

Supporting Statement – Part B

Collections of Information Employing Statistical Methods

1. Description of the potential respondent universe and sampling/other respondent selection methods to be used.

The Office of the Actuary, Centers for Medicare & Medicaid Services (CMS) created a list of the national population of hospitals, skilled nursing facilities (SNF), and kidney dialysis centers that treat patients with end-stage renal disease (ESRD). Included in those lists are various parameters which describe the characteristics of each of these institutions. These parameters include geographical location, urban/rural status, size, and so on. For hospitals, indicators identifying the facility as a teaching hospital, critical access, or sole community hospital are also included. In 2003, the latest year for which we have complete data, the hospital population is 5,875, the SNF population is 13,301, and the ESRD population is 4,169. CMS has contracted with MacroSys Research and Technology to survey a sample of institutions in the hospital, SNF, and ESRD populations. Response rates for each institutional category of 10 to 20 percent should be sufficient.

2. Procedures for the collection of information.

a. Statistical methodology for sample selection.

The Office of the Actuary, Centers for Medicare & Medicaid Services is surveying a representative sample of hospitals, SNFs, and ESRDs to determine the degree to which these institutions purchase professional contract services in local or national labor markets. Specific steps include:

- Construction of representative sample of the 3 industry types

MacroSys has determined the following based on an analysis of Medicare Cost Report data:

Hospitals:

Larger hospitals in size are more representative to the target population than are smaller ones to meet the survey objective. Thus, sampling with probability proportional to *full-time equivalent (FTE)* size and without replacement is the best candidate for the hospitals.

SNFs:

For this sample frame, the contractor will use probability proportional to *Number_of_Beds* as size and without replacement in sampling.

ESRDs:

For this sample frame, the contractor will use probability proportional to *FTEs* as size and

without replacement in sampling.

- Mail out request and instructions to complete web-based survey to all identified providers
- Address any questions and inquiries as needed
- Provide technical assistance to survey subjects to facilitate data collection
- Conduct follow-up communications to increase response rate: 1st follow-up is written; 2nd is via phone

b. Estimation procedure.

As the survey progresses, sample characteristics will be continuously compared against population parameters to establish the degree of representation provided by the survey respondents. This will be accomplished through statistical comparisons of means and variances. Focused efforts to ensure representative-ness will include written and phone-based follow-ups to providers with under-representation.

Estimations of the proportions of professional contract labor costs purchased locally and nationally will be made in two ways, weighted and unweighted.

As the multiple-choice questions include answers such as: 0-percent; 1-20 percent; 21-40 percent; etc., the weighted measures will very simply multiply the responses given by total contract labor costs to develop a national average. The unweighted measures will simply average the responses given where each response counts as one (for example, not weighted for revenues or any other measure).

c. Degree of accuracy needed.

Sample and population means of bed size, revenue, and other relevant variables will be compared using two-tailed means difference tests (t-test, $\alpha = 0.05$). Sample and population variances will also be compared using one-tailed variance difference tests (F-test, $\alpha = 0.10$). These results will provide assurances that the respondents are representative of their population. Such analysis will also help guide where to focus follow-up attention to increase the response rates of under-represented institutions.

d. Unusual problems requiring specialized sampling procedures.

No unusual circumstances requiring specialized sampling procedures are anticipated.

e. Use of periodic data collection cycles.

This is intended to be a one-time survey.

3. Methods to maximize response rates and to deal with issues of non-response.

The contractor will follow-up up to three times with survey non-respondents. As the survey progresses, the characteristics of the samples will be continuously compared with the population parameters to ensure the sample is representative of the population. An example may help to clarify this point. Suppose data from the first 2000 respondents to the survey shows 25 percent of these respondents come from a rural area. However, approximately 40 percent of the hospital population is located in a rural area. Given these initial results, OACT will work with the contractor to focus their follow-up efforts on rural hospitals to respond to the survey.

4. Tests of procedures and/or methods to be undertaken

Again, as the survey progresses, sample characteristics will be continuously compared against population parameters. This will be accomplished through statistical comparisons of means and variances through difference tests.

5. Individuals responsible for statistical design, data collection, and/or data analysis.

The contractor, MacroSys Research and Technology, will conduct the survey and collect the data. The Office of the Actuary, Centers for Medicare & Medicaid Services will provide statistical analysis.

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