale score of 75 or higher. A score of 75 on the scale score indicates the same thing as “agree slightly” on the original 5 point Likert scale (1=Disagree Strongly, 2=Disagree Slightly, 3=Neutral, 4=Agree Slightly, 5=Agree Strongly).

With the conversion to the 100 point scale:
1=0
2=25
3=50
4=75
5=100

- SAQ Item Descriptives used for Benchmarking across 203 administrations

<table>
<thead>
<tr>
<th>Teamwork Climate</th>
<th>Is item reverse scored?</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS personnel input is well-received in this EMS agency.</td>
<td>No</td>
</tr>
<tr>
<td>At this EMS agency, it is difficult to speak up if I perceive a</td>
<td>No</td>
</tr>
<tr>
<td>problem with patient care.</td>
<td></td>
</tr>
<tr>
<td>Disagreements at this EMS agency are resolved appropriately</td>
<td>No</td>
</tr>
<tr>
<td>(i.e., not who is right, but what is best for the patient).</td>
<td></td>
</tr>
<tr>
<td>I have the support I need from other personnel to care for patients.</td>
<td>Yes</td>
</tr>
<tr>
<td>It is easy for personnel at this EMS agency to ask questions</td>
<td>No</td>
</tr>
<tr>
<td>when there is something that they do not understand.</td>
<td></td>
</tr>
<tr>
<td>Personnel here work together as a well-coordinated team.</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Safety Climate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I would feel safe being treated by this EMS agency as a patient.</td>
<td>No</td>
</tr>
<tr>
<td>Medical errors are handled appropriately at this EMS agency.</td>
<td>No</td>
</tr>
<tr>
<td>I receive appropriate feedback about my performance.</td>
<td>No</td>
</tr>
<tr>
<td>In this EMS agency, it is difficult to discuss errors.</td>
<td>No</td>
</tr>
<tr>
<td>I am encouraged by my colleagues to report any patient safety</td>
<td>No</td>
</tr>
<tr>
<td>concerns I may have.</td>
<td></td>
</tr>
<tr>
<td>The culture at this EMS agency makes it easy to learn from the</td>
<td>No</td>
</tr>
<tr>
<td>errors of others.</td>
<td></td>
</tr>
<tr>
<td>I know the proper channels to direct questions regarding</td>
<td>Yes</td>
</tr>
<tr>
<td>patient safety.</td>
<td></td>
</tr>
</tbody>
</table>
### Job Satisfaction

<table>
<thead>
<tr>
<th>Item</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like my job.</td>
<td>No</td>
</tr>
<tr>
<td>Working at this EMS agency is like being part of a large family.</td>
<td>No</td>
</tr>
<tr>
<td>This EMS agency is a good place to work.</td>
<td>No</td>
</tr>
<tr>
<td>I am proud to work at this EMS agency.</td>
<td>No</td>
</tr>
<tr>
<td>Morale at this EMS agency is high.</td>
<td>No</td>
</tr>
</tbody>
</table>

### Stress Recognition

<table>
<thead>
<tr>
<th>Item</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>When my workload becomes excessive, my performance is impaired.</td>
<td>No</td>
</tr>
<tr>
<td>I am less effective at work when fatigued.</td>
<td>No</td>
</tr>
<tr>
<td>I am more likely to make errors in tense or hostile situations.</td>
<td>No</td>
</tr>
<tr>
<td>Fatigue impairs my performance during emergency situations.</td>
<td>No</td>
</tr>
</tbody>
</table>

### Perceptions of Management

<table>
<thead>
<tr>
<th>Item</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>The management of this EMS agency supports my daily efforts.</td>
<td>No</td>
</tr>
<tr>
<td>Management does not knowingly compromise the safety of patients.</td>
<td>No</td>
</tr>
<tr>
<td>The levels of staffing at this EMS agency are sufficient to handle the number of calls.</td>
<td>No</td>
</tr>
<tr>
<td>I am provided with adequate, timely information about events that might affect my work.</td>
<td>No</td>
</tr>
</tbody>
</table>

### Working Conditions

<table>
<thead>
<tr>
<th>Item</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>This EMS agency does a good job of training new personnel.</td>
<td>No</td>
</tr>
<tr>
<td>This EMS agency deals constructively with problem personnel.</td>
<td>No</td>
</tr>
<tr>
<td>Trainees in my discipline are adequately supervised.</td>
<td>No</td>
</tr>
<tr>
<td>All the necessary information for treating patients is routinely available to me.</td>
<td>No</td>
</tr>
</tbody>
</table>