

## **5. COST IMPACT OF NEW MOS**

### **5.1 Overview**

The results shown in Chapters 3 and 4 indicate that there would be some positive effects of selecting a new sample of PSUs with Medicare beneficiaries as the MOS. As the measure of size for the selected PSUs becomes less representative, the impact on sample size and workloads also has cost implications. However, fielding a new sample has many cost implications, as new staff and facilities must be developed for the new PSUs. This chapter discusses these cost impacts.

### **5.2 Cost of Remaining in Old PSUs**

While we can estimate the direct costs of a move to new PSUs, it is difficult to estimate the offsetting cost of remaining in the existing PSUs. There are two factors leading to increased costs associated with remaining in the original PSUs, greater dispersion of the sample and increasingly unequal workloads between PSUs.

As previously described, ZIP fragments were selected and combined into clusters, so that a reasonably aggregate measure of size was achieved for each cluster. Each year the set of sampled ZIP fragments is supplemented to include newly created ZIP code areas. The initial staffing decisions maximized data collection efficiency within the initial sample. As the survey ages, the addition of new supplements and new ZIP fragments alters the criteria under which the data collection efficiency was maximized. First of all, the addition of new ZIP fragments tends to disperse the sample within the PSU thereby increasing travel costs and data collection time. Secondly, the supplemental samples selected each year change the relative sample sizes between the PSUs, thereby changing the individual PSU workloads. This results in additional travel and hiring costs to adjust to the new workloads within the PSUs.

A comparison of the 1999 supplemental sample to the initial sample shows that if the 1999 supplement were expanded to a full sample, the sample sizes for each PSU would fall between 89 percent and 192 percent of the original sample. This would necessitate a very different staffing configuration than the original sample to maximize efficiency. Over time the cost of adjusting to the relative change in

the scope of the work is absorbed into the yearly hiring and training process. The absolute costs associated with these sample disbursement changes are difficult to measure because they are offset by the overall efficiency of the data collection system. It is easy to see, however, that as new ZIP codes are added, interviewers travel longer distances to reach the unclustered cases. The longer the sample remains in place the more dispersed and inefficient the sample becomes. While moving to a new set of PSUs will not totally solve the dispersion problem it will serve to compact the ZIP codes back to a previous level of efficiency.

### **5.3 Cost of Moving to New PSUs**

#### **Overview**

The direct costs of moving to a new MOS are easier to quantify. These costs are driven by two major factors, the need to hire and train interviewers to staff the new PSUs and the inefficiency of the staffing configuration during the rotation to the new set of PSUs.

#### **Timing for Rotating in the New Sample of PSUs**

Our approach will take 3 years to fully rotate into the new PSU configuration. That is, from Year 1 forward we will draw the supplemental sample in the new set of PSUs. For the non-overlapping PSUs, this will create non-optimal workloads in both the exiting PSUs and in the new PSUs. During the first year, the newly added PSUs will only have the 1/3 of the normal workload. That is, they will only have the workload generated by the first year's supplemental sample. On the other hand, there will be no supplemental sample added in the exiting PSUs and their workload will therefore be cut by 1/3. It will take 3 years to reach an optimal workload in the new PSUs and to phase out all of the work in the exiting PSUs. A fuller description of the phase-in of the new MCBS PSUs can be found in section 7.2.2.

#### **Managing the Workload while Phasing in the New PSUs**

In the annual MCBS cycle, the fall round hiring decisions are based on a full sample workload throughout the year. During the fall round, supplemental sample cases are integrated into the continuing sample workload. This allows us to mitigate the relatively high costs of the supplemental sample during its first round in the survey. During subsequent rounds, the ongoing work generated by the

supplemental sample allows us to optimize the staffing configuration within each PSU. This strategy helps to minimize costs over the year.

During the time we are moving to the new set of PSUs we will lose the ability to staff the non-overlapping PSUs efficient as possible because of the need to maintain field staff in both sets of PSUs at the same time. In the exiting PSUs, we will need to maintain field staffs large enough complete the work generated by the panels which have not been phased out. At the same time we will need to hire and train a completely new staff in the PSUs being added to the sample. Overall, this will require hiring and training additional interviewers to staff the two sets of PSUs

### **Additional Staffing Costs**

We estimate that it will require 62 interviewers to staff the new PSUs. Approximately 45 of these interviewers are above the number we have planned to hire and train in our current budget. All of the new interviewers will be incrementally added during the first three years as necessitated by the workloads within each of the new PSUs. However, the additional cost associated with the move to the new PSUs will primarily be incurred over the first two years. We anticipate that we will need to hire and train 25 additional interviewers in Year 1 and 20 additional interviewers in Year 2. The supplemental sample added in Year 3 would bring the new PSUs to their full sample size and allow us to efficiently staff the PSUs. The remaining interviewers needed to fully staff the new PSUs would be hired and trained in year 3. However, there will have no additional selection and training costs for the year because the attrition training costs included in the current budget will be sufficient to complete the staffing process.

### **Additional Travel Expenses**

We anticipate that we will incur additional long distance expenses in both exiting and entering PSUs in which the sample size is not large enough to justify hiring an interviewer. Throughout the transition period we will hire and train interviewers in the exiting PSUs as long as the workload in the PSU justifies the training expense. The size of the sample remaining in the PSU, the proximity and availability of other interviews and the travel costs necessary to complete the work within the PSU will all go into the decision whether to replace a departing interviewer in an exiting PSU.

The same set of criteria will be used to reach hiring decisions as the workloads build up in the new PSUs. We anticipate that we will end up with a number of PSUs in which the workload is not sufficient to hire a new interviewer and the existing work will have to be completed by travelling interviewers

#### **5.4 Cost Estimates for Moving to New PSUs**

Overall, the move to a new set of PSUs will create an inefficiency in staffing which will require the selection and training of an additional interviewers to staff the multiple set of PSUs we need to maintain during the transition period. In addition to the training costs, there are additional costs associated with travel to PSUs that do not have a workload large enough to justify hiring and training an interviewer. This additional travel will be necessary in both exiting PSUs that lose existing interviewers and new PSUs where the sample size has not reached its optimum staffing level.

As previously discussed, the additional field costs associated with rotating to the new PSUs that are primarily incurred over the first two years of the rotation. The total cost of selecting and moving to the new set of PSUs is currently estimated to be approximately \$850,000. A detailed estimate of these costs is presented under separate cover.