

Attachment 9- Sampling Plan

The sampling frame will include all fire departments across the United States and will be created by combining the following data sources: the National Public Safety Information Bureau database, the FireCARES database, and the National Fire Department Registry dataset. All datasets contain fire-department level data, fire department identification number, fire department location, fire department type, contact information (phone and/or email), and staff size. The evaluation team will merge together the datasets using the fire department identification number. Combining the three sources should provide the most complete list of fire departments and increase the likelihood that fire departments that tend to be under-reported (e.g., rural fire departments or those serving smaller communities) are included in the sampling frame.

We will then select the study sample. NIOSH will provide a list of all fire departments who have experienced a LODD (n=apx. 630 fire departments). These fire departments will be automatically included in the study sample. We will then stratify all remaining fire departments in the U.S. by geographic Census region (e.g., Northeast, South, Midwest, West) and department type (career/mostly career vs. volunteer/mostly volunteer) and use proportional random sampling to select an additional 3,870 departments who will receive the survey. A total 4500 fire departments will be selected in total for participation in the survey.

After the fire departments have been selected for inclusion in the study, the evaluation team will use a tiered approach to contact the personnel in each fire department. First, we will provide the list of selected fire departments to three professional organizations: the International Association of Fire Chiefs (IAFC), the International Association of Fire Fighters (IAFF), and the National Volunteer Fire Council (NVFC). These organizations will then provide a list of membership numbers and emails associated with the fire departments. The evaluation team will send customized links to all emails provided by the professional organizations. If a selected fire department does not have personnel represented in the NVFC, the IAFF, or the IAFC, we will then attempt to contact the department personnel via email using information provided by the three aforementioned datasets and supplemented with internet searches. Finally, if we are unable to make contact via email, the evaluation team will call the fire department directly. At any point during this process, respondents/fire departments will be able to opt out of the survey.

All surveys will be administered electronically using a survey link. Responses will only be linked to fire departments and respondents will be asked to indicate their current position in the fire department (i.e., chief officer, company officer, or firefighter). Those participants for which we have an email address will receive a survey link that is unique to the individual. This will allow for targeted follow-up directly to non-respondents. Those fire departments that must be contacted by phone will receive a survey URL to be used by all respondents within their fire department. The evaluation team will distribute the survey to all fire chiefs, company officers, and fire fighters at each of the selected fire departments.