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## **Supporting Statement**

### **B. Collections of Information Employing Statistical Methods**

NHTSA is seeking approval to gather information to better characterize the state of ambulance operator training in Emergency Medical Services (EMS) systems. The proposed study will employ statistical methods to analyze the information collected from survey respondents. The survey efforts have been designed to use a convenience sample of EMS agencies across the United States that operate ground ambulances and from representatives from State EMS offices for the 50 States and Washington D.C. Each EMS agency will be asked to assign a single representative to complete an Internet-based questionnaire. Survey information will be collected from State EMS offices via semi-structured telephone interviews. Approximately 153 semi-structured interviews (up to 3 per State and Washington, D.C. since multiple offices may be responsible for various aspects of ambulance operator training and regulation) will be conducted. However, because we lack a complete sampling frame, inference will be limited to the sample, and results will not be mapped to the larger universe of all EMS providers in the U.S. The following sections further describe the data analysis approach, respondent universe, and procedures for respondent sampling.

### **Data Analysis Plan**

The objective of this project is to characterize ambulance operator training across the United States. NHTSA is interested in learning if and how agencies providing emergency medical services train and regulate operates ambulances. This project aims to document the types of operator training offered, when this training is required, how driving incidents impact driving privileges, initial qualification standards, and other related topics. The results of this study will allow NHTSA and the EMS community to not only understand how others across the United States provide and regulate training, but create a foundation on which to build future evidence-based training curricula.

Given the nature of the study, the great majority of reported information will be descriptive in nature. Frequencies will be computed for each of the questions in the survey. Cross-tabular analyses of the survey data by population subgroups and key analytical variables will also be conducted. The results of the semi-structured interviews will be purely descriptive in nature, detailing the States' requirements pertaining to ambulance operator training.

While the study expects to obtain a large sample for the survey of EMS agencies, it will likely not be possible to assert that the sample is representative of all EMS agencies providing ambulance services in the United States. All reported results will clearly state that the sample was a convenience sample of agencies willing to respond to the survey and may be biased. Potential biases will be noted to the extent researchers believe they may be present in the data.

**B.1. Describe the potential respondent universe and any sampling or other respondent selection to be used.**

This study’s purpose is to characterize ambulance operator training throughout the United States. As such, the potential respondent universe consists of a set of EMS agencies and State EMS offices (or other related regulatory offices): One representative for each EMS agency that operates ground ambulances in the United States, plus one representative for each State EMS office (or other related regulatory offices) in the United States. Currently the National Association of State EMS Officials (NASEMSO) has 11,156 EMS agencies that operate ground ambulances in their contacts database. This list currently represents most of the states, excluding HI, IN, IA, MI, and OH. There is a possibility that some or all of these missing states may be included in the contact database by the time of survey deployment, which would increase the total contact list by an estimated 2000 to 4000 agencies. In addition to individual EMS agencies, there are 51 State EMS offices to be surveyed (50 States and Washington, D.C.).

Contact information for EMS agencies and State EMS offices will be obtained through the NHTSA Office of EMS (OEMS) and through the National Association of State EMS Officials (NASEMSO). Since there is no sampling frame associated with the universe of EMS agencies, a convenience sample of EMS agencies that are believed to operate ground ambulances is being developed by project staff and will include 8,000 agency contacts selected randomly from the NASEMSO database of EMS agencies that operate ground ambulances.. In addition to continually working to attain additional EMS Agency contact information NASEMSO has agreed to provide their contact list for this study. We plan to work with OEMS and NASEMSO members to identify the most appropriate person for each State’s initial contact for the unstructured discussions regarding ambulance driving training and will then conduct discussions as appropriate. We expect that in some States this initial contact will defer to some other “expert(s)” within the State since we are solely focused on ambulance operator training. Some States may have relevant personnel in multiple agencies. We will conduct up to three interviews per State to gather the necessary information.

Table 1. Sample description

| Sampling Group                  | Respondent Universe | Number of Contacts Attempted | Expected Response Rate | Sample |
|---------------------------------|---------------------|------------------------------|------------------------|--------|
| EMS Agencies                    | 11,156              | 8,000                        | 40%                    | 3,200  |
| States and District of Columbia | 51                  | 153                          | 100%                   | 153    |

Because the sample is built from a list of “establishments,” the disposition codes and outcome rate calculations are different from typical household surveys. The expected response rate in Table 1 is an unweighted response rate assumption for estimating the number of agency responses given a set number of contacts. The final report will include both an unweighted response rate as well as a response rate weighted by the size of the

agencies as recommended by the American Association for Public Opinion Research. Given that we expected larger agencies will be more likely to respond than smaller agencies, we expect the weighted response rate to be higher than the unweighted value.

**B.2. Describe the procedures for the collection of information.**

NHTSA intends to recruit EMS agency participants via email solicitation and State EMS office participants via email or telephone calls. We will obtain email addresses for appropriate contacts at the individual agency level as described above and send out an email with a link to the survey. NHTSA is actively working to obtain the most comprehensive list of agency contacts possible with the goal of soliciting up to 8,000 agencies that operate ground ambulances. If more than 8000 EMS agencies are available for solicitation then NHTSA will randomly sample 8000 of the total number of available agencies. The email will briefly describe the purpose and importance of the study, and the fact that participation is voluntary and responses will remain anonymous. The email will also describe the general nature and content of the questions contained within the questionnaire, and benefits of participation (there is no financial compensation for participation). A copy of the solicitation email is contained with this package as Appendix F1, and the questionnaire is in Appendix D1.

Once the survey instrument has been approved, NHTSA will pilot test it for function and basic usability. To help ensure the survey continues to function properly, we will execute a “dummy” questionnaire at least twice per week. We will also regularly download and store the data obtained from survey respondents.

Project staff will conduct the semi-structured discussions with State EMS offices or representatives from other relevant agencies. Point of contacts will be verified with internal NHTSA staff. This will reduce the likelihood of miscommunication in larger project goals, and ensure a higher level of quality control in communication and information collection efforts. Project staff will guide the discussions according to a topic list designed to ensure we both collect new and verify publicly available information regarding training requirements for ambulance operators in the State. As previously mentioned, we expect approximately 153 semi-structured interviews (up to 3 per State and Washington, D.C.) to be conducted, because multiple State offices may be responsible for various aspects of ambulance driver training and regulation. A copy of the solicitation email is contained in Appendix F2, and the semi-structured State interview is contained within this package as Appendix D2.

**B.3. Describe methods to maximize response rates.**

NASEMSO has agreed to help with solicitation efforts since it has an extensive contact list of agencies operating across the United States. By placing study announcements in newsletters and announcing at national stakeholder organization meetings NASEMSO's assistance will enhance the legitimacy of the solicitation to local EMS agencies. Solicitation materials also describe general participant requirements, the voluntary nature of participation, and that responses will be kept confidential and will be reported only at the group level. Potential respondents will be given a fair estimate of the time necessary to complete the survey, which has been designed to be no greater than 15 minutes. Having most respondents complete the survey effort via Internet questionnaire should allow for convenience. All information collected will be anonymous, which should facilitate participation and honesty in responses.

NHTSA has ongoing relationships with all State EMS offices and others State agencies that may participate in the study. Initial contact with each State EMS office is crucial to the success of the project. While the brief introduction to the study concerning its sponsorship, purpose, and conditions provided by the solicitation will be sufficient for many respondents, others will have questions and concerns that the researchers must address. We plan to answer all questions in an open, positive, and confident manner, so that State EMS offices are convinced of the value and legitimacy of the study. Above all, project staff will attempt to create a rapport with the agency in the process of securing participation.

**B.4. Describe any tests of procedures or methods to be undertaken.**

The Internet-based survey will be pilot tested and constantly monitored to ensure a quality information collection effort. Once data collection begins, we do not anticipate substantive changes to the question set proposed.

**B.5. Provide the name and telephone number of individuals consulted on statistical aspects of the design**

The following individuals have reviewed technical aspects of this research plan:

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