

**Knowledge and Perceptions  
Related to Trauma Centers and Systems in Georgia  
Methods and Procedures**

Between 24 November and 6 December 2006, a telephone survey of adult residents in Georgia was conducted by the Survey Research Center (SRC), under contract Healthcare Georgia Foundation. The survey was intended to assess the knowledge and perceptions of Georgia residents regarding emergency health care in the state. The purpose of the survey is to determine the concerns and needs of residents for a trauma center system in Georgia. Prior to the study, telephone interviewers attended two three-hour training sessions that covered survey methods, standard procedures of telephone interviewing, the purpose of the survey, an in-depth explanation of the survey instrument, and a practice session. In addition, at least one supervisor was present at all times during interviewing to provide quality control.

The first step in the process of conducting the Trauma Center and System Survey involved the development of the survey instrument. Survey Research Center staff, in consultation with the Health Care Georgia Foundation, developed a 28-item interview schedule designed to determine what residents know about Georgia emergency care as well as their concerns

The design of the study called for conducting 800 interviews from a random sample of Georgia households. The procedures utilized were designed to ensure that all households in Georgia had a near equal chance of being selected for inclusion in the sample. This provision of equal opportunity of selection is a necessary requirement if a probability sample is to be obtained. Bias in response is also minimized, and inferences about the adult population in this region can safely be made from the results obtained in the survey.

Assuming the sampling procedures outlined above produce a random sample of parents, the estimated theoretical standard error associated with the sample estimates obtained (n=803), when the population proportion (P) is 50 percent (i.e., a "worse case scenario"), is .0176. In addition, the theoretical standard error decreases as the proportion (P) approaches 0 or 100. Thus, if 85% of the sample provides a given response, the standard error is .0126. The standard errors are derived from the mathematical formula:

$$\text{Square root of: } \frac{P * Q}{n}$$

where: P = the proportion of the population exhibiting a characteristic (i.e., extreme concern that there is no trauma center in Georgia );

Q = (1-P), the proportion not exhibiting the characteristic;

n = size of the sample

Once obtained, the standard errors can be used to estimate the sampling margin of error of the estimates (i.e., the probable difference in results between interviewing the entire adult population of that region versus taking a scientific sample of that population), that extend 1.96 standard error units (i.e., the 95% confidence interval) around that value according to the following formula:

$$P \pm 1.96 * (\text{standard error})$$

Thus, with a random sample size of 803 and a population proportion of 50 percent, the 95% confidence interval for the estimate would be:

$$\begin{aligned} &.50 \pm 1.96 * .0176 = .50 \pm .034 \\ &= 50\% \pm 3.4\% \quad = 46.6\% \text{ to } 53.4\% \end{aligned}$$

The formula sets a 95 percent confidence interval with a sampling error of +/- 5 percent, and is designed to insure estimates produced are within known parameters of precision (sampling error) and accuracy (confidence interval). Based on this formula, the 803 cases collected are more than sufficient to achieve desired levels of precision and accuracy.

These methods produce a sample that is representative of the population under study. Sampling error is no greater than +/- 5% percent, with a 95 percent level of confidence. That is, if 50 percent of the sample gave a certain response to a question, we can be 95 percent certain that between 46.6 and 53.4 percent of the population as a whole would give that same response. This expected error decreases as the sample proportion approaches 0 or 100.

In addition to sample size, the quality of a sample is determined by cooperation rate; that is, the proportion of contacted members of the original sample who provide an interview. The Response Rate Table details the results of the telephone procedures. Here we see that the total cooperation rate for the study is 46.4 percent. That is, of the 1,729 eligible respondents contacted, 803 yielded complete interviews. Table 1 also shows the final disposition of each of the 8,128 numbers called in the study.

Once a respondent is located and cooperation obtained, standardized SRC quality-control procedures are set in place to ensure that high quality data are produced. For example, SRC Supervisors are assigned to monitor interviewers in progress; thus approximately one-fifth to one-quarter of all interviews are monitored, and any interviewer errors are eliminated.

**TABLE 1**  
Response Rate Table

	<b>N</b>	<b>% Category</b>
<b>Interview</b>		
Complete	803	99.4
Partial	5	0.6
<b>Total</b>	<b>808</b>	<b>100.0</b>
<b>Eligible, Non-Interview</b>		
First Refusal	302	13.5
Final Refusal	619	27.7
Non-Contact		
Resp. Never Available	0	0.0
Ans. Machine, No Msg	966	43.3
Ans. Machine, Message	0	0.0
Other		
Dead	0	0.0
Phys/Mentally Unable	30	1.3
Language Unable	92	4.1
Misc. Unable	1	0.1
Callbacks		
Callback, Resp Not Selected	212	9.5
Callback, Resp Selected	10	0.5
<b>Total</b>	<b>2232</b>	<b>100.0</b>
<b>Unknown Eligibility: Non-Interview</b>		
Unknown if Household		
Busy	143	8.2
No Answer	1577	90.1
Ans. Machine	1	0.1
Technical Phone Problems	29	1.6
Known Household		
Unknown if Eligible: No Scner	0	0.0
Unknown if Eligible: Other	0	0.0
<b>Total</b>	<b>1750</b>	<b>100.0</b>
<b>Not Eligible</b>		
Out of sample	0	0.0
Fax/Data Line	433	12.9
Non-working/disconnected		
Non-working number	118	3.5
Disconnected number	2163	64.8
Technological circumstances		
Number changed	12	0.4
Cell phone	14	0.4
Call forwarding	27	0.8
Not a household		
Bus/gov't/other Organization	543	16.3
Institution	0	0.0
Group quarters	1	0.1
No eligible respondent	27	0.8
Quota filled	0	
<b>Total</b>	<b>3338</b>	<b>100.0</b>
<b>Cooperation Rate</b>		<b>46.4</b>

\*American Association for Public Opinion Research COOP3 = Interviews/(Interviews +Partials + Refusals)

