

## Technical Documentation: Survey on Local Health Department Job Losses and Program Cuts | (July – August 2009)



### Sampling

In order to minimize survey burden on local health departments (LHDs) while enabling the calculation of national and state estimates, the National Association of County and City Health Officials (NACCHO) used a stratified random sampling design instead of a complete census design. LHDs were grouped by the size of the population served and the state into strata. Three categories existed for size of population served (LHD size): Small (<50,000), Medium (50,000-499,999), and Large (500,000+). Two states (Hawaii and Rhode Island) were excluded from the sample because they have no LHDs. In addition, some states did not have any LHDs that fell into a particular size category, resulting in a total of 123 strata. The sampling plan was designed to select approximately 30 percent of the LHDs in a given stratum and at least two LHDs per stratum wherever possible.

Once the sampling plan was finalized, NACCHO's research staff used SPSS to draw a random sample of the specified size from within each stratum. In order to minimize response burden, no more than two surveys (for two distinct LHDs) were sent to any given contact person; in some centralized states an individual may be identified as the contact for multiple LHDs. If a contact person was selected more than twice or contact information was not available, a replacement was drawn. A sample of 764 LHDs was selected.

### Survey Administration

The LHDs selected for the sample received an invitation to the survey from NACCHO's president and a survey link on July 7, 2009. Potential participants received up to three

reminder e-mails. In addition, NACCHO staff made reminder calls to people who had not yet completed their survey, targeting states with low response rates. In addition, State Associations of County and City Health Officials (SACCHOs) in some states assisted by encouraging their members to take part in the survey.

Developing state-level estimates depended on having an adequate response rate and number of responses. Therefore, research staff set thresholds for response rates and number of responses for each state. In states with an inadequate response rate, a supplementary sample was drawn to increase the counts in select strata. An additional 226 LHDs received invitations to take part in the survey on August 5, 2009. Those from the supplemental sample who had not yet responded received two e-mail reminders.

The survey was closed on August 17, 2009, with 623 responses, for a response rate of 63 percent.

### Cleaning

Survey responses were compared internally and with existing data to ensure their accuracy. For example, the reported number of people laid off was compared to existing data about the total number of employees at the LHD in 2008. Cases with a high ratio of layoffs to total staff were examined by a team of two people; the team considered reported program and budget cuts to determine if the response was supported by auxiliary data. In the event that a ratio was high and there were not supporting data, the data were excluded from analysis. Cleaning tended to result in the exclusion of cases that reported high budget or workforce

loss, which may have resulted in a slightly conservative estimate for these variables.

### Analysis

Data analysis was conducted using SPSS version 17.

All statistics reported were developed using appropriate weights to account for both sampling and non-response. The research team identified two groups of questions that had similar response patterns. A "marker question" was identified for each group (questions 1 and 10). For example, because response rates for questions 6 through 13 were similar, the response rate for the marker question (question 10) was used to calculate weights for all of these questions.

The number of valid responses by strata was counted for each of the two marker questions. Weights were calculated by dividing the total number of LHDs in a stratum by the number of valid responses. These weights were used for all calculations for questions in that group.

To produce national estimates for workforce reductions, the research team converted categorical values (e.g., 1 to 5; 6 to 10; 11 to 15) to discrete values by taking the midpoint for each of the categorical responses. For example, if an LHD reported that it had to reduce the hours of "6 to 10" employees, this was recoded as "8." A weighted sum was calculated using these continuous values.

All valid responses were included in data analysis for national estimates. State-level estimates were created for those states with an adequate response rate and number of responses.